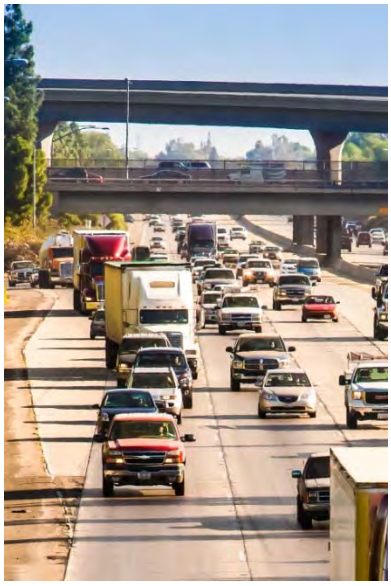
Centennial Corridor Project

City of Bakersfield and Kern County, CA
District 6 - KER - 58 - PM T31.7 to PM R55.6
District 6 - KER - 99 - PM 21.2 to PM 26.2

Project ID # 06-0000-0484

SCH #2008091102

Draft Environmental Impact Report/ Environmental Impact Statement and Section 4(f) Evaluation



Volume 1 of 2

Prepared by the
State of California Department of Transportation

The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by the California Department of Transportation under its assumption of responsibility pursuant to 23 U.S. Code 327.

May 2014

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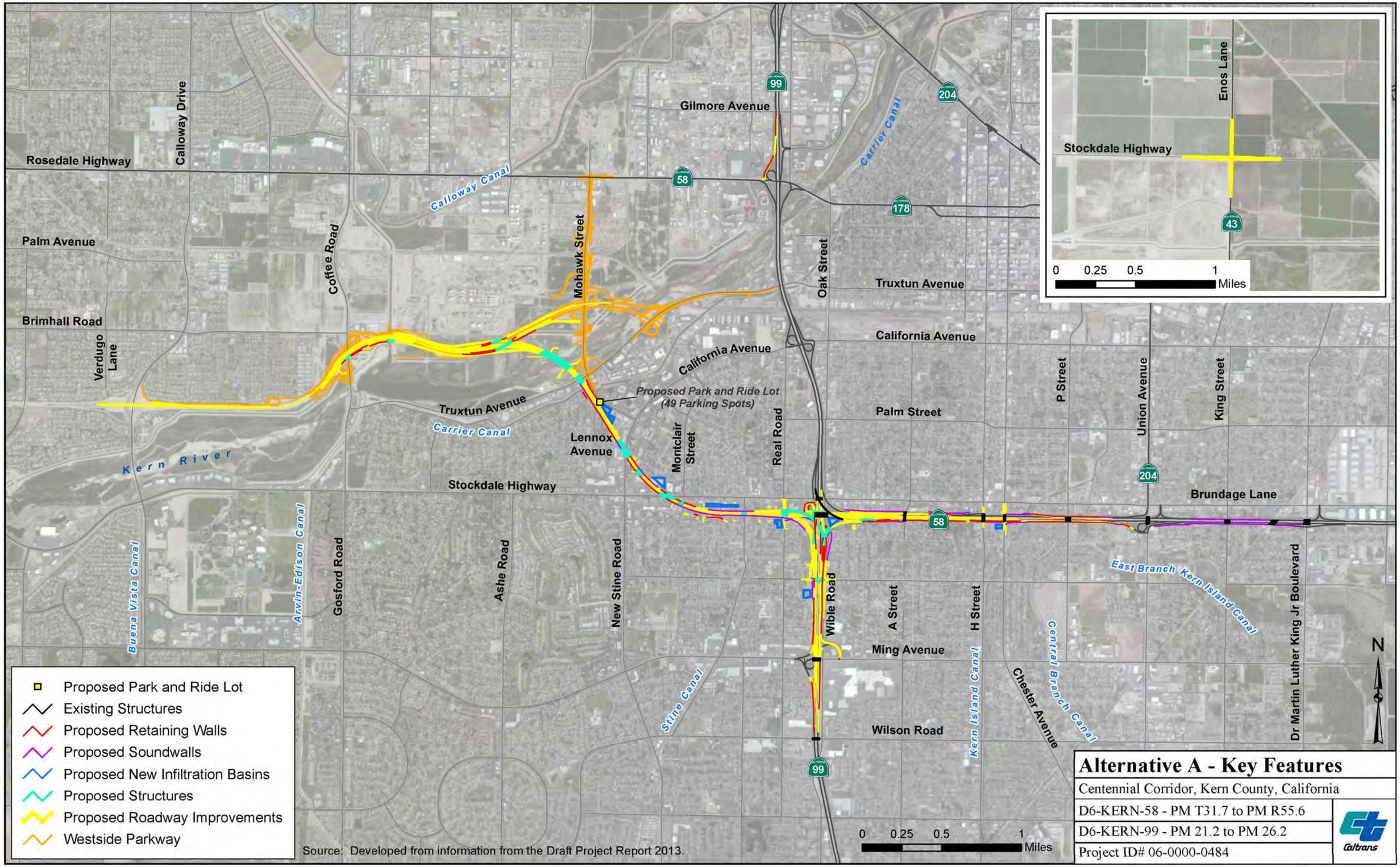

Alternative A - Key Features

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

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Figure 2-4a

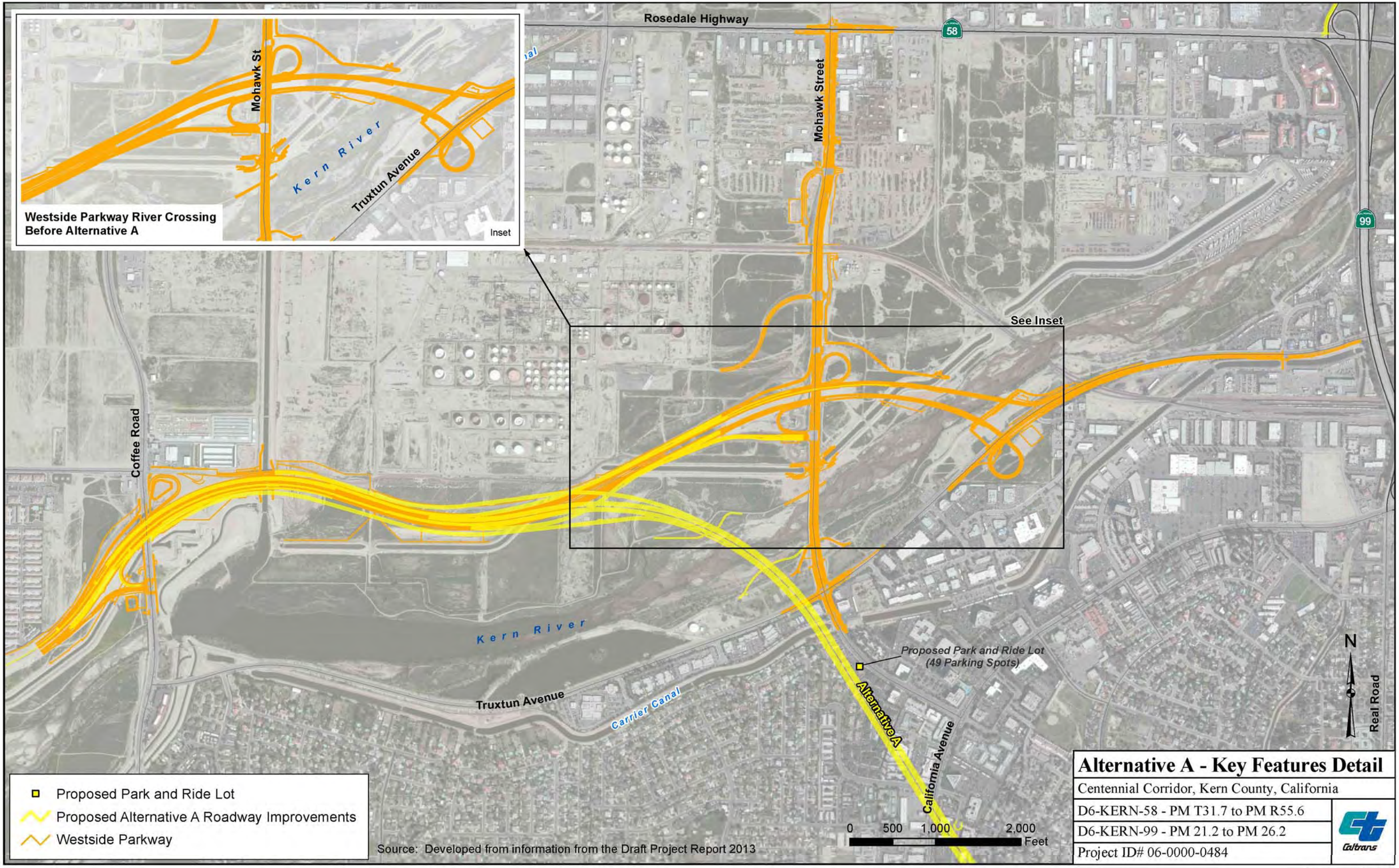
Rosedale Highway
58
99
Mohawk Street
See Inset
Mohawk St
Kern River
Truxtun Avenue
Westside Parkway River Crossing
Before Alternative A
Inset
Coffee Road
Kern River
Truxtun Avenue
Carrier Canal
Proposed Park and Ride Lot
(49 Parking Spots)
Alternative A
California Avenue
Real Road
N
Proposed Park and Ride Lot
Proposed Alternative A Roadway Improvements
Westside Parkway
0 500 1,000 2,000
Feet
Source: Developed from information from the Draft Project Report 2013
Alternative A - Key Features Detail
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
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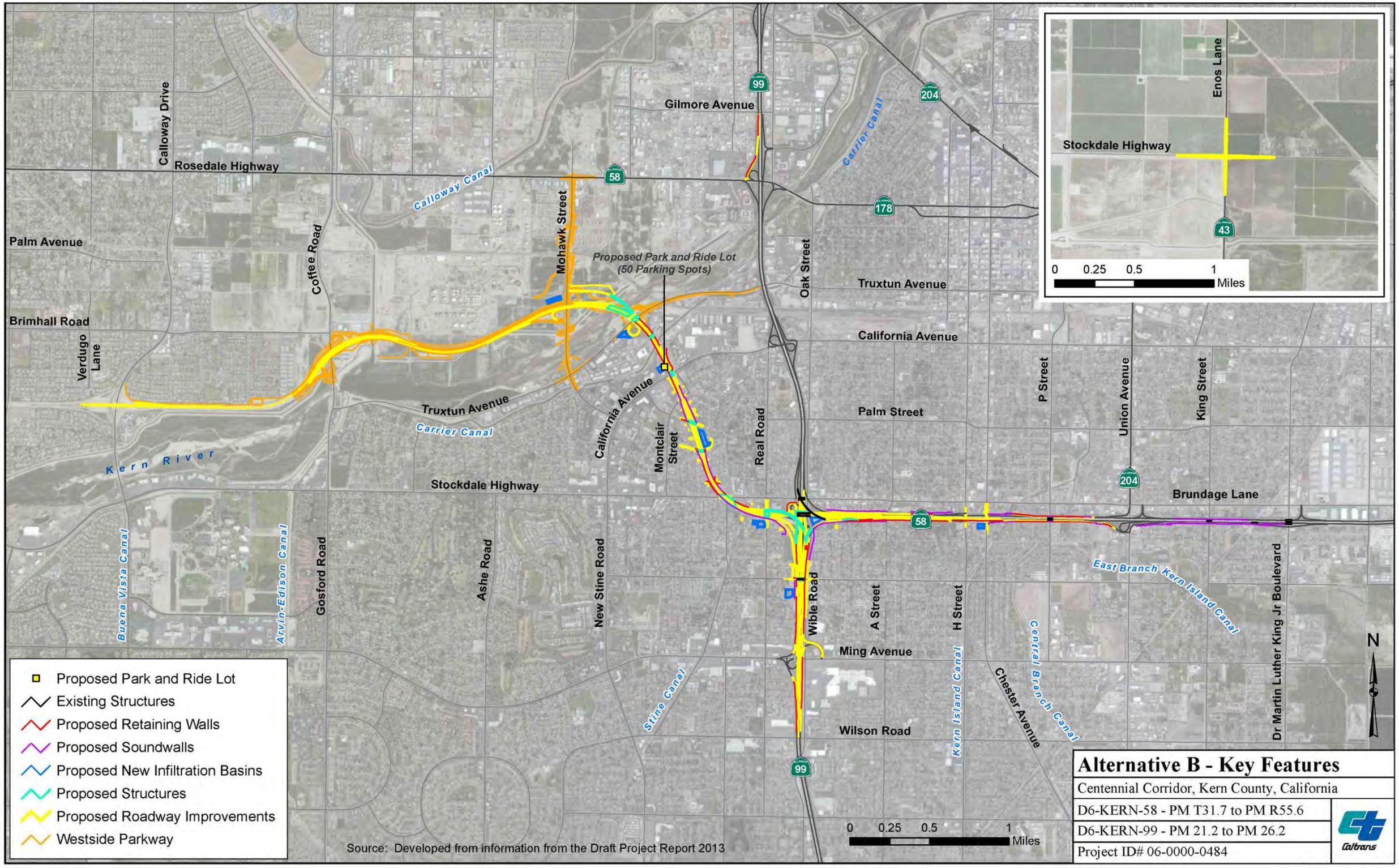
Figure 2-4b



Alternative B - Key Features

Centennial Corridor, Kern County, California

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D6-KERN-99 - PM 21.2 to PM 26.2

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Figure 2-5a

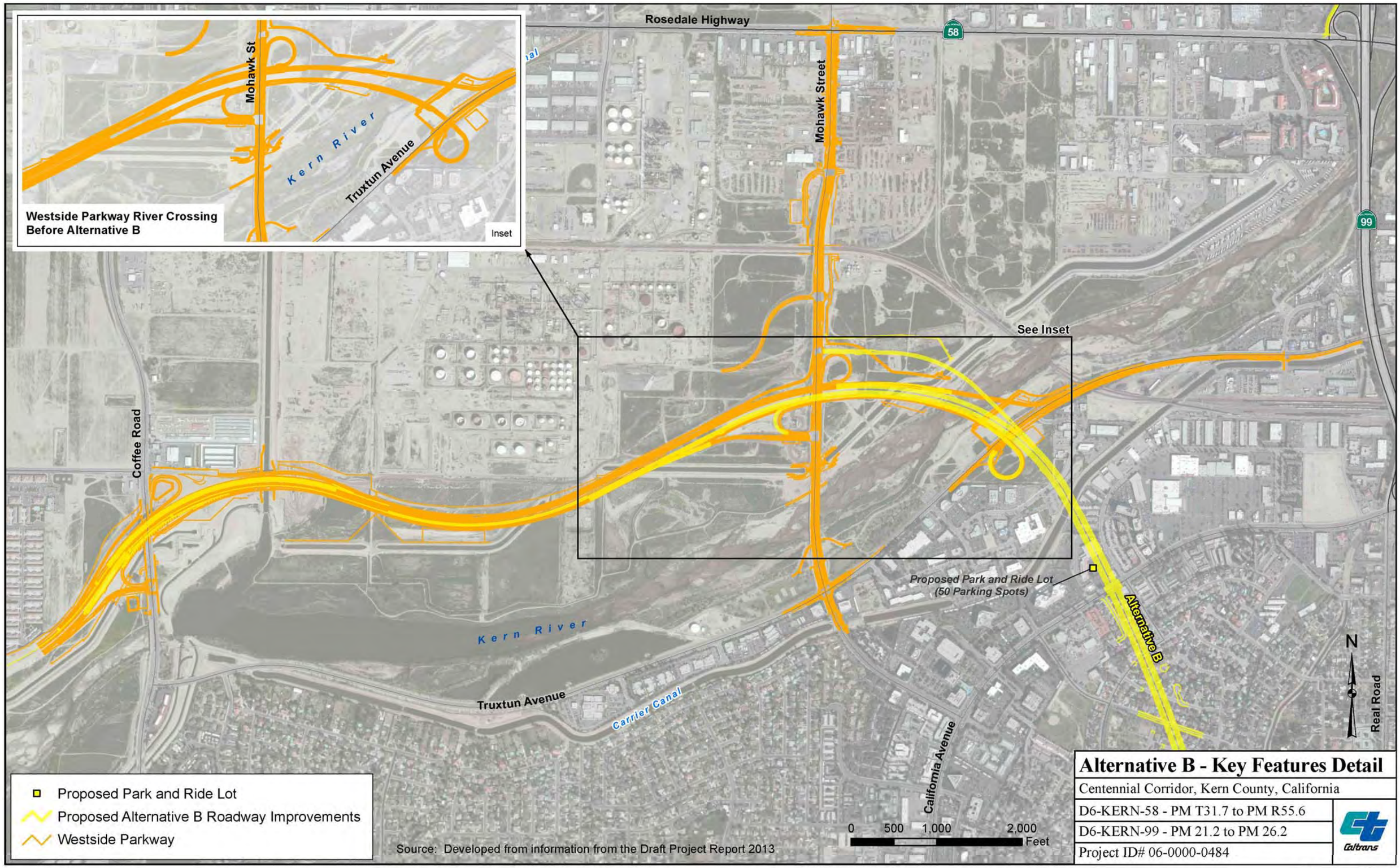
Rosedale Highway
58
99
Mohawk Street
Mohawk St
Kern River
Truxtun Avenue
Westside Parkway River Crossing
Before Alternative B
Inset
See Inset
Coffee Road
Proposed Park and Ride Lot
(50 Parking Spots)
Alternative B
Kern River
Truxtun Avenue
Carrier Canal
California Avenue
Real Road
N
Proposed Park and Ride Lot
Proposed Alternative B Roadway Improvements
Westside Parkway
0 500 1,000 2,000
Feet
Source: Developed from information from the Draft Project Report 2013
Alternative B - Key Features Detail
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
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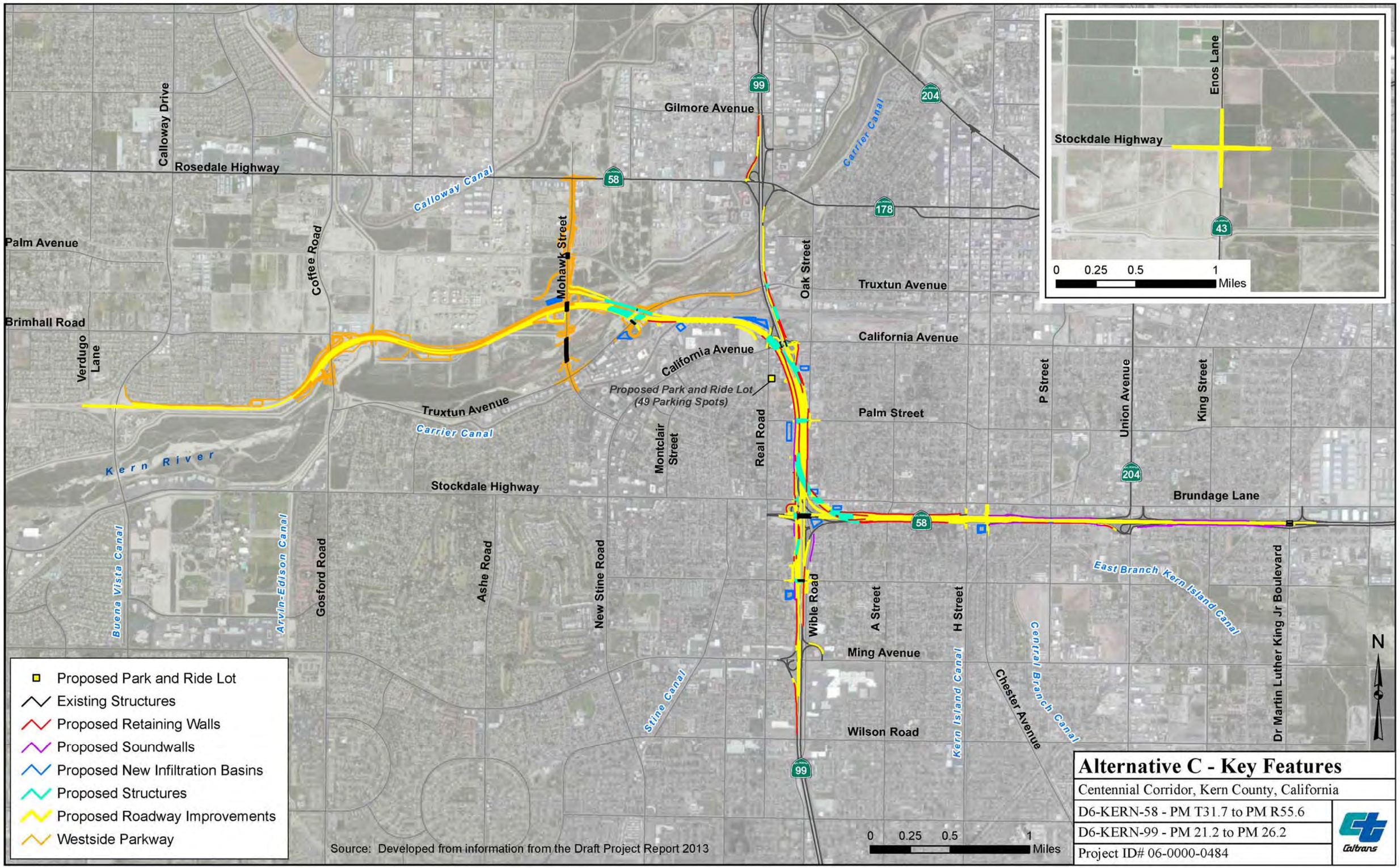
Figure 2-5b



Alternative C - Key Features

Centennial Corridor, Kern County, California

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D6-KERN-99 - PM 21.2 to PM 26.2

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Figure 2-6a

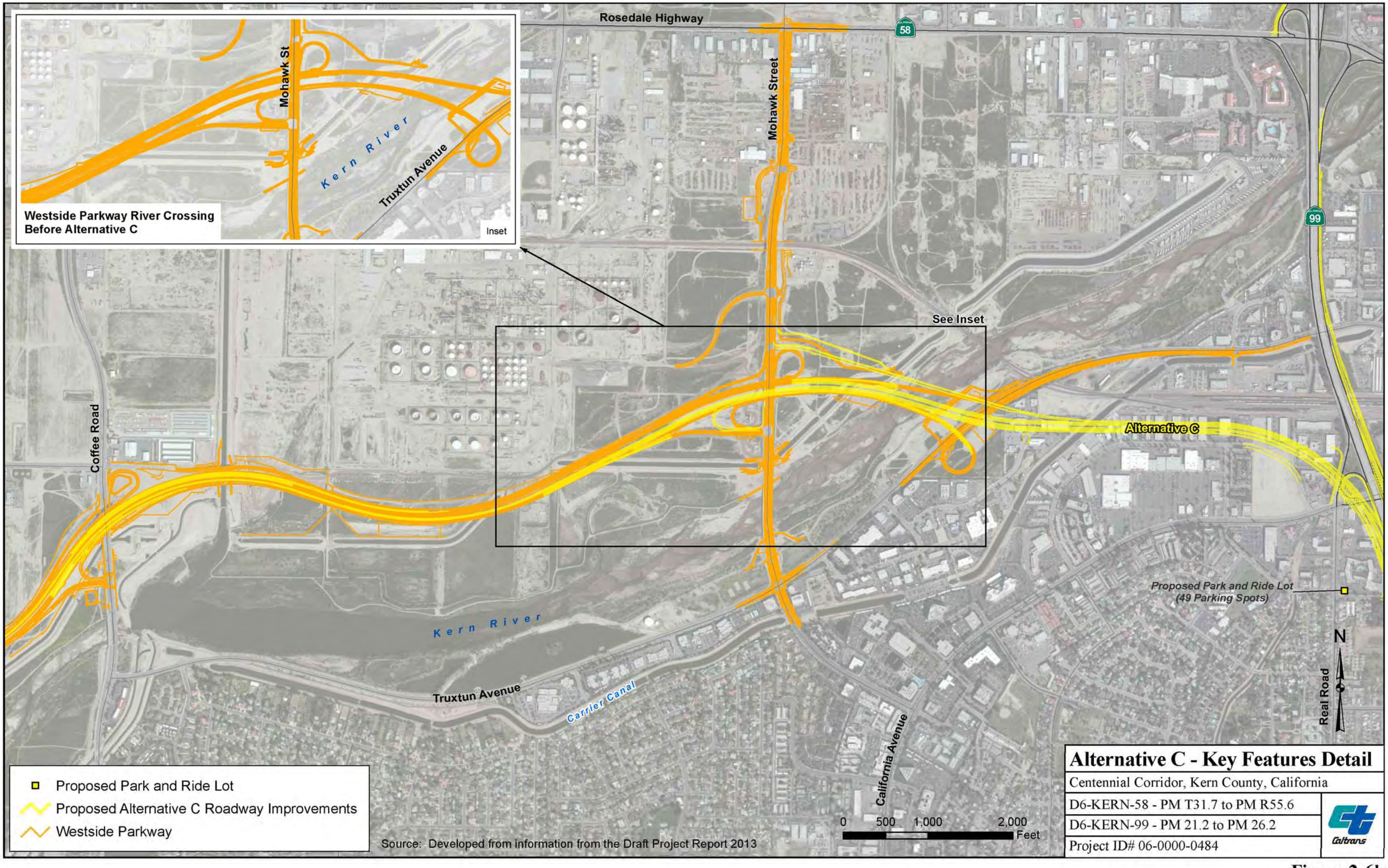
Rosedale Highway
58
Mohawk Street
99
Mohawk St
Kern River
Truxtun Avenue
Westside Parkway River Crossing
Before Alternative C
Inset
See Inset
Alternative C
Coffee Road
Proposed Park and Ride Lot
(49 Parking Spots)
Kern River
Truxtun Avenue
Carrier Canal
California Avenue
Real Road
N
Proposed Park and Ride Lot
Proposed Alternative C Roadway Improvements
Westside Parkway
0 500 1,000 2,000
Feet
Source: Developed from information from the Draft Project Report 2013
Alternative C - Key Features Detail
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
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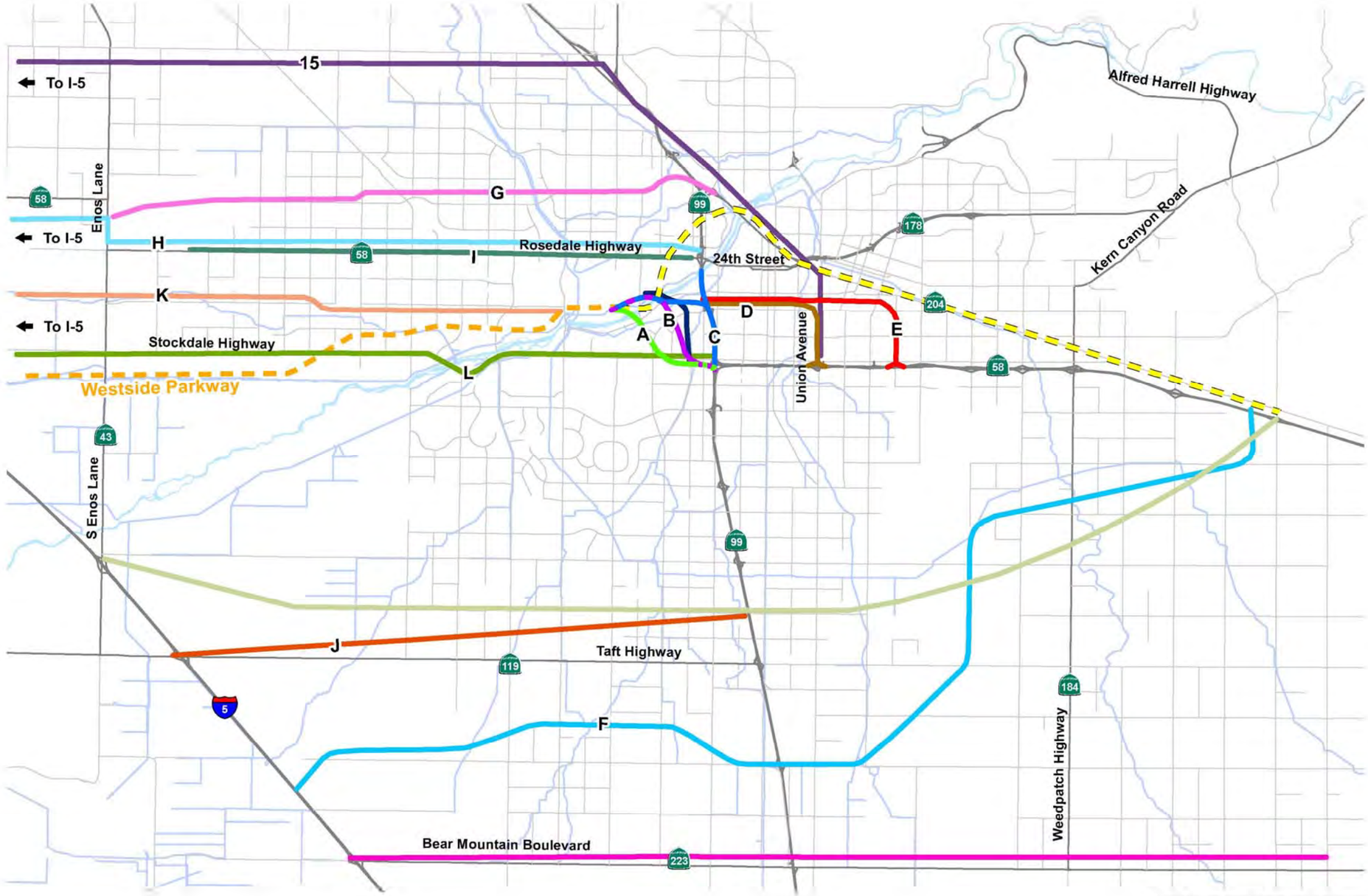
Figure 2-6b



Alternatives

- Alternative A
- Alternative B
- Alternative C
- Shared by Alternatives A/B
- Shared by Alternatives B/C
- Alternative D
- Alternative E
- Alternative F
- Alternative G
- Alternative H
- Alternative I
- Alternative J
- Alternative K
- Alternative L
- Alternative 15
- Westside Parkway
- Public Alternative 1
- Public Alternative 2
- Public Alternative 3
- Public Alternative 4

Source: Information from Caltrans 2008

Not To Scale

Alternatives Considered but Eliminated from Further Discussion

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

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Figure 2-7

Rosedale Highway
Calloway Drive
Coffee Road
Friant-Kern Canal
Mohawk Street
Gilmore Avenue
Cross Valley Canal
24th Street
Kern River
Truxtun Avenue
Brimhall Road
Arvin Edison Canal
Oak Street
California Avenue
Chester Avenue
Carrier Canal
Truxtun Avenue
Cross Valley Canal
Kern River
Kern River Canal
Stockdale Highway
Old River Road
Brundage Lane
Kern Island Canal
East Branch Kern Island Canal
Cottonwood Road
New Stine Road
Wible Road
Ming Avenue
Union Avenue
H Street
Wilson Road
99
58
178
204

Land Use Designation

- Agricultural
- Commercial
- Public
- Industrial
- Natural Resources
- Other
- Residential
- Vacant Land

Segment 1

- Alternative A
- Alternative B
- Alternative C
- Shared by Alternatives A/B
- Shared by Alternatives B/C
- Shared by Alternatives A/B/C

More Information

- Construction Occurs Outside Existing Roadway Right-of-Way

3,000 1,500 0 3,000 Feet

Source: Information from *Community Impact Assessment* 2013

N

Existing Land Use

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

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Figure 3-1

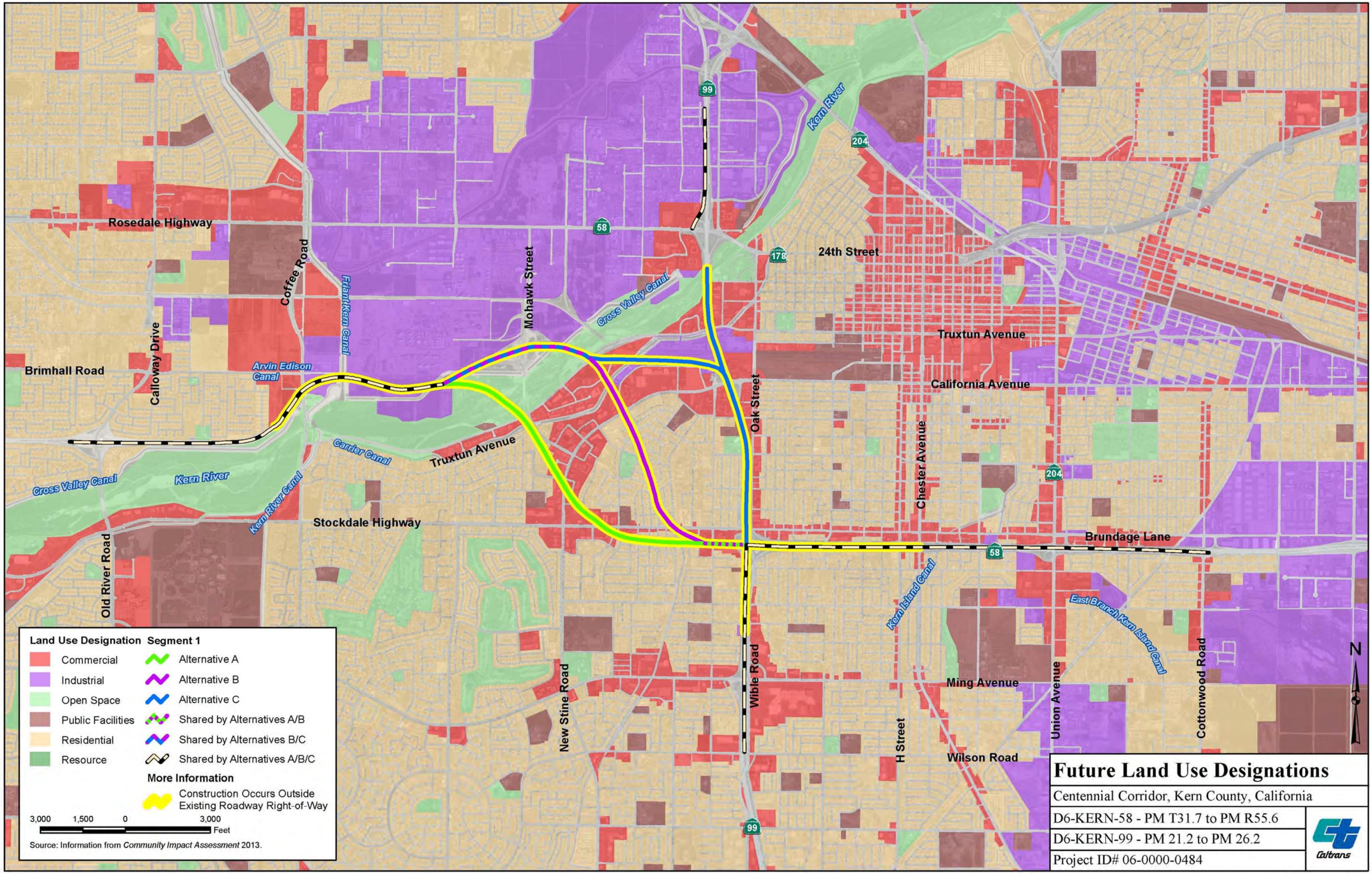
Rosedale Highway
Coffee Road
Calloway Drive
Brimhall Road
Arvin Edison Canal
Friant-Kern Canal
Mohawk Street
Cross Valley Canal
99
58
178
Kern River
204
24th Street
Truxtun Avenue
California Avenue
Oak Street
Chester Avenue
Carrier Canal
Truxtun Avenue
Cross Valley Canal
Kern River
Kern River Canal
Stockdale Highway
Old River Road
Brundage Lane
Kern Island Canal
East Branch Kern Island Canal
Wible Road
New Stine Road
H Street
Ming Avenue
Union Avenue
Cottonwood Road
Wilson Road
N
Land Use Designation Segment 1
Commercial
Industrial
Open Space
Public Facilities
Residential
Resource
Alternative A
Alternative B
Alternative C
Shared by Alternatives A/B
Shared by Alternatives B/C
Shared by Alternatives A/B/C
More Information
Construction Occurs Outside Existing Roadway Right-of-Way
3,000 1,500 0 3,000
Feet
Source: Information from Community Impact Assessment 2013.
Future Land Use Designations
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
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Figure 3-2

Rosedale Highway
Calloway Drive
Coffee Road
Friant-Kern Canal
Mohawk Street
Gilmore Avenue
Kern River
24th Street
Beach Park
Cross Valley Canal
Yokuts Park
Jastro Park
Truxtun Avenue
Brimhall Road
Arvin Edison Canal
Kern River Parkway
Alternative B
Oak Street
Chester Avenue
California Avenue
Saunders Park
Carrier Canal
Centennial Park
Alternative C
Stockdale Highway
Alternative A
Brundage Lane
Old River Road
Kern Island Canal
East Branch Kern-Island Canal
Belle Terrace Park
Wayside Park
Ming Avenue
New Stine Road
Wible Road
H Street
Union Avenue
Cottonwood Road
Wilson Road
99
58
204
178

Parkland
Segment 1
Alternative A
Alternative B
Alternative C
Shared by Alternatives A/B
Shared by Alternatives B/C
Shared by Alternatives A/B/C
Other Areas
Study Area
Westside Parkway
3,500 1,750 0 3,500 Feet
Source: Information from *Community Impact Assessment* 2013; Aerial Flown 2006

N

Parks and Recreation Areas

Centennial Corridor, Kern County, California

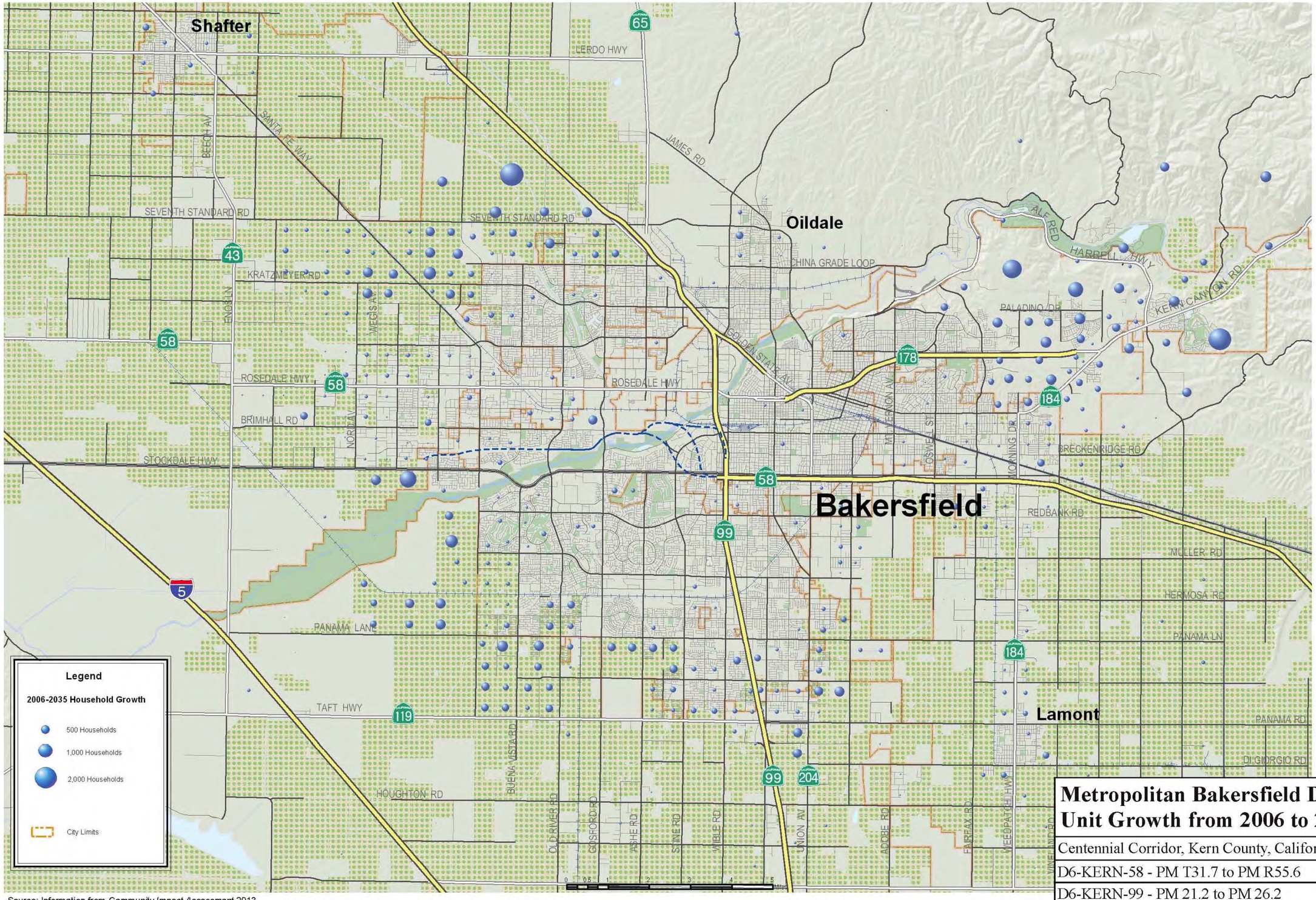
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-3



Legend

2006-2035 Household Growth

- 500 Households
- 1,000 Households
- 2,000 Households
- City Limits

0 0.5 1 2 3 4 5 Miles

Source: Information from *Community Impact Assessment* 2013

Metropolitan Bakersfield Dwelling Unit Growth from 2006 to 2035

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-7

Gilmore Avenue
Kern River
Rosedale Highway
Coffee Road
Fruitvale Canal
Mohawk Street
Cross Valley Canal
24th Street
Riviera-Westchester
Downtown Bakersfield
East Bakersfield
Truxtun Avenue
California Avenue
Brimhall Road
Calloway Drive
Arvin Edison Canal
Oak Street
Carrier Canal
Truxtun Avenue
Westpark
Oleander Sunset
Chester Avenue
Cross Valley Canal
Kern River
Kern River Canal
Quailwood-Park Stockdale
Stockdale Highway
Brundage Lane
Old River Road
Kern Island Canal
East Branch Kern Island Canal
Southeast Bakersfield
Ming Avenue
Wible Road
H Street
Union Avenue
Cottonwood Road
Wilson Road
New Stine Road
Southwest Bakersfield
99
58
178
204
N

Neighborhood/Community Boundary

Segment 1

- Alternative A
- Alternative B
- Alternative C
- Shared by Alternatives A/B
- Shared by Alternatives B/C
- Shared by Alternatives A/B/C

More Information

- Construction Occurs Outside Existing Roadway Right-of-Way

3,000 1,500 0 3,000 Feet

Source: Aerial Flown 2011; Information from *Community Impact Assessment* 2013

Neighborhoods/Communities

Centennial Corridor, Kern County, California

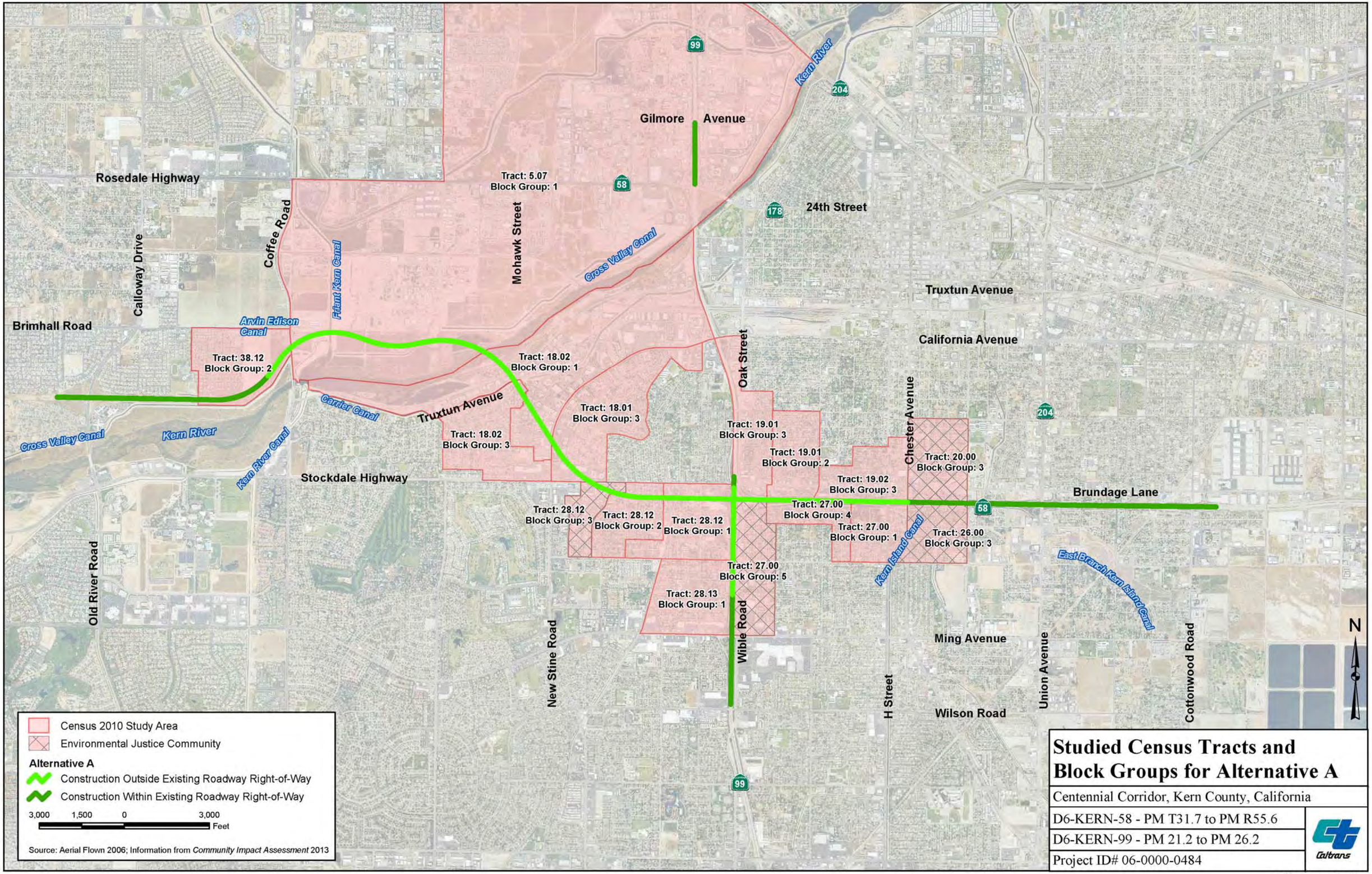
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-8



Studied Census Tracts and Block Groups for Alternative A

Centennial Corridor, Kern County, California

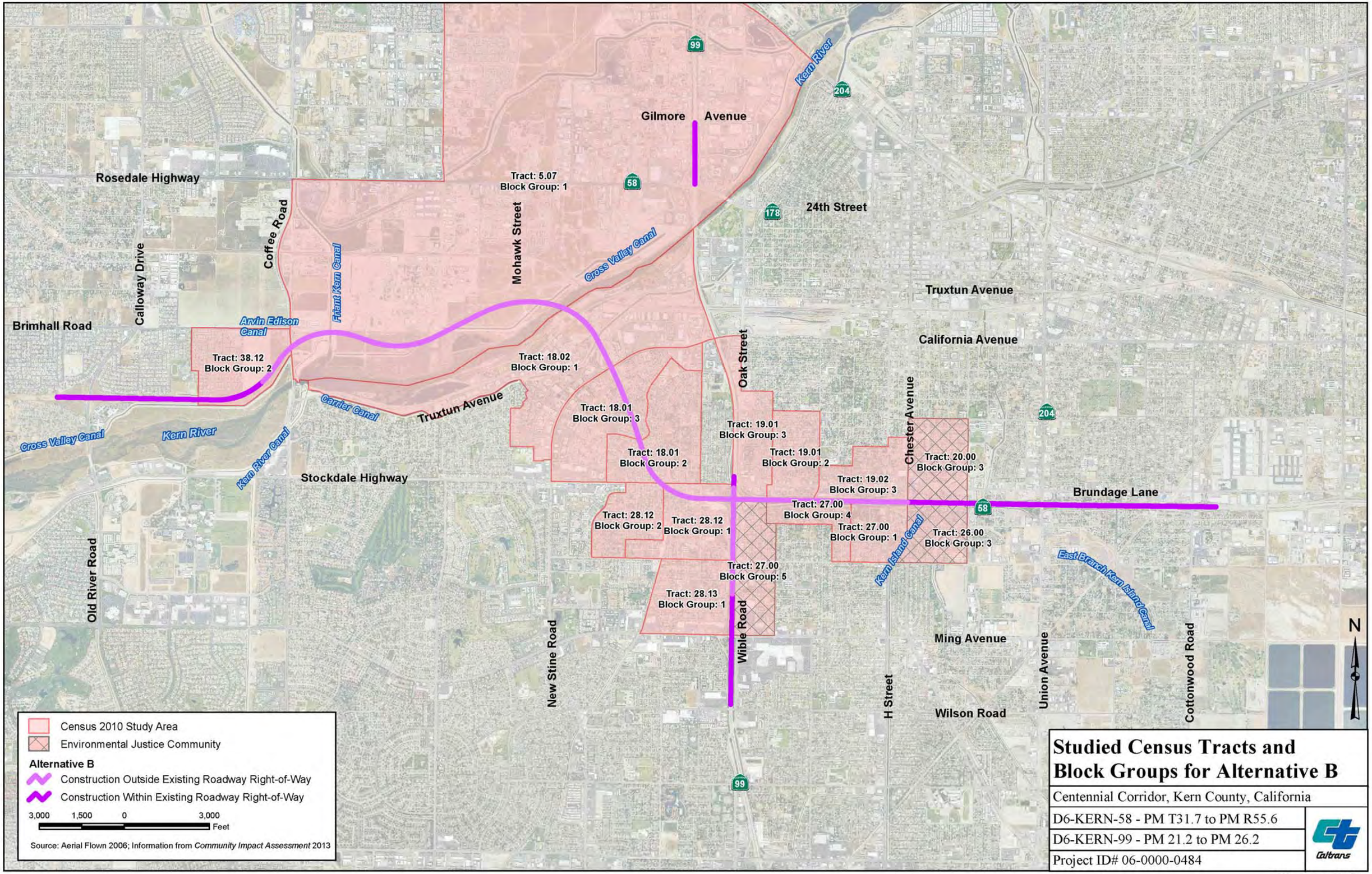
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-9a



Studied Census Tracts and Block Groups for Alternative B

Centennial Corridor, Kern County, California

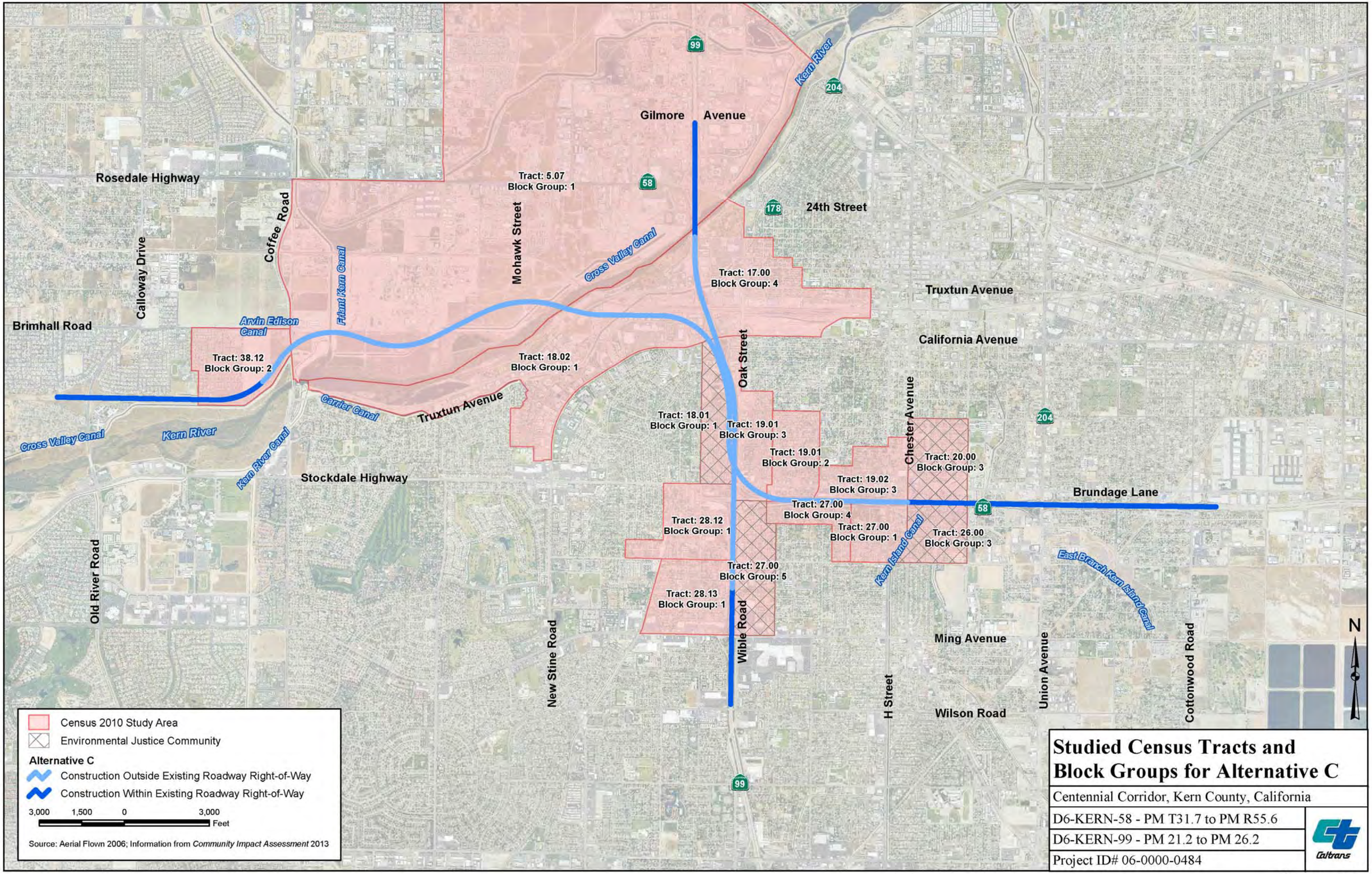
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-9b



Studied Census Tracts and Block Groups for Alternative C

Centennial Corridor, Kern County, California

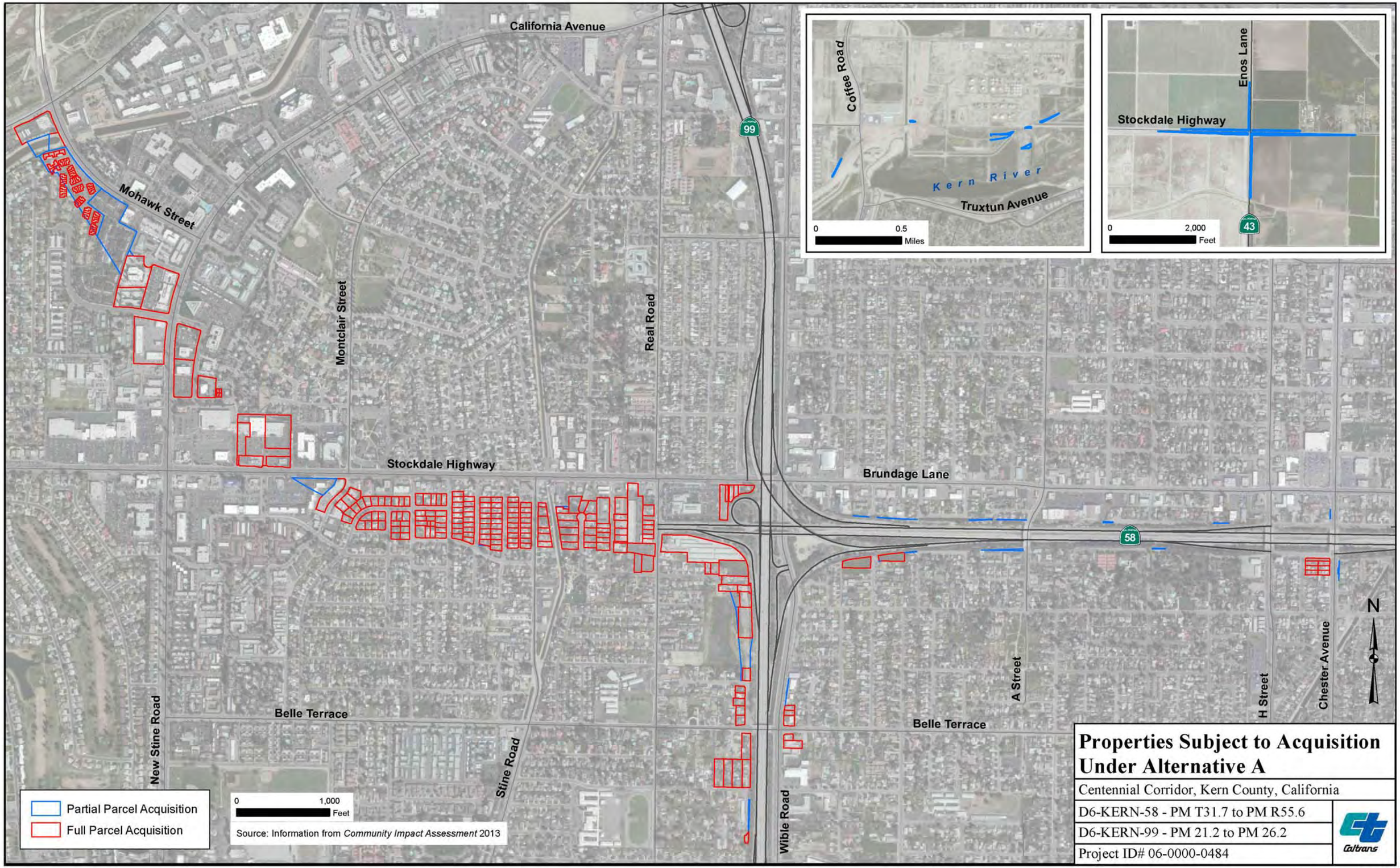
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-9c



Properties Subject to Acquisition Under Alternative A

Centennial Corridor, Kern County, California

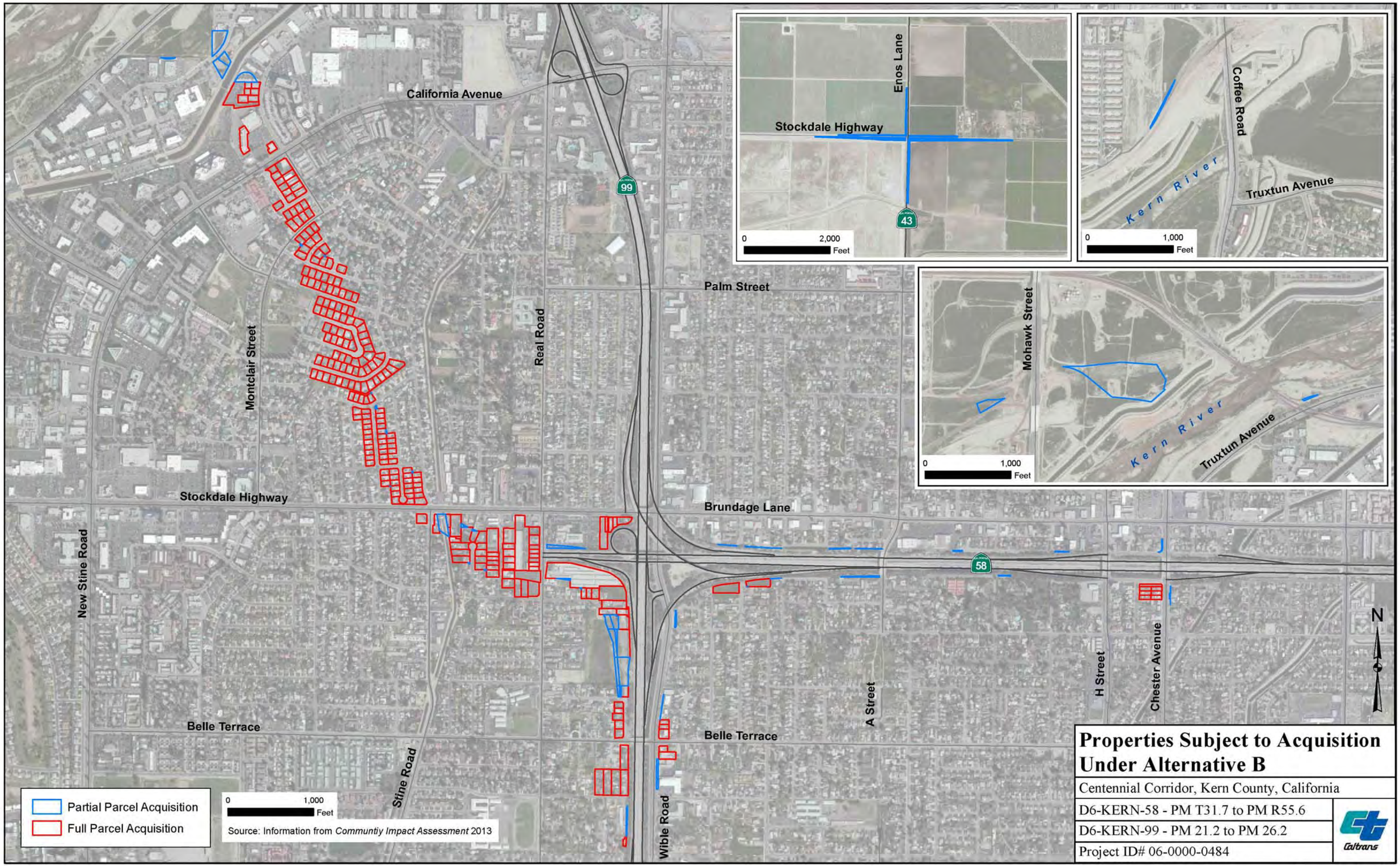
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-10a



Properties Subject to Acquisition Under Alternative B

Centennial Corridor, Kern County, California

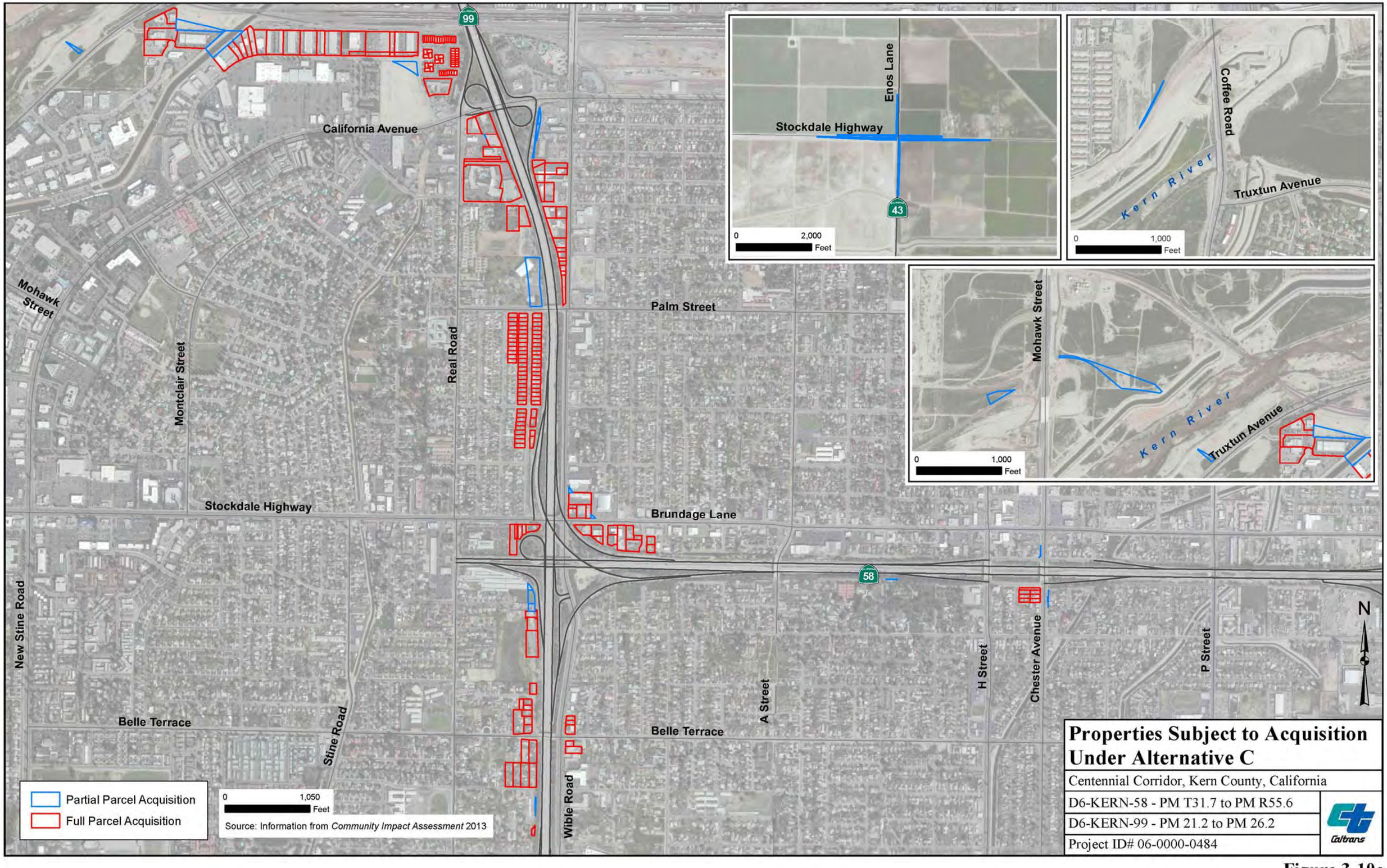
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-10b



Properties Subject to Acquisition Under Alternative C

Centennial Corridor, Kern County, California

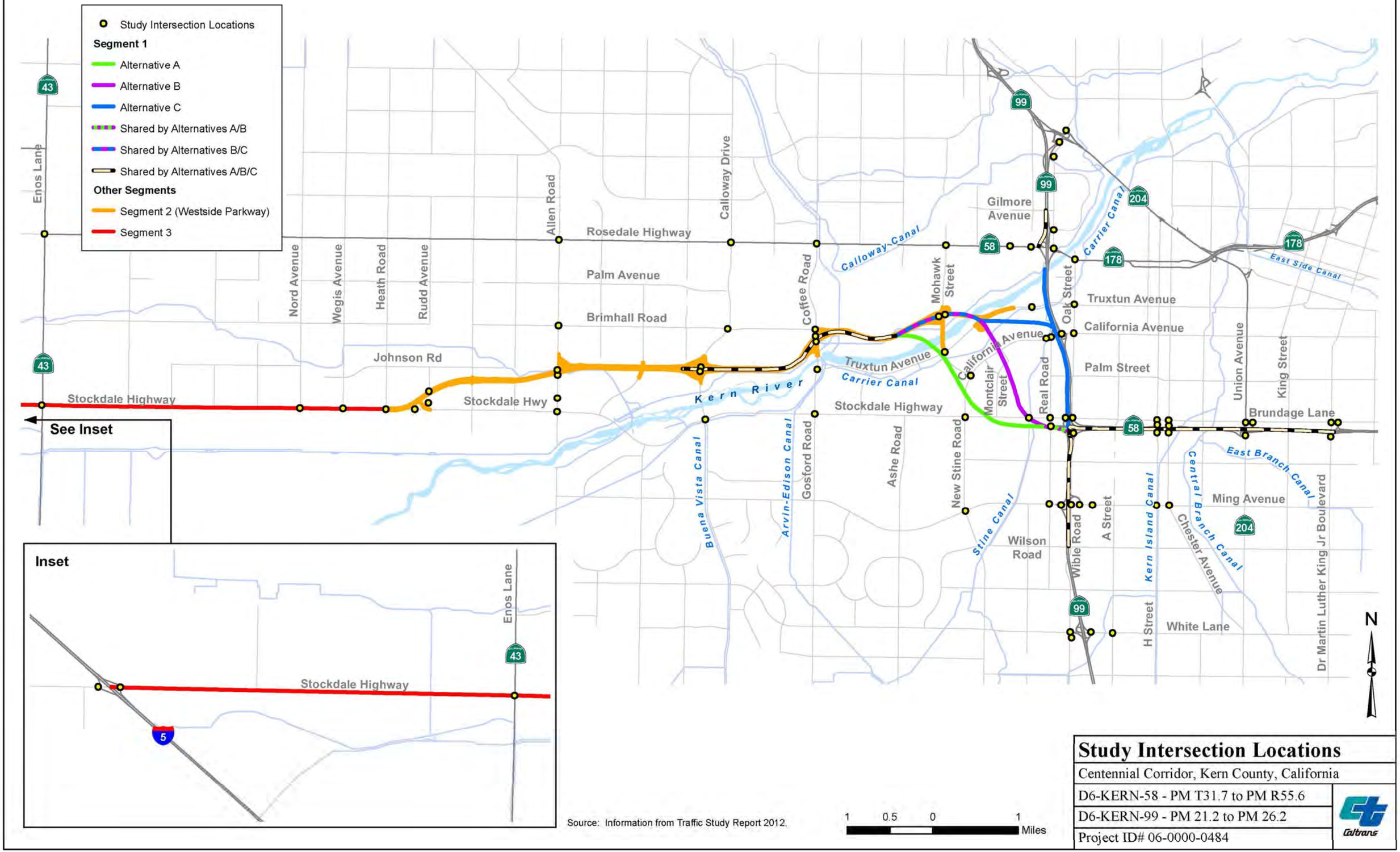
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-10c



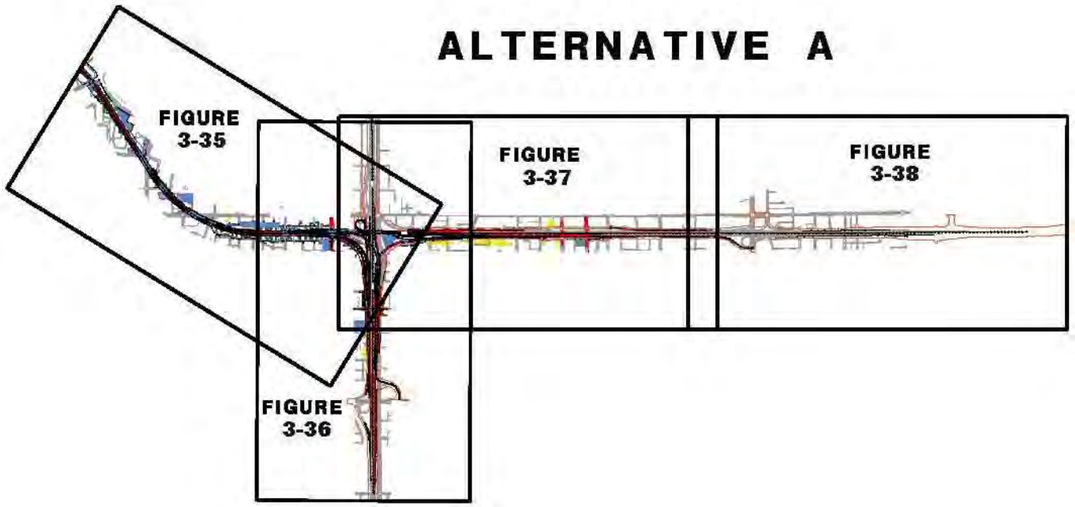
Source: Information from Traffic Study Report 2012.

1 0.5 0 1 Miles

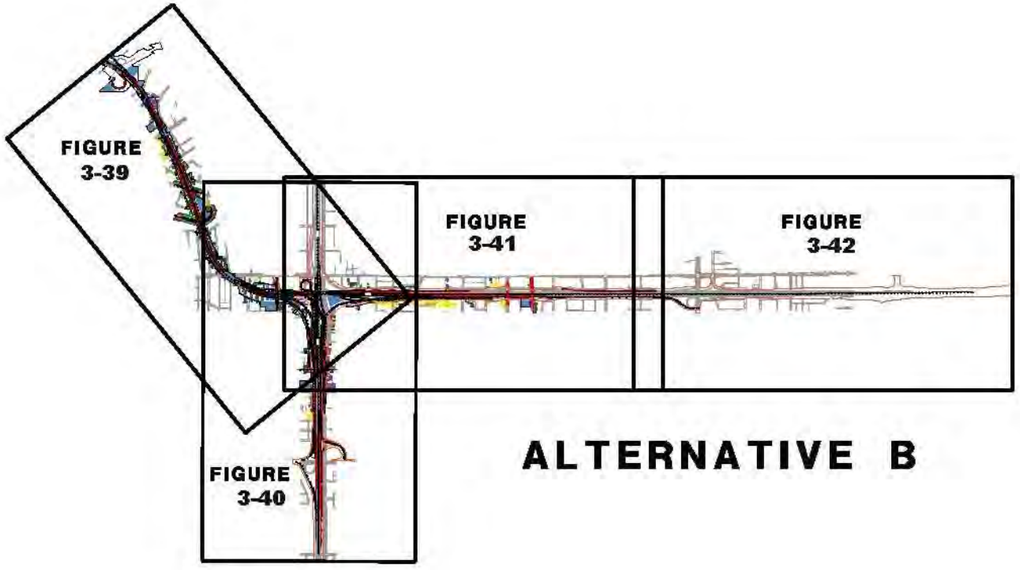
Study Intersection Locations	
Centennial Corridor, Kern County, California	
D6-KERN-58 - PM T31.7 to PM R55.6	Caltrans
D6-KERN-99 - PM 21.2 to PM 26.2	
Project ID# 06-0000-0484	

Figure 3-11

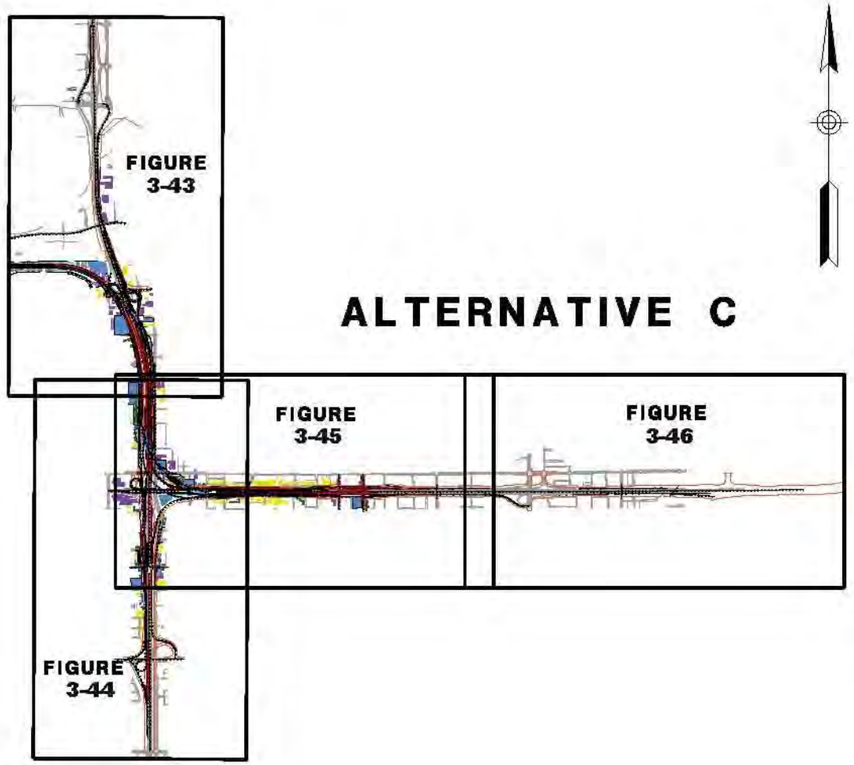
ALTERNATIVE A



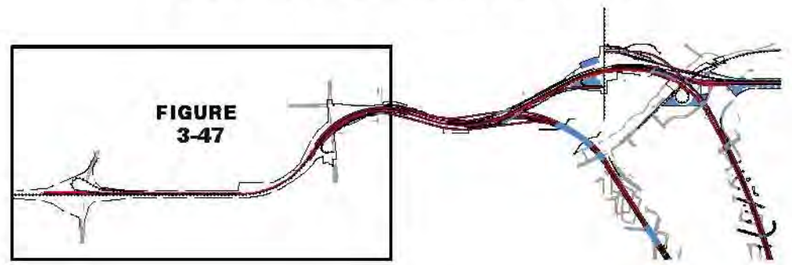
ALTERNATIVE B



ALTERNATIVE C



ALL ALTERNATIVES



Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Key Map For Noise Measurement and Soundwall Locations

Centennial Corridor, Kern County, California

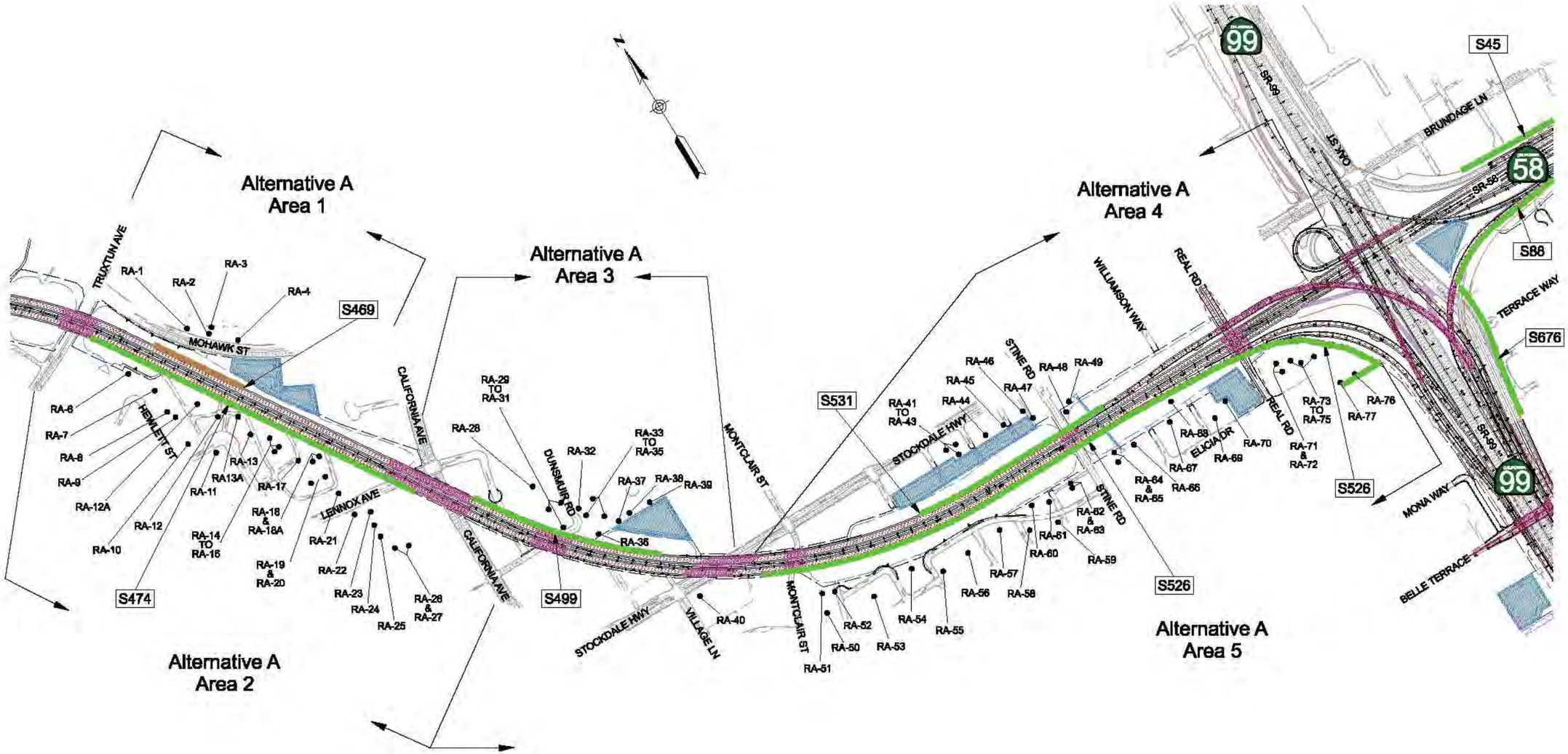
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-34



LEGEND

- ● – NOISE MEASUREMENT & ANALYSIS RECEIVERS
- – REMOVAL OF RAMP
- SXXX – SOUNDWALL IDENTIFICATION
- – RECOMMENDED SOUNDWALL
- – NOT RECOMMENDED SOUNDWALL
- – EXISTING RIGHT OF WAY
- – PROPOSED RIGHT OF WAY
- – PROPOSED ROADWAY
- – PROPOSED STRUCTURE
- – INFILTRATION BASIN

1in : 700ft

0 ft 350ft 700ft 1000ft

Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Alt A Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

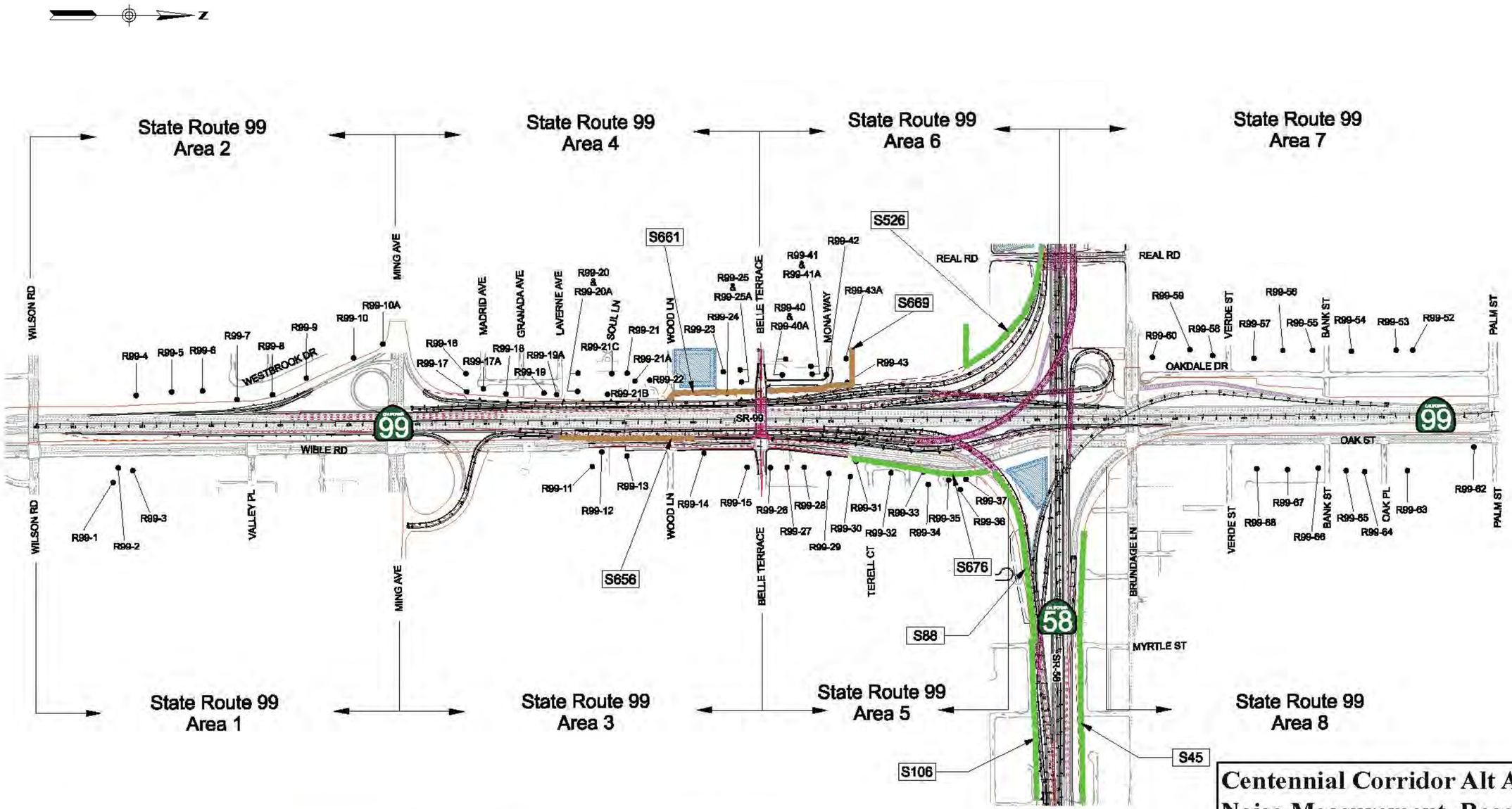
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-35



LEGEND

- ● – NOISE MEASUREMENT & ANALYSIS RECEIVERS
- – REMOVAL OF RAMP
- SXXX – SOUNDWALL IDENTIFICATION
- – RECOMMENDED SOUNDWALL
- – NOT RECOMMENDED SOUNDWALL
- – EXISTING RIGHT OF WAY
- – PROPOSED RIGHT OF WAY
- – PROPOSED ROADWAY
- – PROPOSED STRUCTURE
- – INFILTRATION BASIN

1in : 700ft

0 ft 350ft 700ft 1000ft

Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Alt A Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

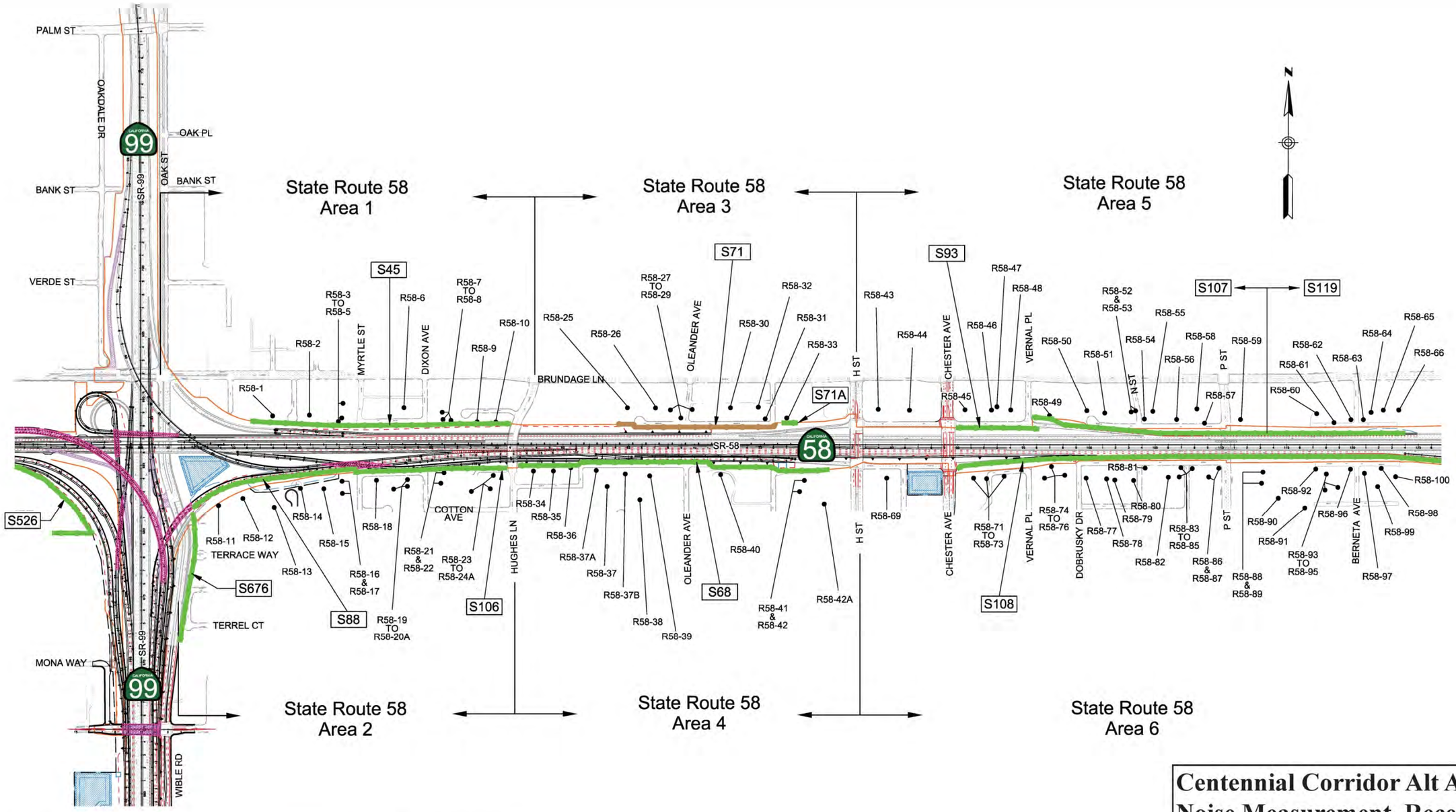
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-36



Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Alt A Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

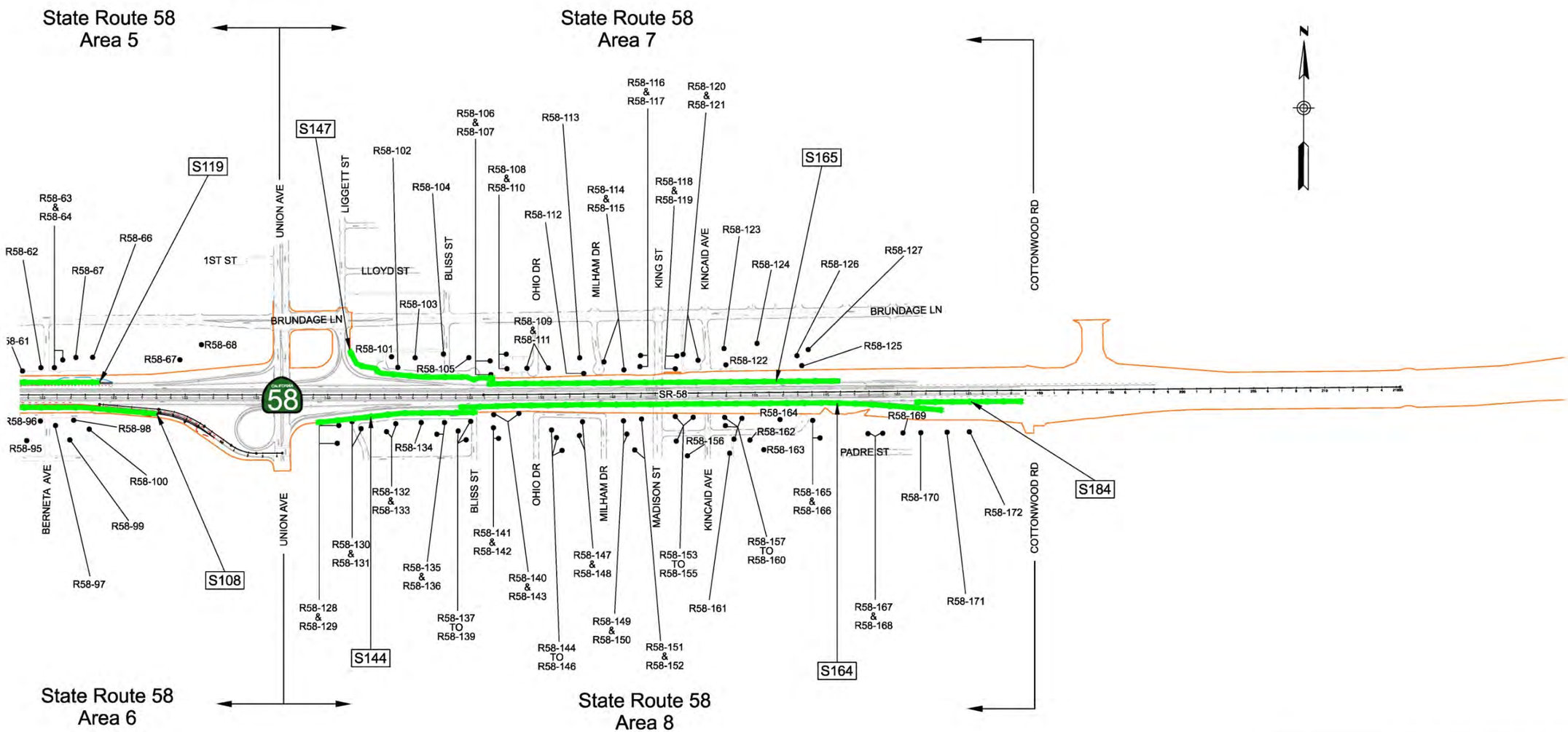
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-37



Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Alt A Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

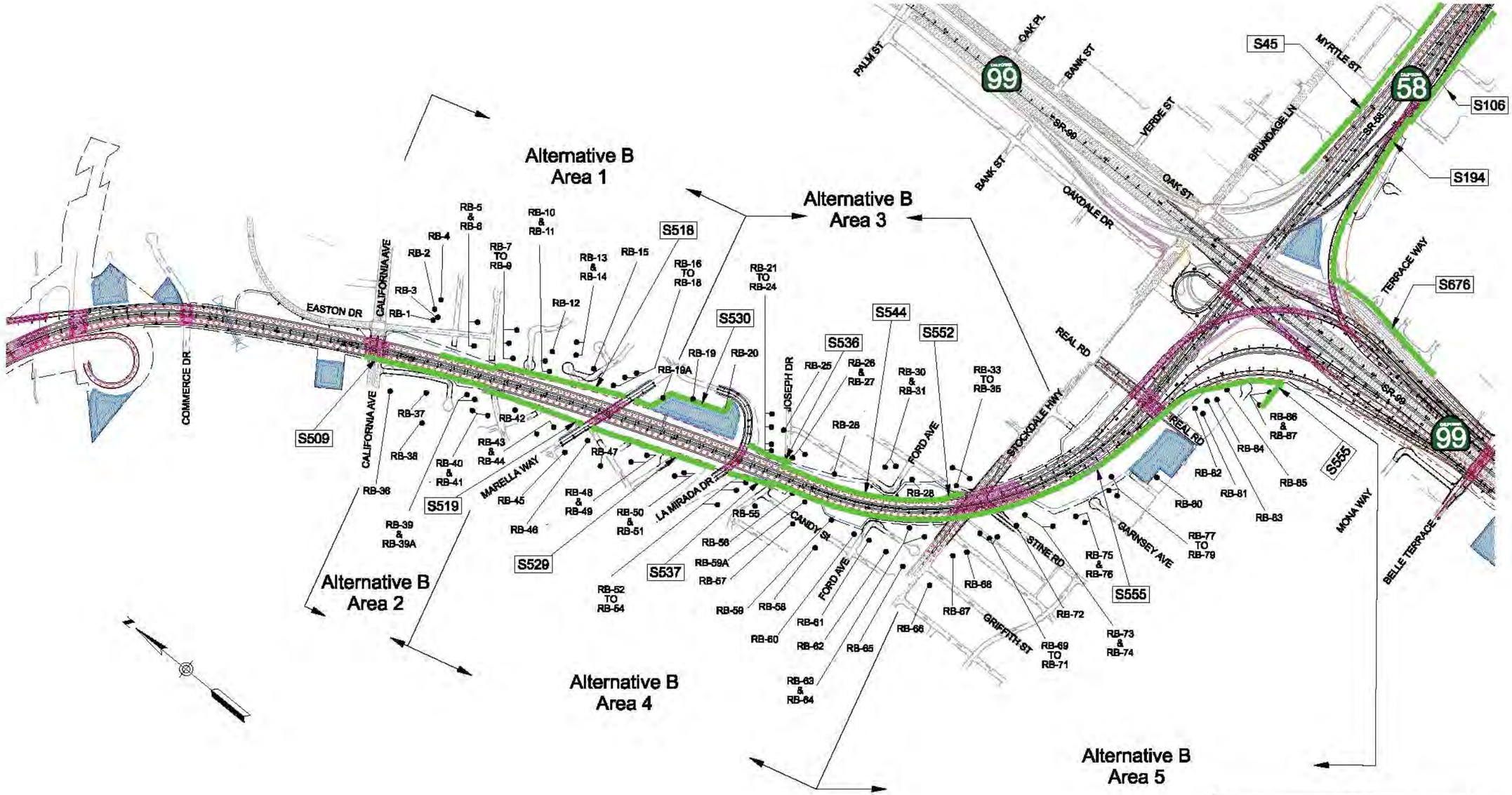
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-38



Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Alt B Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

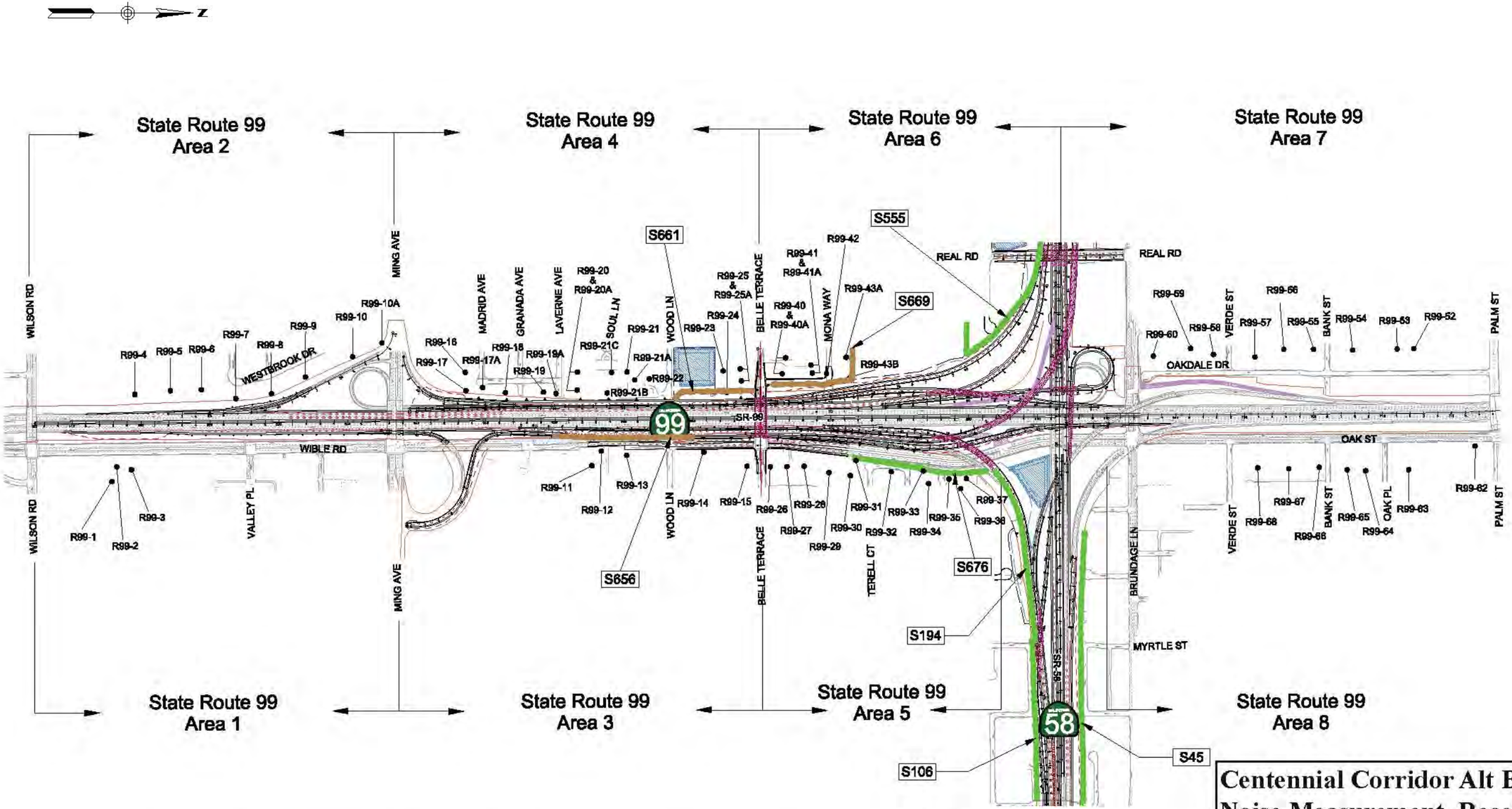
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-39



Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Alt B Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

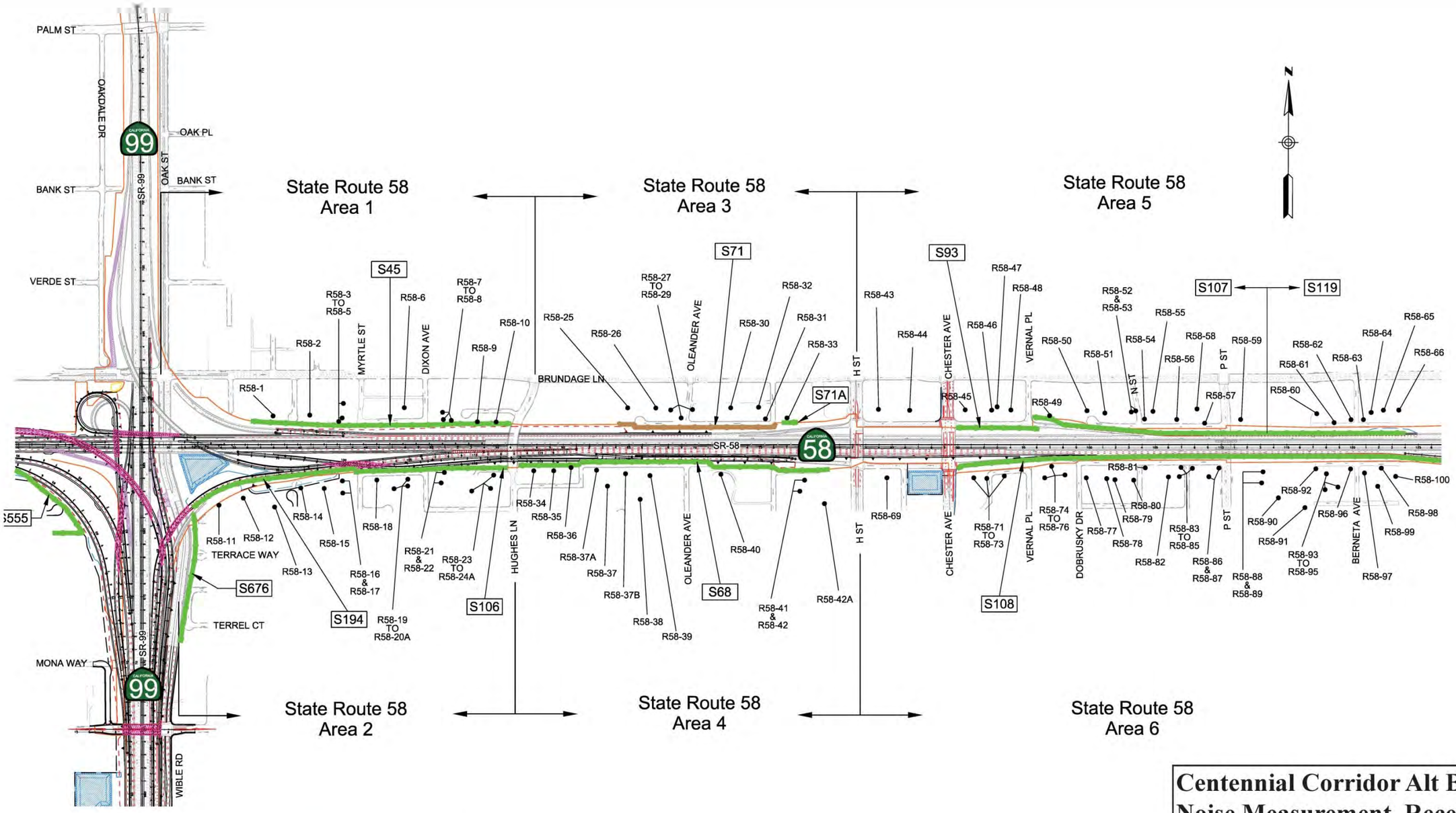
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-40



Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Alt B Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

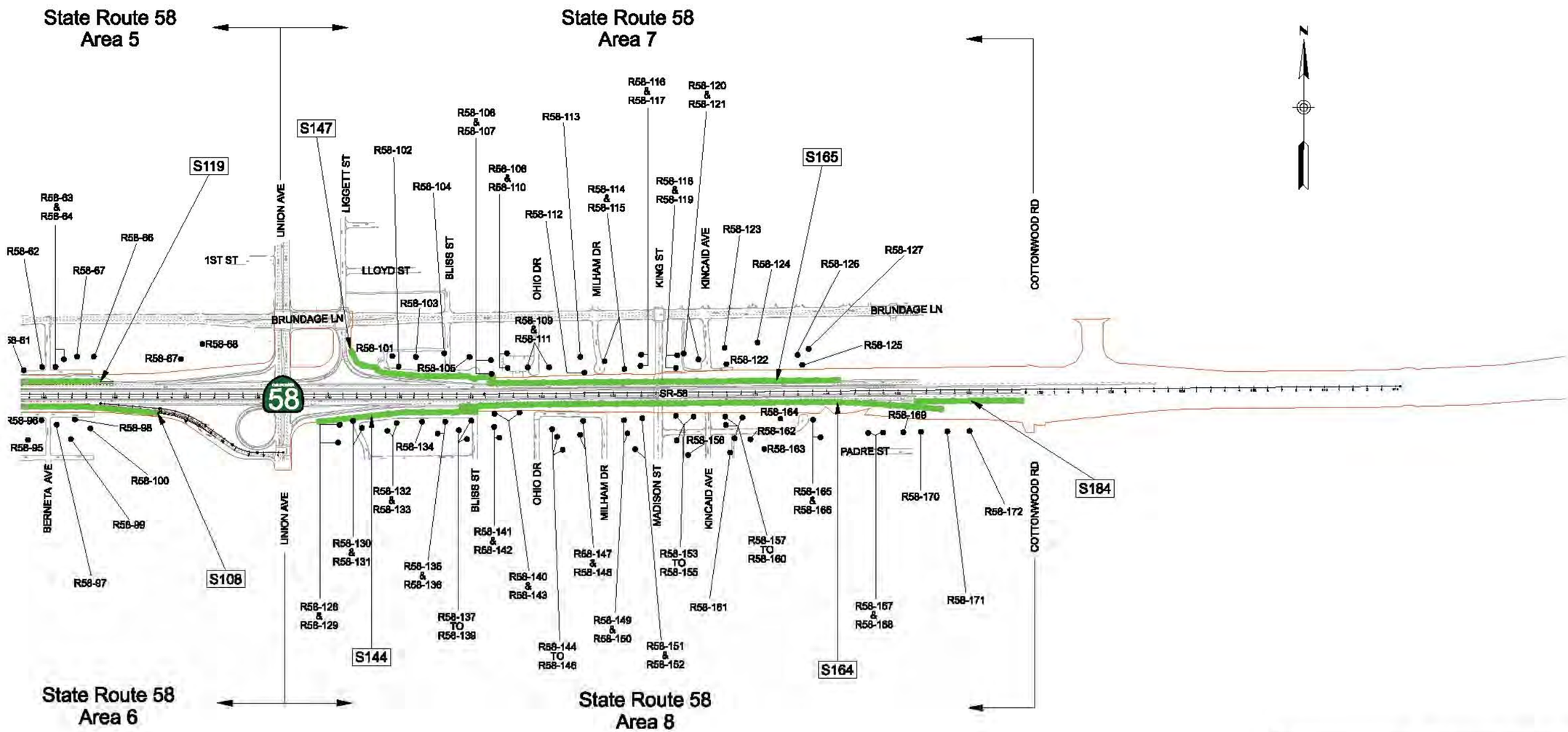
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-41



Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Alt B
Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

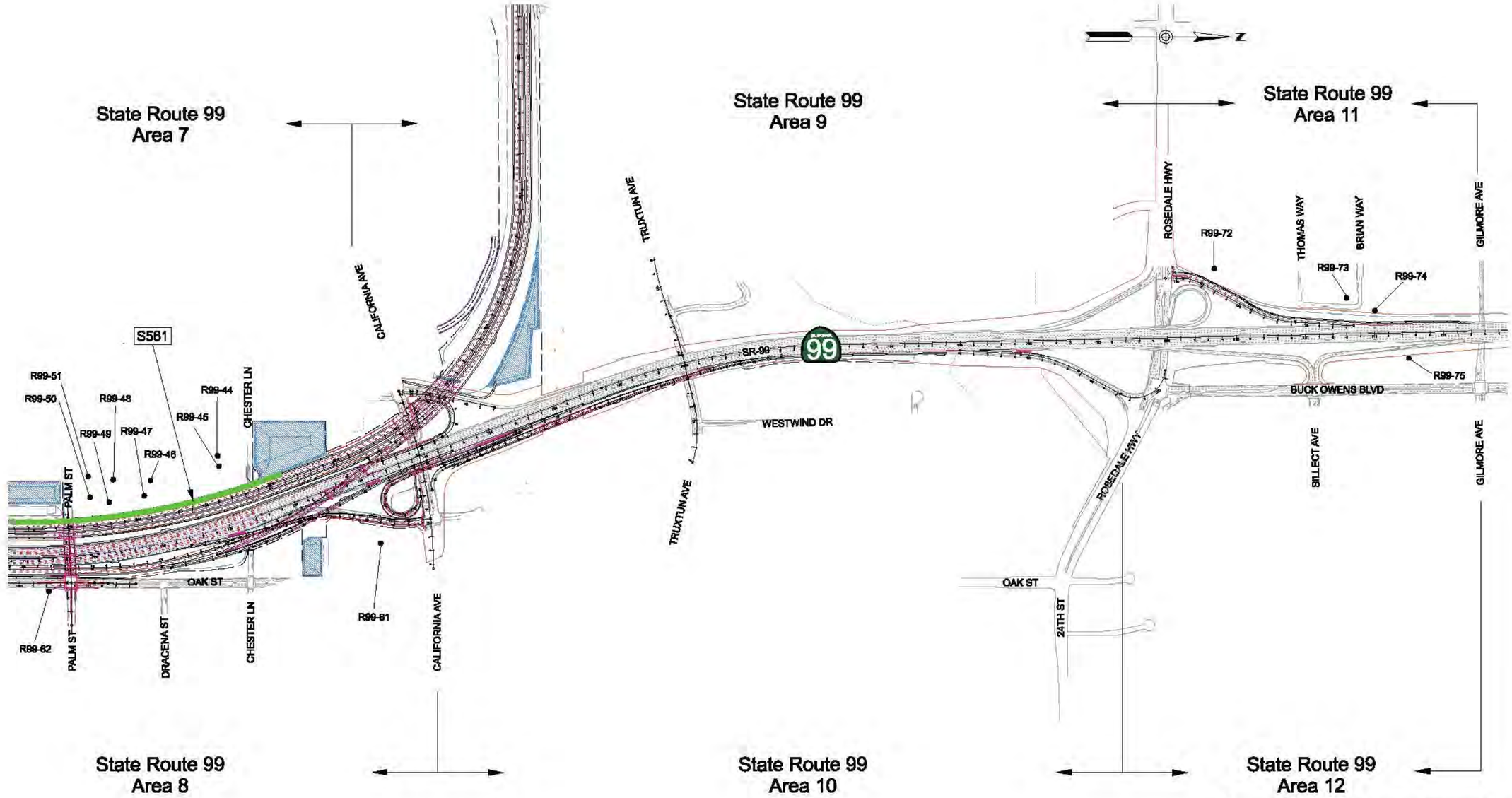
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-42



Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Alt C Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-43

LEGEND

- NOISE MEASUREMENT & ANALYSIS RECEIVERS
- REMOVAL OF RAMP
- SXXX – SOUNDWALL IDENTIFICATION
- RECOMMENDED SOUNDWALL
- NOT RECOMMENDED SOUNDWALL
- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED ROADWAY
- PROPOSED STRUCTURE
- INFILTRATION BASIN

1in : 700ft

0 ft 350ft 700ft 1000ft

Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Alt C Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

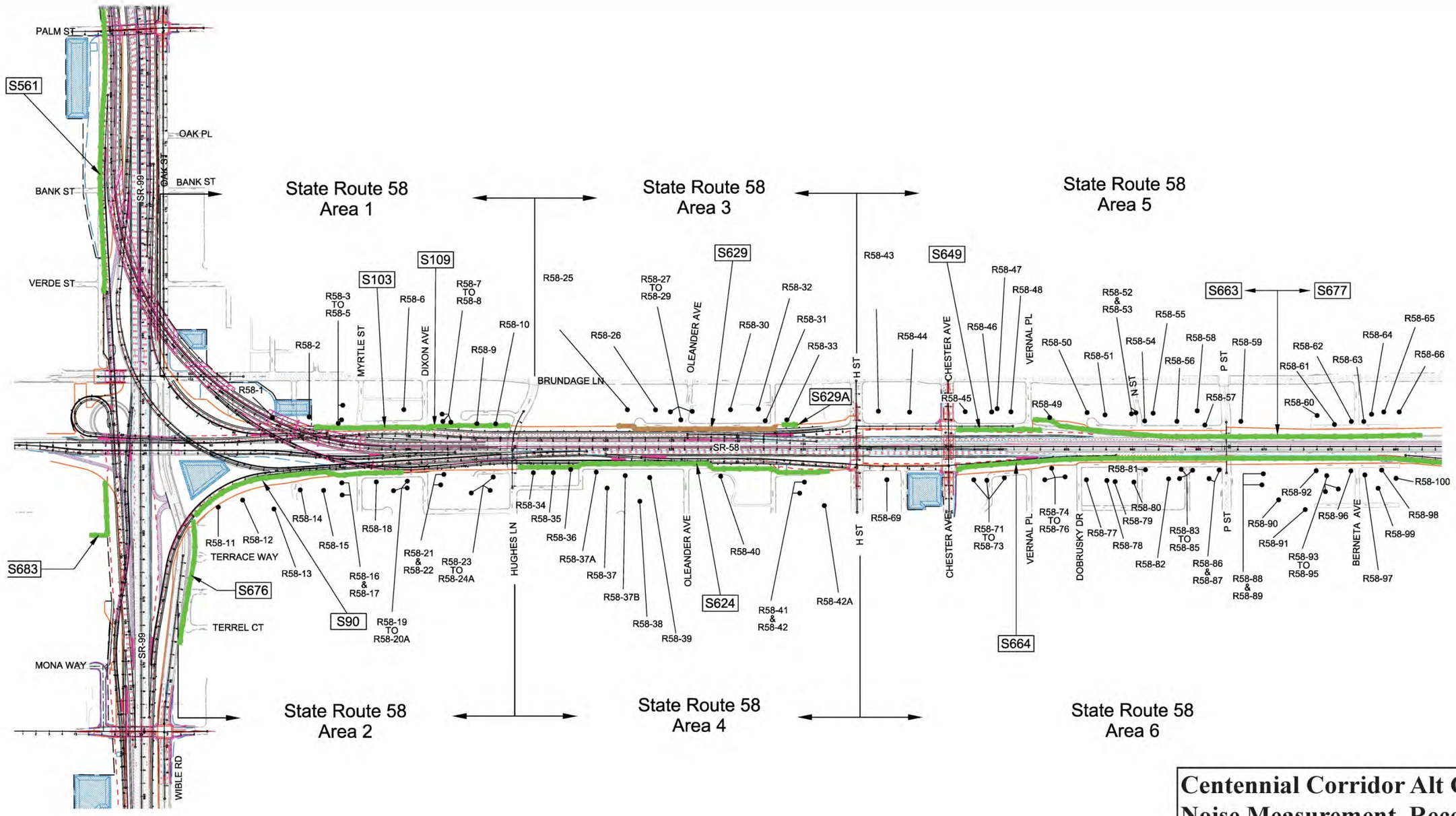
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-44



LEGEND

- ● – NOISE MEASUREMENT & ANALYSIS RECEIVERS
- – REMOVAL OF RAMP
- SXXX – SOUNDWALL IDENTIFICATION
- – RECOMMENDED SOUNDWALL
- – NOT RECOMMENDED SOUNDWALL
- – EXISTING RIGHT OF WAY
- – PROPOSED RIGHT OF WAY
- – PROPOSED ROADWAY
- – PROPOSED STRUCTURE
- – INFILTRATION BASIN

1in : 700ft

0 ft 350ft 700ft 1000ft

Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Alt C Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-45

State Route 58
Area 5

State Route 58
Area 7

State Route 58
Area 6

State Route 58
Area 8

S667
S703
S721
S664
S702
S722
S742

UNION AVE
LIGGETT ST
BLISS ST
OHIO DR
MILHAM DR
KING ST
KINGAID AVE
COTTONWOOD RD
MADISON ST
BERNETA AVE
PADRE ST

1ST ST
LLOYD ST
BRUNDAGE LN
SR-58

R58-62
R58-63 & R58-64
R58-66
R58-67
R58-68
R58-87
R58-88
R58-95
R58-96
R58-97
R58-98
R58-99
R58-100
R58-101
R58-102
R58-103
R58-104
R58-105
R58-106 & R58-107
R58-108 & R58-110
R58-109 & R58-111
R58-112
R58-113
R58-114 & R58-115
R58-116 & R58-117
R58-118 & R58-119
R58-120 & R58-121
R58-122
R58-123
R58-124
R58-125
R58-126
R58-127
R58-128 & R58-129
R58-130 & R58-131
R58-132 & R58-133
R58-134
R58-135 & R58-136
R58-137 TO R58-139
R58-140 & R58-143
R58-141 & R58-142
R58-144 TO R58-146
R58-147 & R58-148
R58-149 & R58-150
R58-151 & R58-152
R58-153 TO R58-155
R58-156
R58-157 TO R58-160
R58-161
R58-162
R58-163
R58-164
R58-165 & R58-166
R58-167 & R58-168
R58-169
R58-170
R58-171
R58-172

LEGEND

- NOISE MEASUREMENT & ANALYSIS RECEIVERS
- REMOVAL OF RAMP
- SXXX – SOUNDWALL IDENTIFICATION
- RECOMMENDED SOUNDWALL
- NOT RECOMMENDED SOUNDWALL
- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED ROADWAY
- PROPOSED STRUCTURE
- INFILTRATION BASIN

1in : 700ft
0 ft 350ft 700ft 1000ft

Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Alt C Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

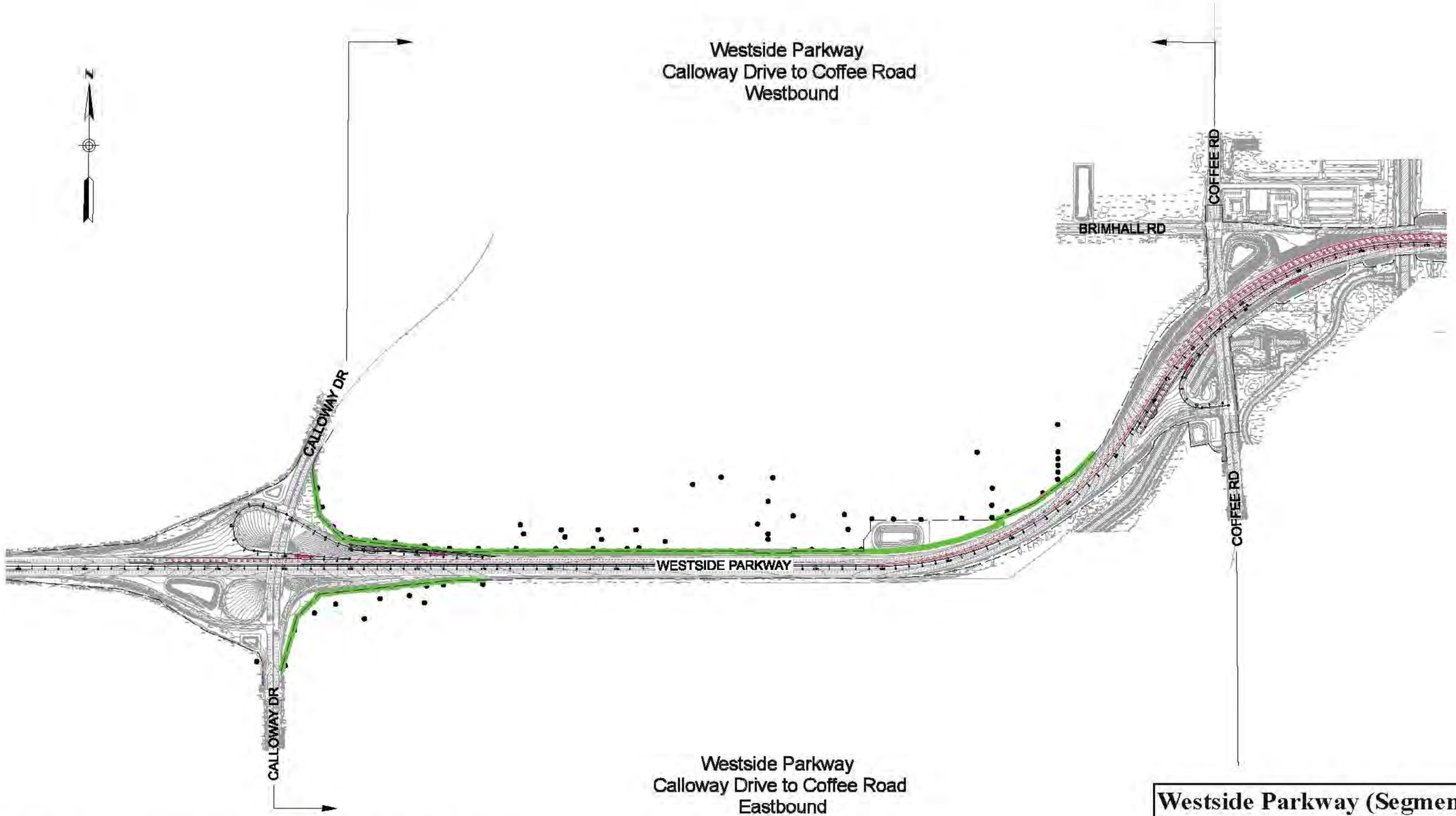
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-46



Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Westside Parkway (Segment 2)
Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

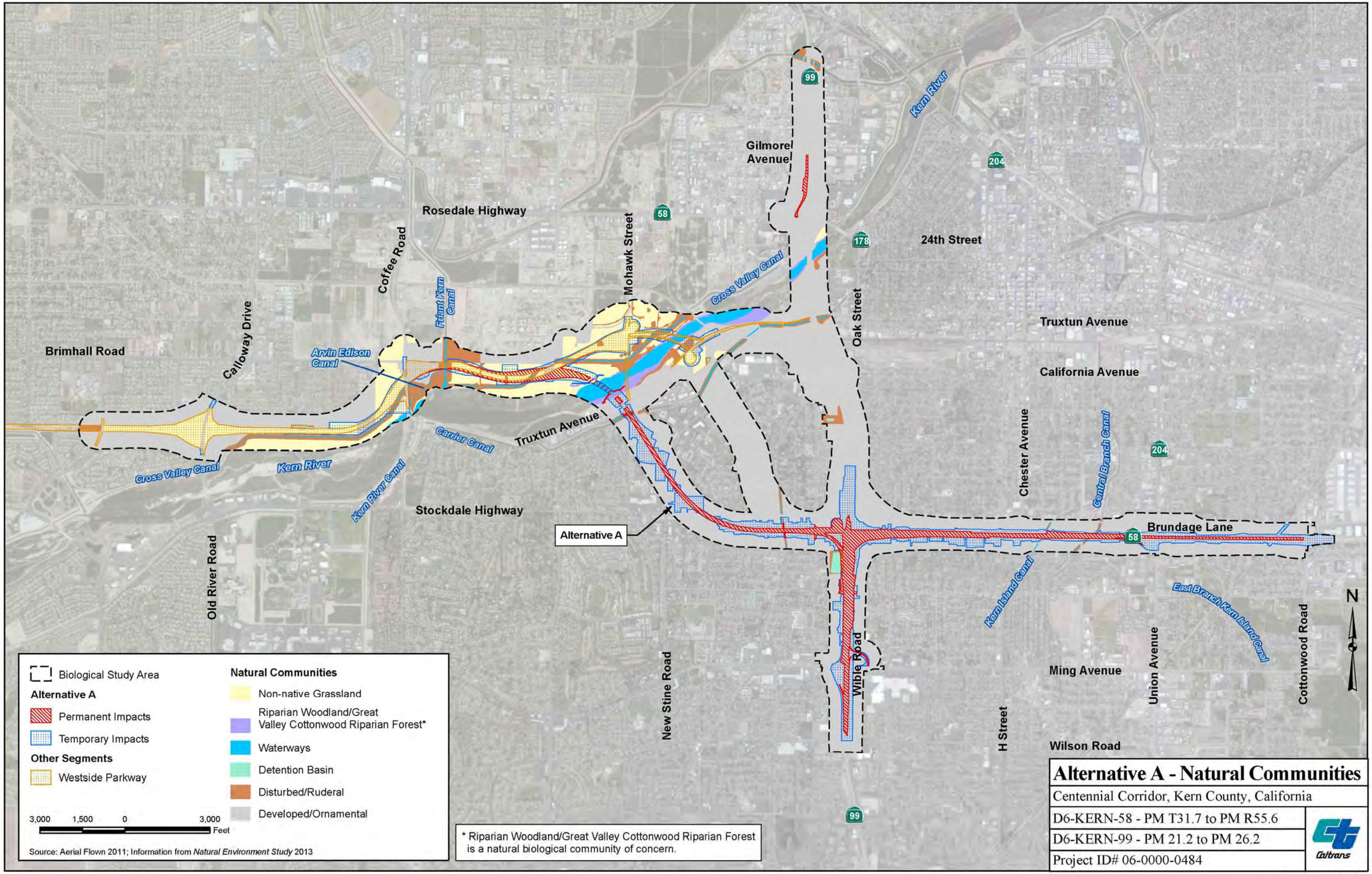
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-47



Alternative A - Natural Communities

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-48

Gilmore Avenue
Kern River
Rosedale Highway
Coffee Road
Mohawk Street
Friant Kern Canal
Cross Valley Canal
24th Street
Oak Street
Truxtun Avenue
Brimhall Road
Calloway Drive
Arvin Edison Canal
California Avenue
Chester Avenue
Central Branch Canal
Carrier Canal
Truxtun Avenue
Cross Valley Canal
Kern River
Kern River Canal
Stockdale Highway
Brundage Lane
Alternative B
Old River Road
Kern Island Canal
East Branch Kern Island Canal
Cottonwood Road
New Stine Road
Wible Road
Union Avenue
Ming Avenue
H Street
Wilson Road
N

Biological Study Area

Alternative B

Permanent Impacts

Temporary Impacts

Other Segments

Westside Parkway

Natural Communities

Non-native Grassland

Riparian Woodland/Great Valley Cottonwood Riparian Forest*

Waterways

Detention Basin

Disturbed/Ruderal

Developed/Ornamental

3,000 1,500 0 3,000 Feet

Source: Aerial Flown 2011; Information from *Natural Environment Study* 2013

* Riparian Woodland/Great Valley Cottonwood Riparian Forest is a natural biological community of concern.

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX,

Alternative B - Natural Communities

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

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Figure 3-49

Gilmore Avenue
Rosedale Highway
Coffee Road
Mohawk Street
Kern River
24th Street
Oak Street
Truxtun Avenue
California Avenue
Brimhall Road
Calloway Drive
Friant Kern Canal
Arvin Edison Canal
Cross Valley Canal
Carrier Canal
Truxtun Avenue
Kern River
Kern River Canal
Stockdale Highway
Alternative C
Chester Avenue
Central Branch Canal
Brundage Lane
Old River Road
Kern Island Canal
East Branch Kern Island Canal
Cottonwood Road
New Stine Road
Wible Road
Ming Avenue
Union Avenue
H Street
Wilson Road
N

Biological Study Area

Alternative C

Permanent Impacts

Temporary Impacts

Other Segments

Westside Parkway

Natural Communities

Non-native Grassland

Riparian Woodland/Great Valley Cottonwood Riparian Forest*

Waterways

Detention Basin

Disturbed/Ruderal

Developed/Ornamental

3,000 1,500 0 3,000 Feet

Source: Aerial Flown 2011; Information from *Natural Environment Study* 2013

* Riparian Woodland/Great Valley Cottonwood Riparian Forest is a natural biological community of concern.

Alternative C - Natural Communities

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-50

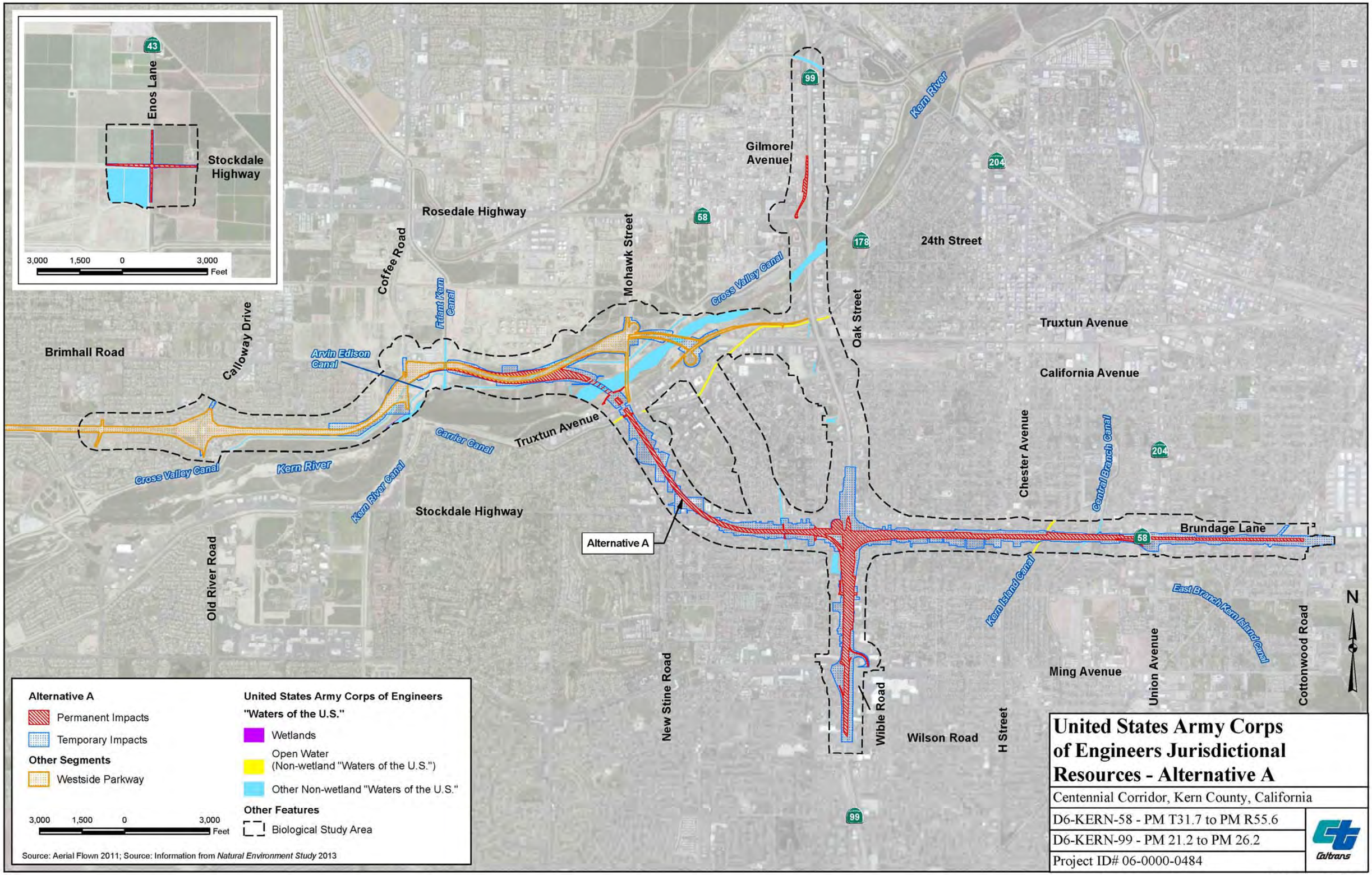

Enos Lane
Stockdale Highway
3,000 1,500 0 3,000
Feet
Rosedale Highway
Coffee Road
Mohawk Street
Gilmore Avenue
Kern River
24th Street
Truxtun Avenue
California Avenue
Oak Street
Brimhall Road
Calloway Drive
Arvin Edison Canal
Friant Kern Canal
Cross Valley Canal
Carrier Canal
Kern River
Kern River Canal
Stockdale Highway
Alternative A
Old River Road
Chester Avenue
Central Branch Canal
Brundage Lane
Kern Island Canal
East Branch Kern Island Canal
New Stine Road
Wible Road
Wilson Road
H Street
Ming Avenue
Union Avenue
Cottonwood Road
N
Alternative A
Permanent Impacts
Temporary Impacts
Other Segments
Westside Parkway
3,000 1,500 0 3,000
Feet
United States Army Corps of Engineers
"Waters of the U.S."
Wetlands
Open Water
(Non-wetland "Waters of the U.S.")
Other Non-wetland "Waters of the U.S."
Other Features
Biological Study Area
Source: Aerial Flown 2011; Source: Information from Natural Environment Study 2013
United States Army Corps of Engineers Jurisdictional Resources - Alternative A
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-52a

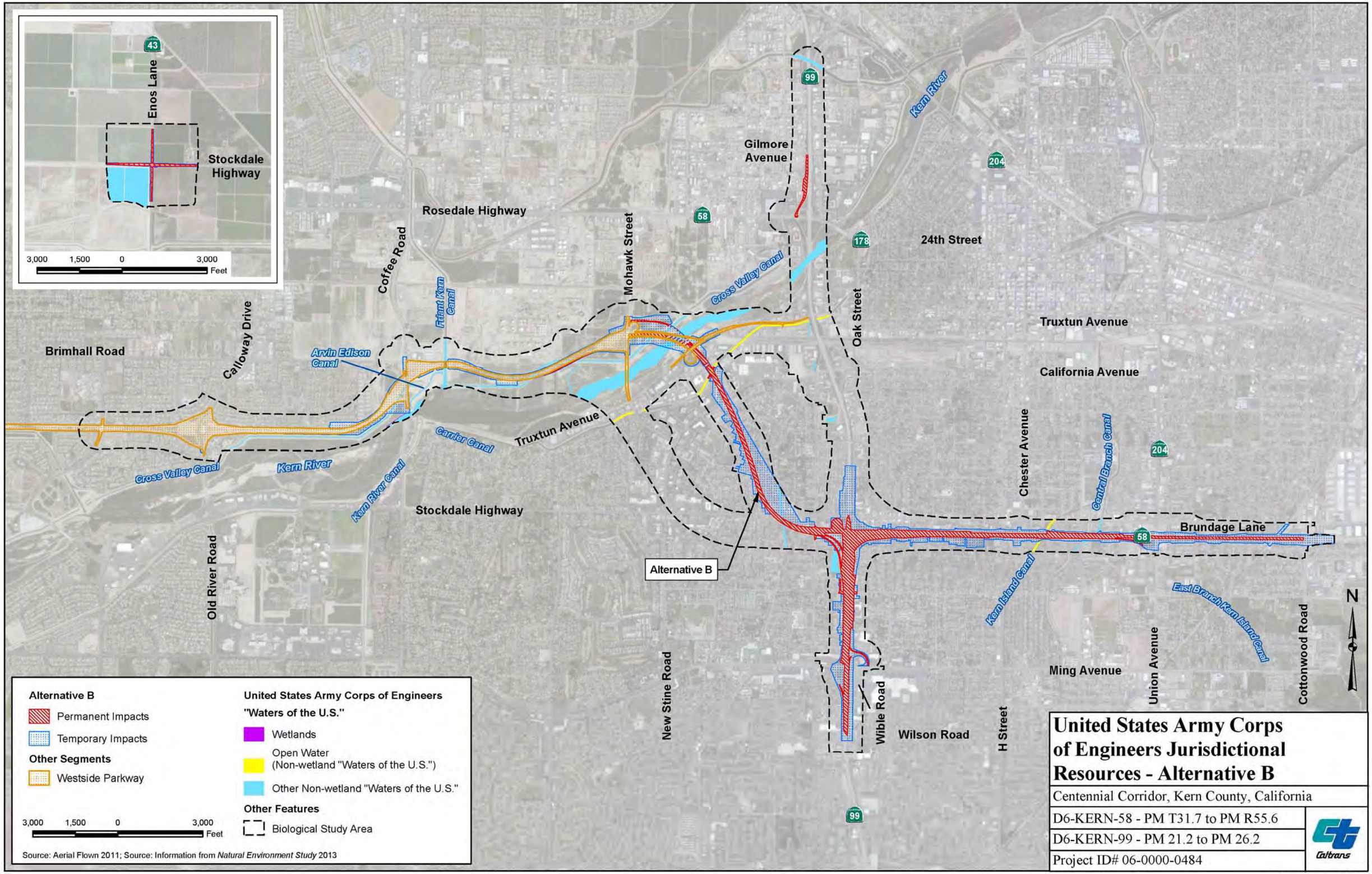
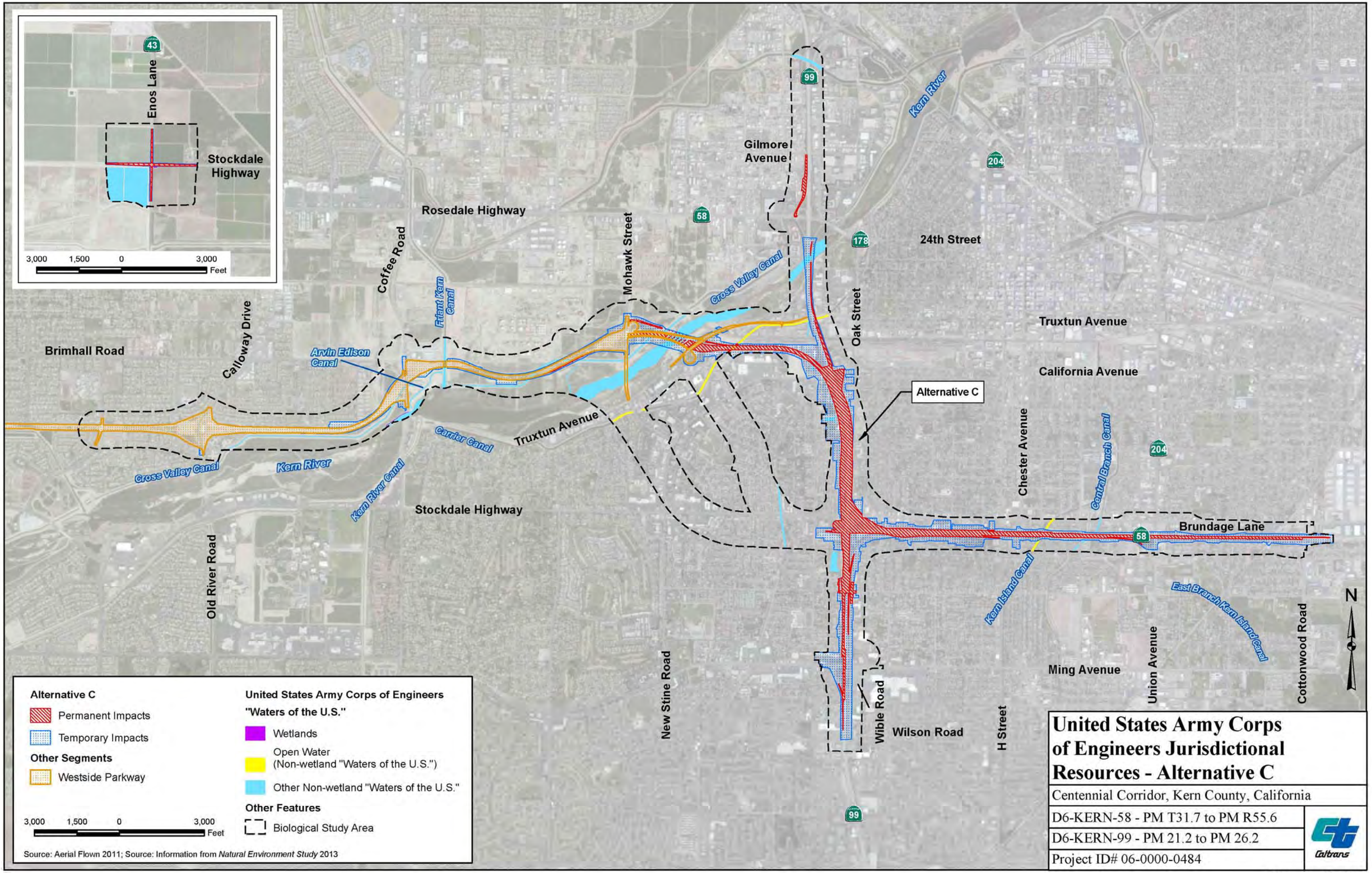

Enos Lane
Stockdale Highway
3,000 1,500 0 3,000
Feet
Rosedale Highway
Coffee Road
Calloway Drive
Brimhall Road
Friant Kern Canal
Arvin Edison Canal
Mohawk Street
Gilmore Avenue
Cross Valley Canal
Oak Street
24th Street
Truxtun Avenue
California Avenue
Kern River
Carrier Canal
Truxtun Avenue
Cross Valley Canal
Kern River
Kern River Canal
Stockdale Highway
Old River Road
Chester Avenue
Central Branch Canal
Brundage Lane
Alternative B
Kern Island Canal
East Branch Kern Island Canal
Cottonwood Road
Ming Avenue
Union Avenue
New Stine Road
Wible Road
Wilson Road
H Street
N
Alternative B
Permanent Impacts
Temporary Impacts
Other Segments
Westside Parkway
United States Army Corps of Engineers
"Waters of the U.S."
Wetlands
Open Water
(Non-wetland "Waters of the U.S.")
Other Non-wetland "Waters of the U.S."
Other Features
Biological Study Area
3,000 1,500 0 3,000
Feet
Source: Aerial Flown 2011; Source: Information from Natural Environment Study 2013
United States Army Corps of Engineers Jurisdictional Resources - Alternative B
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-52b


Enos Lane
Stockdale Highway
3,000 1,500 0 3,000
Feet
Rosedale Highway
Coffee Road
Friant Kern Canal
Mohawk Street
Gilmore Avenue
Kern River
24th Street
Oak Street
Truxtun Avenue
California Avenue
Brimhall Road
Calloway Drive
Arvin Edison Canal
Cross Valley Canal
Carrier Canal
Truxtun Avenue
Kern River
Kern River Canal
Stockdale Highway
Old River Road
Alternative C
Chester Avenue
Central Branch Canal
Brundage Lane
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New Stine Road
Wible Road
Wilson Road
H Street
N
Alternative C
Permanent Impacts
Temporary Impacts
Other Segments
Westside Parkway
United States Army Corps of Engineers
"Waters of the U.S."
Wetlands
Open Water
(Non-wetland "Waters of the U.S.")
Other Non-wetland "Waters of the U.S."
Other Features
Biological Study Area
3,000 1,500 0 3,000
Feet
Source: Aerial Flown 2011; Source: Information from Natural Environment Study 2013
United States Army Corps of Engineers Jurisdictional Resources - Alternative C
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
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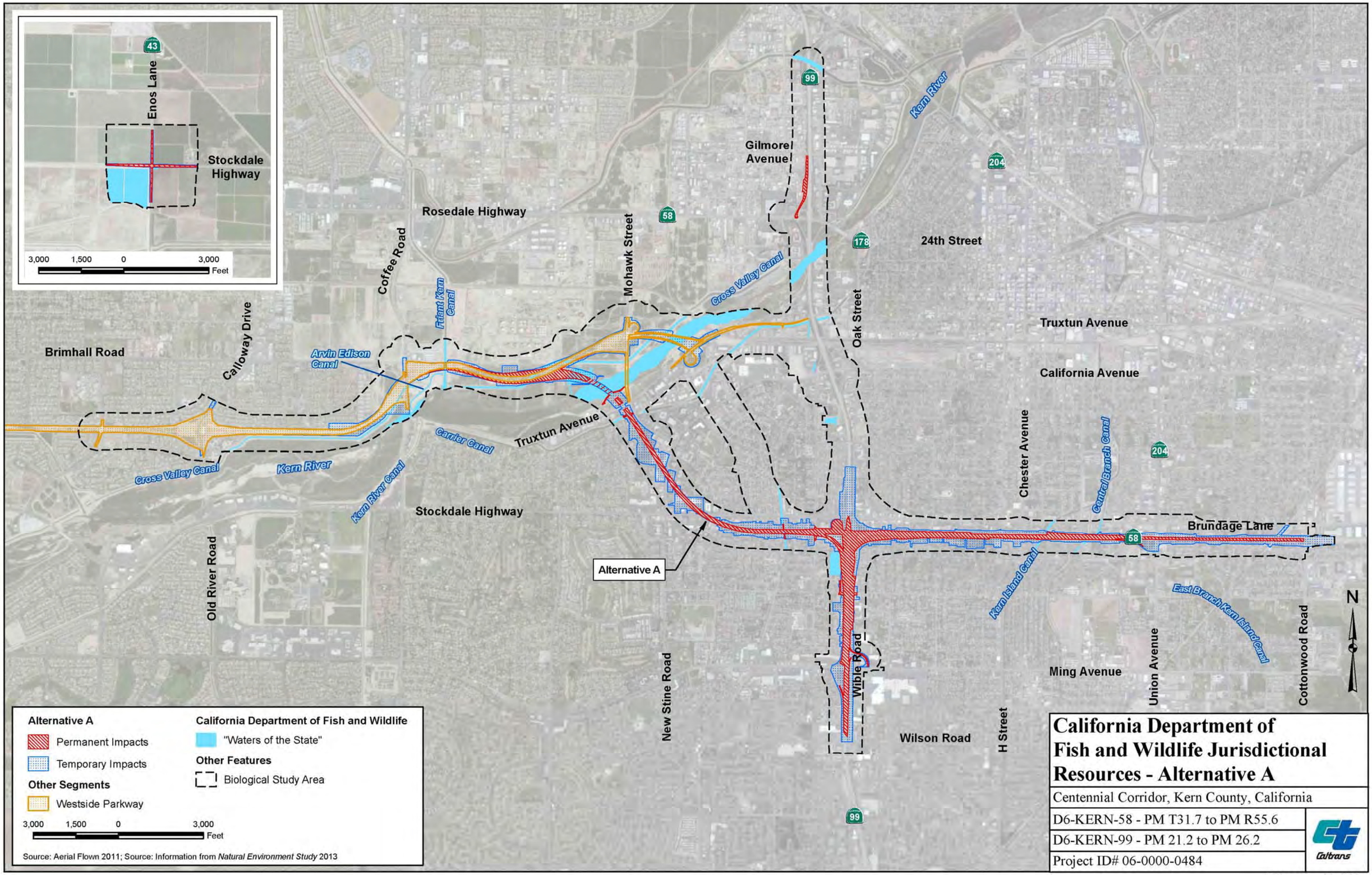
Figure 3-52c



California Department of Fish and Wildlife Jurisdictional Resources - Alternative A

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

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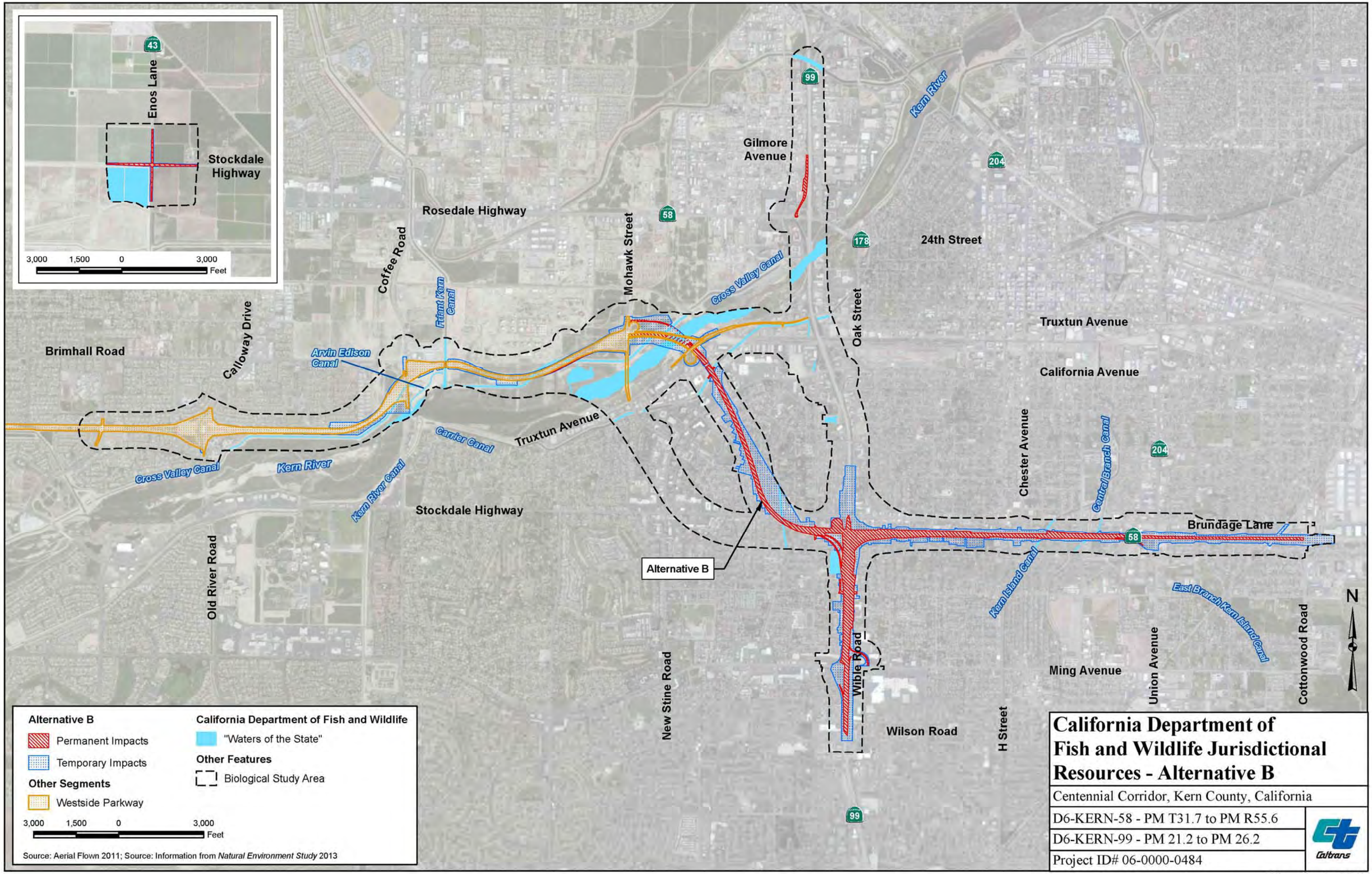
Figure 3-53a



California Department of Fish and Wildlife Jurisdictional Resources - Alternative B

Centennial Corridor, Kern County, California

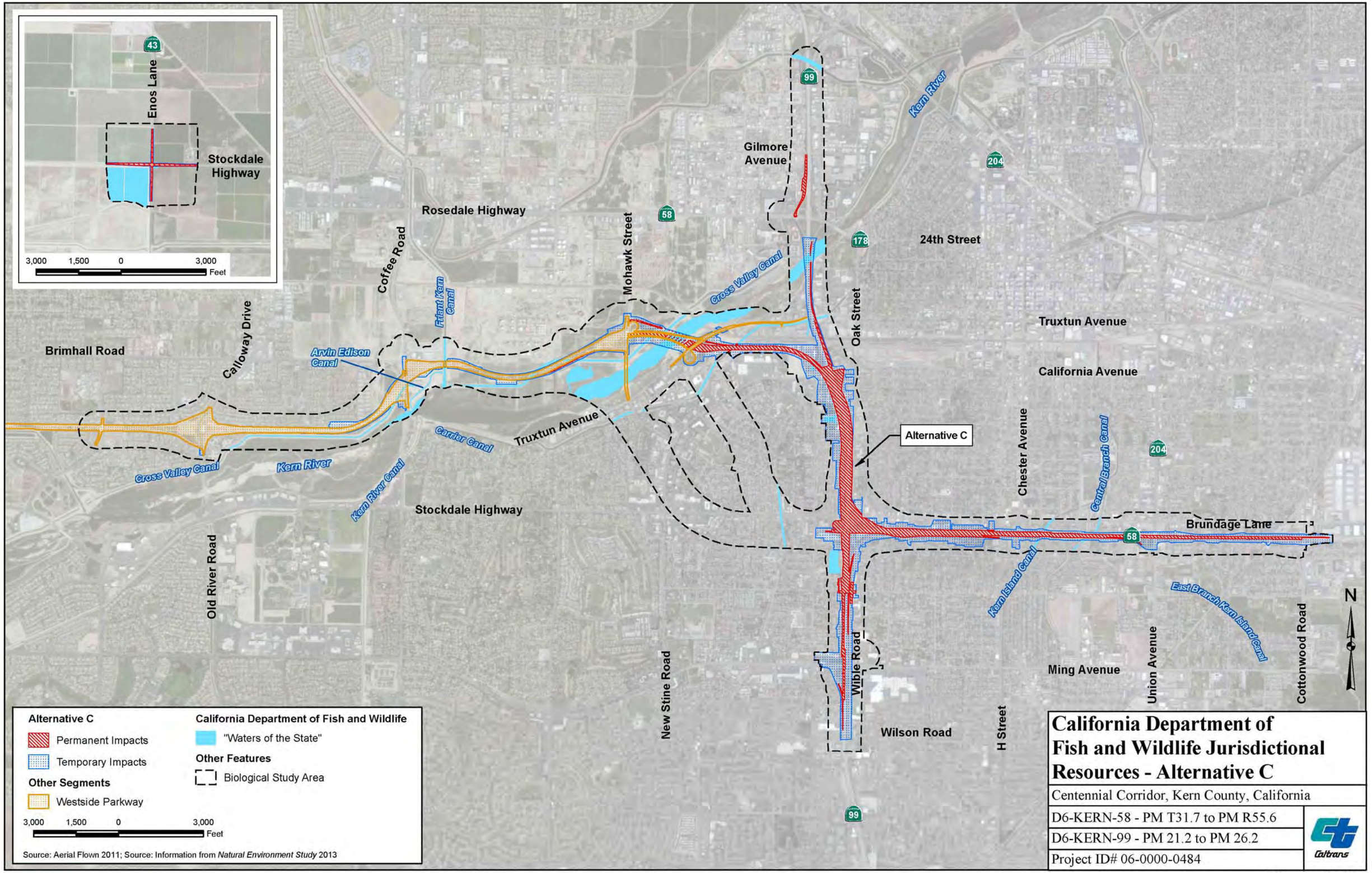
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-53b



California Department of Fish and Wildlife Jurisdictional Resources - Alternative C

Centennial Corridor, Kern County, California

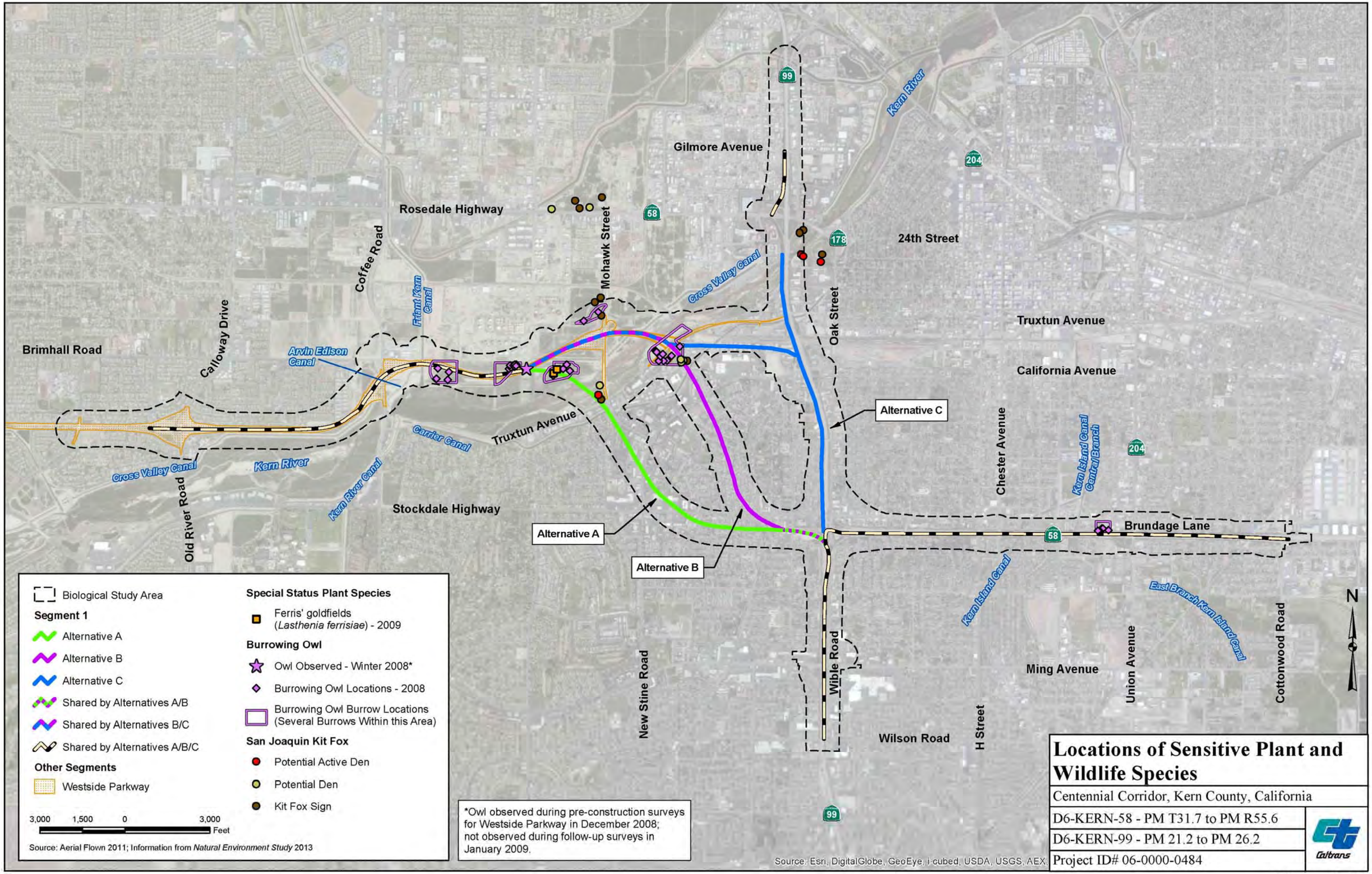
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-53c



Locations of Sensitive Plant and Wildlife Species

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-54

Appendix A California Environmental Quality Act Checklist

This checklist identifies physical, biological, social and economic factors that might be affected by the project. In many cases, background studies performed in connection with the projects indicate no impacts. A No Impact answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to California Environmental Quality Act, not National Environmental Policy Act impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☒	☐	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐
II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒
VI. GEOLOGY AND SOILS: Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

VII. GREENHOUSE GAS EMISSIONS: Would the project: a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document (refer to Section 4.5, Climate Change under the California Environmental Quality Act). While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☒	☐
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j) Inundation by seiche, tsunami, or mudflow	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	☒	☐	☐	☐
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒
XI. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒
XII. NOISE: Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING: Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐
XIV. PUBLIC SERVICES:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☒	☐	☐
Other public facilities?	☐	☐	☐	☒
XV. RECREATION:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC: Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

Appendix B Section 4(f) Evaluation

Centennial Corridor Project

City of Bakersfield and Kern County, CA
District 06 - KER – 58 - PM T31.7 to PM R55.6
District 06 - KER – 99 - PM 21.2 to PM 26.2

Project ID # 06-0000-0484
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Draft Section 4(f) Evaluation

Prepared by the
State of California Department of Transportation

The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by the California Department of Transportation under its assumption of responsibility pursuant to 23 U.S. Code 327.

April 2014

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1.0 Introduction and Overview of Section 4(f) Process

1.1 Introduction

This report evaluates the effects of establishing a new alignment for State Route 58 that would provide a continuous route along State Route 58 from Interstate 5 via the Westside Parkway to Cottonwood Road on existing State Route 58 east of State Route 99 (post miles T31.7 to R55.6). Improvements to State Route 99 (post miles 21.2 to 26.2) would also be made to accommodate the connection with State Route 58.

The following technical reports, prepared as part of the draft environmental document for the project, were used in support of the evaluation presented in this report:

- Air Quality Study Report, November 2013
- Noise Study Report, January 2013
- Natural Environment Study, March 2013
- Historical Property Survey Report, January 2013
  - Historic Resource Evaluation Report, January 2013
  - California Historic Bridge Inventory Sheet, October 2011
  - Archaeological Survey Report, January 2013
  - Extended Phase I (Geoarchaeological Study), November 2012
  - Finding of Effect, April 2014
- Visual Impact Assessment, September 2013
- Community Impact Assessment, September 2013

Alternatives A and C would result in the permanent use of two park and recreation properties and one historic district considered Section 4(f) properties. No permanent use of Section 4(f) properties would occur with implementation of Alternative B. No temporary construction easements would be required for any of the build alternatives (A, B, or C). Refer to Section 2.3 below for a more detailed description of the proposed project alternatives.

1.2 Regulatory Setting

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 United States Code 303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

Section 4(f) specifies that the Secretary [of Transportation] may approve a transportation program or project . . . requiring the use of publicly owned land of a

public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:

- there is no prudent and feasible alternative to using that land; and
- the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

Section 4(f) further requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Department of Agriculture and the Department of Housing and Urban Development in developing transportation projects and programs that use lands protected by Section 4(f). If historic sites are involved, then coordination with the State Historic Preservation Officer (SHPO) is also needed.

Coordination with the Department of Agricultural and Department of Housing and Urban Development is not required for the project because there would be no impacts to National Forest System lands or federal funding from the Department of Housing and Urban Development. Since historic sites are involved, therefore coordination with the State Historic Preservation Officer is needed.

1.3 Section 4(f) Use

As defined in 23 Code of Federal Regulations (CFR) Section 774.17, use of a protected Section 4(f) property occurs when any of the following conditions is met:

- Land is permanently incorporated into a transportation facility through partial or full acquisition (i.e., direct use).
- There is a temporary occupancy of land that is adverse in terms of the preservationist purposes of Section 4(f) (i.e., temporary use).
- There is no permanent incorporation of land, but the proximity of a transportation facility results in impacts so severe that the protected activities, features, and/or attributes that qualify a property for protection under Section 4(f) are substantially impaired.

1.4 Federal Highway Administration – Section 4(f) Policy Paper

In its *Section 4(f) Policy Paper* (July 20, 2012), the Federal Highway Administration provided guidance on how Section 4(f) applies generally and to specific situations where resources meeting the Section 4(f) criteria may be involved. As it relates to publicly owned bodies of water such as portions of the Kern River (see discussion of

Kern River Parkway in Section 4.2.1), it notes that, in general, rivers are not subject to the requirements of Section 4(f), although portions of a river contained within the boundaries of otherwise designated parks could be applicable under Section 4(f).

1.5 Section 6(f)

Section 6(f)(3) of the Land and Water Conservation Fund Act (16 U.S. Code §4601-4) also contains provisions to protect federal investments in park and recreation properties and the quality of those assisted properties. The Land and Water Conservation Fund Act includes a clear "anti-conversion" requirement that applies to all parks and other sites that have been the subject of Land and Water Conservation Fund grants of any type, whether for acquisition of parkland, development, or rehabilitation of facilities.

2.0 Description of the Project

2.1 Background

The proposed continuous route, known as the Centennial Corridor, has been divided into three segments (see Figure 1). This Section 4(f) Evaluation solely focuses on Segment 1:

- Segment 1 is the easternmost portion of the Centennial Corridor project. It begins near the intersection of State Route 58 and Cottonwood Road and continues westerly to connect to the Westside Parkway. The study area for Segment 1 is bound to the east by Cottonwood Road, to the west by Coffee Road, to the north by Gilmore Avenue, and to the south by Wilson Road.
- Segment 2 is composed of the Westside Parkway, which will ultimately extend from about Truxtun Avenue to Stockdale Highway near Heath Road. The final segment of the parkway from Allen Road to Stockdale Highway is currently under construction and is expected to be completed by 2014.
- Segment 3 traffic would use Stockdale Highway between Heath Road and Interstate 5, which would serve as State Route 58 through at least the planning horizon year of 2038. Funding sources for Segment 3 have not yet been identified/programmed.

2.2 Purpose and Need for the Project

The purpose of the Centennial Corridor project is to provide route continuity and associated traffic congestion relief along State Route 58 within metropolitan Bakersfield and Kern County from existing State Route 58 (East) (at Cottonwood Road) to Interstate 5.

State Route 58 is a critical link in the state transportation network used by interstate travelers, commuters, and a large number of trucks. Under existing conditions, State Route 58 does not meet the capacity needs of the area, and this is expected to get worse as the population grows. State Route 58 lacks continuity in central Bakersfield, which results in severe traffic congestion and reduced levels of service on adjoining highways and local streets. The effectiveness of traffic operations on a transportation facility is measured in terms of "level of service", an A through F scale with level of service A representing the best traffic conditions (free-flowing traffic) and level of service F representing the worst (congestion and stop-and-go traffic). Different level of service definitions are provided for freeways, multi-lane highways, intersections with signals, and intersections without signals. This route is offset by about 1 mile at State Route 43 (known locally as Enos Lane) and by about 2 miles at State Route 99. The merging of two major state routes (State Route 58 and State Route 99) into one alignment between the eastern and western legs of State Route 58 degrades the traffic level of service on this segment of freeway. In addition, the close spacing of two State Route 99 interchanges with State Route 58 (East and West), as well as an interchange at California Avenue, results in vehicles aggressively changing lanes, which adds to the congestion. See Volume 1, Chapter 1, Purpose and Need for the Project for additional information.

2.3 Alternatives

The following provides a summary of the proposed project components. Chapter 2 of this draft environmental impact report/environmental impact statement provides additional detailed information.

2.3.1 No-Build Alternative

The No-Build Alternative would make no improvements. The Westside Parkway would be built as a local freeway but would not connect to State Route 58, State Route 99, or Interstate 5. State Route 58 (West)/Rosedale Highway would still end at State Route 99 and share the highway with State Route 99 for about 2 miles south before tying into State Route 58 (East). Normal maintenance and repairs such as roadway cleaning, pothole repair, landscape maintenance, irrigation repairs, and inspections would be undertaken for the Westside Parkway and State Route 58 (West)/Rosedale Highway.

2.3.2 Build Alternatives

Three build alternatives—Alternative A, Alternative B, and Alternative C—and the No-Build Alternative are evaluated in this Section 4(f) Evaluation.

Segment 1

As discussed above, Segment 1 is the easternmost segment of the Centennial Corridor project. It begins near the State Route 58 and Cottonwood Road intersection and continues westerly to connect to the Westside Parkway. The study area for Segment 1 is bound to the east by State Route 58 and Cottonwood Road, to the west by Westside Parkway and Coffee Road, to the north by Gilmore Avenue, and to the south by Wilson Road.

As shown in Figure 2, the three build alternatives (Alternative A, Alternative B, and Alternative C) propose new alignments that would extend from the existing State Route 58 (East) and connect to the eastern end of the Westside Parkway. Alternative A and Alternative B would be west of State Route 99; Alternative C would parallel State Route 99 to the west. Under Alternative A, the eastern end of the Westside Parkway mainline would be realigned to conform to the Alternative A alignment, and ramp connections would be provided to the Mohawk Street interchange. Under Alternatives B and C, the alignments would connect to the Westside Parkway by extending the main line lanes built as part of the Westside Parkway project. Detailed descriptions of the alternatives are provided below.

Alternative A

Alternative A would travel westerly from the existing State Route 58/ State Route 99 interchange for about 1 mile, south of Stockdale Highway, where it would turn northwesterly and span Stockdale Highway/Montclair Street, California Avenue/ Lennox Avenue, Truxtun Avenue, and the Kern River before joining the eastern end of the Westside Parkway between the Mohawk Street and Coffee Road interchanges.

A link would be provided from northbound State Route 99 to westbound State Route 58 and from eastbound State Route 58 to southbound State Route 99 via high-speed connectors. No direct connector ramps would be built from southbound State Route 99 to westbound State Route 58 or from eastbound State Route 58 to northbound State Route 99. Southbound State Route 99 would be widened to accommodate the additional traffic from eastbound State Route 58 to the southbound State Route 99 connector. The existing westbound State Route 58 to southbound State Route 99 loop-ramp connector would be realigned and would connect to the proposed eastbound State Route 58 to southbound State Route 99 connector before merging onto southbound State Route 99. The existing southbound State Route 99 to eastbound State Route 58 connector and northbound State Route 99 to eastbound State Route 58 would be preserved with some changes.

The limits of widening on State Route 99 would extend to the Wilson Road overcrossing. On northbound State Route 99, a three-lane exit would be provided just north of Wilson Road to carry the northbound State Route 99 to westbound State Route 58 traffic on two lanes and the Ming Avenue on- and off-ramp traffic on the third lane. All ramps in this area would have to be realigned to provide the additional lanes. The Wible Road on- and off-ramps just south of the existing State Route 58/ State Route 99 interchange that is in conflict with the Caltrans standards of interchange spacing would have to be removed to accommodate this design. The Stockdale Avenue off-ramp on the southbound State Route 99 to eastbound State Route 58 connector would be removed as well. Under this concept, State Route 58 would also lose its link with Real Road. In addition, Alternative A would provide an auxiliary lane on State Route 99 from south of Gilmore Avenue to the Rosedale Highway off-ramp.

Alternative B

Alternative B would run westerly from the existing State Route 58/State Route 99 interchange for about 1,000 feet, south of Stockdale Highway, where it would turn northwesterly and span Stockdale Highway/Stine Road, California Avenue, Commerce Drive, Truxtun Avenue, and the Kern River before joining the east end of Westside Parkway near the Mohawk Street interchange. This alignment would depress State Route 58 between California Avenue and Ford Avenue. Overcrossings are proposed at Marella Way and La Mirada Drive to ease traffic circulation. The option of removing the La Mirada Drive overcrossing from Alternative B is also under consideration. Removal of the overcrossing would not substantially change access, which would be provided by the Marella Way overcrossing. Removal of the La Mirada Drive overcrossing would eliminate the need to displace 13 single family homes on La Mirada Drive near Centennial Park and save about $2.5 million in construction costs. The option for adding a Ford Road undercrossing would maintain connection of Ford Road between Stine Road and McDonald Way. The undercrossing would not require the acquisition of any additional property and would add about $5.5 million in construction cost. Caltrans and the City of Bakersfield will consider the benefits associated with minimizing impacts on the remaining neighborhood, costs, and internal circulation needs. It is expected that this issue will be resolved prior to the approval of the environmental document.

Alternative B proposes the same connections to State Route 99 that Alternative A proposes and would require similar improvements on State Route 99 and existing State Route 58.

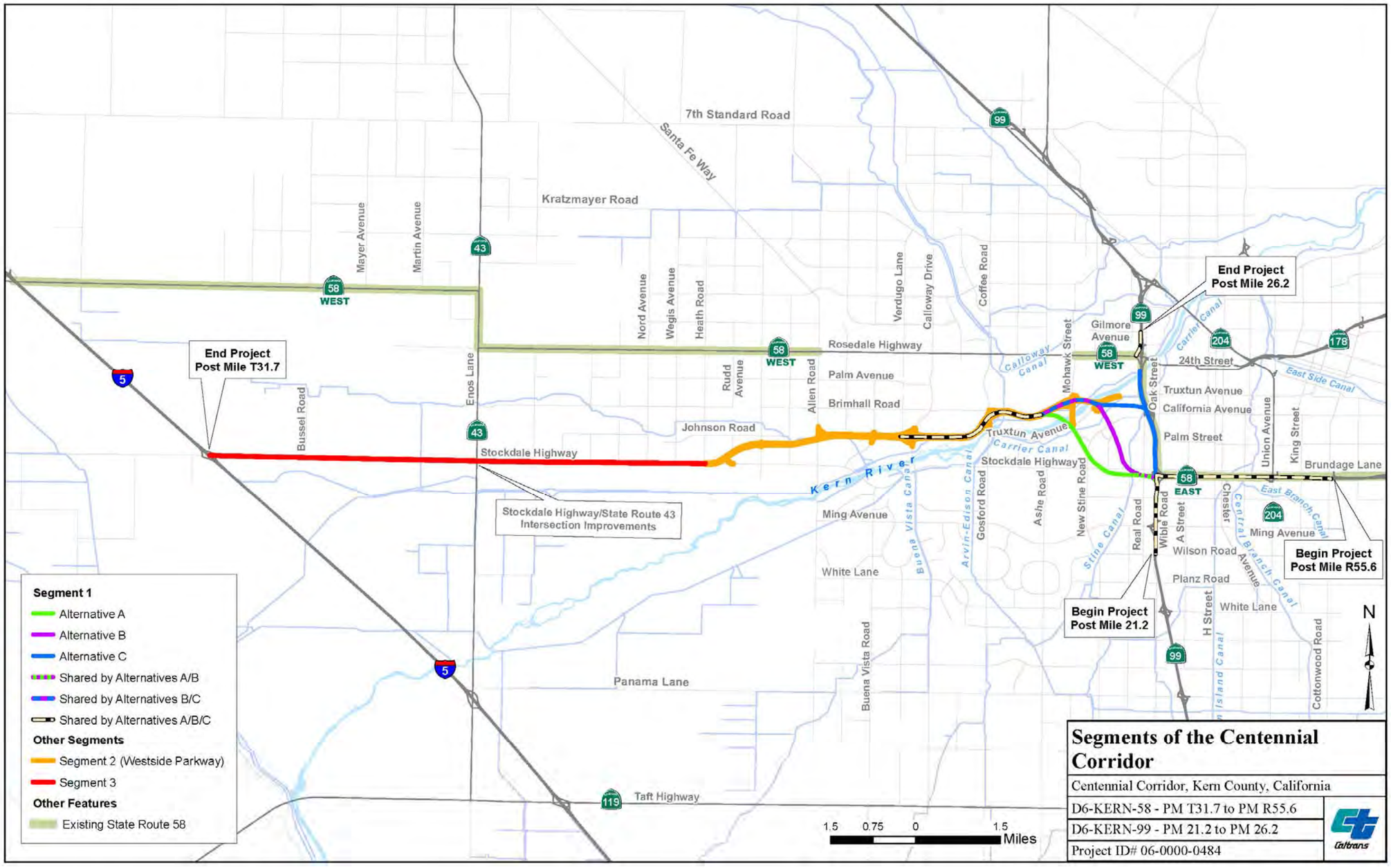


Figure 1 Segments of the Centennial Corridor

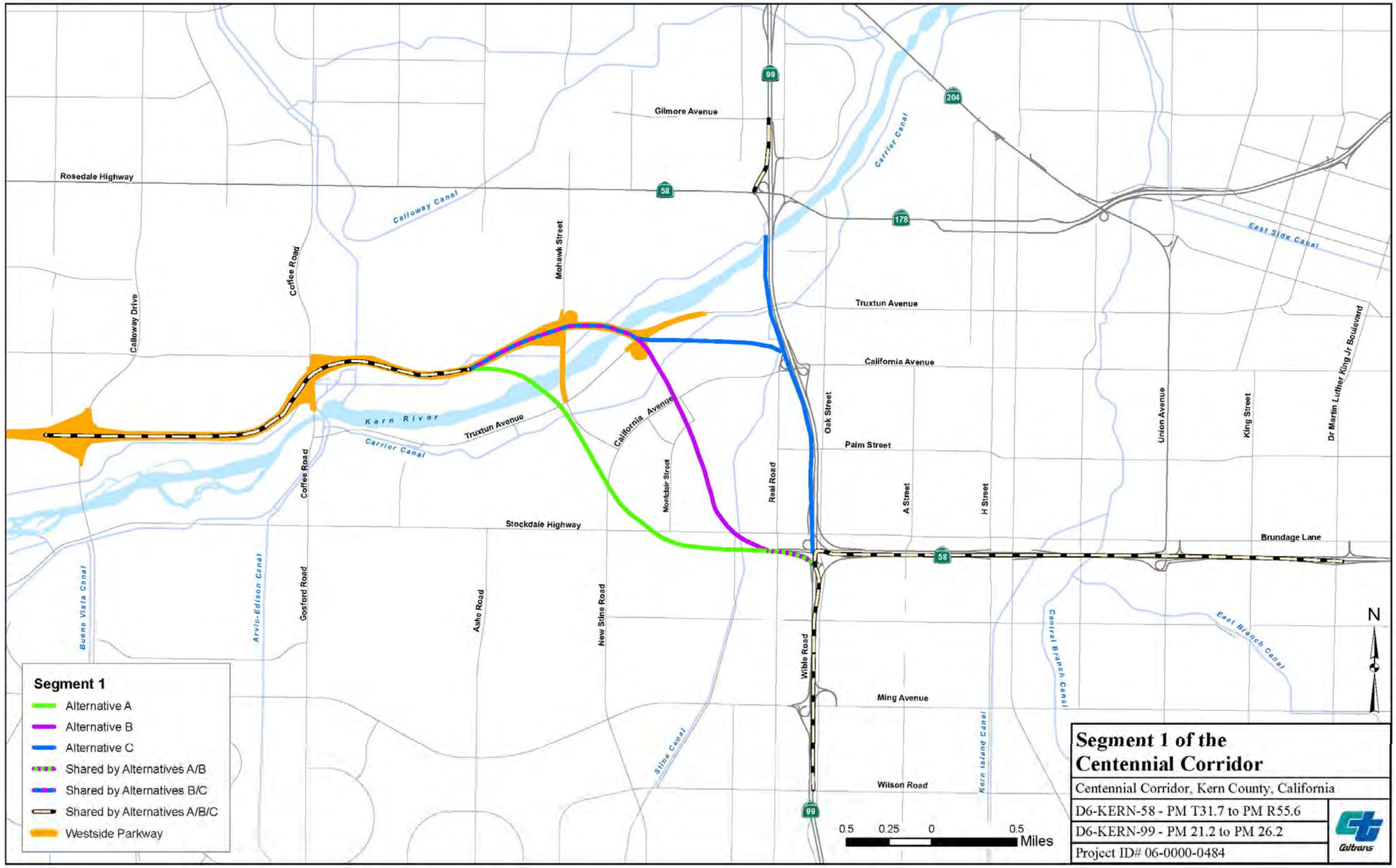


Figure 2 Segment 1 of Centennial Corridor

Alternative C

Near the existing State Route 58/ State Route 99 interchange, Alternative C would turn north and run parallel to the west of State Route 99 for about 1 mile. The freeway would turn west and span the Burlington Northern Santa Fe Railway rail yard, Truxtun Avenue, and the Kern River. This alternative proposes undercrossings at Brundage Lane, Oak Street, State Route 99, Palm Avenue, and California Avenue.

Connections would be provided from eastbound State Route 58 to southbound State Route 99 and from northbound State Route 99 to westbound State Route 58. The existing westbound State Route 58 to southbound State Route 99 loop-ramp connector would connect to the proposed eastbound State Route 58 to southbound State Route 99 connector before merging onto southbound State Route 99. The southbound State Route 99/Ming Avenue off-ramp would be moved north of the eastbound State Route 58 to southbound State Route 99 connector to ease lane changes between the Ming Avenue off-ramp and the eastbound State Route 58 to southbound State Route 99 connector traffic. An auxiliary lane on northbound State Route 99 would be provided south of California Avenue. The lane would extend to the State Route 58/ State Route 99 interchange to ease lane changes between westbound State Route 58 to northbound State Route 99 and northbound State Route 99 to westbound State Route 58.

Improvements on State Route 99 would extend from the Wilson Road overcrossing (south of the State Route 58/State Route 99 interchange) to the Gilmore Avenue overcrossing (north of the State Route 58/State Route 99 interchange). A collector-distributor road system would provide access from westbound State Route 58 to northbound State Route 99, as well as from northbound State Route 99 to westbound State Route 58. The Wible Road on- and off-ramps just south of the existing State Route 58/State Route 99 interchange would have to be removed to accommodate the northbound State Route 99 auxiliary lane. The Stockdale Avenue off-ramp on the southbound State Route 99 to eastbound State Route 58 connector would be removed as well. Under this concept, southbound State Route 99 would also lose its link with Real Road. See Volume 1, Chapter 2, Project Alternatives for additional information.

3.0 Description of the Proposed Construction Activities

3.1 Construction Scenario

Site clearing and demolition would begin once the right-of-way acquisition process is complete. The corridor would be cleared of conflicting structures and improvements in preparation for the project construction. Electrical transmission towers, oil wells, canal culverts, and other existing utilities that would interfere with construction of the

corridor improvements would be removed and relocated or encased for continuing service. In addition, utilities crossing the alignment may need to be removed and relocated to either temporary (requiring final relocation later in the construction process) or permanent locations.

A Traffic Management Plan would be developed to reduce the impacts of traffic congestion and detours during construction. With the exception of short-term closures to install bridge falsework (temporary supports while the bridge is being built), most of the arterial roadways and most secondary streets crossing the construction corridor would remain open during construction. Burlington Northern Santa Fe Railway operations would not be interrupted or delayed during construction.

The current construction schedule assumes activities would begin in 2016 and end in 2018.

4.0 Description of the Section 4(f) Properties

4.1 Identification of Section 4(f) Properties

As discussed in Section 1.2, Regulatory Setting, properties subject to the provisions of the requirements of Section 4(f) are publicly owned parks and recreation areas, wildlife and waterfowl refuges of national, state, or local significance, and historic sites of national, state, or local significance.

Two public parks and one National Register of Historic Places-eligible historic district were identified as potentially affected Section 4(f) properties within the study area, which is within a 0.5-mile radius of the proposed project. These are described in the following sections and are shown in Figure 3.

4.2 Public Parks and Recreational Facilities

Building Segment 1 would require conversion of some existing parkland and recreational areas to transportation uses, including 6.28 acres for Alternative A and 3.27 acres for Alternative C. Alternative B would not require any conversion of parkland/recreational use to transportation use. No temporary construction easements are required for any of the alternatives being considered.

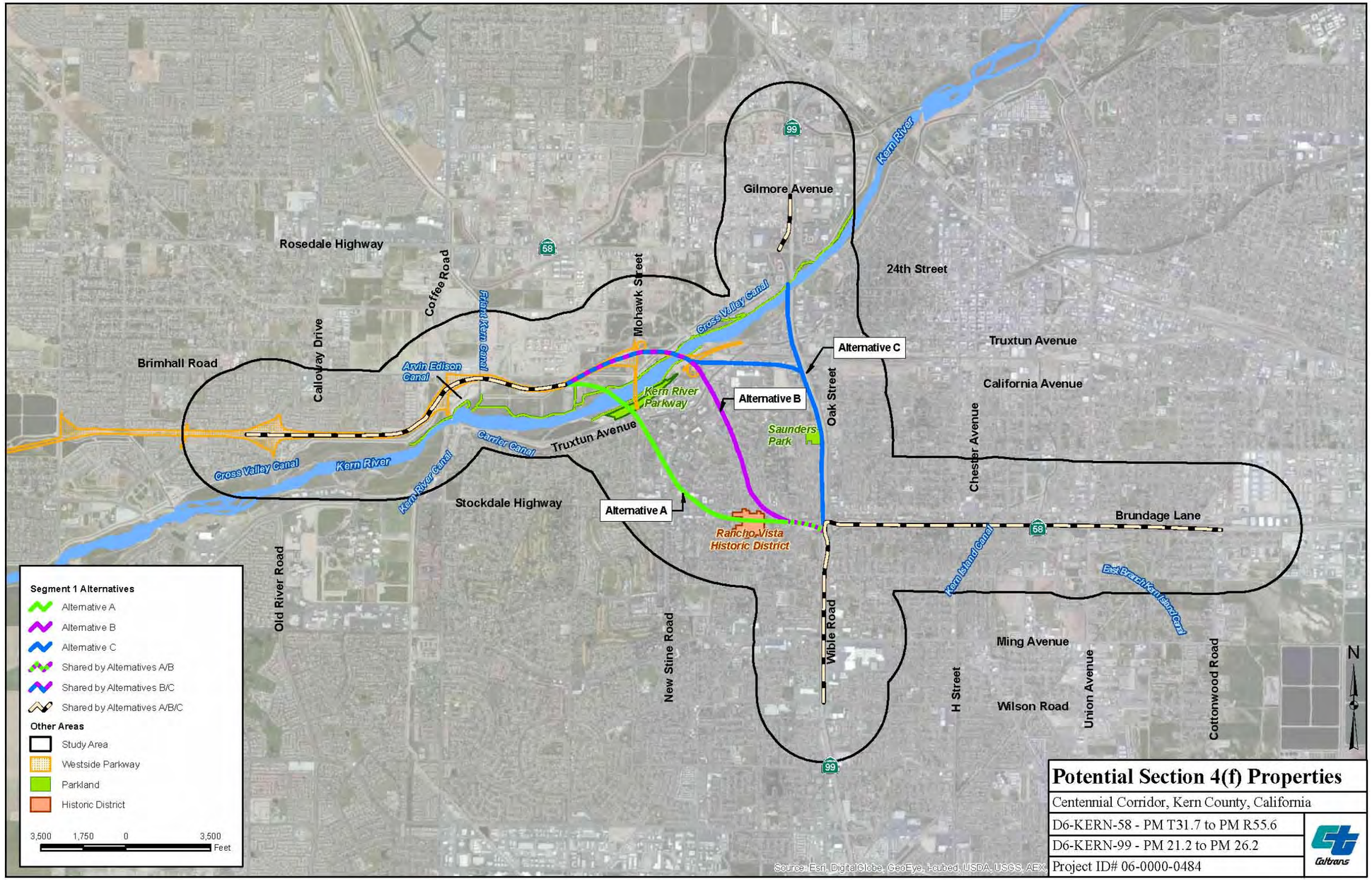


Figure 3 Potential Section 4(f) Properties

4.2.1 Kern River Parkway

The Kern River Parkway is within the city of Bakersfield and Kern County. Within Bakersfield, the Kern River Parkway consists of about 1,400 acres and extends along the Kern River from Manor Street on the east and the Stockdale Highway Bridge on the west. The width of the parkway varies, but it generally ranges from 30 to 2,200 feet, with most of it contained within the primary and secondary floodway (areas reserved for flood control and water conservation) of the Kern River. Existing and proposed recreation areas account for 220 acres. The primary river channel, habitat areas (including areas for educational studies), and recharge basins account for 1105 acres. Parking uses account for 8 acres, rest areas 2 acres, and landscaped areas 65 acres. Further details are provided in Attachment A. Of the estimated 1,400 acres that comprise the parkway, about 255 acres, or 18.2 percent, are privately owned. About 950 acres, or 67.9 percent, are owned by the City of Bakersfield and 195 acres, or 13.9 percent, are owned by other public agencies or utility companies. The Kern River Parkway Master Plan governs land use plan for the parkway and identifies proposed uses such as the primary river channel, natural open space, landscaped areas, existing and proposed recreation areas, access points, parking areas, bridge crossings, and other similar designations. The following priority uses are identified in the Kern River Parkway Draft Master Plan Environmental Impact Report (1988):

- Flood control for public safety and protection of property
- Water conservation and groundwater recharge to provide water for existing and future residents and to maintain a viable resource
- Protection and enhancement of the Kern River corridor to maintain and protect open spaces unique to the river
- Improved public access to parkway areas such as passive recreational areas where feasible.

Flood control is the major priority of the parkway because the river runs through a large metropolitan area where protection from flooding is critical. This priority is met through the Channel Maintenance Program adopted by the City of Bakersfield in January 1986. The purpose of the Channel Maintenance Program is to preserve storm flow carrying capacity of the Kern River as it passes through Bakersfield. The channel maintenance area, encompassing the entire parkway between Manor Street and Stockdale Highway Bridge, is confined primarily to the designated floodway with limited excavation in the secondary floodway.

As noted above, within Bakersfield, the Kern River Parkway is a multi-use area though not designated specifically as a park. It does contain some public parks or trails, however, which qualify as Section 4(f) properties. Because the use or ownership of parcels within the Kern River Parkway is complex, Attachment A (Kern River Parkway Memorandum) of this appendix and Section 5.2.1 provide background information and analysis on these items.

A review of the Kern River Master Plan indicates that two areas designated for recreation uses could be affected by building the Centennial Corridor. The first area (known as the Kern River Parkway Park [ParCourse] landscaped with turf and trees) is along the river (outside of the primary or secondary floodway) and extends from about Commercial Way to the vicinity of Lake Truxtun. This area is owned by the City of Bakersfield and contains a 24-acre park. Amenities include three sand volleyball courts, Frisbee golf course, multi-use trail used by bicyclists, pedestrians, joggers, and skaters, and the Hoey Trail, and three off-site surface parking areas (96 spaces). Two access points to the park are available from Truxtun Avenue. An equestrian trail is on the north side of the river about 1,000 feet from the parkway. A portion of the area (in the immediate vicinity of Mohawk Street and Truxtun Avenue) would be needed to build a Kern River overcrossing associated with Alternative A.

The second area is along the river from the existing Burlington Northern Santa Fe railroad bridge (near Truxtun Avenue) to the vicinity of Commercial Way (see Figures 5 and 6). This area, owned by the City of Bakersfield, is unimproved and its primary role is flood control. With the exception of Kern River Multi-Use Trail (paved and used for bicycling and walking) and the Hoey Trail (unpaved and used for mountain bike riding and cross-training) located along the south side of the river and the equestrian trail (unpaved and intended for use by horse and rider) located on the north side of the river, there are no park amenities contained on-site and no public access (access is also not approved outside of the designated trail areas). The Kern River Multi-Use and Hoey Trails are heavily used daily by local residents, while the Equestrian Trail and ParCourse are moderately used and mostly on weekends and evenings. These properties are protected under Section 4(f). As noted previously in Section 5.2.1 (DEIR/EIS, Volume 1), the property has never been used for park uses and is not planned for such uses in the future. A portion of the area (east of Commercial Way and Truxtun Avenue) would be needed to build a Kern River overcrossing for Alternative B and Alternative C.

4.2.2 Saunders Park

Saunders Park, 3300 Palm Street, Bakersfield, California, is an 11.3-acre public park just west of State Route 99. The park is bordered by a city-owned retention basin to the north; State Route 99 to the east; and single-family residences to the south and west. Owned by the City of Bakersfield, the park is administered by the Recreation and Parks Department.

According to the Recreation and Parks Department's website, Saunders Park is a neighborhood park mostly used by residents within a 0.75-mile radius. On average, 400 visitors access this park each week according to Dianne Hoover, Recreation and Parks Director (personal communication, March 21, 2012). Saunders Park can be accessed by vehicles, pedestrians, and bicyclists. Park facilities include two lighted full basketball courts; one equipment building/room; one picnic shelter for families; one restroom building; a roller hockey facility; four horseshoe pits; a splash/water play area; and an undeveloped area along the northern portion of the park.

The splash/water play area is a concrete pad about 70 feet wide by 100 feet long in the southeast corner of the park. Within this area are several structures used to spray water or provide water-filled buckets that spill onto the children below. Water flow is activated by rubbing an initiator. The water continues to flow for a set amount of time before automatically shutting off. A portion of the park would be required to construct Alternative C only.

4.3 Rancho Vista Historic District

Rancho Vista Historic District is a residential subdivision eligible for the National Register of Historic Places under Criterion A for its significance in incorporating innovative mass-production technology during post-World War II. Under Criterion C the Rancho Vista Historic District is an important example of a postwar subdivision consisting entirely of houses built by the whole-house prefabrication method. Rancho Vista Historic District is significant at the local level with a period of significance from 1950 to 1957 when the residences were constructed. The historic boundary of this property is generally defined by Stine Road to the east, Stockdale Highway to the north, McDonald Way to the west, and Quarter Avenue to the south. A more precise boundary, which excludes some non-contributing parcels that are part of the original tract development along perimeter streets, has been delineated as part of the Section106 (National Historic Preservation Act) documentation prepared for the project. The following are identified character-defining features of this tract:

- *Design characteristics of the tract*: Rounded concrete curbs; concrete sidewalks placed next to the curb with no planting strip; houses set back from the curb at varying distances, and mature trees that were planted as part of the initial tract development.
- *Design characteristics of the houses*: Small, one-story residences with compact plans, wood-frame construction on low concrete foundation; varied roof forms such as gable, hip, and combination roofs; wood siding in a variety of types, applied vertically and horizontally; and metal casement windows.

Under Section 106 of the National Historic Preservation Act, the Rancho Vista Historic District is eligible for the National Register. Alternative A would bisect the Rancho Vista Historic District.

5.0 Impacts on Section 4(f) Properties

This section describes how the Centennial Corridor project build alternatives would affect two public parks and one National Register-eligible historic district, all Section 4(f) properties. An assessment was made as to whether any permanent use or temporary occupancy of land from these Section 4(f) properties would result in direct effects that would substantially impair the activities, features, and/or attributes that trigger the provision of Section 4(f).

The following subsections describe the permanent uses and temporary occupancy of the parks and National Register-eligible historic district by the No-Build Alternative and Alternative A, Alternative B, and Alternative C, the build alternatives. Analysis of whether Alternative B will have a constructive use of the National Register-eligible historic district under Section 4(f) is also presented below.

In addition to identifying the permanent use and temporary occupancy impacts of the project, the effects on the Section 4(f) properties related to facilities, functions, and activities potentially affected are also addressed. The impacts on accessibility, visual changes, noise, vegetation, wildlife, air quality, and water quality are also evaluated for each project alternative. Table B.1 summarizes, by alternative, the permanent use and temporary occupancy of the parks, recreational facilities, and National Register-eligible historic district.

Alternatives to avoid the use of Section 4(f) properties are studied and discussed in Section 6.0. Minimization measures to reduce impacts to effected properties are described in Section 7.0.

Table B.1 Summary of Permanent Use and Temporary Occupancy of Section 4(f) Properties

Site	Alternative A		Alternative B		Alternative C	
	Use or Occupancy	Percent	Use or Occupancy	Percent	Use or Occupancy	Percent
Kern River Parkway Park (ParCourse)	Permanent use: up to 6.28 acres	3.2	No use or occupancy	None	No use or occupancy	None
Saunders Park	No use or occupancy	None	No use or occupancy	None	Permanent use: up to 3.27 acres	43
Rancho Vista Historic District	Direct use of 46 of the 81 contributing residences	57	No use or occupancy	None	No use or occupancy	None
Note: Percent indicated is approximate.						

5.1 No-Build Alternative

The No-Build Alternative would not construct any of the improvements proposed in Alternative A, Alternative B, and Alternative C; therefore, it would not result in the permanent use, temporary occupancy, or impairment of land from any Section 4(f) properties. The No-Build Alternative is not discussed in this section.

5.2 Build Alternatives

The following subsections describe direct use of the two parks and National Register-eligible historic district under each build alternative. An evaluation was also done to determine if indirect impacts from the build alternatives would result in substantial impairment of these properties. This is more formally referred to as a constructive use under Section 4(f). That analysis did not identify any proximity impacts resulting from the build alternatives that would be so severe that the activities, features, and/or attributes that qualify these properties for protection under Section 4(f) would be substantially impaired. The proximity impacts of the build alternatives in the vicinity of these properties would not meaningfully reduce or remove the values of these properties in terms of their Section 4(f) significance; therefore, the build alternatives were determined not to result in substantial impairment of any properties protected under Section 4(f).

5.2.1 Kern River Parkway

Facilities, Functions, and/or Activities Potentially Affected

As shown in Figure 4, Alternative A would result in the removal of a portion of the Kern River Parkway Park (ParCourse) (west side of the park) in the immediate vicinity of Mohawk Street and Truxtun Avenue. The following amenities in this area would be removed: three sand volleyball courts and most of a Frisbee golf course. Mature trees and other vegetation within the parkway would also be removed within the project footprint. No amenities on the east side of the parkway would be removed. On the south side of the river, a 1000-foot segment of the Kern River Multi-Use Trail and the Hoey Trail that borders the parkway would be moved about 200 feet northwest of its current location. On the north side of the river, a 1,500-foot segment of the existing equestrian trail would be moved about 200 feet south of its current location. Prior to building the bridge over the Kern River, the new locations for the Kern River Multi-Use Trail, the Hoey Trail, and the equestrian trail would be constructed. As a result, neither trail would be closed during construction.

The area where the volleyball courts and the Frisbee golf course are located would not be available for the public to use once construction starts. With the removal of the volleyball and Frisbee golf course, the main recreational function of this area of the Kern River Parkway would be removed and not replaced. Patrons of the east side of the park would continue to have access to grassy areas, Kern River Multi-Use Trail, and Hoey Trail. The parking areas within all areas of the park would still be available for use, and no parking spaces are planned for removal. The Kern River Multi-Use Trail, Hoey Trail, and the equestrian trail would still function as trails. Access to the parkway would continue to be available along Truxtun Avenue.

Building Alternative A would have a permanent use of about 0.15 acre of the equestrian trail, 0.18 acre of the Kern River Multi-Use Trail, 0.12 acre of the Hoey Trail, and 5.83 acres of the parkland, including the volleyball and Frisbee golf course, for a total of 6.28 acres of parkland and recreational use areas.

Alternatives B and C would cross over the Kern River on an elevated bridge structure (see Figures 5 and 6) in the vicinity of Truxtun Avenue between the Burlington Northern Santa Fe railroad bridge and Commercial Way. These alignments would not affect the Kern River Multi-Use Trail, Hoey Trail or equestrian trail because they would span this area. The Kern River Multi-Use Trail, Hoey Trail and equestrian trail would be open during both construction and operation of the Centennial Corridor project. Alternatives B and C would not directly use the Kern River Multi-Use Trail,

Hoey Trail or equestrian trail. As such, building either Alternatives B or C would not impair the activities, features, or attributes that qualify the multi-use path for protection under Section 4(f).

Because the use and ownership of the Kern River Parkway is complex, the status of the areas proposed for use by Alternatives B and C requires further discussion. The land crossing the Kern River shown in Figure 7 was previously in private ownership and was purchased by the City of Bakersfield solely in support of the Westside Parkway project. As such, this land is not being used for recreational purposes and was never intended to be used for such purposes. Therefore, the publicly owned land in this area is not subject to the provisions of Section 4(f).

Figure 9 shows land ownership along the Kern River and the Centennial Corridor project crossing the Kern River for Alternative B. The Centennial Corridor project meets the Westside Parkway project in this area where the land was purchased for purposes of the Westside Parkway project. There is enough available land purchased for Westside Parkway to accommodate either Alternative B or C of the Centennial Corridor at this location.

The Centennial Corridor project would construct bridge bents (vertical supports) in the riverbed. As discussed in Section 1.4, according to the Federal Highway Administration's *Section 4(f) Policy Paper* (July 20, 2012), Section 21, Bodies of Water, in general, such as rivers, are not subject to the requirements of Section 4(f) unless there are portions of the river that are contained within the boundaries of parks to which Section 4(f) otherwise applies. In addition, as noted in the *Section 4(f) Policy Paper*, unless portions of a water body are primarily designated for recreational use, they are not considered subject to the provisions of Section 4(f). Such is the case for the Kern River, which is designated by the Kern River Plan Element (2007) for floodway management purposes only (the City of Bakersfield has a flood management agreement in place), as its primary function. In addition, the Kern River Parkway Master Plan indicates that the primary river channel is the "area that is located within the State's designated floodway and the Kern River Channel Maintenance Program." For the reasons stated above, Alternatives B and C would not result in a Section 4(f) use of the Kern River Parkway.

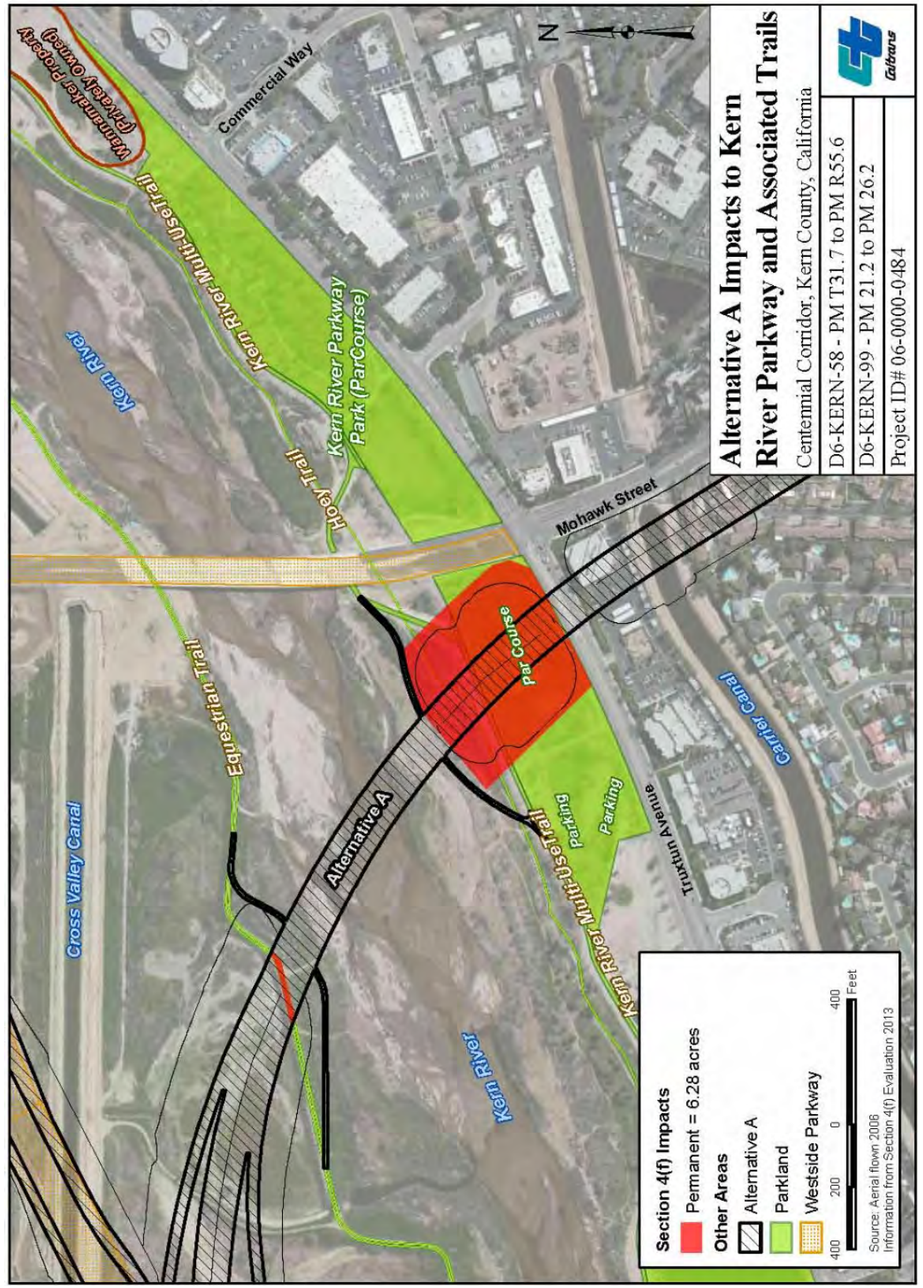


Figure 4 Alternative A Impacts along Kern River Parkway

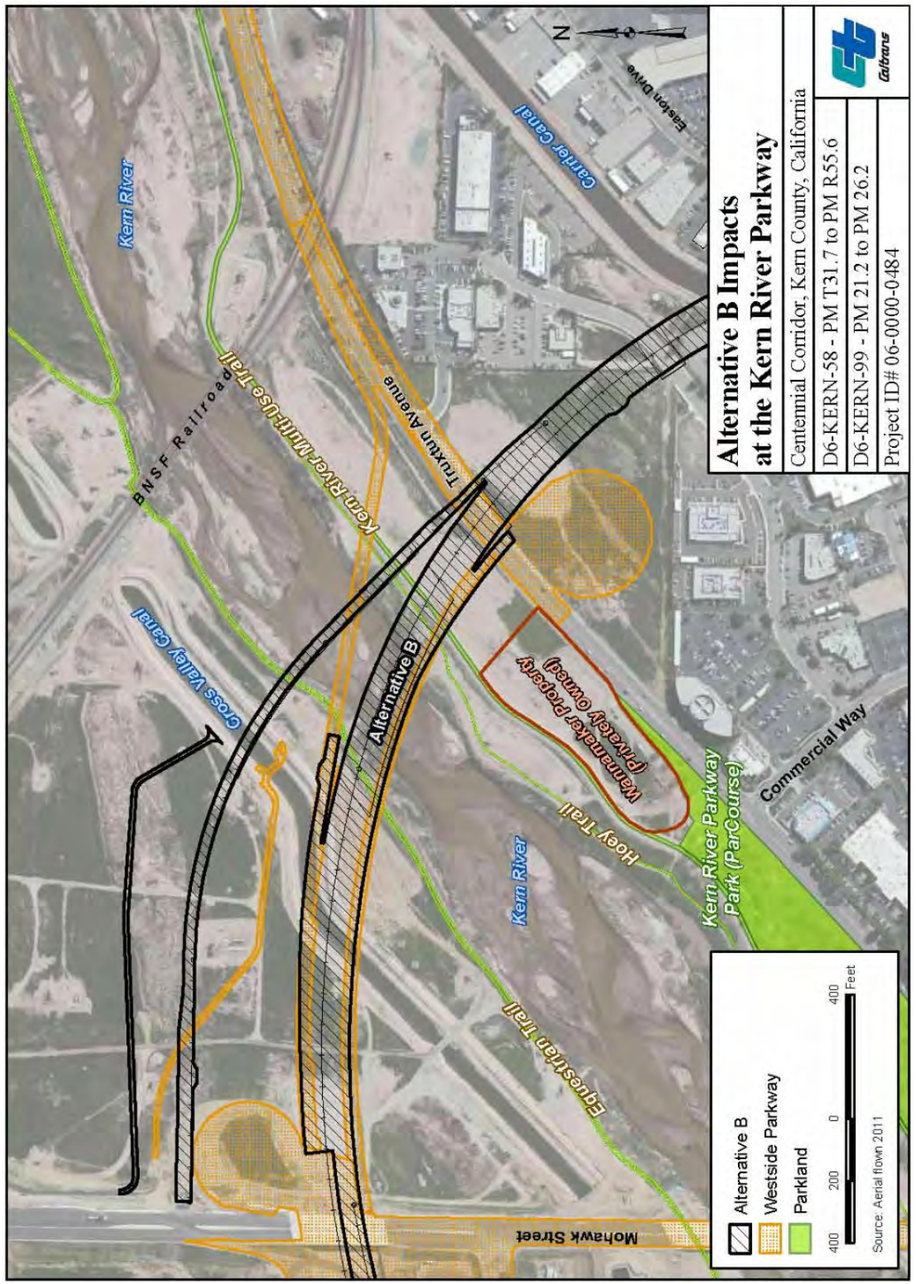


Figure 5 Alternative B Impacts at the Kern River Parkway

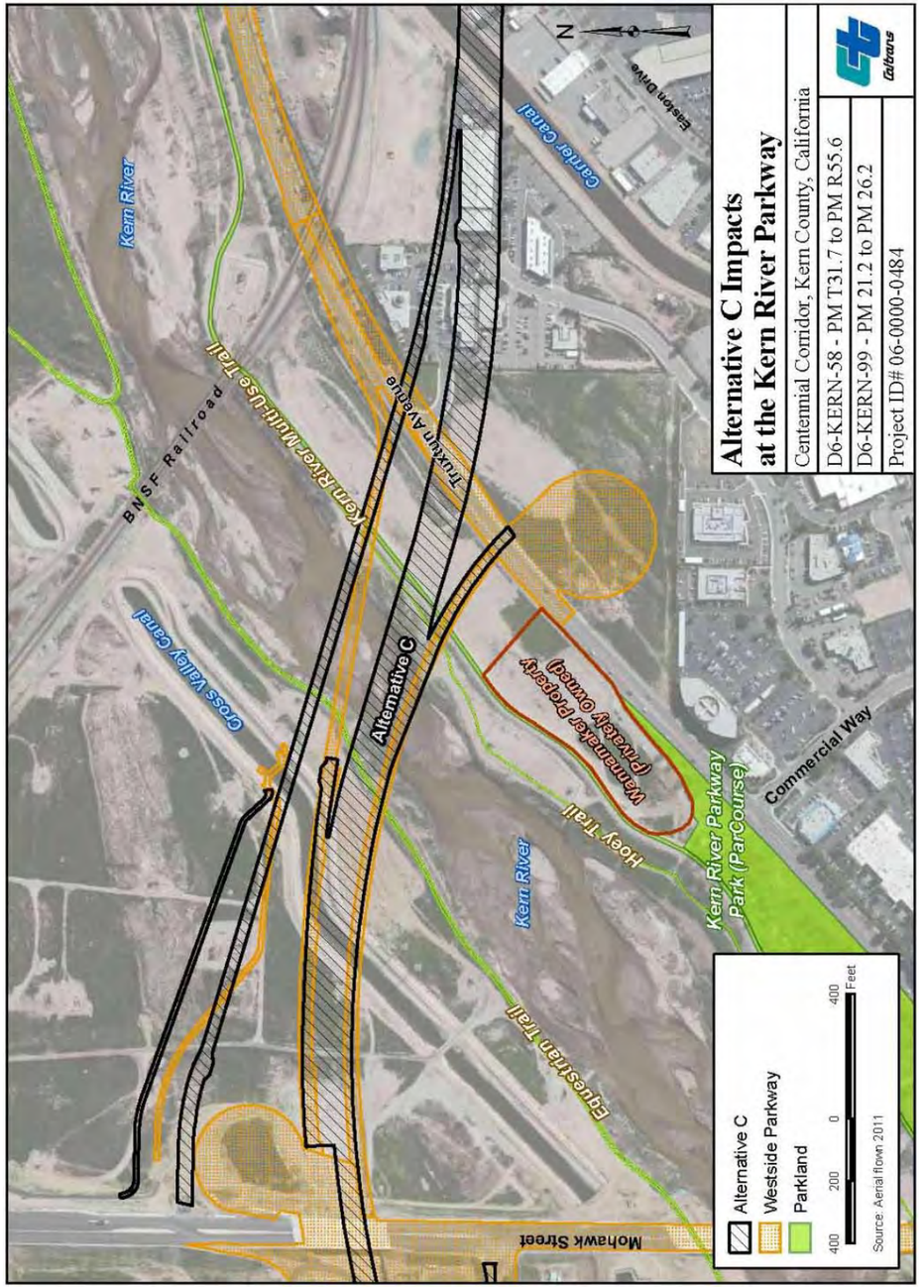


Figure 6 Alternative C Impacts at the Kern River Parkway

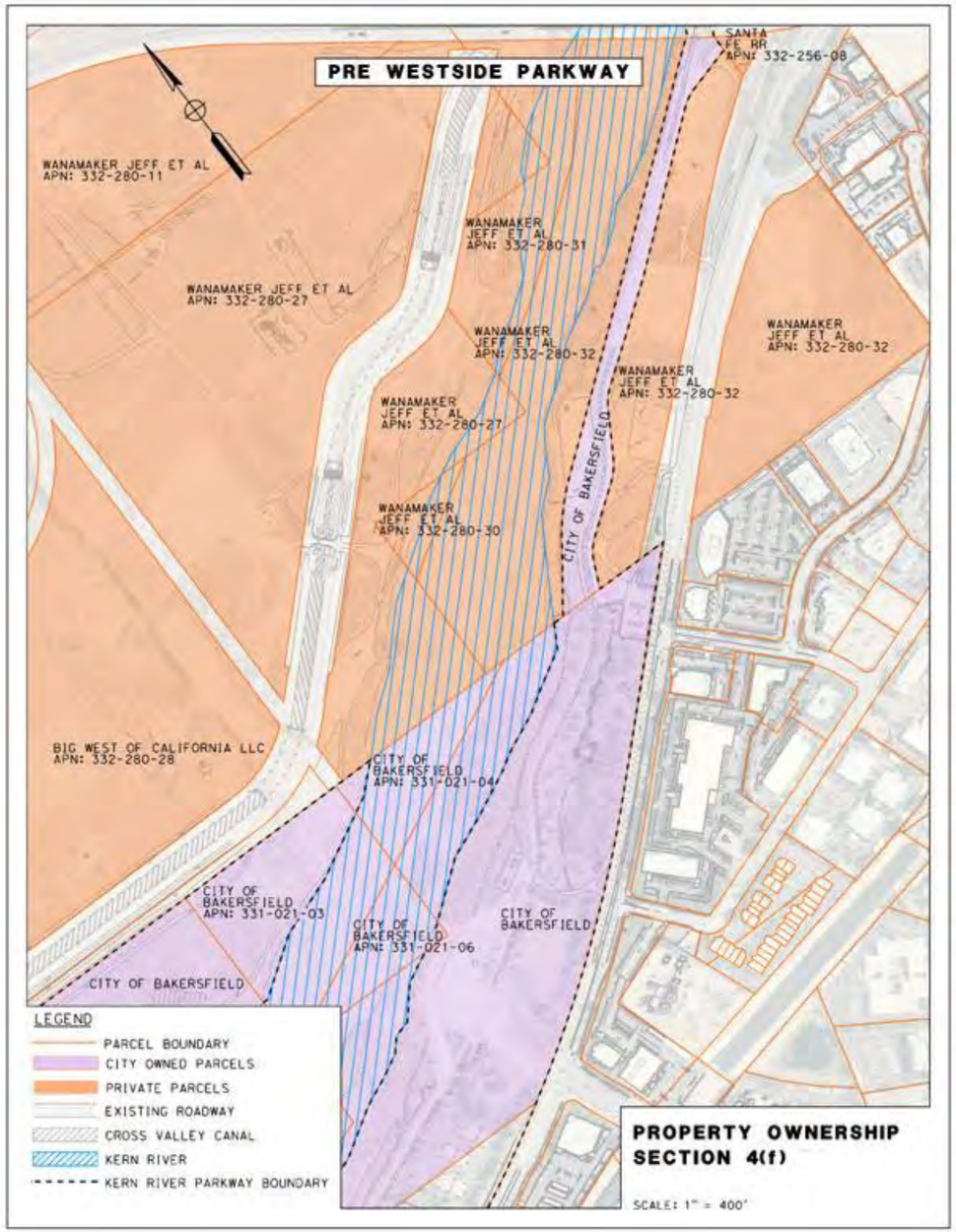


Figure 7 Kern River Parkway Ownership Prior to Westside Parkway Project

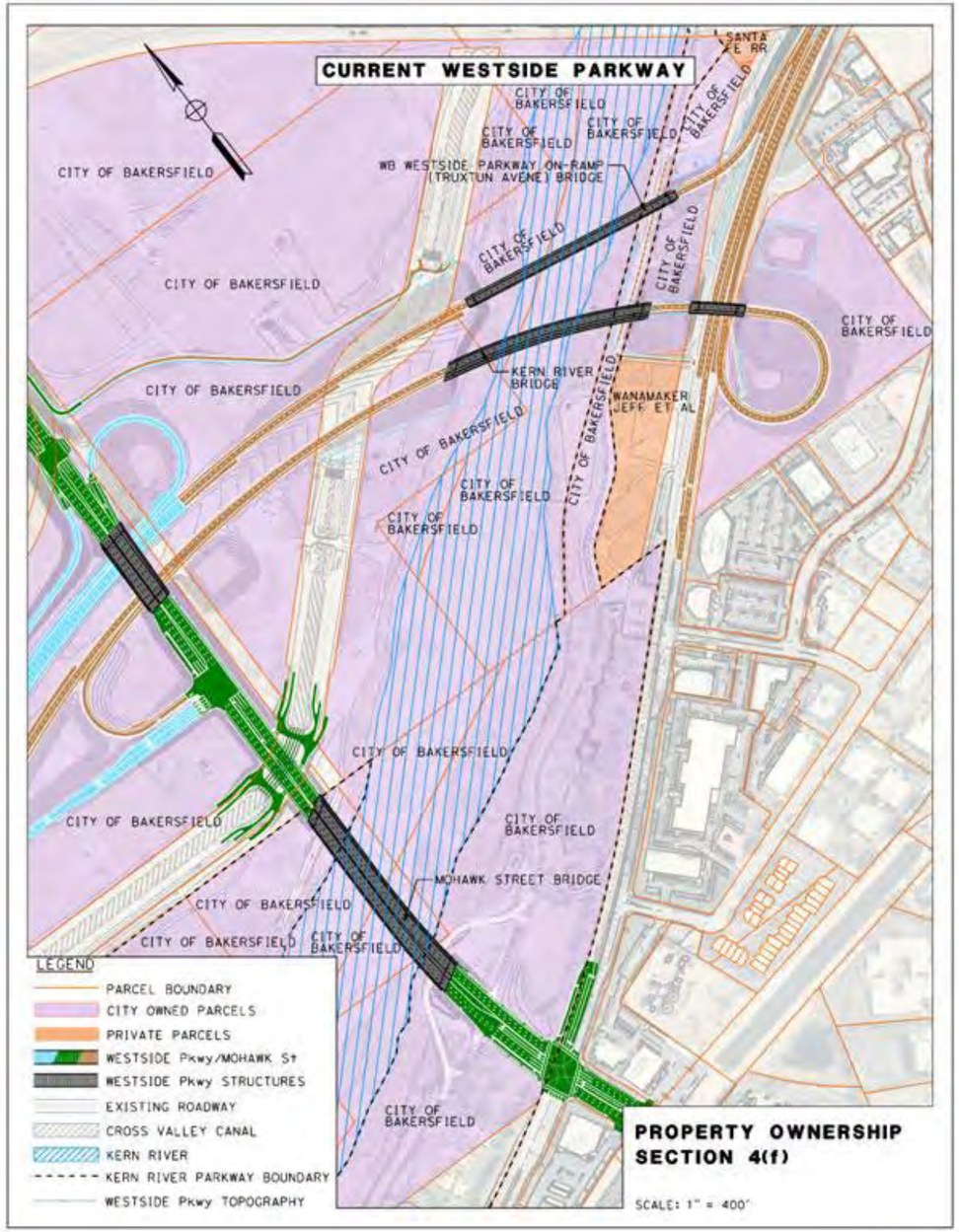


Figure 8 Kern River Parkway Ownership with Westside Parkway Project

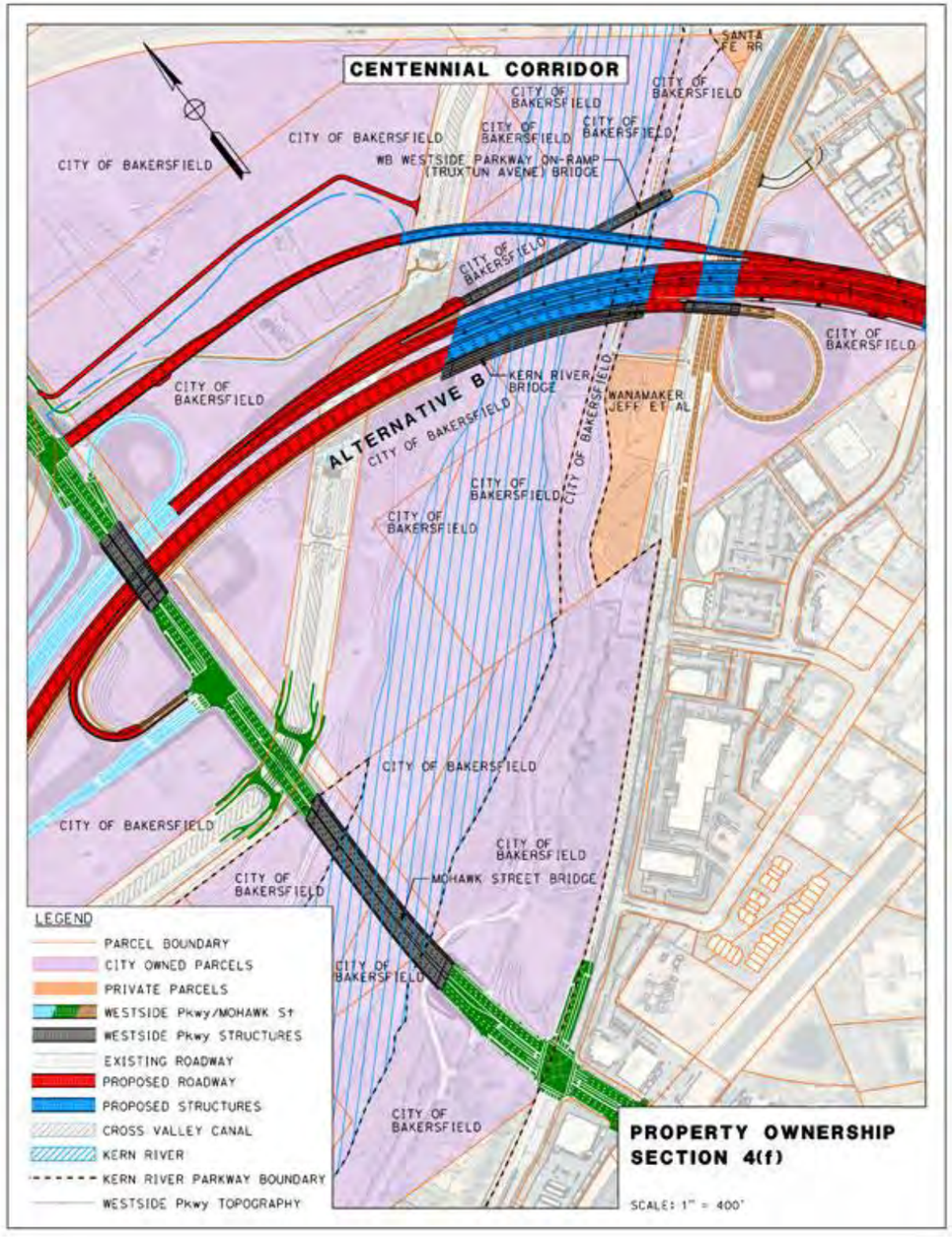


Figure 9 Kern River Parkway Ownership with the Centennial Corridor Project

Accessibility

Building Alternative A would require acquisition of parkland and some associated amenities within the west side of the Kern River Parkway in the immediate vicinity of Mohawk Street and Truxtun Avenue. Although building Alternative A would result in the removal of the three volleyball courts and most of the Frisbee golf course of the Kern River Parkway, access to the equestrian and the Kern River Multi-Use Trail and the Hoey Trail (proposed to be relocated) and the east side of the park would remain. Access to the parkway from Truxtun Avenue to the parking area would also remain unchanged. Construction hours would be 6:00 a.m. to 9:00 p.m. on weekdays and 8:00 a.m. to 9:00 p.m. on weekends, but it would not affect access to the park; therefore, while building Alternative A, access to the park would be maintained.

Building Alternative B and Alternative C would not require acquisition of parkland within the Kern River Parkway. These alternatives would be constructed over the existing Kern River Multi-Use Trail, Hoey Trail, and equestrian trail. Access to the Kern River Multi-Use Trail, Hoey Trail, and equestrian trail would be maintained throughout construction and operation of either of these alternatives. Access to the multi-purpose trail from Truxtun Avenue at this location is not publicly available and, as such, construction activities (planned from 6:00 a.m. to 9:00 p.m. on weekdays and 8:00 a.m. to 9:00 p.m. on weekends) would not affect public access; therefore, with building Alternatives B and C, access to the Kern River Multi-Use Trail, Hoey Trail, and equestrian trail at the Kern River Parkway would be maintained. Alternatives B and C would not directly use the Kern River Multi-Use Trail, Hoey Trail, or equestrian trail. As such, Alternatives B and C would not substantially impair the activities, features, and/or attributes that qualify the parkway for protection under Section 4(f).

Visual

As discussed in the *Visual Impact Assessment* (September 2013) and Section 3.1.7 of the draft environmental impact statement/environmental impact report, Alternative A would build a new retaining wall and elevated bridge structure for the freeway at Truxtun Avenue and Mohawk Street crossing the Kern River Parkway with a maximum height of 32 feet. The proposed retaining wall and elevated bridge would be a change in the visual environment of the park landscape. The new bridge would change the visual character of the Kern River Parkway because the built structure would encroach on the natural landscape. There would be a decrease in the overall visual quality with the implementation of Alternative A. The view through the Kern River Parkway at this location would be interrupted by the new transportation facility. However, there are existing urban improvements (Westside Parkway, Mohawk Street

bridge, a petroleum tank farm, and transmission towers) adjacent to the Kern River Parkway which alter and impede the existing visual environment of the park and Kern River area. Because of these existing structures, the views to and from the Kern River Parkway would be minimally adversely affected with the construction of Alternative A. The Kern River Parkway at this location is no longer in a pristine natural condition. Therefore, visual changes as a result of the proposed transportation improvements will not substantially impair the activities, features, and/or attributes that qualify the parkway for protection under Section 4(f).

Alternative B would build an elevated freeway and ramps between the Kern River and Truxtun Avenue with a maximum height of 36 feet. There would be concrete freeway decking and concrete columns supporting the new transportation facility. Support structures and a portion of the flyover (overcrossing) associated with this alternative would be visible from the parkway. In the area where Alternative B crosses the Kern River Parkway, there are several existing structures that alter the views of the users of the Kern River Multi-Use Trail, Hoey Trail, and equestrian trail. These structures include the Westside Parkway, the railroad bridge, utility lines, and oil facilities. While there would be adverse changes to views at the Kern River Parkway as a result of building Alternative B, the changes would not substantially impair the activities, features, and/or attributes that qualify the parkway for protection under Section 4(f) because the view is already altered by existing structures and the park users would see the views of the new freeway for only a moderate period of time.

The visual impacts from Alternative C would be similar to those described for Alternative B, with a maximum height of the elevated freeway of 34 feet. While there would be adverse changes to views at the Kern River Parkway as a result of building Alternative C, the changes would not substantially impair the activities, features, and/or attributes that qualify the parkway for protection under Section 4(f) because the view is already altered by existing structures and the park users would see the views of the new freeway for only a moderate period of time.

Noise

Alternative A would be a freeway alignment that crosses over Kern River Parkway. Areas of frequent human use in recreational areas require analysis for potential noise impacts. In the case of Alternative A, the areas of the park such as the volleyball courts and Frisbee golf course where people remain for longer periods would be removed. Therefore, no traffic noise impact analysis was done for the park. There are multi-use and equestrian trails crossing the proposed alignment. Noise impacts are not

evaluated for these trails because of their transient use and there are no gathering placed along the trails.

For Alternatives B and C, freeway alignments would be constructed crossing over the Kern River Parkway. There are no areas of frequent human use in the Kern River Parkway where Alternatives B and C cross the parkway; therefore, no traffic noise impact analysis has been conducted for these areas and is not required. These alternatives would not substantially impair the activities, features, and/or attributes that qualify the parkway for protection under Section 4(f).

Vegetation and Wildlife

As discussed in the *Natural Environment Study* (March 2013) and Section 3.3 of the draft environmental impact statement/environmental impact report, San Joaquin kit fox dens or sign such as scat were observed within the Kern River Parkway grasslands near Mohawk Street within the area proposed for Alternative A construction. The analysis concluded that standard construction-related avoidance and minimization measures and additional conservation measures would be expected to substantially reduce the potential for take and would compensate for residual effects. As discussed in the *Natural Environment Study* (March 2013) and Section 3.3 of the draft environmental impact statement/environmental impact report, San Joaquin kit fox dens or sign such as scat were observed within the Kern River Parkway grasslands near Mohawk Street about 0.5 mile from Alternatives B and C. These alternatives would not substantially impair the activities, features, and/or attributes that qualify the parkway for protection under Section 4(f).

Air Quality

The *Air Quality Study Report* (January 2013) and Section 3.2.6 of the draft environmental impact statement/environmental impact report concluded that, in the long term, impacts from Alternatives A, B, and C would not contribute substantially to, or cause deterioration of, air quality in the immediate project area or in the region. In addition, during project construction activities, measures such as best available control and standard control measures required by Caltrans and the San Joaquin Valley Air Pollution Control District would be used to reduce exhaust and fugitive dust emissions generated by construction equipment and activities. Therefore, the short-term and long-term air quality impacts associated with Alternatives A, B, and C would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Water Quality

The discussion and analysis in this section is based on the following technical studies prepared for the Centennial Corridor: *Water Quality Assessment Report* (November 2012); *Drainage Report* (January 2012); and the *Storm Water Data Report* (November 2012) and Section 3.2.2 of the draft environmental impact statement/environmental impact report. Building Alternatives A, B, or C has potential to affect water quality.

Potential pollutant sources associated with the construction phase of these alternatives include construction activities and materials expected at the project site: vehicle fluids, concrete and masonry products, landscaping and other products, and contaminated soils. Similarly, operation of these alternatives has the potential to affect water quality. Potential pollutant sources associated with operation of the proposed project include motor vehicles, highway maintenance, illegal dumping, spills, and landscaping care; however, using minimization measures, short-term and long-term water quality impacts associated with Alternatives A, B, and C would not substantially impair the activities, features, and/or attributes that qualify the parkway for protection under Section 4(f).

5.2.2 Saunders Park

Alternatives A and B are about 0.5 mile from Saunders Park; therefore, they would not have an impact on this park. As a result, no direct or temporary use of this property would occur from either of these two alternatives. Alternative C, however, as described below, would have permanent use of up to 3.27 acres of park property.

Accessibility

The park could be accessed during project construction as well as when the project is operational.

Visual

Saunders Park is surrounded by residential neighborhoods with mature trees and other vegetation to the south and the west of the park. There are approximately 0.5 miles of mature trees and residential properties between Saunders Park and Alternatives A and B. The distance of the two alternatives from the park, combined with the built-out residential neighborhoods with mature trees mean Alternatives A and B would not be visible from the park. Therefore, Alternatives A and B would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Noise

Traffic noise impacts is determined by factors such as distance from the highway, traffic volumes, traffic speeds, traffic types, ground absorption, atmospheric absorption, and meteorological effects like temperature and humidity. As distance increases from the highway, noise level drops. Generally, when distance doubles, noise level declines about 3 decibels (dB) when it travels over hard sites like asphalt. Over soft sites such as grass, when distance doubles, the noise level declines about 4.5 dB (see Figure 10).

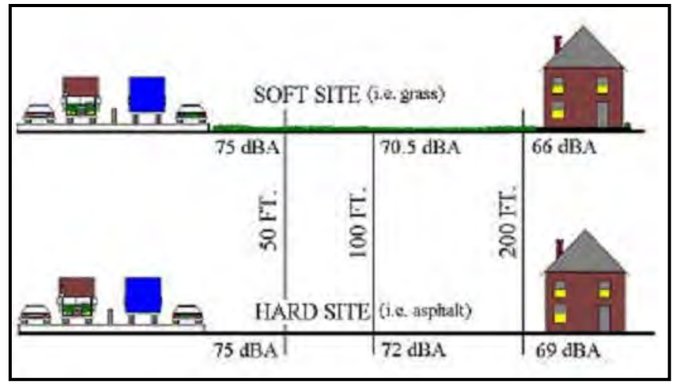


Figure 10 Graphic Representation of Noise Level Declines Over Hard and Soft Sites

The current highway traffic noise prediction model TNM has been validated 0 to 500 feet from the highway. Receptors beyond 500 feet from the project area would not be considered for analysis unless a reasonable expectation exists that noise impacts would extend beyond that boundary. It is clear that the perception of noise at any of the parks and schools, as contributed to from the project alternatives, would be reduced by the combined factors of nearby noise, distance and intervening barriers such that no increase in existing ambient noise would be perceptible. As a result, none of the alternatives would substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Vegetation and Wildlife

Saunders Park is generally landscaped with non-native plant material. These plant materials are expected to provide very low to no value and function for wildlife (refer to Section 3.3 of the draft environmental impact statement/environmental impact statement report). Though the park provides open space, the site is surrounded by

urban development further reducing its habitat value. Saunders Park does not serve as a link in a regional wildlife travel corridor. There were no signs (such as scat) or potential dens associated with the San Joaquin kit fox in the vicinity of Saunders Park (*Biological Assessment* November 2012). As a result, none of the alternatives would substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Air Quality

Regarding air quality, dispersion modeling results show that increases in particulate matter, if any, would only occur at distances near the project alternatives. No increases beyond a typical distance of 500 feet would be expected. Therefore, at distances of 0.25 to 0.5 mile (1,320 to 2,640 feet) from the project alternatives, no adverse air quality effects would be expected. In addition, during project construction activities, measures such as best available control and standard control measures as required by Caltrans and the San Joaquin Valley Air Pollution Control District would be used to reduce exhaust and fugitive dust emissions generated by construction equipment and activities. Therefore, short-term and long-term air quality impacts associated with any of the alternatives would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Water Quality

Potential short-term water quality impacts associated with the construction phase of the Centennial Corridor Project would be minimized with the implementation of Construction Site Best Management Practices. Potential long-term water quality impacts associated with the operation and maintenance of the transportation facility would be minimized with the implementation of Treatment Best Management Practices. Preliminary engineering efforts have identified proposed Infiltration Device locations to address water quality impacts. Overall, with incorporation of Temporary and Permanent Best Management Practices, no water quality impacts are expected with implementation of the Centennial Corridor Project. Consequently, impacts to water quality as a result of the proposed project alternatives would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

As shown in Figure 11, Alternative C would result in partial acquisition of the park for the permanent use of that portion of Saunders Park. Permanent impacts include 1.95 acres of developed park land and 1.32 acres of undeveloped park land between the existing retention basin and State Route 99 for a total of 3.27 acres. The following park amenities or facilities would be permanently removed: on-site surface parking

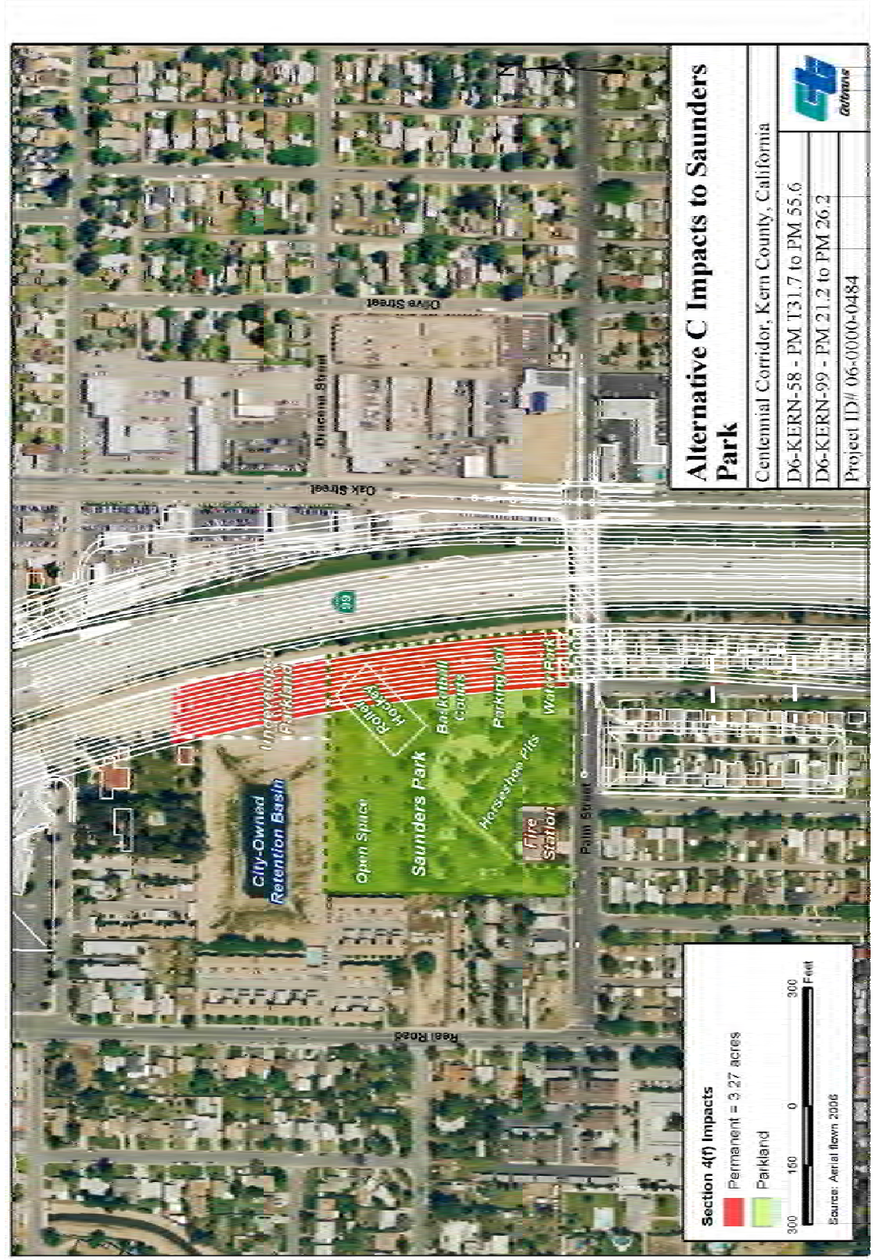


Figure 11 Alternative C Impacts at Saunders Park

(58 spaces); two basketball courts; enclosed roller hockey arena; a retention basin; splash/water play area; equipment storage room; and several mature trees.

Accessibility

Building Alternative C would require partial acquisition of parkland at Saunders Park; however, access to Saunders Park via Palm Street would be maintained at all times during construction and operation of this alternative. Off-street parking would be available on Palm Street during construction. Construction hours would be 6:00 a.m. to 9:00 p.m. on weekdays and 8:00 a.m. to 9:00 p.m. on weekends. With building Alternative C, access to Saunders Park would be maintained and would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Visual

As discussed in the *Visual Impact Assessment* (September 2013) and Section 3.1.7 of the draft environmental impact statement/environmental impact report, Alternative C would include building a new elevated freeway and associated retaining wall. In addition, a soundwall would be built on top of the retaining wall to attenuate traffic noise. This alternative would also remove some mature trees within the park.

The proposed freeway and retaining wall and soundwall parallel to existing State Route 99 would be a substantial change in the visual landscape of the park. The visual character of Saunders Park would be affected by the removal of land and a new retaining wall and soundwall placed on the outside of the parking lot perimeter. There would, therefore, be adverse changes to the view with building Alternative C. In addition, during construction, park patrons and adjacent residents would be exposed to views of construction vehicles; construction-related vehicle access; staging of construction materials; grading and road and sidewalk construction; temporary safety barriers; and temporary lighting. However, Saunders Park is nestled in a suburban neighborhood surrounded by State Route 99, tract housing, and a fire station. Community residents use the park primarily for basketball, picnicking, roller hockey, and other common activities associated with a local park. This park was built for the neighborhood and does not contain natural features, such as wildlife, rivers and creeks, rock formations, and vast open space. Therefore, construction of Alternative C would not substantially impair the activities, features, and/or attributes of Saunders Park.

While there would be adverse changes to the views at Saunders Park as a result of Alternative C, building this alternative would not substantially impair the activities,

features, and/or attributes of the remaining portions of the park that qualify the park for protection under Section 4(f).

Noise

As noted in the *Noise Study Report* (January 2013) and Section 3.2.7 of the draft environmental impact statement/environmental impact report, Alternative C would require building an elevated freeway crossing and associated retaining wall that would form the eastern park boundary. Existing noise levels at the park range from 59 to 62 A-weighted decibels (dBA) (levels similar to heavy traffic at 300 feet) but would increase by 8 to 11 dB with implementation of Alternative C. Park patrons may therefore experience noise levels ranging from 69 to 72 dB (levels similar to the operation of a gas lawnmower at 30 feet) prior to mitigation. To abate this increase in noise levels, a soundwall would be built on top of the retaining wall. With the soundwall in place, noise levels at the park are anticipated to be 64 dB, which would be an increase of 2 to 5 dB above existing conditions.

The noise levels from construction activities would be short term and intermittent (coming and going); therefore, they would not affect park patrons. Project noise levels from temporary construction activities and from long-term traffic use along the elevated freeway crossing associated with Alternative C would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Vegetation and Wildlife

Saunders Park is generally landscaped with non-native plant material. These plant materials are expected to provide very low to no value and function for wildlife (refer to Section 3.3 of the draft environmental impact statement/environmental impact statement report). Though the park provides open space, the site is surrounded by urban development further reducing its habitat value. Saunders Park does not serve as a link in a regional wildlife travel corridor. There were no signs (such as scat) or potential dens associated with the San Joaquin kit fox in the vicinity of Saunders Park (*Natural Environment Study* March 2013). As a result, Alternative C would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Air Quality

The *Air Quality Study Report* (January 2013) and Section 3.2.6 of the draft environmental impact statement/environmental impact report concluded that, in the

long term, Alternative C would not contribute substantially to, or cause deterioration of, air quality in the immediate project area or in the region. In addition, during project construction activities, measures such as best available control and standard control measures as required by Caltrans and the San Joaquin Valley Air Pollution Control District would be used to reduce exhaust and fugitive dust emissions generated by construction equipment and activities. Therefore, the short-term and long-term air quality impacts associated with Alternative C would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Water Quality

The discussion and analysis in this section are based on the following technical studies prepared for the Centennial Corridor: *Water Quality Assessment Report* (November 2012); *Drainage Report* (November 2012); and the *Storm Water Data Report* (January 2012) and Section 3.2.2 of the draft environmental impact statement/environmental impact report. Building Alternative C has the potential to affect water quality.

Potential pollutant sources from the building phase of this alternative include construction activities and materials expected at the project site: vehicle fluids; concrete and masonry products; landscaping and other products; and contaminated soils. Similarly, operation of this alternative has the potential to affect water quality. Potential pollutant sources associated with operation of this alternative include motor vehicles, highway maintenance, illegal dumping, spills, and landscaping care; however, with minimization measures, short-term and long-term water quality impacts associated with Alternative C would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

5.2.3 Rancho Vista Historic District

Alternative A construction of State Route 58 would pass through the center of the Rancho Vista Historic District on an elevated structure with a maximum height of 43 feet (at the Stine Road Undercrossing) and remove 46 of the 81 residences that contribute to the Rancho Vista Historic District's significance and 16 of the 27 residences that do not contribute. Removing 46 contributing residences would be a permanent use of Rancho Vista Historic District (see Figure 12). Alternative A would require one partial acquisition (562 square feet) of a noncontributing property and no partial acquisitions of contributing properties. Alternative A would not result in the temporary occupancy of land from the Rancho Vista Historic District for temporary construction easements during construction. Building Alternative A would result in a

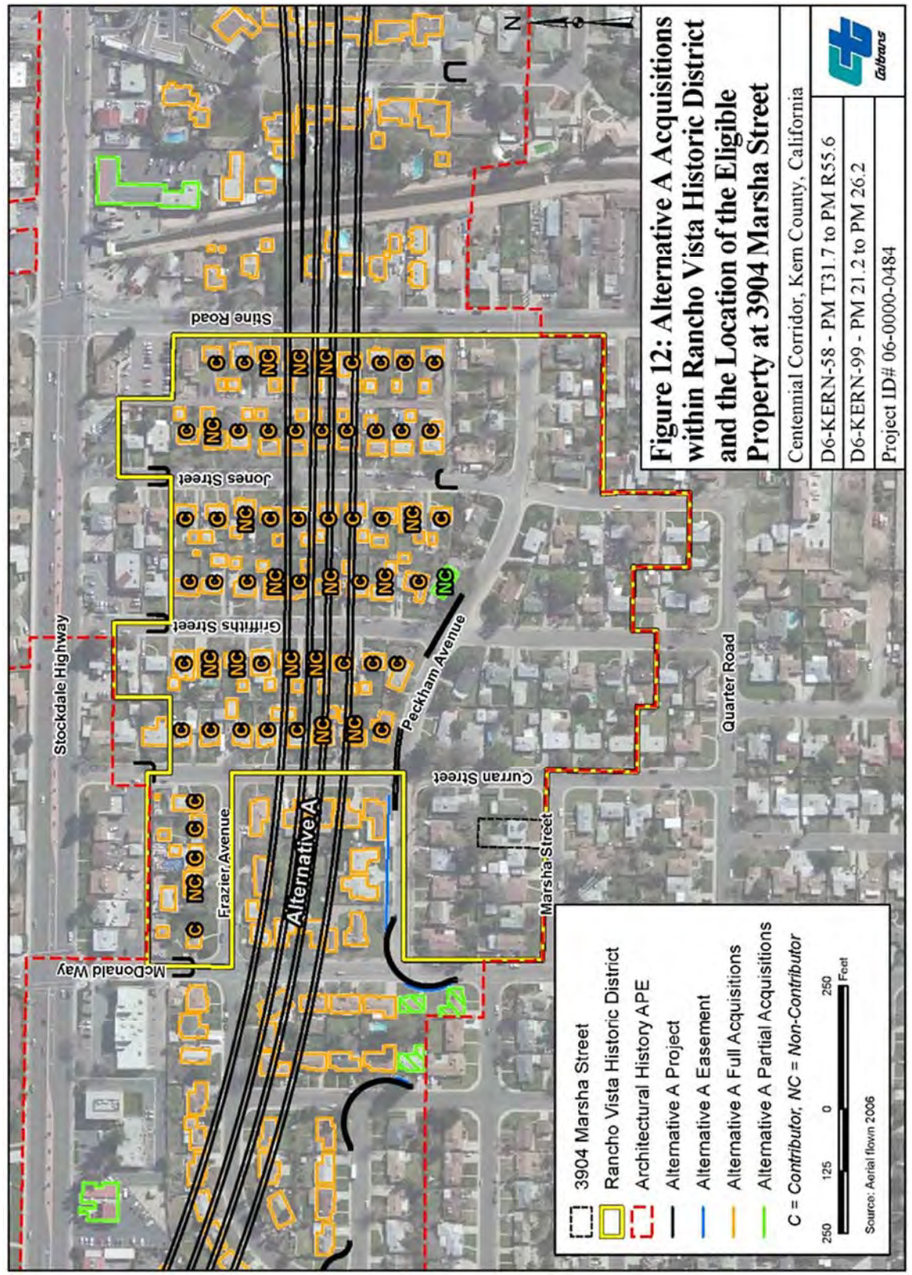


Figure 12 Alternative A Acquisitions within Rancho Vista Historic District

permanent use of this historic district by physically destroying or damaging contributing elements and character-defining features of the Rancho Vista Historic District.

The Alternative B alignment would be located about 110 feet away from the nearest contributing residence within the Rancho Vista Historic District, with a soundwall of approximately 12 to 16 feet in height being proposed, located approximately 70 feet from the closest edge of the historic property boundary (see Figure 13). Alternative B would not result in a direct use of Rancho Vista Historic District because no properties within the Rancho Vista Historic District boundary would be acquired for this alternative. In addition, the property is located in an urbanized environment characterized largely by such elements as single-story houses with uniform setbacks, mature landscaping and trees, roadways, power poles and transmission lines, fencing and other neighborhood features. Rancho Vista Historic District experiences typical periodic noise associated with neighborhood activities, such as gardening equipment, music, barking dogs, and so forth, along with those more prominent sounds generated by nearby roadway traffic, including the large number of trucks and cars traveling on the nearby Stockdale Highway. While traffic noise would increase with construction of Alternative B, the property qualifying as a Section 4(f) property (a postwar housing tract) is not a property whose significance derives from being located in a quiet setting. Noise-related proximity impacts would not substantially change the feeling, association or atmosphere of the Section 4(f) property to the point where the activities, features, or attributes of the historic district would be substantially impaired. Moreover, the proposed soundwall would reduce noise impacts generated by the project. Although the elevated roadway would alter the views from some perspectives, particularly for those looking from streets located immediately south of the new freeway or close to the northeasterly boundary of the historic property, from other parts of the historic district the freeway structure or soundwall would not be as obtrusive. As discussed below in an analysis of Alternative B, it is concluded that the proximity impacts would not substantially impair the activities, features, and attributes that qualify the Section 4(f) property under 23 CFR 774.15(f) and therefore would not constitute a constructive use.

The Section 106 analysis found that the project effects associated with implementation of Alternative B would have the result of diminishing the setting of the Rancho Vista Historic District by introducing an elevated freeway structure and soundwall that is out of scale with the neighborhood and would therefore constitute an adverse effect.

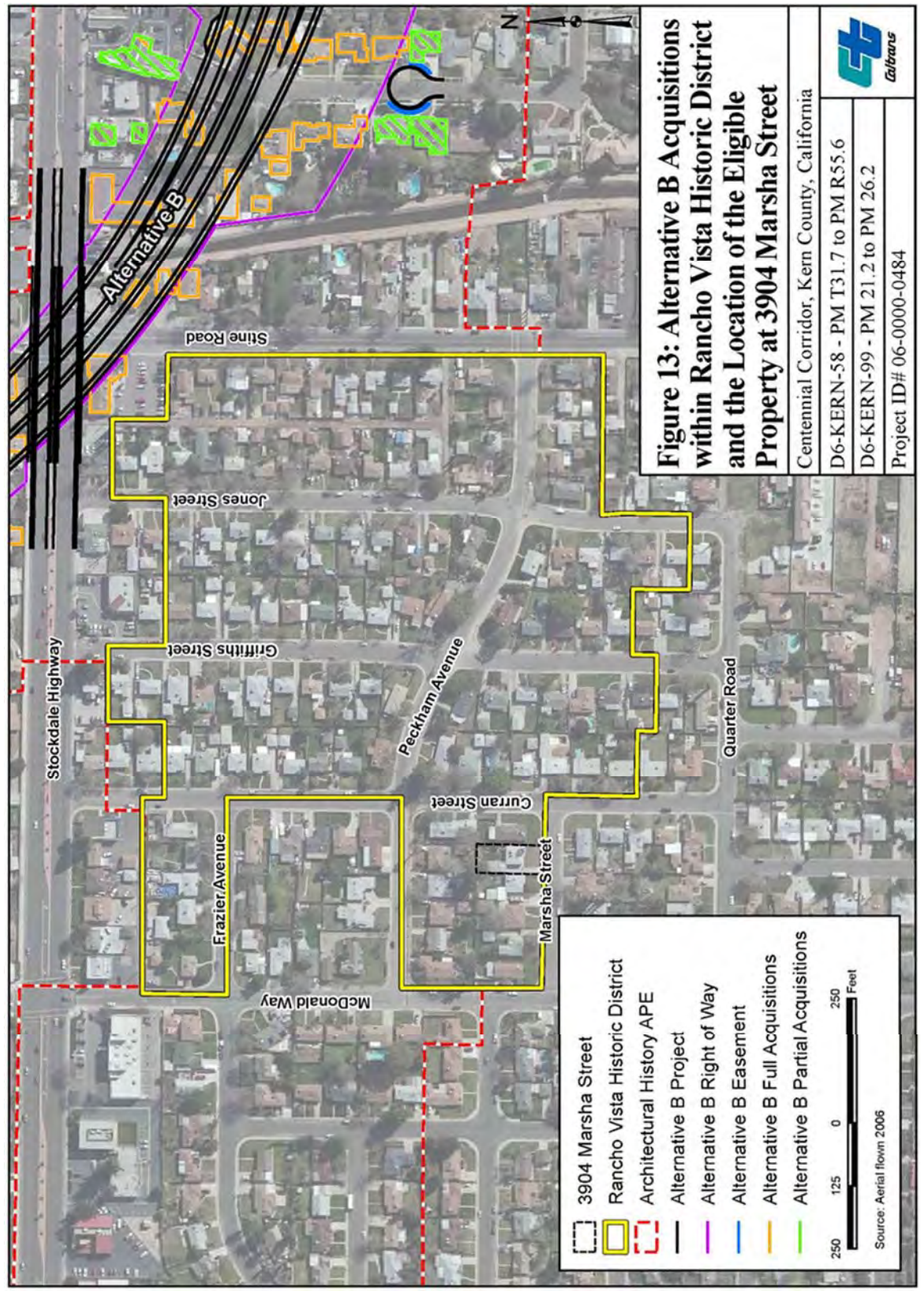


Figure 13 Alternative B Acquisitions within Rancho Vista Historic District

Alternative C is located about 1,300 feet west from Rancho Vista Historic District at its closest boundary edge. Alternative C would not result in a direct use of Rancho Vista Historic District because no properties within the Rancho Vista Historic District boundary would be acquired for this alternative.

Table B.2 summarizes the anticipated temporary construction easements, partial acquisitions, and full acquisitions under Alternatives A and B for the Rancho Vista Historic District.

Table B.2 Summary of Permanent Uses and Temporary Occupancies at Rancho Vista Historic District

Alternative A			Alternative B		
Number of Full Contributing Parcel Acquisitions	Number of Partial Contributing Parcel Acquisitions (total square feet)	Number of Parcels with Temporary Construction Easements (total square feet)	Number of Full Contributing Parcel Acquisitions	Number of Partial Contributing Parcel Acquisitions (total square feet)	Number of Parcels with Temporary Construction Easements (total square feet)
46	0	0	0	0	0

Source: *Historic Resources Evaluation Report* January 2013.

Accessibility

Building Alternative A would require full and partial property acquisitions from the Rancho Vista Historic District. Although building Alternative A would result in property acquisitions, access to the Rancho Vista Historic District would be maintained via Stine Road, McDonald Way, Curran Street, Griffiths Street, and Jones Street. Construction hours would be 6:00 a.m. to 9:00 p.m. on weekdays and 8:00 a.m. to 9:00 p.m. on weekends. With building Alternative A, access to Rancho Vista Historic District would be maintained and the alternative would not substantially impair the activities, features, and/or attributes that qualify the Rancho Vista Historic District for protection under Section 4(f).

It should be noted that accessibility impacts associated with Alternatives B and C are not discussed because these alignments are outside Rancho Vista Historic District boundaries and would not affect contributing properties. As such, impacts from these alternatives would not substantially impair the activities, features, and/or attributes that qualify the Rancho Vista Historic District for protection under Section 4(f).

Visual

Alternative A

Alternative A would require building a retention basin, a 24- to 30-foot-high elevated roadway, and soundwalls up to 12 feet high at the Rancho Vista Historic District. The proposed roadway alignment height—bridge with soundwall—would range between 34 feet (24-foot fill slope + 10 foot sound wall) to a maximum height of 43 feet (bridge deck at 32 feet – 1.5 foot super elevation + 12-foot soundwall) above Stine Road. As discussed in the *Visual Impact Assessment* (September 2013) and Section 3.1.7 of the draft environmental impact statement/environmental impact report, Alternative A would build a cul-de-sac at the end of McDonald Way and Peckham Avenue and a chain-link fence in front of a landscaped slope leading to an elevated freeway and soundwall south of Stockdale Highway crossing McDonald Way. The new freeway would introduce a new substantial above-grade structure into the residential area. The existing character of the area would change from a quiet residential street to a large-scale freeway.

The Alternative A alignment would traverse the center of the Rancho Vista Historic District. The construction of an elevated freeway structure would also introduce a visual intrusion that would not be in keeping with the character and setting of the Rancho Vista Historic District. Photo 1 shows the existing view of the Rancho Vista Historic District (taken at Stine Road near Peckham Avenue looking toward Alignment A) compared to the simulated view of the future condition with Alignment A in place.

Existing View

Simulated View with Alternative A

Photo 1. Rancho Vista Historic District taken from Stine Road and Peckham Street looking north toward Alternative A Alignment

Alternative B

Alternative B would result in an elevated roadway with soundwall built immediately northeast of the Rancho Vista Historic District (see Figures 14 and 15). The proposed roadway would include a bridge that spans the Stine Canal, Stine Road, and Stockdale Highway. The bridge height would be about 38 feet, and the proposed soundwall would be 12 to 16 feet in height. Together, the bridge and soundwall would be roughly the height of a four-story building.

Although the elevated roadway structure would alter some views when looking east and northeast from street level from the Rancho Vista Historic District, the new infrastructure would be visible from some of the spatial gaps between the houses and trees and from certain city streets. Photo 2 illustrates the existing view and simulated view of the Rancho Vista Historic District from Stine Road. Photo 3 illustrates the existing view and simulated view of the Rancho Vista Historic District from John Street).

Rancho Vista Historic District is eligible for the National Register as a significant example of a planned postwar residential subdivision with houses built using innovative whole-house prefabrication techniques, and a setting of mature landscaping and houses setback from the curbs in a uniform manner. The integrity of location, design, materials, and workmanship would remain the same. The historic association and identity of the historic property as a postwar residential housing tract and its contributing features would remain unchanged under Alternative B. However, the introduction of an elevated structure would cause a visual intrusion and be out of character with the historic district's residential setting and is therefore considered to be an adverse effect under Section 106. As a result, Caltrans will consult with the State Historic Preservation Officer and other consulting parties on development and execution of a Memorandum of Agreement to identify measures to minimize or eliminate the adverse visual effects on the historic property.

Adverse effects under Section 106 and constructive use under Section 4(f) are not equivalent. Adverse effects can occur when a project would bring about a change in the setting of the historic property, but that does not touch that historic property. Nothwithstanding an adverse effect determination, the Section 4(f) regulations limit constructive use to circumstances where a "project's proximity impacts are so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired." [23 CFR 774.15(a)]

One way to measure "substantial impairment" is to consider the National Register eligibility status of the property in a before-and-after exercise scenario. If Alternative B was to be selected and an elevated structure and soundwall built immediately beyond the boundary of the Rancho Vista Historic District, as is proposed, a diminishment in the setting of the historic property would result, which is, by definition, an adverse effect. Yet, it would be difficult to imagine that the Rancho Vista Historic District would not still remain eligible for inclusion in the National Register after the project is constructed, and therefore still be considered a section 4(f) property. Rancho Vista Historic District would still have most all of the historical spatial relationships existing between the various district contributors and the larger urban landscape in which the property is situated. Access within the neighborhood would not change. The historic district would still function as a cohesive residential neighborhood and the effects of constructing an aerial structure would not result in the physical loss of any of its contributing elements. As a point of comparison, however, this would likely not be the case with implementation of Alternative A, which would permanently divide the Rancho Vista Historic District, and require acquisition and removal of 46 of the 81 property's district contributors. In such a case, it would be highly unlikely that the Rancho Vista Historic District would remain eligible for the National Register.

Thus, constructive use could only occur if the views of, or from the Rancho Vista Historic District were a protected activity, feature, or attribute of the historic resource. Therefore, there would be no use of the Section 4(f) historic property.

An extreme example of "substantial impairment" as called for by Section 4(f) definition of constructive use might be a proposed transportation facility in such close proximity to a historic property type that particularly derives its significance in large part due to its setting, such as a historic lighthouse or a historic farmstead, to give two representative examples. While every historic property's setting has some weight of importance as one of the factors for measuring integrity, a key consideration for eligibility for the National Register of Historic Places, they are not equal in terms of what might be considered a substantial impairment to them as part of the protected activities, features, or attributes that qualify the property for protection under Section 4(f).

Existing View

Simulated View with Alternative B

Photo 2. Rancho Vista Historic District taken from Stine Road four houses north of Peckham Street looking north toward Alternative B Alignment

Existing View

Simulated View with Alternative B

Photo 3. Rancho Vista Historic District taken from Jones Street south of Stockdale Highway looking northeast toward Alternative B Alignment

Alternative C

Alternative C is not near Rancho Vista Historic District; therefore, it would have no impact on the Rancho Vista Historic District and would not substantially impair the activities, features, and/or attributes that qualify the Rancho Vista Historic District for protection under Section 4(f).

Noise and Vibration

Alternative A would require soundwalls up to 12 feet high that bisect the Rancho Vista Historic District which would result in a direct use, as described earlier, but that the reduced noise levels after construction would not substantially impair the activities, features, and/or attributes that qualify the Rancho Vista Historic District for protection under Section 4(f).

Alternative B would build a bridge over Stine Canal, Stine Road, and Stockdale Highway. A 10- to 14-foot-high soundwall is proposed along this area (see Figure 14). Long term noise measurements in this area were 62 dB. The soundwall is expected to provide at least a 7- decibel reduction. This is below the Caltrans Traffic Noise Analysis Protocol Noise Abatement Category Criterion of 67 dB. Noise abatement resulting from construction of the soundwalls at this location would reduce potential noise impacts to the Rancho Vista Historic District or associated contributors; therefore, construction of this alternative would not substantially impair the activities, features, and/or attributes that qualify the Rancho Vista Historic District for protection under Section 4(f).

Alternative C, because it is not near Rancho Vista Historic District, would have no potential noise or vibrational impacts to the Rancho Vista Historic District and would not substantially impair the activities, features, and/or attributes that qualify the Rancho Vista Historic District for protection under Section 4(f).

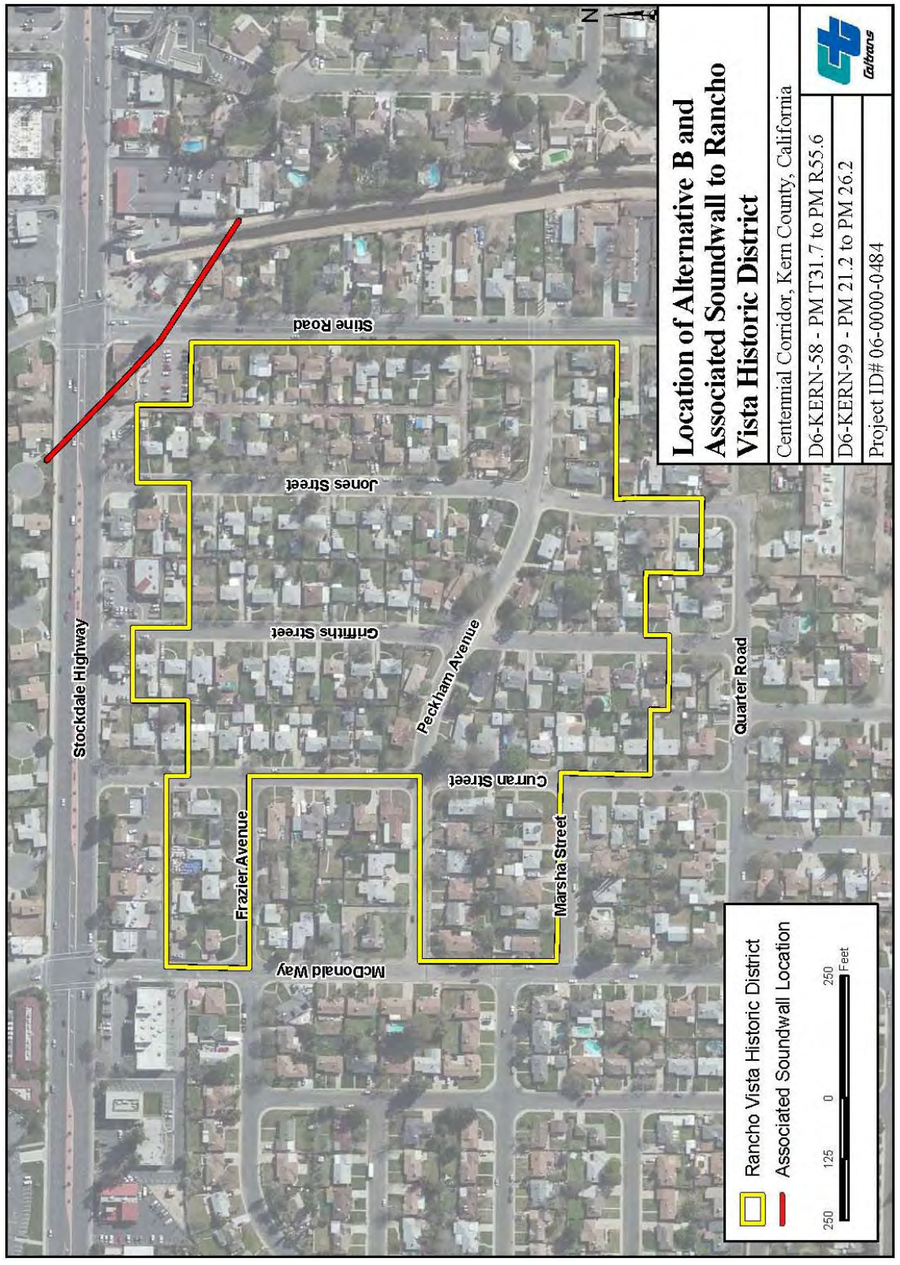


Figure 14 Location of Alternative B and Associated Soundwall to Rancho Vista Historic District

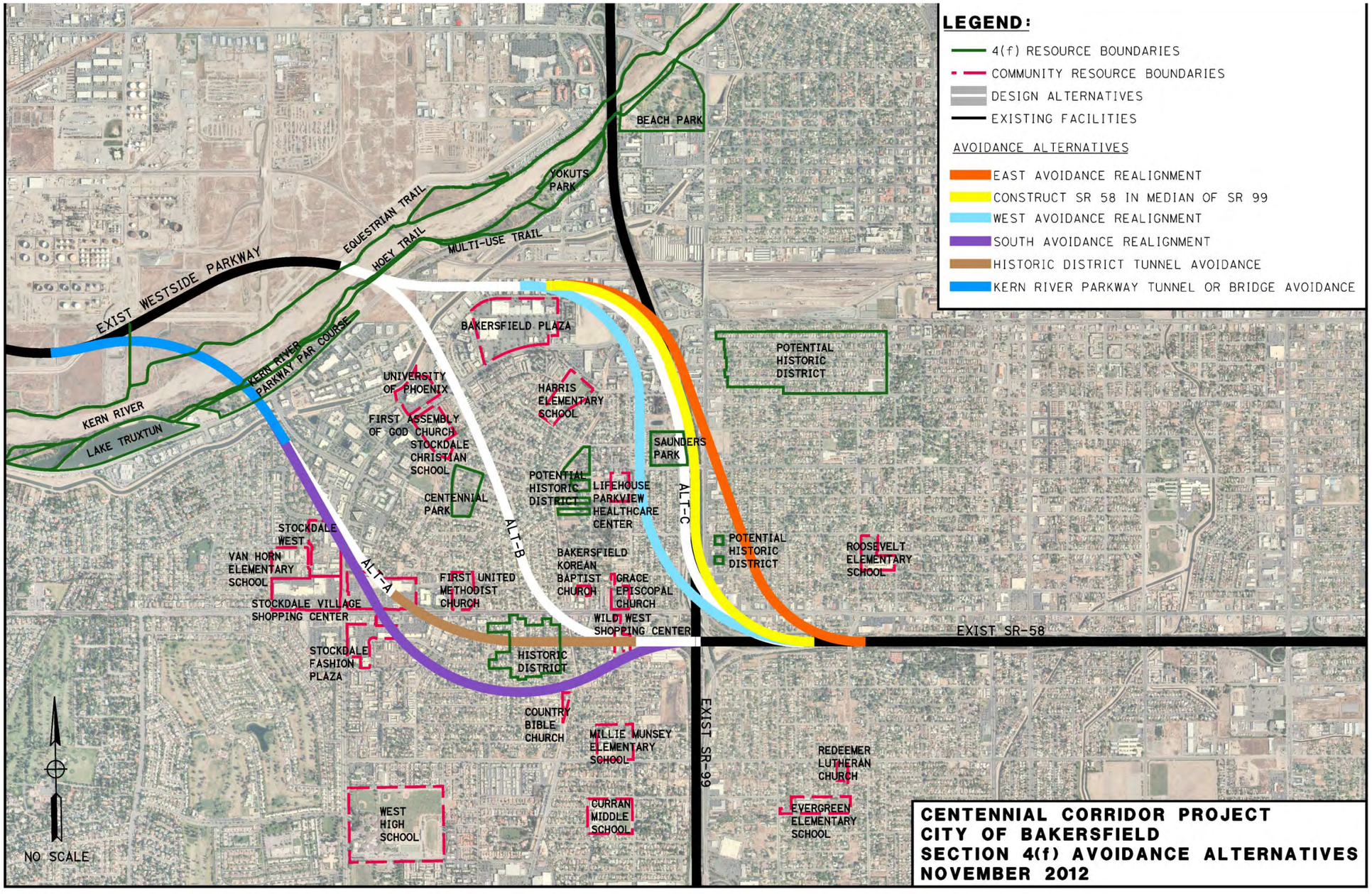


Figure 15 Avoidance Alternatives

Vegetation and Wildlife

The contributing properties within the Rancho Vista Historic District generally have mature landscaping, which was likely planted for shade and ornamental purposes when the residential buildings were originally constructed. This mature landscaping is considered a character-defining feature of the Rancho Vista Historic District; however, these plant materials are expected to provide very low to no value and function for wildlife (refer to Section 3.3 of the draft environmental impact report/environmental impact statement). Alternative A would remove approximately 20-30 mature trees within the Rancho Vista Historic District that would require full acquisition. There may also be vegetation removed for the partial acquisitions. Removal of the vegetation would not in and of itself substantially impair the activities, features, and/or attributes that qualify the Rancho Vista Historic District for protection under Section 4(f) since any mature trees removed would be replaced at a ratio of 1:1 as set forth under the Visual Resources section of this environmental document.

It should be noted that vegetation and wildlife impacts associated with Alternatives B and C are not discussed because these alignments are outside the Rancho Vista Historic District boundaries; therefore, they would not substantially impair the activities, features, and/or attributes that qualify the Rancho Vista Historic District for protection under Section 4(f).

Air Quality

The *Air Quality Study Report* (January 2013) and Section 3.2.6 of the draft environmental impact statement/environmental impact report concluded that, in the long term, Alternatives A and B would not contribute substantially to, or cause deterioration of, air quality in the immediate project area or in the region. In addition, during project construction activities, measures such as best available control and standard control measures as required by Caltrans and the San Joaquin Valley Air Pollution Control District would be used to reduce exhaust and fugitive dust emissions generated by construction equipment and activities. Therefore, the short-term and long-term air quality impacts associated with Alternatives A and B would not substantially impair the activities, features, and/or attributes that qualify the Rancho Vista Historic District for protection under Section 4(f).

It should be noted, although Alternative B is located outside of the Rancho Vista Historic District boundaries, air quality impacts were addressed due to the alternative's proximity to the contributing historic properties; however, impacts from this alternative would not substantially impair the activities, features, and/or attributes that qualify the Rancho Vista Historic District for protection under Section 4(f).

Impacts associated with Alternative C are not discussed because this alignment is about 0.5 mile to the east of the Rancho Vista Historic District boundary.

Water Quality

The discussion and analysis in this section is based on the following technical studies prepared for the Centennial Corridor: *Water Quality Assessment Report* (November 2012); *Drainage Report* (November 2012); and the *Storm Water Data Report* (January 2012) and Section 3.2.2 of the draft environmental impact statement/environmental impact report. Building Alternatives A and B has potential to affect water quality.

Potential pollutant sources associated with the construction phase of this alternative include construction activities and materials expected at the project site such as vehicle fluids; concrete and masonry products; landscaping and other products; and contaminated soils. Similarly, operation of this alternative has the potential to affect water quality. Potential pollutant sources associated with operation of this alternative include motor vehicles, highway maintenance, illegal dumping, spills, and landscaping care; however, using minimization measures, short-term and long-term water quality impacts associated with Alternatives A or B are not expected.

It should be noted that although Alternative B is located physically outside of the Rancho Vista Historic District boundaries, water quality impacts have been addressed due to the alternative's proximity to the contributing historic properties; however, impacts from this alternative would not substantially impair the activities, features, and/or attributes that qualify the Rancho Vista Historic District for protection under Section 4(f).

Impacts associated with Alternative C are not discussed because this alignment is about 0.5 mile to the east of the Rancho Vista Historic District boundary.

6.0 Avoidance Alternatives

6.1 Overview of Avoidance Alternatives

Alternative A would result in the permanent use of the Kern River Parkway and Rancho Vista Historic District Section 4(f) properties. Alternative B, however, would not affect parkland or other properties, including Rancho Vista Historic District, subject to the provisions of Section 4(f). Alternative C would result in the permanent use of Saunders Park, a Section 4(f) property, but it would not affect other properties, including Rancho Vista Historic District. As a result, consideration of feasible and prudent alternatives is

required that avoid permanent use of land from these Section 4(f) properties for the effects associated with Alternatives A and C.

This analysis of avoidance alternatives is based on the definition of "feasible and prudent avoidance alternative" in 23 CFR 774.17, that provides the following direction for determining whether an alternative is feasible and prudent:

(1) A feasible and prudent avoidance alternative avoids using Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property. In assessing the importance of protecting the Section 4(f) property, it is appropriate to consider the relative value of the resource to the preservation purpose of the statute.

(2) An alternative is not feasible if it cannot be built as a matter of sound engineering judgment.

(3) An alternative is not prudent if:

(i) It compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need;

(ii) It results in unacceptable safety or operational problems;

(iii) After reasonable mitigation, it still causes:

(A) Severe social, economic, or environmental impacts;

(B) Severe disruption to established communities;

(C) Severe disproportionate impacts to minority or low-income populations; or

(D) Severe impacts to environmental resources protected under other Federal statutes;

(iv) It results in additional construction, maintenance, or operational costs of an extraordinary magnitude;

(v) It causes other unique problems or unusual factors; or

(vi) It involves multiple factors in paragraphs (3)(i) through (3)(v) of this definition, that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude.

It should be noted that the preliminary engineering for Alternatives A and C included minimizing the use of land from Section 4(f) properties by narrowing the width of the project limits in the vicinity of those properties. Nonetheless, Alternatives A and C would result in the use of land from two parks and one historic district. These avoidance alternatives are shown in Figure 15.

6.2 Analysis of Avoidance Alternatives

All of the factors listed in the definition of "feasible and prudent avoidance alternative" were taken into consideration. In addition the following criteria specific to transportation projects were considered:

- Adherence to Caltrans Highway Design Manual standards, policies, and engineering practices
  - Proximity/spacing of existing interchanges along Westside Parkway, State Route 99 and State Route 58
  - Design speed requirements with regard to horizontal curves along main line State Route 58
- Incorporate provisions for future expansion of facilities
  - Consideration for future freeway-to-freeway connectors, not included in the current project scope
- Maintain local traffic circulation
  - Minimize out-of-direction travel
  - Minimize permanent closure of City streets

6.3 Summary of Avoidance Alternatives

The avoidance alternatives (see Figure 15) discussed below describe six variations of Alternatives A and C as well as the No-Build Alternative:

1. Kern River Parkway Bridge or Tunnel Avoidance—This variation of Alternative A would require extending the proposed State Route 58 Kern River bridge over the Kern River at Mohawk Street and Truxtun Avenue to completely span the 350-foot width of the Kern River Parkway and its volleyball courts, Frisbee golf course, and landscaped areas. A different version of this variation would require building a tunnel beneath the Kern River Parkway. The proposed 4,500-foot-long tunnel would follow the Alternative A alignment. The tunnel would begin just after South Vilas Green Brier Lane and cross under the Carrier Canal, Truxtun Avenue, Kern River Parkway, Kern River, and Cross Valley Canal.
2. Kern River Parkway Tunnel Avoidance – This variation of Alternative A would require building a tunnel beneath the Kern River Parkway. The proposed 4,500-foot-long tunnel would follow the Alternative A alignment. The tunnel would begin just after South Vilas Green Brier Lane and cross under the Carrier Canal, Truxtun Avenue, Kern River Parkway, Kern River, and Cross Valley Canal.
3. Southern Avoidance Realignment—This variation of Alternative A would introduce an S-curve beginning at the State Route 99/State Route58 interchange. The alternative

would curve to the south crossing over Stine Road between Quarter Avenue and Fishering Drive, then curve back to the north, crossing over Stockdale Highway about 700 feet farther west than Alternative A. It would then realign with the main northern segment of Alternative A in the vicinity of Carrier Canal. This variation would also extend Alternative A by an additional 0.2 mile. Replacement of the State Route 58 separation bridges above State Route 99 would be required for this variation.

4. Historic District Tunnel Avoidance—This variation of Alternative A would involve construction of a 4,500-foot-long tunnel that would begin at Real Road/State Route 58, cross under Stine Canal, and end about 750 feet south of Business Center Drive in the vicinity of California Avenue. This option would also require elevating Real Road by building a bridge over State Route 58. Similarly, a bridge would be constructed to elevate Stockdale Highway over State Route 58.

5. West Avoidance Realignment – This variation of Alternative C would realign State Route 58 about 800 feet farther to the west than that alternative's proposed location. It would also raise the height and lengthen the State Route 58 bridge over State Route 99, lengthen the California Avenue bridge, lengthen the northbound State Route 99 to westbound State Route 58 Direct Connector Bridge, require a fly over bridge from eastbound State Route 58 to southbound State Route 99 from Chester Lane to north of Stockdale Highway, replace and lengthen the Hughes Lane bridge. Additional bridges would also be required at Bank Street, Palm Street and Chester Lane.

6. East Avoidance Realignment – This variation of Alternative C would realign State Route 58 to the east of State Route 99 and two potential historic properties along Oakbank Road. It would also raise the height and lengthen the State Route 58 bridge over State Route 99, raise the height and lengthen the northbound State Route 99 to westbound State Route 58 Direct Connector Bridge, and replace the Hughes Lane bridge. Additional bridges would also be required at Oak Street, Palm Street, Bank Street and Verde Street.

7. Construct State Route 58 in Median of State Route 99—This variation of Alternative C would require building State Route 58 within the existing median of State Route 99 via an elevated structure. State Route 99 would be widened to the outside to handle the additional width required to build this variation. This would result in 16 freeway lanes within a minimum of 250 feet of right-of-way.

No-Build Alternative—Table B.3 summarizes the avoidance alternatives analysis findings.

6.4 Parks and Recreational Facilities

6.4.1 Avoidance Alternative for the Kern River Parkway

Alternatives B and C are about 0.5-mile northeast of the Kern River Parkway (Mohawk Street and Truxtun Avenue); therefore, they would avoid the parkway, resulting in no impacts. Similarly, the No-Build Alternative would not affect this property because none of the proposed build alternatives would be constructed.

Alternative A

If the Alternative A alignment is moved east or west of its current proposed location to avoid the Kern River Parkway, the alternative would no longer meet interchange spacing requirements. The Caltrans Highway Design Manual requires minimum spacing of one mile between urban freeway interchanges with local streets. The only locations available that meet this requirement are represented in the original alignments for Alternatives A, B, and C. Moving the Alternative A interchange to the east would simply put it in the same location as Alternatives B and C. Also, it is not possible to move the interchange location to the west as the Coffee Road and Calloway Drive interchanges are only 1.4 miles apart. A new interchange placed between Coffee Road and Calloway Drive would leave only 0.7 mile between interchanges. Therefore, variations to avoid the Alternative A impacts to the Kern River Parkway focus only on bridge and tunnel options.

Kern River Parkway Bridge Avoidance

This variation of Alternative A would require extending the proposed State Route 58 Kern River Bridge to completely span the 350-foot width of the Kern River Parkway. Although the bridge would span the park, a temporary occupancy of the park would be required. A temporary occupancy is considered actual Section 4(f) use if the scope of work and magnitude of change to the Section 4(f) property is more than minor in nature. A temporary occupancy is also considered Section 4(f) use if there are any permanent adverse physical impacts to the Section 4(f) property. Nor can there be any temporary or permanent interference with any of the park activities or purposes.

The temporary occupancy with this variation would be more than minor in nature because mature landscaping would be permanently removed and the setting of the volleyball courts would be permanently changed. The volleyball courts would be closed during the 18-month bridge construction period. The 141-foot-wide freeway bridges would permanently interfere with sand volleyball. Sand volleyball is associated with beaches, which in this case are along the river. Volleyball players would neither be able to enjoy the river nor the sunshine if the courts are beneath the freeway span. This essential feature of the park would be permanently compromised.

Table B.3 Summary of Avoidance Alternatives Analysis

	Avoidance Alternatives								
	Alternative A Kern River Parkway Bridge Avoidance	Alternative A Kern River Parkway Tunnel Avoidance	Alternative A Southern Avoidance Realignment	Alternative A Historic District Tunnel Avoidance	Alternative B	Alternative C West Avoidance Realignment	Alternative C East Avoidance Realignment	Alternative C Construct State Route 58 in Median of State Route 99	No-Build Alternative
Feasible/Prudent Criterion									
Avoids Section 4(f) Properties?	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Meet Project Purpose and Need?	Yes	No – the tunnel affects route continuity for certain trucks.	Yes	No – the tunnel affects route continuity for certain trucks.	Yes	Yes	Yes	Yes	No
Safety/Operational Problems?	No	No	No	No	No	No	No	No	No
Severe Social, Economic or Environmental Impacts of Extraordinary Magnitude?	No	No	No	No	No	Yes - Isolates Saunders Park and 52 residential properties in between State Route 58 and 99.	Yes – Isolates potential historic properties and 51 residential properties in between State Route 58 and 99, and proposed 58.	No	No
Severe Disruption to an Established Community of Extraordinary Magnitude?	No	No	No	No	No	No	No	No	No
Number of Residential Relocations	417	417	417	356	310	304	217	133	0
Number of Commercial Relocations	165	165	165	127	121	205	235	199	0
Total Relocations	582	582	582	483	431	509	452	332	0
Severe Disproportionate Impacts to Minority/Low Income Populations?	No	No	No	No	No	No	No	No	No
Severe Impacts to Federally Protected Environmental Resources?	No	No	No	No	No	No	No	No	No
Extraordinary Additional Costs?	Yes – total cost is $866M, which is 52% greater than Alternative B and 30% greater than Alternative C	Yes – total cost is $1.516B, which is 166% greater than Alternative B and 128% greater than Alternative C	Yes – total cost is $1.516B, which is 166% greater than Alternative B, 128% greater than Alternative C	Yes – total cost is $2.091B, which is 267% greater than Alternative B, 214% greater than Alternative C	No – total cost is $570M	Yes – total cost is $787M, which is 14% greater than Alternative A, 38% greater than Alternative B	Yes – total cost is $832M, which is 20% greater than Alternative A, 46% greater than Alternative B	Yes total cost is $871M, which is 26% greater than Alternative A, 53% greater than Alternative B	No
Other Unique/Unusual Factors?	No	No	No	No	No	Yes – Would add $9.5M to the future cost of constructing the eastbound 58 to northbound 99 and southbound 99 to westbound 58 direct connectors.	No	Yes – traffic handling and construction staging.	No
Extraordinary Cumulative Problems/Impacts?	No	No	No	No	No	No	No	No	No
Adhere to Caltrans Highway Design Manual?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Allow for Future Expansion of Facilities?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No – restricts future widening of State Route 58 without widening State Route 99 which would impact Saunders Park.	Yes
Maintain Local Traffic Circulation?	Yes	Yes	Yes	Yes	Yes	Yes	No – loss of access to westbound State Route 58 from H Street on-ramp.	Yes	Yes
Prudent?	**No**	**No**	**No**	**No**	**Yes**	**No**	**No**	**No**	**No**

Each discussion of avoidance alternatives includes a discussion of the six factors used to determine if an avoidance alternative is prudent. The six factors are listed near the beginning of Section 6.1. Cost is one of the six factors. Costs of extraordinary magnitude are defined by comparing the available funding for all other Thomas Roads Improvement Program projects ($156 million) and Alternative B ($570 million). Avoidance alternatives estimated at more than $726 million would be considered to have a cost of extraordinary magnitude. It should be noted that federal funds for the other Thomas Roads Improvement Program projects cannot be moved to the Centennial Corridor Project.

This avoidance alternative would not compromise the project, result in unacceptable safety or operational problems, create severe impacts of extraordinary magnitude, result in extraordinary operational or maintenance costs, or have extraordinary impacts caused by a combination of these items.

The construction cost of the avoidance alternative, however, would result in costs of extraordinary magnitude. The bridges over Kern River Parkway would increase the construction cost of Alternative A by $50 million. The cost of this avoidance alternative must also include the cost of Alternative A avoiding the Rancho Vista Historic District.

As discussed in Section 6.5, there are two avoidance alternatives for the Rancho Vista Historic District: a southern avoidance alternative, which would cost an additional $125 million or the Rancho Vista Historic District tunnel alternative, which would cost an additional $700 million. As a result, the total project costs for this alternative would be $866 million with the southern avoidance alignment, 52 percent greater than the cost of Alternative B and 30 percent more than the cost of Alternative C.

If the Rancho Vista Historic District tunnel option is used, the total cost of this alternative would be $1.441 billion, about 153 percent greater than the cost of Alternative B (or more than double the cost) and 116 percent greater than Alternative C (again, more than double the cost). It should be noted that Alternative B is an avoidance alternative.

The City of Bakersfield's Thomas Roads Improvement Program includes four other projects with these construction and right-of-way costs:

- 24th Street Improvement Project, estimated to cost $43 million

- State Route 58 (Rosedale Highway) Widening Project, estimated to cost $20 million
- State Route 178 Widening Project, estimated to cost $40 million
- Morning Drive Interchange Project, estimated to cost $53 million.

The combined cost of these projects is $156 million. No other projects have a scope and magnitude similar to the Centennial Corridor, which has $570 million in allocated funds for construction and right-of-way costs. The cost of this avoidance alternative would prevent construction of any other Thomas Roads Improvement Program projects. Additionally, the cost would excede the budget available for the Centennial Corridor Project. Should either combination of these avoidance alternatives be selected, the Centennial Corridor could not be built, even if funding from all other projects listed above is reallocated to the Centennial Corridor Project.

For the reasons stated above, the Kern River Parkway Bridge Avoidance Alternative is not considered prudent.

<u>Kern River Parkway Tunnel Avoidance</u>

This variation of Alternative A would require building a tunnel beneath the Kern River Parkway. The proposed tunnel would be 4,500 feet long and follow the Alternative A alignment. The tunnel would begin just after South Vilas Green Brier Lane, then cross under the Carrier Canal, Truxtun Avenue, the Kern River Parkway, the Kern River, and the Cross Valley Canal. The width of the tunnel would allow for six traffic lanes with provisions for two additional lanes in the future for a total of eight traffic lanes.

Tunnels provide an enclosed area where fires caused by accidents with vehicles containing hazardous materials are a safety hazard. As a result, vehicles hauling potentially hazardous materials would be prohibited from using the tunnel during certain hours. These vehicles, diverted to the local streets, would contribute to congestion. This avoidance alternative would therefore not meet the route continuity goal—the basic purpose of the project—for vehicles diverted to alternate routes.

Each discussion of avoidance alternatives includes a discussion of the six factors used to determine if an avoidance alternative is prudent. The six factors are listed near the beginning of Section 6.1. Cost is one of the six factors. Costs of extraordinary magnitude are defined by comparing the available funding for all other Thomas

Roads Improvement Program projects ($156 million) and Alternative B ($570 million). Avoidance alternatives estimated at more than $726 million would be considered to have a cost of extraordinary magnitude. It should be noted that federal funds for the other Thomas Roads Improvement Program projects cannot be moved to the Centennial Corridor Project.

This avoidance alternative would not compromise the project, result in unacceptable safety or operational problems, create severe impacts of extraordinary magnitude, result in extraordinary operational or maintenance costs, or have extraordinary impacts caused by a combination of these items.

The construction cost of the avoidance alternative, however, would reach an extraordinary magnitude. A tunnel under the Kern River Parkway would increase the construction cost of Alternative A by $700 million. The cost of this avoidance alternative must also include the cost of Alternative A avoiding the Rancho Vista Historic District.

As discussed in Section 6.5, there are two avoidance alternatives for the Rancho Vista Historic District: a southern avoidance alternative, which would cost an additional $125 million or a tunnel alternative, which would cost an additional $700 million. As a result, the total project costs for this alternative would be $1.516 billion with the southern avoidance alignment, about 166 percent greater than the cost of Alternative B (or more than double the cost), or 128 percent greater than the cost of Alternative C (again, more than double the cost).

If the Rancho Vista Historic District tunnel option is used, the total cost would be $2.091 billion, about 267 percent greater than Alternative B (or more than three times the cost), or 214 percent greater than Alternative C (again, more than three times the cost). It should be noted that Alternative B is an avoidance alternative.

As noted above, the combined cost of the other Thomas Roads Improvement Program projects, without the Centennial Corridor Project, is $156 million. No other projects have a scope and magnitude similar to the Centennial Corridor, which has $570 million in allocated funds for construction and right-of-way costs. The cost of this avoidance alternative would prevent construction of any other Thomas Roads Improvement Program projects. Additionally, the cost would exceed the budget available for the Centennial Corridor Project. Should either combination of these avoidance alternatives be selected, the Centennial Corridor could not be built, even if

the funding from all other projects listed above is reallocated to the Centennial Corridor Project. This is considered a construction cost of extraordinary magnitude.

For the reasons stated above, the Kern River Parkway Tunnel Avoidance Alternative is not considered prudent.

6.5 Avoidance Alternatives for Rancho Vista Historic District

The Alternative B alignment is located about 110 feet away from the nearest contributing residence within the Rancho Vista Historic District, with a soundwall of approximately 10 to 14 feet in height being proposed, located approximately 75 feet from the closest edge of the historic property boundary. Alternative C is located about 1,300 feet west from Rancho Vista Historic District at its closest boundary edge. Therefore, these two alternatives would avoid the Historic District and no impacts would result. Similarly, the No-Build Alternative would not affect this property because none of the proposed build alternatives would be constructed.

Alternative A

As shown above Alternative A cannot avoid the Kern River Parkway and Rancho Vista Historic District (see Figure 15). Alternative A is not a Section 4(f) avoidance alternative, regardless of the success or lack of success of avoiding the Rancho Vista Historic District. To be thorough, however, two avoidance alternatives were considered in relation to this historic district: the Southern Avoidance Realignment Alternative and the Tunnel Avoidance Alternative. A northern avoidance alternative is not included because this would be the same as Alternative B.

Southern Avoidance Realignment Alternative

The Southern Avoidance Realignment alternative would introduce an S-curve beginning at the State Route 99/State Route 58 interchange and would realign Alternative A south to avoid the Rancho Vista Historic District. The proposed alignment would curve south, cross over Stine Road between Quarter Avenue and Fishering Drive, curve north to cross over Stockdale Highway about 700 feet farther to the west than Alternative A, and connect back into the original alignment before becoming an overcrossing at Truxtun Avenue. This alternative would increase the length of State Route 58 by about 0.2 mile and require replacement of the State Route 58 separation bridges above State Route 99.

Each discussion of avoidance alternatives includes a discussion of the six factors used to determine if an avoidance alternative is prudent. The six factors are listed near the beginning of Section 6.1. Cost is one of the six factors. Costs of extraordinary magnitude are defined by comparing the available funding for all other Thomas

Roads Improvement Program projects ($156 million) and Alternative B ($570 million). Avoidance alternatives estimated at more than $726 million would be considered to have a cost of extraordinary magnitude. It should be noted that federal funds for the other Thomas Roads Improvement Program projects cannot be moved to the Centennial Corridor Project.

This avoidance alternative would not compromise the project, create severe impacts of extraordinary magnitude, or result in extraordinary operational or maintenance costs.

The S-curve geometrics (curve to the left followed immediately by a curve to the right) that would be required for this alternative are not preferred for new freeways and could lead to unacceptable safety and operational issues because it could result in decreased speeds and increased congestion. This alternative would also require the acquisition of an additional 61 residential and 38 commercial properties compared to Alternative A.

The Southern Avoidance Realignment alternative would increase Alternative A construction cost by $125 million. The cost of this avoidance alternative must also include the cost of Alternative A avoiding the Kern River Parkway. As discussed in Section 6.1, there are two avoidance alternatives for the Kern River Parkway: a tunnel alternative, which would cost an additional $700 million and a bridge alternative, which would cost an additional $50 million. As a result, the total project costs for this alternative would be $1.516 billion with the Kern River Parkway Tunnel Avoidance alternative, about 166 percent greater than the cost of Alternative B (more than double the cost) or 128 percent greater than Alternative C (more than double the cost). If the bridge option is used, total cost would be $866 million, about 52 percent greater than the cost of Alternative B or 30 percent greater than Alternative C. It should be noted, Alternative B is an avoidance alternative.

As stated above, the combined cost of the Thomas Roads Improvement Program projects, without the Centennial Corridor Project is $156 million. No other projects have a scope and magnitude similar to the Centennial Corridor, which has $570 million funds allocated for construction and right-of-way costs. The cost of this avoidance alternative would prevent construction of the Centennial Corridor even if the funding from all other Thomas Roads Improvement Program projects listed above were reallocated to the Centennial Corridor Project. This avoidance alternative is considered a construction cost of extraordinary magnitude. For the reasons stated above, the Southern Avoidance Realignment Alternative is not considered prudent.

Historic District Tunnel Avoidance

This avoidance alternative would involve construction of a tunnel about 4,500 feet in length that would begin at Real Road/State Route 58, cross under Stine Canal, and end about 750 feet south of Business Center Drive in the vicinity of California Avenue. This option would also require elevating Real Road by building a bridge over State Route 58. Similarly, a bridge would be constructed to elevate Stockdale Highway over State Route 58.

Each discussion of avoidance alternatives includes a discussion of the six factors used to determine if an avoidance alternative is prudent. The six factors are listed near the beginning of Section 6.1. Cost is one of the six factors. Costs of extraordinary magnitude are defined by comparing the available funding for all other Thomas Roads Improvement Program projects ($156 million) and Alternative B ($570 million). Avoidance alternatives estimated at more than $726 million would be considered to have a cost of extraordinary magnitude. It should be noted that federal funds for the other Thomas Roads Improvement Program projects cannot be moved to the Centennial Corridor Project.

This avoidance alternative would not substantially compromise the project, result in unacceptable safety or operational problems, create severe impacts of extraordinary magnitude, result in extraordinary operational or maintenance costs, or have extraordinary impacts caused by a combination of these items.

Tunnels provide an enclosed area where fires caused by accidents with vehicles hauling hazardous materials are a safety hazard. As a result, vehicles hauling potentially hazardous materials would be prohibited from using the tunnel during certain hours, which would require the diversion of vehicles such as trucks to local streets, contributing to congestion. This avoidance alternative would therefore not meet the goal of route continuity— the basic purpose of the project—for these vehicles.

The Historic District Tunnel Alternative would increase the construction cost of Alternative A by $700 million. The cost of this avoidance alternative must also include the cost of Alternative A avoiding the Kern River Parkway. As discussed in Section 6.1, there are two avoidance alternatives for the Kern River Parkway: the tunnel alternative, costing an additional $700 million and a bridge alternative, costing an additional $50 million. As a result, the total project costs for this alternative would be $2.091 billion with the tunnel alternative, about 267 percent greater than the cost of Alternative B (more than triple the cost) and 214 percent greater than Alternative C

(more than triple the cost). If the bridge option is used, the total cost would be $1.441 billion, about 153 percent greater than the cost of Alternative B (more than double the cost) and 116 percent greater than Alternative C (more than double the cost). It should be noted, Alternative B is an avoidance alternative.

As stated above, the combined cost of the other Thomas Roads Improvement Program projects, without the Centennial Corridor Project, is $156 million. No other projects have a scope and magnitude similar to the Centennial Corridor, which has $570 million funds allocated for construction and right-of-way costs. The cost of this avoidance alternative would prevent construction to the Centennial Corridor even if the funding from all other Thomas Roads Improvement Program projects listed above were reallocated to the Centennial Corridor Project. This avoidance alternative is considered a construction cost of extraordinary magnitude.

For the reasons stated above, the Historic District Tunnel Avoidance Alternative is not considered prudent.

6.5.1 Avoidance Alternatives for Saunders Park

Alternatives A and B are about 5,300 and 2,500 feet west, respectively, of Saunders Park; therefore, they would avoid this property and no impacts would result. Similarly, the No-Build Alternative would not affect this property because none of the proposed build alternatives would be constructed.

Alternative C

Three avoidance alternatives were considered for Alternative C: West Avoidance Realignment, East Avoidance Realignment, and Construct State Route 58 in Median of State Route 99 (see Figure 15).

West Avoidance Realignment

The West Avoidance Realignment Alternative would realign State Route 58 about 800 feet further to the west than Alternative C between California Avenue and Stockdale Highway (see Figure 15).

The proposed realignment would begin on State Route 58 about 750 feet west of the Hughes Lane bridge and begin curving to the north where it would cross over the westbound State Route 58 to northbound State Route 99 Direct Connector, the Oak Street –Wible Road/Stockdale Highway – Brundage Lane Intersection, State Route 99 about 400 feet to the south of Alternative C and the southbound State Route 99 to eastbound State Route 58 Direct Connector. The realignment would stay elevated

with bridges over Bank Street and Palm Street, continuing north between Real Road and the western boundary of Saunders Park and bridge over Chester Lane before turning west. It would then bridge over Real Road and California Avenue before connecting back with the Alternative C alignment parallel to the BNSF railroad yard.

The proposed eastbound State Route 58 to southbound State Route 99 Direct Connector would branch off of the realignment at Chester Lane and need to be constructed above and bridge over the realigned State Route 58 and connect, north of Stockdale Highway, to the connector proposed in Alternative C. The direct connector bridge would be approximately 1.3 miles long. This direct connector ramp would require additional right of way between Stockdale Highway and Chester Lane, between the proposed State Route 58 alignment and State Route 99.

The West Avoidance Realignment alternative would isolate an existing environmental justice community, leaving 52 residential units and clearing and demolishing 10 commercial properties, in the area bounded by the West Avoidance Realignment to the west, existing State Routes 99/58 to the east, California Avenue to the north, and Stockdale Highway to the south. There is no ability to depress the freeway alignment to decrease the impact to this area. The West Avoidance Realignment Alternative would increase the required acquisitions compared to Alternative C by 6 commercial relocations and 171 residential relocations.

This realignment is the best avoidance alternative (has the least impacts) that would avoid direct use of Saunders Park property by adjusting the Alternative C build alignment to the west. Moving this avoidance alternative further to the west would affect the Lifehouse Parkview Healthcare Center, a nursing home west of Real Road with one hundred and eighty four beds. Moving even further to the west, there are seven properties located along Garnsey Avenue that could potentially be historic properties under the National Register of Historic Places. If these properties were impacted this variation would not avoid potential Section 4(f) properties. Moving the West Avoidance Realignment alternative even further to the west would result in Alternative B because it is the alignment that could avoid both the Rancho Vista Historic District and Centennial Park and meet the engineering alignment standards.

Each discussion of avoidance alternatives includes a discussion of the six factors used to determine if an avoidance alternative is prudent. The six factors are listed near the beginning of Section 6.1. Cost is one of the six factors. Costs of extraordinary magnitude are defined by comparing the available funding for all other Thomas Roads Improvement Program projects ($156 million) and Alternative B ($570

million). Avoidance alternatives estimated at more than $726 million would be considered to have a cost of extraordinary magnitude. It should be noted that federal funds for the other Thomas Roads Improvement Program projects cannot be moved to the Centennial Corridor Project.

This avoidance alternative would not compromise the project, result in unacceptable safety or operational problems, create severe impacts of extraordinary magnitude, or result in extraordinary operational or maintenance costs.

The avoidance alternative would increase the construction cost of Alternative C by $121 million. As a result, the total project costs for this alternative would be $787 million, which is about 14 percent greater than the cost of Alternative A, or 38 percent greater than the cost of Alternative B. It should be noted that Alternative B is an avoidance alternative.

As noted above, the combined cost of the other Thomas Roads Improvement Program projects, without the Centennial Corridor Project is $156 million. There are no other projects of similar scope and magnitude to the Centennial Corridor, which has $570 million funds allocated for construction and right-of-way costs. The cost of this avoidance alternative would prevent construction of the Centennial Corridor even if the funding from all of the other Thomas Roads Improvement Program projects listed above were reallocated to the Centennial Corridor Project. This is considered a construction cost of extraordinary magnitude.

For the reasons stated above, the West Avoidance Realignment Alternative is not considered prudent.

East Avoidance Realignment Alternative

The East Avoidance Realignment Alternative would realign State Route 58 to the east of State Route 99 and two potential historic properties along Oakbank Road.

The proposed realignment would begin on State Route 58 about 230 feet east of the Hughes Lane bridge and begin curving to the north where it would bridge over the westbound State Route 58 to northbound State Route 99 Direct Connector, Brundage Lane/ Myrtle Street intersection, Verde Street, Bank Street, Palm Street and Oak Street. The realignment would then begin to turn west and bridge over the State Route 99/ California Avenue interchange; northbound State Route 99 off-ramp to California Avenue, northbound State Route 99 loop on-ramp from California Avenue, California Avenue, State Route 99, and the southbound State Route off-ramp to California

Avenue before connecting back with Alternative C parallel to the BNSF railroad yard. This alternative would require State Route 99 to be widened to the east between Palm Ave and Brundage Lane, to accommodate the required changes to the northbound State Route 99 to westbound State route 58 Direct Connector.

The widening of State Route 99 would require the realignment of about 2,500 feet of Oak Street, the reconstruction of the westbound State Route 58 to northbound State Route 99 Direct Connector and the tunnel it travels through underneath the Oak Street – Wible Road/Stockdale Highway – Brundage Lane intersection. The realignment of Oak Street, which is a primary north-south arterial, serving area residents, would require the acquisition of the majority of the commercial development along Oak Street from Sunset Ave to Stockdale Highway – Brundage Lane. The East Avoidance Realignment Alternative would increase the required acquisitions compared to Alternative C by 43 commercial relocations and 84 residential relocations.

Under this avoidance alternative access to westbound State Route 58 would no longer be possible from the H Street on-ramp, because of the required change to the northbound State Route 99 to westbound State Route 58 Direct Connector ramp. This avoidance alternative requires the removal of the northbound State Route 99 Collector Distributor and the braiding of the westbound State Route 58 to northbound State Route 99 Direct Connector ramp with the northbound State Route 99 to westbound State Route 58 Direct Connector ramp. This loss of access would be in addition to the closures proposed for Alternative C, which already requires closure of the Stockdale Highway off-ramp from southbound State Route 99, southbound State Route 99 on-ramp from Real Road and the Wible Road local road connection ramps on northbound State Route 99. Therefore, the nearest full-service interchange on State Route 58 east of State Route 99 would be Union Avenue, one mile to the east along State Route 58. The next nearest would be Mohawk Street (proposed State Route 58, existing Westside Parkway) located 3.5 miles to the east of H Street. These closures would cause motorists to seek alternative routes to access the shopping centers and businesses along Brundage Lane/Stockdale Highway, as well as access to downtown Bakersfield.

This realignment is the best avoidance alternative (has the least impacts) that would avoid impacts to Saunders Park by adjusting the Alternative C build alignment to the east. Moving the East Avoidance Realignment alternative further to the east of its current proposed location is restricted by Caltrans interchange spacing requirements. In addition, a potential historic district may be located in an area bound by Park Way

on the north, an irregular line running along several parcels east of Oak Street on the west, a line along portions of the north side of Chester Street on the south, and the east side of C Street on the east. As a result, potential Section 4(f) properties would not be avoided.

Each discussion of avoidance alternatives includes a discussion of the six factors used to determine if an avoidance alternative is prudent. The six factors are listed near the beginning of Section 6.1. Cost is one of the six factors. Costs of extraordinary magnitude are defined by comparing the available funding for all other Thomas Roads Improvement Program projects ($156 million) and Alternative B ($570 million). Avoidance alternatives estimated at more than $726 million would be considered to have a cost of extraordinary magnitude. It should be noted that federal funds for the other Thomas Roads Improvement Program projects cannot be moved to the Centennial Corridor Project.

This avoidance alternative would not compromise the project, result in unacceptable safety problems, create severe impacts of extraordinary magnitude, or result in extraordinary maintenance costs, but could result in unacceptable operational problems and costs.

The avoidance alternative would increase the construction cost of Alternative C by $166 million. As a result, the total project costs for this alternative would be $832 million, which is about 20 percent greater than the cost of Alternative A, or 46 percent greater than the cost of Alternative B. It should be noted that Alternative B is an avoidance alternative.

As noted above, the combined cost of the other Thomas Roads Improvement Program projects, without the Centennial Corridor Project is $156 million. There are no other projects of similar scope and magnitude to the Centennial Corridor, which has $570 million funds allocated for construction and right-of-way costs. The cost of this avoidance alternative would prevent the construction of the Centennial Corridor even if the funding from all of the other Thomas Roads Improvement Program projects listed above were reallocated to the Centennial Corridor Project. This avoidance alternative is considered a construction cost of extraordinary magnitude.

For the reasons stated above, the East Avoidance Realignment Avoidance Alternative is not considered prudent.

Construct State Route 58 in Median of State Route 99

This alternative would construct State Route 58 in the median of State Route 99 on an elevated structure for a portion of the alignment. It would also require State Route 99 to be widened to the outside to allow State Route 58 to pass below Palm Street. Moving this alternative to the west would result in the proposed Alternative C; movement to the east would result in the East Avoidance Realignment Alternative.

The widening of State Route 99 to accommodate State Route 58 in the median would require the reconstruction of the California Avenue/State Route 99 interchange and the replacement of the Bakersfield Union Pacific Railroad Yard/State Route 99 Bridge. This alternative would also restrict any future widening of State Route 58 without widening State Route 99, and any future widening of State Route 99 would impact Saunders Park, a Section 4(f) property. It should be noted the Caltrans Transportation Concept Report identifies the need for auxiliary lanes along State Route 99 which this avoidance alternative does not include. Should this alternative be built there would be no feasible and prudent alternative to avoid Saunders Park in the future.

In addition, constructing State Route 58 in the median of State Route 99 may not be feasible because of the need to maintain existing State Route 99 traffic through the construction area. The existing median is 22 feet wide and State Route 58 would require a minimum width of 140 feet.

Each discussion of avoidance alternatives includes a discussion of the six factors used to determine if an avoidance alternative is prudent. The six factors are listed near the beginning of Section 6.1. Cost is one of the six factors. Costs of extraordinary magnitude are defined by comparing the available funding for all other Thomas Roads Improvement Program projects ($156 million) and Alternative B ($570 million). Avoidance alternatives estimated at more than $726 million would be considered to have a cost of extraordinary magnitude. It should be noted that federal funds for the other Thomas Roads Improvement Program projects cannot be moved to the Centennial Corridor Project.

This avoidance alternative would not compromise the project, create severe impacts of extraordinary magnitude, or result in extraordinary maintenance costs, but could result in unacceptable safety and operational problems and have costs of extraordinary magnitude.

The avoidance alternative would increase the construction cost of Alternative C by $205 million. As a result, the total project costs for this alternative would be $871 million, about 26 percent greater than the cost of Alternative A, or 53 percent greater than Alternative B. It should be noted, Alternative B is an avoidance alternative.

As noted above, the combined cost of the other Thomas Roads Improvement Program projects, without the Centennial Corridor Project, is $156 million. No other projects have a scope and magnitude similar to the Centennial Corridor, which has $570 million funds allocated for construction and right-of-way costs. The cost of this avoidance alternative would prevent construction of the Centennial Corridor even if funding from all other Thomas Roads Improvement Program projects listed above were reallocated to the Centennial Corridor Project. The avoidance alternative is considered a construction cost of extraordinary magnitude.

For the reasons stated above, the Construct State Route 58 in Median of State Route 99 Alternative is not considered prudent.

7.0 Measures to Minimize Harm to the Section 4(f) Properties

The process of developing Alternatives A, B, and C for the Centennial Corridor project considered a wide range of engineering, feasibility, and environmental constraints, including Section 4(f) properties in the study area. Avoiding or minimizing the use of Section 4(f) properties was one of the key criteria during the alternatives development and refinement processes. Following is a discussion of specific measures to minimize harm for each protected Section 4(f) property.

7.1 Measures to Minimize Harm to the Kern River Parkway

The following mitigation measures would be incorporated to reduce impacts from Alternative A at the Kern River Parkway (mitigation measures are not required for Alternatives B and C because these proposed alignments are some 2,500 feet northeast of the park):

- The bicycle path would be moved slightly north of the existing path; however, the connection points on the east and west sides of Alternative A would align with the existing bicycle path.
- The Hoey Trail would be moved slightly north of the existing trail. The connection points on the east and west sides of Alternative A would align with the existing Hoey Trail.

- The equestrian trail would be moved slightly south of the existing trail. The connection points on the east and west sides of Alternative A would align with the existing equestrian trail.
- Mature trees or those protected by ordinance and required to be removed within the Kern River Parkway would be replaced at a 1:1 ratio.
- Vegetation, including landscaping, removed along the Kern River Parkway would be replaced in kind or with suitable, similar vegetation. Coordination with applicable agencies with jurisdiction over these resources (California Department of Fish and Game, United States Fish and Wildlife Service, and United States Army Corps of Engineers) and the procurement of applicable permits, if any, would be undertaken in advance of their removal.
- The park land proposed to be acquired and associated affected amenities would be replaced with those of equal value or utility if Alternative A is selected as the preferred alternative.

7.2 Measures to Minimize Harm to Saunders Park

Mitigation measures are not required for Alternatives A and B because these proposed alignments are about 5,300 and 2,500 feet, respectively, to the west of Saunders Park. Alternative C would result in the permanent removal of 3.27 acres (about 30 percent) of park land and would eliminate the existing basketball courts, roller hockey facility, splash/water play area, an equipment storage area, and two parking areas (58 parking spaces). Mitigation measures proposed for Alternative C at Saunders Park, if this alternative is selected as the preferred alternative, include the following:

- Conversion to parkland of the existing Bakersfield owned and operated retention basin immediately north of existing Saunders Park. This retention basin, to be used for park land and associated amenities such as turf, playground, and soccer field, would be filled in with dirt, increasing Saunders Park size 4.22 acres. Right-of-way acquisitions associated with Alternative C would add 0.87 acre for park use immediately north of the retention basin where existing State Route 99 is to the east and Chester Lane is to the north. Total replacement would be 5.09 acres of parkland for Alternative C, a net gain of 1.82 acres of parkland (12.95 acres of new parkland minus 11.13 acres of existing parkland).
- Several existing park amenities would be relocated within the park: spray/water park facility; both basketball courts; several parking spaces; and the roller hockey

facility. A draft conceptual design drawing (see Figure 16) depicts possible relocation areas within the park, assuming conversion of the retention basin and acquisition of additional land immediately north of the retention basin. This conceptual design is not final but shows the relocation of displaced existing park amenities and off-street parking. It should be noted, the conceptual plan would include 125 off-street parking spaces or a net increase of 67 spaces (125 spaces of new parkland minus 58 spaces of existing parkland). In addition, this conceptual design would include and/or expand the number and types of amenities not currently available at the park such as a soccer field, disk golf tee and target, and entry plaza (see Figure 16). A new access point would be provided at Chester Lane. The existing access on Palm Street would be expanded to two driveways.

- Security lighting would be installed as needed, particularly at the parking areas, roller hockey facility, basketball courts, and park boundaries.
- Mature trees removed from the park would be replaced at a 2:1 ratio. Vegetation such as grass would be replaced in kind as the final design of the park requires.
- Removed irrigation piping would be replaced as appropriate based on the final design of the park.
- The retaining wall(s) forming the eastern boundary of the park adjacent to State Route 99 would be built of graffiti-discouraging materials such as rough surfaces that include, but are not limited to, concrete reliefs or textured concrete. Other anti-graffiti measures may include vegetation such as trees, shrubs, or vines.
- Soundwalls about 12 feet high would be built on top of the retaining wall(s) to reduce noise impacts. Vines or other anti-graffiti measures would be employed to reduce graffiti and improve the aesthetics of the walls.

7.3 Measures to Minimize Harm to Rancho Vista Historic District

Mitigation measures are not required for Alternatives B and C because these proposed alignments are about 110 feet and 1,300 feet, respectively from the Rancho Vista Historic District. Alternative A would require the full acquisition of 46 properties that are contributors to the Rancho Vista Historic District. There are no partial property acquisitions that are contributors to the Rancho Vista Historic District. Conceptual mitigation measures proposed for Alternative A to minimize harm to the Rancho Vista Historic District include the following:

- Preparation of detailed documentation of the Rancho Vista Historic District as a whole—including each adversely affected contributing property— at a level

specified by the State Historic Preservation Officer, plus distribution to the appropriate regional information center, local public library, and other repositories to be determined. Documentation is similar to Historic American Building Survey Level II documentation: large-format archival-quality photographs, available as-built plans, and written historical data in the form of a historical report.

- Preparation of a brochure on the local history and architecture of the affected Rancho Vista Historic District.
- Preparation of information to existing social media sites dealing with related architectural topics.
- Incorporation of hardscape features, including soundwalls, landscape, and architectural treatments that are compatible with the historic character of the affected Rancho Vista Historic District such as color, texture, and vine treatment, as feasible. (see Noise, Section 3.2.7, for location and heights of proposed soundwalls. See Visual, Section 3.1.7, for integration of hardscape feature treatments).
- Demolition of contributing properties for which an adverse effect finding is made would not occur until strategies were attempted with a local agency to identify appropriate sites or offering the properties for sale for $1 (or other reasonable amount) and paying the cost of demolition and removal of each contributing property.
- Reuse of architectural and structural elements or character-defining features would be made available for other buildings of the same age and style through an architectural salvage operation. No salvage would take place until an opportunity for relocation has occurred.
- Protection of Rancho Vista Historic District-contributing buildings/structures with temporary construction easements by environmentally sensitive areas. After construction, the land, hardscape such as residential walkways, garden walks and walls, and vegetation would be replaced in-kind following the Secretary of the Interior’s Standards in Treatment for Historic Properties with Guidelines for Rehabilitation.

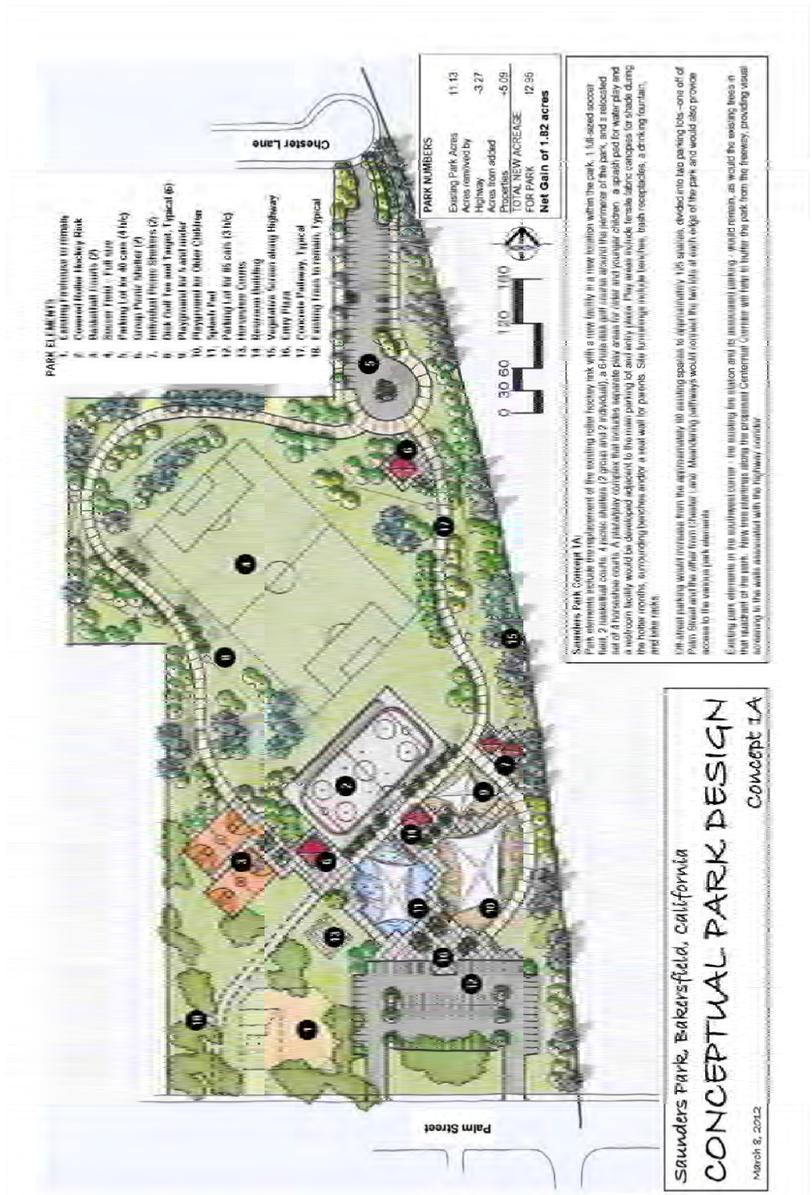


Figure 16 Concept Design Drawing of Saunders Park Rearrangement under Alternative C

Opportunities to further minimize the use of land from the Rancho Vista Historic District as the project develops would be sought and incorporated into the alternatives as appropriate. Minimizing land use may include location adjustment of the proposed right-of-way and anticipated project disturbance limits.

Specifically, as more detailed engineering is developed, opportunities to reduce land acquisition these Section 4(f) properties would be considered and incorporated in the project consistent with applicable engineering design standards.

Should Alternative B be selected as the preferred alternative, for those project elements visible from the Rancho Vista Historic District, consideration will be given to the incorporation of hardscape features (including soundwalls), landscape, and architectural treatments that are compatible with the historic character of the Rancho Vista Historic District, such as color, texture, and vine treatment, as project compatibility features, as feasible. (See Section 3.2.7, Noise, for location and heights of proposed soundwalls. See Visual, Section 3.1.7, for integration of hardscape feature treatments).

8.0 Coordination

A Section 4(f) evaluation requires documentation of the Section 106 process. Consultation with the State Historic Preservation Officer and the City of Bakersfield is ongoing. Prior to making Section 4(f) approvals under 23 CFR 774.3(a), the Section 4(f) evaluation must be provided for coordination and comment to the official(s) with jurisdiction over the Section 4(f) property and to the Department of the Interior. A Section 4(f) evaluation prepared under 23 CFR 774.3(a) must include sufficient supporting documentation to demonstrate why there is no feasible and prudent avoidance alternative, and it must summarize the results of all possible planning to minimize harm to the Section 4(f) property.

Caltrans has initiated consultation with the State Historic Preservation Officer in regard to the Centennial Corridor project and she concurred there are four historic properties within the Area of Potential Effects. Caltrans is currently in consultation with the State Historic Preservation Officer regarding the finding of effects to these historic properties, including the Rancho Vista Historic District, pursuant to the Caltrans Section 106 Programmatic Agreement and 36 CFR 800.6.

In addition, formal consultation as stated in the Section 4(f) requirements has been initiated with the City of Bakersfield to establish ownership and significance of

potentially effected parklands, including the Kern River Parkway and associated trails and Saunders Park (see Attachment B). Meetings were held with a City of Bakersfield representative on January 17, 2012. Meetings were also held with Recreation and Parks personnel on January 26, 2012 and March 21, 2012. Prior to completion of the environmental review process, impact determination and adequacy of proposed mitigation measures would be developed in consultation with City of Bakersfield officials having jurisdiction over the effected parklands. It should be noted that the City of Bakersfield, as the agency having jurisdiction over these properties, has provided documentation of agreement that the proposed measures to minimize harm to these parks has been undertaken to their satisfaction and are appropriate. Further, that with the foregoing determinations that the proposed project alternatives would all satisfy the requirements of 23 CFR 774.13. Prior to completion of the environmental review process, impact determination and adequacy of proposed mitigation measures would be developed in consultation with City of Bakersfield officials having jurisdiction over the effected parklands. It is expected that the City of Bakersfield, as the agency having jurisdiction over these properties, would provide documentation of agreement with the foregoing determinations that the proposed project alternatives would all satisfy the requirements of 23 CFR 774.13.

9.0 Description of Section 6(f) Properties

Section 6(f)(3) of the Land and Water Conservation Fund Act (16 United States Code §4601-4) contains provisions to protect federal investments in park and recreation properties and the quality of those assisted properties. The law recognizes the likelihood that changes in land use or development may make some properties that received federal funding obsolete over time, particularly in rapidly changing urban areas. At the same time, the law discourages casual discards of park and recreation facilities by ensuring that changes or conversations from recreation use will bear a cost—a cost that assures taxpayers that investments in the park and recreation properties will not be squandered. The Land and Water Conservation Fund Act includes a clear mandate to protect grant-assisted areas from conversions:

> *SEC. 6(f)(3) – No property acquired or developed with assistance under this section shall, without the approval of the Secretary, be converted to other than public outdoor recreation use. The Secretary shall approve such conversion only if he finds it to be in accord with the then existing comprehensive statewide outdoor recreation plan and only upon such conditions as he deems necessary to assure the substitution of other*

> *recreation properties of at least equal fair market value and of reasonably equivalent usefulness and location.*

This “anti-conversion” requirement applies to all parks and other sites that have been the subject of Land and Water Conservation Fund grants of any type, whether for acquisition of parkland, development, or rehabilitation of facilities.

When an application for Section 6(f) funding is submitted, a dated project boundary map showing the park area to be covered by Section 6(f)(3) anti-conversion protections is included. These maps do not have to be a formal survey document, but they must contain enough site-specific information to ensure that both the applicant (grantee) and the administering agency agree on the proper boundaries of the covered site at the time of project approval and that it provides the location, size indicators, and a picture of key facilities and landmarks to help later project inspectors better identify and evaluate the site.

A review of the Land and Water Conservation Fund grants database indicated that the City of Bakersfield received one grant for $157,050 in 1988/1989 and a second grant of $87,832 for the Kern River Parkway in 1989/1990. Upon consultation with City of Bakersfield officials, it has been determined that these grants were used to develop group picnic areas, open turf areas with irrigation and landscaping, and support facilities. City of Bakersfield Resolutions 43-89 and 32-90 contain Section 6(f)(3) project boundary maps indicating the area subject to Section 6(f) anti-conversion requirements. The project alternatives are from about 1,500 feet to over 1 mile from the area (now known as Yokuts Park) that is shown on the Section 6(f)(3) maps; therefore, it is not covered by anti-conversion requirements.

City of Bakersfield Water Resources Department records were also reviewed for information regarding Section 6(f) funding used for the Kern River Parkway. All other funding related to development of the Kern River Parkway has resulted from voter-approved local proposition funding only and is not related to Section 6(f) funding; therefore, no park or recreational facilities within the project footprint have been developed under Section 6(f) of the Land and Water Conservation Fund Act.

10.0 Properties Evaluated Relative to the Requirements of Section 4(f)

This section discusses parks, recreation facilities (including school playgrounds), wildlife refuges, and historic properties found within or adjacent to the project area that do not trigger Section 4(f) protection either because (1) they are not publicly owned; (2) they are not open to the public; (3) they are not National Register-eligible historic properties; (4) the project does not permanently use the property and does not hinder the preservation of the property; or (5) the proximity impacts do not result in substantial impairment.

As noted below, the analysis includes a discussion of each property and documents the following: (1) why the property is not protected by the provisions of Section 4(f) or (2) if it is protected by Section 4(f), why none of the alternatives under consideration cause a Section 4(f) use by (a) permanently incorporating land into the project (actual use), (b) by temporarily occupying land (temporary occupancy) that is adverse to the preservationist purposes of Section 4(f), or (c) substantial impairment to the property.

For this Section 4(f) analysis, public parks, recreation facilities (including school playgrounds), wildlife refuges, and historic properties within about 0.5 mile of each of the project alternatives were identified. A total of 17 parks and/or recreation facilities and three historic properties were identified (see Table B.4 and Figure 17). As indicated below, none of the alternatives under consideration result in a Section 4(f) use of these park, recreation facilities, wildlife refuges, or historic properties and would not result in any permanent, temporary, or indirect (proximity) impacts due to the project alternatives.

Table B.4 Park, Recreation Facilities, Wildlife Refuges, and Historic Properties Evaluated Relative to the Requirements of Section 4(f)

Site	Location	Distance to Nearest Alternative (feet)	Subject to the Provisions of Section 4(f)?	Permanent Use?	Temporary Occupancy?	Substantial impairment?
Park and Recreation Facilities						
Beach Park	City of Bakersfield	2,100	Yes	No	No	No
Belle Terrace Park	City of Bakersfield	2,600	Yes	No	No	No
Centennial Park	City of Bakersfield	75	Yes	No	No	No
Jastro Park	City of Bakersfield	2,600	Yes	No	No	No
Wayside Park	City of Bakersfield	2,000	Yes	No	No	No
Yokuts Park	City of Bakersfield	1,500	Yes	No	No	No
Curran Junior High School	City of Bakersfield	2,600	Yes	No	No	No
Evergreen Elementary School	City of Bakersfield	2,000	Yes	No	No	No
Fremont Elementary School	City of Bakersfield	2,000	Yes	No	No	No
Harris Elementary School	City of Bakersfield	500	Yes	No	No	No
McKinley Elementary School	City of Bakersfield	2,000	Yes	No	No	No
Munsey Elementary School	City of Bakersfield	1,400	Yes	No	No	No
Roosevelt Elementary School	City of Bakersfield	1,200	Yes	No	No	No
Sequoia Middle School	City of Bakersfield	1,700	Yes	No	No	No
Siebert Elementary School	City of Bakersfield	2,600	Yes	No	No	No
Van Horn Elementary School	City of Bakersfield	1,000	Yes	No	No	No
Vista Continuation High School	City of Bakersfield	1,800	Yes	No	No	No
Historic Properties						
Lester H. Houchin Residence	City of Bakersfield	58	Yes	No	No	No
Friant-Kern Canal	City of Bakersfield	0	Yes	No	No	No
Property at 3904 Marsha St.	City of Bakersfield	180	Yes	No	No	No

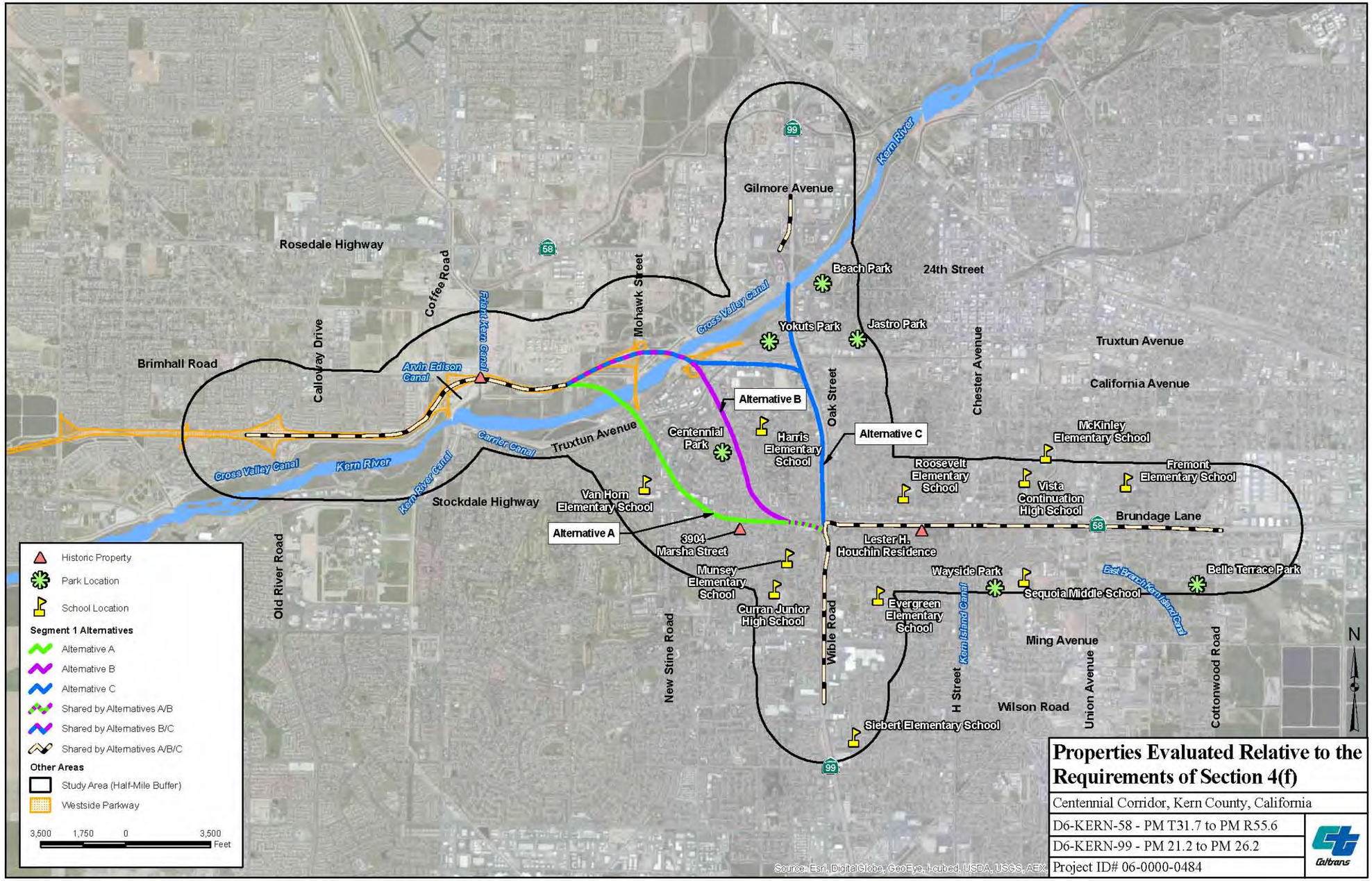


Figure 17 Location of Park, Recreation Facilities, Wildlife Refuges, and Historic Properties Evaluated Relative to the Requirements of Section 4(f)

10.1 Parks and Recreation Facilities

The potential for impacts to the 17 parks and/or recreation facilities were considered for all of the build alternatives. No permanent use of these properties would occur from any of the alternatives. Out of these 17 parks, Centennial Park is next to the Alternative B alignment; the remaining 16 are between 0.25 to 0.5 mile from the closest alternative. The following subsection provides the description and reason that supports a conclusion the facilities at these parks would not be adversely affected by the build alternative implementation. Thus Section 4(f) provisions are not triggered.

10.2 Beach Park

Beach Park is at the corner of Oak Street and 24th Street at 3400 21st Street. Beach Park is the northeast of the project alternatives at the following distances: 2,000 feet from the Alternative C alignment, over 2,500 feet from the Alternative B alignment, and over one mile from the Alternative A. As a result these distances from each alternative, no direct or temporary use of this property would occur while building or maintaining any of the alternatives.

Accessibility

The park could be accessed during project construction as well as when the project is operational.

Visual

The area south and southwest of Beach Park is built-up. Fencing, tall trees, and other buildings would block the views of Alternative C, the closest alternative alignment. Views of Alternatives A and B would be blocked by tall trees and other structures. As a result, none of the alternative alignments would substantially impair activities, features, and/or attributes that qualify Beach Park for protection under Section 4(f).

Noise

Similar to the reasons explained in subsection 5.2.2., activities at Belle Terrace Park would not be impaired by noise both during construction and operation of the new freeway.

Vegetation and Wildlife

The project biologist has reviewed the location of Beach Park and confirmed that due to the distance of the park from the proposed freeway alignments, no direct or indirect effect on biological resources in the park would occur from the construction and operation of the new freeway. Wildlife that occurs within or use the park could continue to do so during construction of the project and during operation of the project. As a result, none of the alternatives would substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Air Quality

Similar to the reasons explained in subsection 5.2.2., activities at Belle Terrace Park would not be impaired by noise both during construction and operation of the new freeway.

Water Quality

Potential short-term water quality impacts associated with the construction phase of the Centennial Corridor Project would be minimized with the implementation of Construction Site Best Management Practices. Potential long-term water quality impacts associated with the operation and maintenance of the transportation facility would be minimized with the implementation of Treatment Best Management Practices. Preliminary engineering efforts have identified proposed Infiltration Device locations to address water quality impacts. Overall, with incorporation of Temporary and Permanent Best Management Practices, no water quality impacts are expected with implementation of the Centennial Corridor Project. Consequently, impacts to water quality as a result of the proposed project alternatives would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

10.2.1 Belle Terrace Park

Belle Terrace Park is on Belle Terrace between Madison Street and Cottonwood Road at 1000 East Belle Terrace. This park is directly south of the project alternatives and is over 2,600 feet from all of the alternative alignments. As a result, no direct or temporary use of this property would occur from any of the alternatives.

Accessibility

The park could be accessed during project construction as well as when the project is operational.

Visual

All three alternatives are north of Belle Terrace Park. The views from the northern end of Belle Terrace Park are of single-story residential housing. Existing State Route 58 is not

visible from Belle Terrace Park. Since the proposed project would only widen State Route 58, the proposed project alternatives would not be visible from Belle Terrace Park; therefore, none of the alternative alignments would substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Noise

Similar to the reasons explained in subsection 5.2.2., activities at Belle Terrace Park would not be impaired by noise both during construction and operation of the new freeway.

Vegetation and Wildlife

The project biologist has reviewed the location of Belle Terrace Park and confirmed that due to the distance of the park from the proposed freeway alignments, no direct or indirect effect on biological resources in the park would occur from the construction and operation of the new freeway. Wildlife within or uses the park could continue to do so during project construction and operation. As a result, none of the alternatives would substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Air Quality

Similar to the reasons explained in subsection 5.2.2., activities at Belle Terrace Park would not be impaired by air pollutant emissions both during construction and operation of the new freeway.

Water Quality

Potential short-term water quality impacts associated with the construction phase of the Centennial Corridor Project would be minimized with the implementation of Construction Site Best Management Practices. Potential long-term water quality impacts associated with the operation and maintenance of the transportation facility would be minimized with the implementation of Treatment Best Management Practices. Preliminary engineering efforts have identified proposed Infiltration Device locations to address water quality impacts. Overall, with incorporation of Temporary and Permanent Best Management Practices, no water quality impacts are expected with implementation of the Centennial Corridor Project. Consequently, impacts to water quality as a result of the proposed project alternatives would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

10.2.2 Centennial Park

Centennial Park is a neighborhood 11-acre park within the Westpark neighborhood, about 75 feet from the Alternative B alignment and over 1,300 feet from the Alternative A and C

alignments (see Figure 17). The park is owned and operated by the City of Bakersfield Recreation and Parks Department. Park amenities include picnic areas, baseball backstops, basketball courts, softball fields, volleyball courts, leash-free dog areas, and restrooms.

Accessibility

Pedestrian and vehicular access is available from neighborhood streets, including Marella Way and Montclair Street (see Figure 18). Off-street parking is also available within two surface parking lots along Marella Way and Fallbrook Street.

The Alternative B construction would maintain local access to the park (see Figure 19). Area residents would continue to have access options to the park via the following remaining roadways: Marella Way, Montclair Street, Fallbrook Street, and La Mirada Drive. The option for removing the La Mirada Drive overcrossing from Alternative B is also under consideration. Removal of the overcrossing would not substantially change access, which would be provided by the Marella Way overcrossing. Removal of the La Mirada Drive overcrossing would eliminate the need to displace 13 single family homes on La Mirada Drive near Centennial Park and save about $2.5 million in construction costs. The elimination of Hillsborough Drive and Kentfield Drive would not impair local access to the park because the remaining residents would continue to have access via Fallbrook Street.

Visual

The Westpark neighborhood is highly urbanized and available views are limited due to existing buildings. Most views include streetscapes and associated residential landscaping such as turf, shrubs, and trees. Centennial Park is only one of two green-space areas within the neighborhood. Views from the park are of the nearby single-family residences and local roadways partially obstructed by mature landscape trees. Views of the park from off-site areas are similarly obstructed depending on the viewer’s location.

Alternative B includes building a freeway overcrossing at Marella Way and Fallbrook Street near the northeast corner of the park. Although the overcrossing would be visible to park users, existing mature Chinese elm trees along Marella Way would help screen the overcrossing. Planting vines or other visually pleasing context-sensitive features such as stained concrete would also enhance the view of the overcrossing by park users. Therefore, the overall reduction in visual quality of the park would not substantially impair the activities, features, and/or attributes that qualify Centennial Park for protection under Section 4(f).

Figure 18 Existing Centennial Park Accessibility

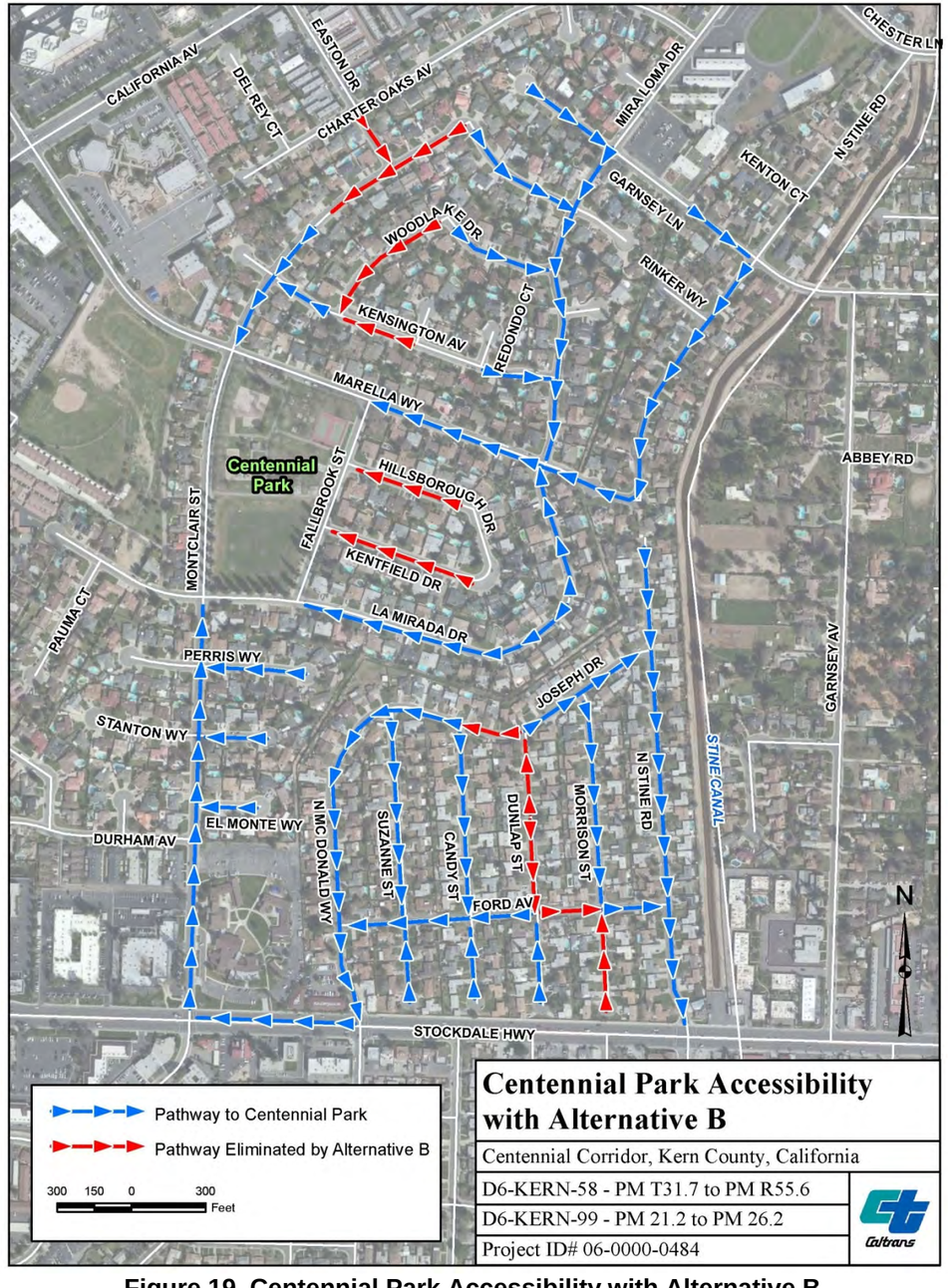


Figure 19 Centennial Park Accessibility with Alternative B

Noise

The analysis in this section is based on conclusions from the *Noise Study Report* (January 2013) prepared for this project. Alternative B would result in a new freeway alignment across Marella Way just east of Fallbrook Street diagonally to the northwest in a depressed cross-section. Marella Way would cross over the freeway on a retained structure. Because of the existing urban setting of Centennial Park surrounded by residential housing and local arterial roadways, serenity and solitude are not attributes that qualify the park for Section 4(f) protection, but rather its public ownership, accessibility, and the recreational uses: tennis courts and other typical urban park attributes.

A noise measurement in the northeast corner of Centennial Park recorded an ambient noise level of 53 dBA. The future predicted traffic noise modeling results for this location indicate an increase in noise levels of 15 dB over preproject conditions. A noise level of 68 dBA exceeds the 67-decibel minimum for considering noise abatement. An 8- to 12-foot-high soundwall was considered on the south side of the proposed Centennial freeway between Marella Way and La Mirada Drive to provide traffic noise abatement for the park and several residences. This soundwall is not considered reasonable under Caltrans noise abatement guidance since the wall would not provide a 7-decibel noise reduction for at least one receiver, the requirement to meet the soundwall design goal. However, this soundwall is still recommended due to special circumstance to close the existing 900-foot gap. This gap closure would ensure an unbroken soundwall is built to benefit the frequent outdoor use areas of the park, thereby minimizing traffic noise impacts.

Based on the reasons stated above, building Alternative B would not substantially impair the activities, features, and/or attributes that qualify Centennial Park for protection under Section 4(f).

Vegetation and Wildlife

Alternative B does would not affect threatened or endangered species in Centennial Park. Vegetation within the park is comprised of non-native shrub and tree species such as Chinese elm. Wildlife using the park is limited to species such as European starlings, opossum, and raccoons adapted to urban environments. No kit fox were observed at Centennial Park. In addition, project design incorporates features to maintain kit fox movement interrupted or prohibited by traffic. Building Alternative B would not require the removal of park landscaping that may be used by some species for foraging, nesting, and shelter. In addition, no impacts to animals using the

park would be expected because these species are accustomed to the presence of humans and associated environments such as noise, light, and traffic); therefore, building Alternative B would not substantially impair the activities, features, and/or attributes that qualify Centennial Park for protection under Section 4(f).

Air Quality

The *Air Quality Study Report* (January 2013) and Section 3.2.6 of the draft environmental impact statement/environmental impact report concluded that, in the long term, Alternative B would not contribute substantially to, or cause deterioration of, air quality in the immediate project area or in the region. In addition, during project construction activities, measures such as best available control and standard control measures as required by Caltrans and the San Joaquin Valley Air Pollution Control District would be used to reduce exhaust and fugitive dust emissions generated by construction equipment and activities,. Therefore, short-term and long-term air quality impacts associated with Alternative B would not substantially impair the activities, features, and/or attributes that qualify Centennial Park for protection under Section 4(f).

Water Quality

The discussion and analysis in this section is based on the *Water Quality Assessment Report* (November 2012) prepared for this project and Section 3.2.2 of the draft environmental impact statement/environmental impact report. Building Alternative B has potential to affect water quality. Potential pollutant sources associated with the construction phase of this alternative include construction activities and materials expected at the project site such as vehicle fluids; concrete and masonry products; landscaping and other products; and contaminated soils. Similarly, operation of this alternative has potential to affect water quality.

Potential pollutant sources associated with the operation of this alternative include motor vehicles, highway maintenance, illegal dumping, spills, and landscaping care. However, with minimization measures, short-term and long-term water quality impacts with Alternative B would not substantially impair the activities, features, and/or attributes that qualify Centennial Park for protection under Section 4(f).

In conclusion, based on the analysis above, it was determined that building Alternative B would not substantially impair the activities, features, and/or attributes that qualify the park or recreation facilities identified for analysis. Specifically, this alternative would not result in a direct use; would not result in a temporary use during

the construction period; would not have temporary effects on; would not result in changes to ownership; and would not restrict public vehicular access to these parks and recreation facilities during construction or operation. Therefore, Alternative B would not result in "use" of any of these parks or recreation facilities and the provisions of Section 4(f) are not triggered.

10.2.3 Jastro Park

Jastro Park is between Truxtun Avenue and 18th Street and just east of Oak Street at 2900 Truxtun Avenue. Jastro Park is within one-half mile of Alternative C and over one mile away from the Alternatives A and B alignments. As a result, no direct or temporary use of this property would occur from any of the alternatives.

Accessibility

The park could be accessed during project construction as well as when the project is operational.

Visual

Jastro Park is east of the nearest project alternative. The views from Jastro Park toward Alternative C (the nearest alternative) are partially blocked by vegetation planted along the park borders. Tall trees in the front yards of residences along Elm Street completely block the views of Alternative C. Alternatives A and B are farther away from Jastro Park than Alternative C. These same residential trees block the views of these alternatives as well. As a result, none of the alternatives would substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Noise

Similar to the reasons explained in Subsection 5.2.2., the activities at Jastro Park would not be impaired by noise both during construction and operation of the new freeway.

Vegetation and Wildlife

The project biologist has reviewed the Jastro Park location and confirmed that with the distance to the park from the proposed freeway alignments, no direct or indirect effect on biological resources in the park would occur from the construction and operation of the new freeway. Wildlife that occur within or use the park could continue to do so during project construction and operation. As a result, none of the alternatives would substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Air Quality

Similar to the reasons explained in Subsection 5.2.2., the activities at Jastro Park would not be impaired by air pollutant emissions during construction and operation of the new freeway.

Water Quality

Potential short-term water quality impacts associated with the construction phase of the Centennial Corridor Project would be minimized with the implementation of Construction Site Best Management Practices. Potential long-term water quality impacts associated with the operation and maintenance of the transportation facility would be minimized with the implementation of Treatment Best Management Practices. Preliminary engineering efforts have identified proposed Infiltration Device locations to address water quality impacts. Overall, with incorporation of Temporary and Permanent Best Management Practices, no water quality impacts are expected with implementation of the Centennial Corridor Project. Consequently, impacts to water quality as a result of the proposed project alternatives would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

10.2.4 Wayside Park

Wayside Park is on the corner of Ming Avenue and El Toro Drive at 1200 Ming Avenue. The park is directly south of the project alignment and is over 2,000 feet from all three alternatives alignments. As a result, no direct or temporary use of this property would occur from any of the alternatives.

Accessibility

The park could be accessed during project construction as well as when the project is operational.

Visual

All three alternatives are north of Wayside Park. Views from the northern end of Wayside Park are of single-story residential housing. Existing State Route 58 is not visible from Wayside Park. Since the proposed project would only widen State Route 58, proposed project alternatives would not be visible from Wayside Park; therefore, none of the Alternatives would substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Noise
Similar to the reasons explained in Subsection 5.2.2, the activities at Wayside Park would not be impaired by noise both during construction and operation of the new freeway.

Vegetation and Wildlife
The project biologist has reviewed the Wayside Park location and confirmed that with the distance of the park from the proposed freeway alignments, no direct or indirect effect on biological resources in the park would occur from the construction and operation of the new freeway. Wildlife that occurs within or uses the park could continue to do so during project construction and operation. As a result, none of the alternatives would substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Air Quality
Similar to the reasons explained in Subsection 5.2.2, the activities at Wayside Park would not be impaired by air pollutant emissions both during construction and operation of the new freeway.

Water Quality
Potential short-term water quality impacts associated with the construction phase of the Centennial Corridor Project would be minimized with the implementation of Construction Site Best Management Practices. Potential long-term water quality impacts associated with the operation and maintenance of the transportation facility would be minimized with the implementation of Treatment Best Management Practices. Preliminary engineering efforts have identified proposed Infiltration Device locations to address water quality impacts. Overall, with incorporation of Temporary and Permanent Best Management Practices, no water quality impacts are expected with implementation of the Centennial Corridor Project. Consequently, impacts to water quality as a result of the proposed project alternatives would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

10.2.5 Yokuts Park
Yokuts Park is just off Empire Drive north of the Truxtun Avenue extension at 4200 Empire Drive. The park is over 1,500 feet from the Alternative C alignment, over 0.5 mile from the Alternative B alignment, and over 1 mile from the Alternative A alignment. As a result, no direct or temporary use of this property would occur from any of the alternatives.

Accessibility
The park could be accessed during project construction as well as when the project is operational.

Visual
Yokuts Park sits in a depression compared to the surrounding built-up area. Thick vegetation blocks views along the Kern River toward the Union Pacific railroad bridge and toward the Westside Parkway Bridge. None of the project alternatives would be visible from the park; therefore, none of the alternatives would substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Noise
Similar to the reasons explained in Subsection 5.2.2., activities at Yokuts Park would not be impaired by noise during construction or operation of the new freeway.

Vegetation and Wildlife
The project biologist has reviewed the Yokuts Park location and confirmed that due to the distance of the park from the proposed freeway alignments, no direct or indirect effect on biological resources in the park would occur from the construction and operation of the new freeway. Wildlife that occur within or use the park could continue to do so during project construction and project operation. As a result, none of the alternatives would substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Air Quality
Similar to the reasons explained in Subsection 5.2.2., activities at Yokuts Park would not be impaired by air pollutant emissions during construction or operation of the new freeway.

Water Quality
Potential short-term water quality impacts associated with the construction phase of the Centennial Corridor Project would be minimized with the implementation of Construction Site Best Management Practices. Potential long-term water quality impacts associated with the operation and maintenance of the transportation facility would be minimized with the implementation of Treatment Best Management Practices. Preliminary engineering efforts have identified proposed Infiltration Device locations to address water quality impacts. Overall, with incorporation of Temporary and Permanent Best Management Practices, no water quality impacts are expected

with implementation of the Centennial Corridor Project. Consequently, impacts to water quality as a result of the proposed project alternatives would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

10.2.6 Public School Recreational Areas

The following are publically owned schools within the study area that have recreational areas open to the public for after school use:

- Curran Junior High School
- Evergreen Elementary School
- Fremont Elementary School
- Harris Elementary School
- Mckinley Elementary School
- Munsey Elementary School
- Roosevelt Elementary School
- Sequoia Middle School
- Siebert Elementary School
- Van Horn Elementary School
- Vista Continuation High School

The closest school to any project alignment is Harris Elementary School. Harris Elementary School is about 500 feet from the Alternative B alignment, 800 feet from the Alternative C alignment, and 1,500 feet from the Alternative A alignment. The remaining schools are between 1,000 feet to 1 mile from the alternative alignments. As a result, no direct or temporary use of these properties would occur from any of the alternatives.

Accessibility

The Harris Elementary School playground could be accessed during project construction as well as when the project is operational.

Visual

Harris Elementary School is between Alternatives B and C. The school is also in a built-up area. Trees grow along the school property line to obscure views of structures next to the school. The area around the running track has clear views of the surrounding residential and multi-story structures. The trees and structures would block the views of Alternatives B and C. These same structures would block the view

of Alternative A farther to the west. As a result, none of the alternatives would substantially impair the activities, features, and/or attributes that qualify the school for protection under Section 4(f).

The remaining schools are in similar settings: surrounded by single and multi-story structures with trees along the property lines that limit views from a few feet to a few hundred feet. As a result, none of the alternatives would substantially impair the activities, features, and/or attributes that qualify the schools for protection under Section 4(f).

Noise

Similar to the reasons explained in Subsection 5.2.2., the activities at these school playgrounds would not be impaired by noise both during construction and operation of the new freeway.

Vegetation and Wildlife

The project biologist has reviewed the location of all schools within 0.25 and 0.5 mile of the project alignments and confirmed that due to the distance of the schools from the proposed freeway alignments, no direct or indirect effect on biological resources in the school playgrounds would occur from the construction and operation of the new freeway. As a result, none of the alternatives would substantially impair the activities, features, and/or attributes that qualify the school playgrounds for protection under Section 4(f).

Air Quality

Similar to the reasons explained in Subsection 5.2.2., the activities at these school playgrounds would not be impaired by air pollutant emissions both during construction and operation of the new freeway.

Water Quality

Potential short-term water quality impacts associated with the construction phase of the Centennial Corridor Project would be minimized with the implementation of Construction Site Best Management Practices. Potential long-term water quality impacts associated with the operation and maintenance of the transportation facility would be minimized with the implementation of Treatment Best Management Practices. Preliminary engineering efforts have identified proposed Infiltration Device locations to address water quality impacts. Overall, with incorporation of Temporary and Permanent Best Management Practices, no water quality impacts are expected with implementation of the Centennial Corridor Project. Consequently, impacts to

water quality as a result of the proposed project alternatives would not substantially impair the activities, features, and/or attributes that qualify the Harris Elementary School playgound for protection under Section 4(f).

10.3 Historic Properties

In accordance with Federal Highway Administration regulations and guidance, the requirements for protection of cultural resources under Section 4(f) are triggered only by significant historic properties, defined as sites on or eligible for listing on the National Register of Historic Places, or sites otherwise determined significant by the Federal Highway Administration Administrator (23 CFR 771.135[e]).

Four properties were determined to be eligible for the National Register of Historic Places within the Area of Potential Effects for the Centennial Corridor project. These properties were evaluated for Section 4(f) protection. One property triggered protection under Section 4(f). This property is discussed in Section 3.3.1, Rancho Vista Historic District. The other three properties (discussed below) did not trigger the requirements for protection under Section 4(f).

10.3.1 Friant-Kern Canal

The Friant-Kern Canal is a 152-mile-long gravity-fed earth- and concrete-lined canal that terminates at the Kern River northwest of Bakersfield. As a key component of California's Central Valley Project, the canal has been determined eligible for listing in the National Register of Historic Places. It is historically significant at the state level under Criterion A within the context of development, construction, and operation of the Central Valley Project. The period of significance is 1945 to 1951, its period of construction. Character-defining features include its overall length, width, and its major contributing structures: major canal siphons, wasteways, checks, overchutes, an equalizing reservoir, culverts, drains, pumps, turnouts, recording houses/structures, the operation roads next to the canal on either side along its entire length, and miscellaneous structures such as irrigation pipe crossings, minor siphons, and drainage inlets). Noncontributing features consist of farm, county, state, and railroad bridges; power and utility crossings; cattle guards; historic wood trapezoidal canal; and Central Valley Project signs, fencing, and levees. The property historic boundary encompasses the canal and contributing features attached to the canal.

The Alternative A alignment would follow the recently built Westside Parkway that crosses the Friant-Kern Canal (see Photo 4—Existing View). Alternative A would provide an additional bridge crossing Friant-Kern Canal for the eastbound Coffee

Road on-ramp connector, in addition to the Westside Parkway, which has already been constructed at this location (see Photo 4—Simulated Future View). As proposed, this project feature will have no adverse effect on the historically significant canal. The architectural design of the new bridge will be similar in character to another recently constructed bridge structure over the Friant-Kern Canal, for the Westside Parkway project, for which the State Historic Preservation Officer concurred there was no adverse effect. While the Project would add a second bridge over the canal, in the context of it being a 152-mile long linear feature, there would be no direct or indirect adverse and no cumulative effect due to the length of the property. Further, the footings and abutments of the new bridge will be located outside of the National Register boundaries of the historic canal. The short bridge crossings over the canal do not diminish the historic character nor significant qualities that qualify the Friant-Kern Canal for National Register eligibility.

Therefore, Alternative A would cause no direct or indirect adverse effects to the Friant-Kern Canal. Section 4(f) provisions are not triggered by Alternative A under 36 CFR 800.5(a)(2)(i), (ii), (iii), (iv), or (v).

The Alternative B and Alternative C alignments would follow the recently built Westside Parkway that crosses the Friant-Kern Canal. Both alternatives would not require new construction over the Friant-Kern Canal or the Westside Parkway. The view of the Friant-Kern Canal will be the same as that shown in Photo 4—Existing View. Therefore, there would be no effect under Section 106 and no use of this Section 4(f) historic property.

Existing View

Simulated View with Alternative A Alignment

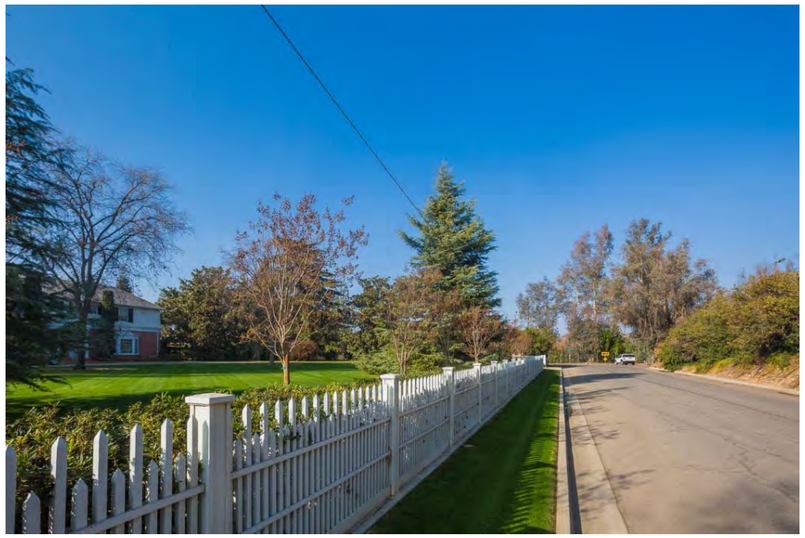
Photo 4. Friant-Kern Canal looking north toward the recently constructed Westside Parkway

10.3.2 Lester H. Houchin Residence

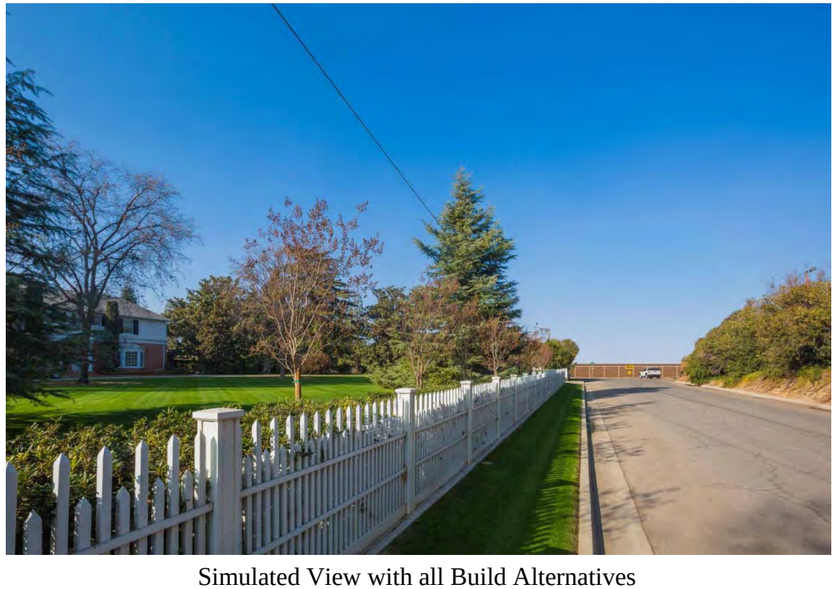
The Lester H. Houchin residence and associated detached garage, 307 South Oleander in Bakersfield (see Photo 5—Existing View), is eligible for listing in the National Register of Historic Places at the local level under Criterion A (historically important events) and Criterion C (historically important architecture) as an important local example of Colonial Revival architecture. The period of significance is 1939, the date of construction. The historic property boundary is defined by the legal parcel.

Contributing elements include the residence, two-story garage, circular driveway, and landscaping on the north, south, and east sides of the residence and garage. The pool, cabana, veranda, and other hardscape west of the residence and garage are noncontributing elements. Character-defining features include the near rectangular footprint, hip roof with flat deck, rounded portico entrance with paneled door and multi-light transom, multi-pane double-hung windows, a near symmetrical façade, stucco siding, brick veneer, elaborate detailed molding, bay windows with flared hip roofs, wood shutters, special relationships with the surrounding features on the property (circular driveway, secondary driveway leading to the garage, garage setback), open lawns, and mature trees and bushes to the side and rear of the house.

The alignment of all build alternatives would follow the existing State Route 58 located approximately 56 feet from the northern edge of this historic property's boundary and about 150 feet from the elevation on the north side of the residence. None of the alternatives would encroach into the Lester H. Houchin residential property boundaries, nor cause a change in the physical setting of the resource that would compromise the characteristics or features that qualify the resource for the National Register. Under this alternative a retaining wall and soundwall will be constructed near this historic property. The retaining wall would rise 25 feet from the base of the existing depressed freeway (State Route 58). The top of the retaining wall would be at the same level as Brite Street. The 8-foot-tall soundwall would be built atop the retaining wall along the north side of Brite Street. All proposed construction activities would be conducted within the state right-of-way; therefore, there would be no direct effects to this historic property. The soundwall, as well as construction activity, would be shielded by the existing mature and dense landscaping located along the north side of the property except for a small part at the end of Oleander Street, as shown in Photo 5—Simulated Future View with all build alternatives. No indirect adverse effects to this historic property would be expected from the introduction of new visual elements, which would be barely discernible. In addition, no adverse noise or vibration effects to this historic property would be expected.



Existing View



Simulated View with all Build Alternatives

Photo 5. Lester H. Houchin residence from Oleander Street looking north toward State Route 58 (depressed freeway)

There would be no impacts to this historic property under 36 CFR 800.5(a)(2)(i), (ii), (iii), (iv), or (v) from the construction of Alternatives A, B, or C. No indirect adverse effects to this historic property from the introduction of new visual elements are anticipated. Also, no noise or vibration from either construction or operation of any of the alternatives is anticipated to affect this historic property. Therefore, the provisions of Section 4(f) are not triggered.

10.3.3 3904 Marsha Street Property

The property at 3904 Marsha Street, Bakersfield, California is a one-story residence located in the Rancho Vista Historic District (see Photo 6). The house was built in 1956, and the garage was probably built at the same time. The house also has a fallout shelter that was probably constructed in about 1960-62. While this property is a contributor to the Rancho Vista Historic District, this property is also individually eligible for the National Register of Historic Places Criterion A (historically important events) for its association with Cold War tension between the United States and the Soviet Union, and the fear of nuclear war between the two countries. The fallout shelter at the rear of the property conveys in a stark and visceral manner the grim mindset of the time, and the lengths to which people were willing to go to survive a nuclear holocaust. Home fallout shelters provide the physical evidence that people did make such considerations, and that they calculated the probability of nuclear war in a way that justified the expense of building an underground shelter.

There would be no impacts to this historic property under 36 CFR 800.5(a)(2)(i), (ii), (iii), (iv), or (v) from the construction of Alternatives A, B, or C. The residence is located 180 feet, 1,200, and over 2,300 feet away from the southern construction limits of Alternative A, B, and C, respectively, and cannot be visualized in the simulated view of Photo 6. Therefore, none of the proposed alternatives would cause any direct or indirect adverse effects to the character-defining features of the historic property which cause it to be individually eligible, namely the entry hatch and ventilation pipe of the bomb shelter above ground, and the shelter itself buried underground in the rear yard. There would be no use under Section 4(f).

No soundwalls are proposed in the vicinity of this property under any of the alternatives, and all construction activity would be shielded by the landscaping along the north side of this property. There would be no anticipated indirect adverse effects to this historic property from the introduction of new visual elements. Also, it is anticipated no noise or vibration from either construction or operation of any of the alternatives would affect this historic property. Therefore, the provisions of Section 4(f) are not triggered.

Photo 6. 3904 Marsha Street residence taken from Marsha Street looking north-northeast toward the new freeway alignment (Alternatives A, B, and C).

11.0 List of Preparers

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Parsons

Carrie Chasteen, Senior Architectural Historian. Master of Science, School of the Art Institute of Chicago; Bachelor of Arts, History, University of South Florida; 10 years of experience in environmental documentation. Contribution: Wrote subsections of the Section 4(f) Evaluation.

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ATTACHMENT A: KERN RIVER PARKWAY MEMORANDUM

PARSONS
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Tel. (626) 440-6244; Fax (626) 440-6155

MEMORANDUM

Project:	**Bakersfield TRIP – Centennial Corridor, 24th Street and Hageman Road Flyover Projects**
Subject:	**Kern River Parkway Acreage Estimates and Section 6(f) Funding**
Prepared by:	**David Clark; Gary Petersen**
Date:	**May 1, 2012**

The purpose of this Memorandum is to review several sources of information that have led to differing estimates of the acreage associated with the Kern River Parkway and to recommend an appropriate accounting of its acreage and location, for purposes of the Centennial Corridor, 24th Street and Hageman Flyover Section 4(f) Evaluations and their associated analysis. The purpose of this memo is also to document Section 6(f) funding, which automatically triggers consultation on "anti-conversion". Caltrans intends to informally consult with State Parks to close out any potential Section 6(f) as an issue. The Department of the Interior requires Section 6(f) close-out as part of its Section 4(f) review.

The following sources of information are reviewed:

a. Planning Level Documents:
   a. Kern River Plan Element (July 1985; Updated – August 2007)
   b. Kern River Parkway Foundation website
   c. City of Bakersfield General Plan Update, Section 4.12 Parks and Recreation (June 2002)
   d. County of Kern Parks & Recreation Master Plan (May 2010)
   e. Metropolitan Bakersfield General Plan Update – Draft Existing Conditions, Constraints and Opportunities Report; Section 2.4: Parks and Open Space Element (April 2009)
b. Environmental Documents:
   a. Final Route 58 Route Adoption Project Tier I Environmental Impact Statement/Environmental Impact Report (May 2001)
   b. Westside Parkway Tier 2 Environmental Assessment/Final Environmental Impact Report (January 2007)
c. GIS Based Estimate:
   a. City of Bakersfield Geographic Information Systems (GIS): Property Ownership/ Kern River Plan Element Land Uses/Kern River Parkway Boundary and Trail Map

1

I. PLANNING LEVEL DOCUMENTS

Kern River Plan Element (1985)

The Kern River Plan Element is an integral part of the City of Bakersfield General Plan and the Kern County General Plan that was initially prepared in 1985 and updated in 2007. The Kern River Plan was proposed as a General Plan Element to both the City and County General Plans. The Plan included the primary and secondary floodways of the Kern River which comprises an estimated 14,250 acres. **Exhibit 1** shows the Kern River Plan extended from the mouth of the Kern River, approximately 5.5 miles east of Ming Lake, and to the crossing of I-5 and Kern River, for a total estimated length of 35 miles. Areas under the jurisdiction of both the City of Bakersfield and County of Kern are included in the Plan. No other jurisdiction is referenced.

The Kern River Plan Element addresses major issues facing the development of the Kern River. These issues include access, open space and development, riparian vegetation and wildlife habitat, flood plain management, private property and public use, mineral and petroleum. Goals and policies are provided for each of the aforementioned issues facing the Kern River. In addition, the underlying land use designations include non-jurisdictional lands (state and federal lands), physical constraint (seismic and flood hazard), public facilities (such as public and private recreation areas), residential development of varying housing densities, commercial, industrial, and resource management (agriculture, mineral and petroleum, and resource management). In view of Section 4(f) public facilities are basic physical structures and infrastructure which are provided for public service and support. Included in this land use designation is Parks and Recreation Areas (Map Code 3.1) which delineates public and private recreation facilities, campground or park areas.

The Kern River Plan references, in the Environmental Setting section, under the heading "Parks and Recreation", Kern River Park (a County facility) and non-structured uses occurring along the length of the river (e.g., rafting, hiking, riding, off road vehicle use, passive study, sight-seeing and bicycling). This section describes the Kern River Park as the largest park in the plan area. The Kern River Park "consists of Hart memorial Park, a campground, picnic areas, Lake Ming, Kern River-Foss Golf Course, and the California Living Museum (CALM). There is no reference to the Kern River Parkway in this section of the Plan. However, the Kern River Plan provides the basis for the development of the Kern River Parkway Master Plan discussed in the next section.

In Section 2.3 – History of Planning in the Kern River Area, it is stated that the focus of the Kern River Plan, from the outset, was the preservation and maintenance of the floodway channel of the Kern River.

In Section 2.6 – General Qualifications and Provisions, it is stated that "the relationship between Kern River Plan designations and City of Bakersfield zone district designations are approximations only …. correlation between the Kern River Plan land use designations and City zoning intensities and permitted uses are approximate and consistent in the City with existing zone districts."

In Section 4.11 – Recreation, a number of contemplated recreational uses are identified as proposed within the Kern River Plan area, including bikeway, foot access, fishing, nature study, photography, hiking and equestrian trails, etc., but no reference to the Kern River Parkway is mentioned.

Multi-sheet mapping of the Kern River Plan area is provided as an Appendix, but no reference to the Kern River Parkway is shown. Section 4.4-1 Parks and recreation Area (Map Code 3.1) delineates public and private recreation facilities, campground, or park areas. In addition, the Kern River Plan (Sheet 5 Golden State to Calloway Road) clearly shows the proposed future freeway alignment known at that time as the future State Highway 178 but later became known as Westside Parkway. Exhibit 2 is provided showing the land use designations and Map Codes for areas between Mohawk Street, the Truxtun Extension, and State Route 99. Within this area land use designations include Resource Management (8.5), General Commercial (6.2), Public Facilities/ Parks and Recreation and Other Facilities (3.1), and Flood Hazards (2.5).

Finding: Based on the above information, the Kern River Plan provides overall planning guidance for the Kern River, functioning primarily as a floodway and secondarily for other purposes (including recreation). The Kern River Plan Element formed the basis for the later development of the Kern River Parkway Plan (June 1988). The Kern River Plan Element, at that time, did not quantify acreages of any of the later components of the Kern River Parkway which developed later over the years.

Kern River Parkway Final Environmental Impact Report (September 1988)

The City of Bakersfield approved the Final EIR for the Kern River Parkway and Final Master Plan that would allow the continuation of the Parkway's current flood control and water conservation uses but also represented the City's long term vision of the Kern River within the City limits. The Kern River Parkway is described in the Final EIR as almost 8 miles in length and ranges from 30 to 2, 200 feet in width and comprises an estimated 1,400 acres between Manor Street on the east and the Stockdale Highway on the west. No changes were anticipated in the primary floodway but some changes within the secondary floodway were proposed with some changes outside the secondary floodway. The City Bakersfield City Council Resolutions 228-88 and 229-88 (dated November 30, 1988) certified the final environmental impact report and amended the Kern River Plan Element to allow the development of recreational areas, parking lots and protection of sensitive habitat.

Exhibit 3 shows the Final Master Plan for the Kern River Parkway approved in 1988. A detailed breakout of the existing and proposed land uses are shown in the table below.

Kern River Parkway Master Plan
Land Use Categories

Proposed Land Use Categories	Acreage	Percent Of Parkway
Primary River Channel	320	22.9
Natural Open Space	77	5.5
Service Industrial	28	1.5
Riparian Marsh	75	5.4
Riparian Area	120	8.6
Educational Studies Area	460	32.6
Landscape Areas	65	4.6
*Existing Recreation Areas	145	10.4
**Proposed Recreation Areas	75	5.4
Rest Areas	2	0.1
Recharge Basins	25	1.8
Parking Areas	8	0.6
Total	**1,400**	**100**

*Existing recreation areas include City owned Beach Park (30 acres) and County owned Riverview Park (15 acres) and Metro Park (100 acres)

** Includes 300-seat amphitheater

An important point is that the 1,400 acres comprising the Kern River Parkway, approximately 255 acres, or 18.2 percent are privately owned. Approximately 950 acres (68 percent) are owned by the City, and 195 acres (13.9) are publicly owned by other public agencies. To complete the Parkway Plan the City will purchase as much private land as possible by the time the Kern River Parkway is built out within an estimated 10-year time frame (1988-1998).

Finding: The Kern River Parkway Plan was an outgrowth of the Kern River Plan Element. The Kern River Parkway Plan is the mid- to long term vision of the City of Bakersfield. The 1,400 acres represents the best guess estimate for the Kern River Parkway within the City limits and was the most accurate accounting at the time.

Kern River Parkway Foundation (Non- Profit)

The Kern River Parkway Foundation is a 501(c)(3) non-profit foundation whose stated mission is "The restoration, preservation and improvement . . . of the lower Kern River as it flows through Bakersfield." It goes on to state "The Foundation works to establish and

maintain . . . a system of . . . river trails, parks and native flora and fauna to be called 'The Kern River Parkway.'"

On the Home Page of the Foundation's website are the following statements:

1) The Kern River Parkway (KRP) has one of the most extensive bike trails (32 miles) in the state;
2) The KRP includes 9 Bakersfield City parks (Beach, Yokuts, Park at River Walk, River Oaks, Aera, Truxtun Lake, Kern River Uplands, San Miguel Grove, & Upland) and 4 Kern County Parks (Buena Vista, Panorama, Metro Recreational Center, Kern River County Park Complex [Hart Park, Soccer Park, CALM, Kern River Golf Course & Lake Ming], and Riverview Park (in Oildale));
3) The Water Recharge/Wildlife Natural Area west of town is part of the Parkway; and
4) Over all, the Parkway encompasses 1,400 acres of wetland preserves and natural riparian area for a total of 6,000 acres of public space.

The Foundation's website features a sketch plan (**Exhibit 4**) showing a vicinity map of the Kern River extending from Buena Vista Lake on the southwest to Lake Isabella (61 miles in length) on the northeast on which is shown a highlighted conceptual plan map, identified as the Kern River Parkway, roughly corresponding to the area between Buena Vista Road on the west and Manor Street on the east, a distance of 8 miles. A sketch Map Detail is also shown that corresponds to the above limits. Sources documenting the statements as to facilities and parks encompassed are not provided, nor are sources provided for either of the maps, other than the website itself. No official boundaries are shown or indicated.

Several of the listed "as included" facilities are located in the Kern River County Park Complex which is northeast of metropolitan Bakersfield at a distance of approximately 7 miles (following the river course) from the Manor Street overcrossing of the Kern River, or approximately 5.5 miles (as the crow flies). The Bakersfield eastern city limit that includes the Kern River extends to the vicinity of China Grade Loop (to a point just west of Discovery Well Historic Site). That limit is approximately 2.5 miles west of the Kern River County Park Complex (as the crow flies). Other parks listed (e.g., Panorama, Riverview), while perhaps associated with the River, are not contiguous to it.

Since sources, boundaries or accurate mapping are not provided for the estimates of 1,400 acres of wetlands/riparian areas and 6,000 acres of public space, these estimates could not be verified.

Finding: The Kern River Foundation description of the Kern River Parkway and its associated facilities is conceptual and does not provide an accurate description, for purposes of the Centennial Corridor Section 4(f) Evaluation, because: (a) distances and acreages cannot be verified; (b) a number of the cited facilities are located beyond the Bakersfield city limits, and are therefore outside the area of potential direct effect of any of the TRIP roadway improvement projects, and the Centennial Corridor, in particular; and (c) there is no formal description provided as to the jurisdictional limits or boundaries

that constitutes the Kern River Parkway, as envisioned by the Foundation, nor is there any evidence or assertion of jurisdiction on the part of the Foundation, or any other identified public entity.

City of Bakersfield General Plan Update, Section 4.12 Parks and Recreation (June 2002)

The General Plan Update evaluated the parks and facilities in metro Bakersfield and assessed with the implementation of the General Plan Update. As indicated in Table 4.12-2, Parks Master List (**Exhibit 5**) the City provides one regional park identified as the Kern River Parkway with 580.14 acres. This information was based on data from the City of Bakersfield Department of Recreation and Parks Master Plan 2000-2005 (January 2000), City of Bakersfield web site (October 18, 2001), and the Kern County web site (October 18, 2001). The total estimated area of 580 acres for the Kern River Parkway in 2002 seems reasonable given that in 1988 the Kern River Parkway had estimated park acreage of 220 acres for existing and proposed recreation areas. It more than doubled in a 14-year time frame. It does indicate that the City is expanding recreational park facilities within the Parkway.

County of Kern Parks & Recreation Master Plan (May 2010)

This document references the Kern River County Park and several related facilities, which are located well to the east of the project vicinity. The Kern River Park is estimated to contain 1,445 acres of parkland and the collection of other facilities (Camp Okihi, Hart Memorial Park, Kern River Campground, Kern River Picnic Area, and Lake Ming & Metropolitan Recreation Center) together comprises an estimated 735 acres. Several maps of County facilities in the metropolitan Bakersfield area are shown, but none make reference to the Kern River Parkway, nor is there any assertion of County participation or jurisdiction in the Parkway.

Finding: Because there is not an apparent connection between the County of Kern and the Kern River Parkway, this source of information is judged not relevant to the inquiry at hand.

Metropolitan Bakersfield General Plan Update (April 2009) – Draft Existing Conditions, Constraints and Opportunities Report; Section 2.4: Parks and Open Space Element

This portion of the General Plan Update (April 2009) identifies the Kern River Parkway as being under the jurisdiction of the City of Bakersfield, as part of a system of more than 50 parks. Table 2.4.1-1 lists the Kern River Parkway Park as having 1,138.2 acres (**Exhibit 6**). Figure 2.4.1-1, which accompanies the text and table, identifies an area as Kern River Parkway Park (**Exhibit 7**), which corresponds visually to the area defined in terms of GIS mapping (see next Section III of this memo), but is not at a scale allowing a side-by-side comparison.

Finding: This Draft Plan Update was never approved by the City of Bakersfield, however the information is provided on the City's website. Based upon the limited information available as published in this information source, it is not possible to determine the basis for the 1,138.2 acre estimate.

II. ENVIRONMENTAL DOCUMENTS

Final Route 58 Route Adoption Tier 1 Environmental Impacts Statement/Environmental Impact Report (May 2001)

Section 4.4.8 Park, Recreational Facilities, Wildlife Refuges and Historic Properties Evaluated for Proximity Effects of the Tier 1 environmental document describes the Kern River Parkway Plan as providing for the development of recreational opportunities and habitat preservation on 1,400 acres along the Kern River from Manor Street to Stockdale Highway, a distance of approximately 14 kilometers (8.7 miles). The section includes a Conceptual Master Site Plan for the Kern River Corridor. The Conceptual Site Plan mirrors the Kern River Parkway Master Plan that was approved in 1988. Unfortunately, the environmental document does not quantify or updates the total acreage along the Kern River Parkway. In addition, Kern County Planning Department (letter dated January 20, 1998) stated that the Parkway Plan was adopted by the City of Bakersfield as an adjunct the Kern River Plan Element, and that the Parkway Plan was never adopted by the County.

Finding: The 1,400 acre estimate was based on the 1988 Kern River Parkway Master Plan. No current or updated acre estimates were provided in the environmental document.

Westside Parkway Tier 2 Environmental Assessment/Final Environmental Impact Report (January 2007)

The Westside Parkway environmental document relies heavily on information provided in the earlier Tier 1 for the Route 58 Route Adoption environmental document. The Westside Parkway environmental document incorrectly refers to the Kern River Plan as the Kern River Parkway Plan which was approved in 1988. The Kern River Plan identifies the proposed location of a future freeway alignment and proposed interchange locations; therefore, the Westside Parkway is consistent with the Kern River Plan. The Tier 2 document also indicates that the Kern River Parkway is 8.1 miles long and consists of about 1,400 acres and is bounded by Manor Street on the east and the Stockdale Highway Bridge on the west. The Tier 2 document did not reference a conceptual level site plan for the Kern River Parkway. As with the Tier I environmental document there was no verification of park acreage along the Kern River Parkway.

Finding: The 1,400 acre estimate was based on the 1988 Kern River Parkway Master Plan. No current or updated acre estimates were provided in the environmental document.

III. GIS BASED ESTIMATES

City of Bakersfield Geographic Information Systems (GIS)

The Kern River Parkway Corridor: City-Owned Property (April 2012) is attached as **Exhibit 8**. The Kern River Parkway is estimated to include 1,053 acres that is currently owned by the City within the Kern River Parkway boundaries. The estimate was determined based on the following resource file and process.

Parsons conducted GIS mapping and delineations by beginning with GIS Spatial Data, "Parks, Updated: 02/12," downloaded from the City of Bakersfield, California: GIS website, (www.bakersfieldcity.us/gis/downloads/gis_spatial_data.htm). The ownership of the parcels within this boundary shape were checked for City of Bakersfield ownership and all were confirmed except for two parcels: (1) a 1.23-acre (APN: 332-200-37) area north of and along the Union Pacific Railroad Track, where the track crosses over the Kern River north of Golden State Ave (State Route 204), and (2) 0.55 acres (APN: 122-011-40) at the northern end of the Kern River Parkway Park Boundary off of Cattani Street, owned by Jensen Revocable Living Trust, 5101 Cattani Dr. Bakersfield, CA 93308. The Kern River Parkway Park Boundary was modified to exclude these two parcels, which resulted in the park acreage of 1,053.0 acres. These two areas were excluded from the Parkway Boundary Map because the parcels contained land uses such as an operating railroad track or residential properties that did not allow for public access and do not constitute public recreational areas.

The Kern River Plan Element/Kern River Parkway Multi-Use Trail Map **(Exhibit 9)** shows the various land use designations from the 1988 Kern River Plan Element within the Kern River Parkway boundaries superimposed on a recent aerial with the existing uses within the Parkway and adjacent areas. As shown on the exhibit, Public and Private Recreation Areas (Map Coded 3.1) directly correspond to uses proposed in the 1988 Kern River Parkway Master Plan. In addition, the primary flood channel is excluded from the Kern River Parkway boundaries and is used as primary floodway.

Finding: The above-discussed GIS mapping represents the most accurate definition available for the Kern River Parkway, as it is registered directly to parcel boundaries that are cross referenced to property ownership and therefore it constitutes a verifiable source of information. In addition, the development of the Kern River Parkway is proceeding and directly correlates to land uses in the 1988 Kern River Plan Element. Both the City of Bakersfield Planning and the Recreation and Parks Departments have reviewed Exhibits 8 and 9 and have approved the accuracy of the maps. Letters of acceptance are attached **(Exhibit 10)**.

Conclusion

The GIS-based information referenced above is the most reliable source of data with which to map the area within the Kern River Parkway Park. The data are taken from the

City's GIS database and accurate real estate parcel boundaries are registered and cross referenced. In the absence of better information, the source of which is not known, this mapping is recommended for purposes of: (a) defining the general boundaries of the Kern River Parkway Park, and (b) determining areas of potential direct use pertaining to the Section 4(f) Evaluation being done for the Centennial Corridor project.

Yet to be resolved is an apparent discrepancy of 84.53 acres between the GIS-based estimate of 1,053.67 acres and the General Plan Update estimate of 1,138.2 acres. Since the General Plan Update remains a draft and unapproved by the City Planning or Parks and Recreation Departments the estimate is questionable. Both City Departments were contacted but were unable to resolve the discrepancy.

However, even if the discrepancy between the two estimates can be resolved, it is likely that the result would not have a bearing on the Section 4(f) Evaluation, since it is reasonably certain that the identified areas for Alternatives A, B and C subject to analysis for purposes of the Centennial Corridor, are sufficiently precise to assure that the findings of the Section 4(f) Evaluation would not be affected.

DESCRIPTION OF SECTION 6(F) PROPERTIES

Section 6(f)(3) of the Land and Water Conservation Fund Act (16 United States Code §4601-4) contains provisions to protect federal investments in park and recreation properties and the quality of those assisted properties. The law recognizes the likelihood that changes in land use or development may make some assisted areas obsolete over time, particularly in rapidly changing urban areas. At the same time, the law discourages casual discards of park and recreation facilities by ensuring that changes or conversations from recreation use will bear a cost – a cost that assures taxpayers that investments in the park and recreation properties will not be squandered. The Land and Water Conservation Fund Act include a clear mandate to protect grant-assisted areas from conversions:

> *SEC. 6 (f) (3) – No property acquired or developed with assistance under this section shall, without the approval of the Secretary, be converted to other than public outdoor recreation use. The Secretary shall approve such conversion only if he finds it to be in accord with the then existing comprehensive statewide outdoor recreation plan and only upon such conditions as he deems necessary to assure the substitution of other recreation properties of at least equal fair market value and of reasonably equivalent usefulness and location.*

This "anti-conversion" requirement applies to all parks and other sites that have been the subject of Land and Water Conservation Fund grants of any type, whether for acquisition of parkland, development or rehabilitation of facilities.

A review of the Land and Water Conservation Fund grants database indicated that one grant for $157,050 was provided in the 1988/1989 timeframe and that a second grant for $87,832 was provided in the 1989/1990 timeframe for the Kern River Parkway. Upon consultation with City of Bakersfield officials from the Recreation and Parks Department

(dated January 17 and March 21, 2012), it was determined that these grants were used to develop group picnic areas, open turf areas with irrigation and landscaping, and support facilities. City of Bakersfield City Council Resolutions 43-89 and 32-90 contains 6(f)(3) Boundary Maps indicating the area where the Section 6(f) funding was used. Both City Council Resolutions and attached 6(f)(3) Boundary Maps are provided as **Exhibits 10 and 11.** At the time of the grants, the area was considered part of the Kern River Parkway; however, this area is known today as Yokuts Park. Yokuts Park became an independent park in 1993. The location of the Section 6(f) funding is outside of the project footprint.

City of Bakersfield Water Resources Department records were also reviewed for information regarding Section 6(f) funding used for the Kern River Parkway. All other funding related to development of the Kern River Parkway has resulted from voter approved local proposition funding only, and is not related to Section 6(f) funding. Therefore, no park or recreational facilities within the project footprint have been developed under Section 6(f) of the Land and Water Conservation Fund Act.

EXHIBIT 1
Kern River Plan Element
Extent of Kern River Plan

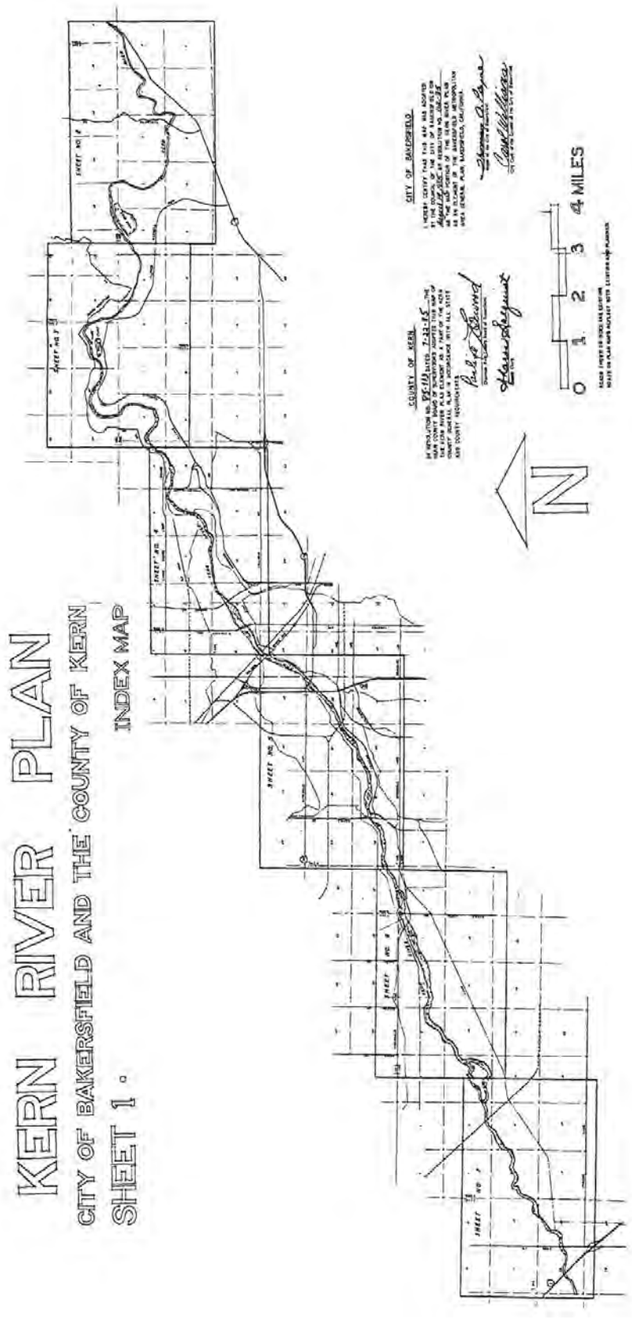

EXHIBIT 2

Kern River Plan Element

Land Use Designations within City of Bakersfield

KERN RIVER PLAN ELEMENT
LAND USE

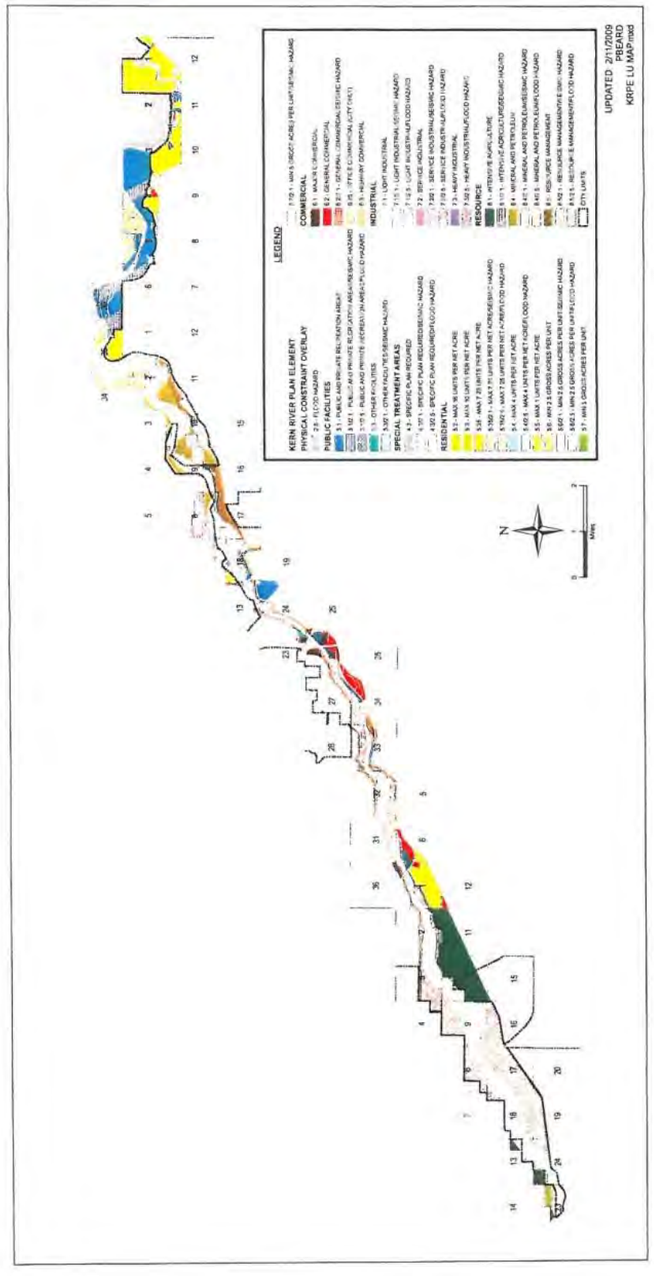

EXHIBIT 3
Kern River Parkway Master Plan
City of Bakersfield
Approved September 1988

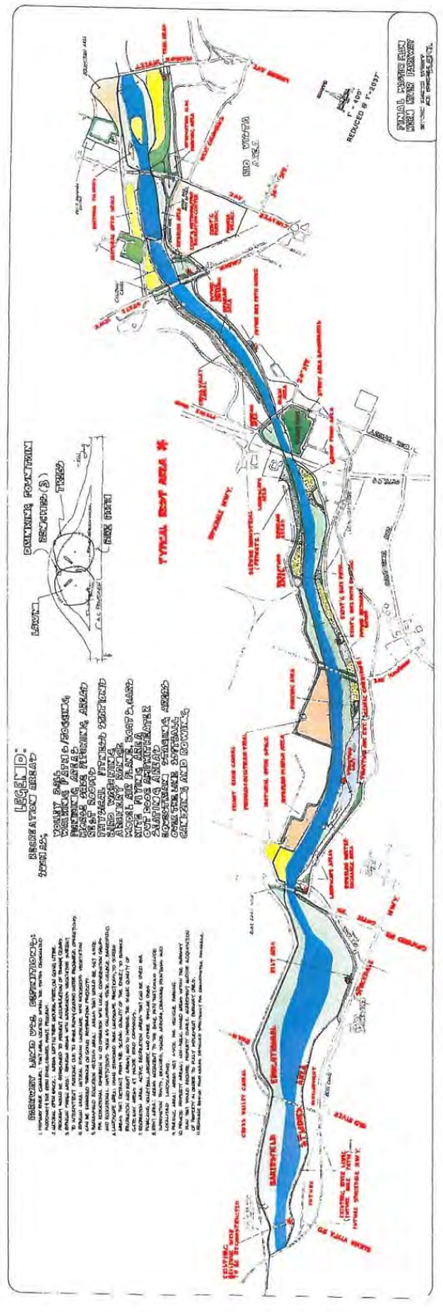

EXHIBIT 4
Kern River Parkway Foundation
Conceptual Plan

EXHIBIT 5

City of Bakersfield General Plan Update, Section 4.12 Parks and Recreation
Table 4.12-2 Parks Master List

15

TABLE 4.12-2
PARKS MASTER LIST

Map Ref. No.	Park Name	Category	Acreage	Jurisdiction	Status
1	Almondale Park	Neighborhood	11.34	City	Developed
2	Amberton Park	Mini	2.69	City	Developed
3	Beach Park	Neighborhood	26.47	City	Developed
4	Beale Park	Neighborhood	6.98	City	Developed
5	Bear Mountain Park	Community	16.00	County	Developed
6	Belle Terrace Park	Community	20.71	County	Developed
7	Bill Park Greens	Mini	2.69	City	Developed
8	Campus Park North	Neighborhood	11.07	City	Developed
9	Campus Park South	Neighborhood	12.12	City	Developed
10	Casa Loma Park	Neighborhood	9.72	City	Developed
11	Castle Park	Mini	3.76	City	Developed
12	Centennial Park	Neighborhood	8.96	City	Developed
13	Centennial Plaza	Mini	0.63	City	Developed
14	Central Park	Neighborhood	11.41	City	Developed
15	Challenger Park	Mini	5.62	City	Developed
16	Circle Park	Neighborhood	0.12	County	Developed
17	College Park	Neighborhood	13.88	City	Developed
18	Coral Keys Park	Mini	2.25	City	Developed
19	Corvallis Park	Neighborhood	5.54	City	Developed
20	Deer Park	Neighborhood	6.04	City	Developed
21	District Office	Mini	4.01	County	Developed
22	Emerald Cove Park	Neighborhood	9.78	City	Developed
23	Fruitvale/Norris Park	Neighborhood	17.04	County	Developed
24	Garden Park	Neighborhood	5.85	City	Developed
25	Green Acres Park	Community	10.41	County	Developed
26	Greenfield Park	Neighborhood	4.87	County	Developed
27	Grissom Park	Neighborhood	11.34	City	Developed
28	Haggin Oaks Park	Neighborhood	8.87	City	Developed
29	Heritage Park	Neighborhood	19.36	County	Developed
30	International Square	Mini	1.32	City	Developed
31	Jastro Park	Neighborhood	6.71	City	Developed
32	Jefferson Park	Neighborhood	8.90	City	Developed
33	Jenkins & Hageman Park	Neighborhood	8.91	County	Undeveloped
34	Kern Delta Park	Community	12.09	County	Undeveloped
35	Kern River County Park*	Regional	13335.77	County	Developed
36	Kern River Parkway	Regional	580.14	City	Developed
37	Kroll Park	Mini	4.24	City	Developed
38	Lamont Park	Neighborhood	7.83	County	Developed
39	Liberty Park	Community	21.71	City	Developed
40	Lowell Park	Neighborhood	10.17	City	Developed
41	Madison Grove Park	Neighborhood	11.02	City	Undeveloped
42	Martin Luther King Jr. Park	Community	14.94	City	Developed
43	McCray Park	Mini	1.78	County	Developed
44	Metro Recreation Center	Regional	96.64	City	Developed
45	Mondavi Park	Neighborhood	9.13	City	Developed
46	North Beardsley Park	Neighborhood	6.58	County	Developed

Appendix B • Attachment A

METROPOLITAN BAKERSFIELD
GENERAL PLAN UPDATE EIR

TABLE 4.12-2 – CONTINUED
PARKS MASTER LIST

Map Ref. No.	Park Name	Category	Acreage	Jurisdiction	Status
47	North Highland Park	Neighborhood	9.58	County	Developed
48	North Meadows Park	Neighborhood	8.03	County	Undeveloped
49	North Rosedale Park	Neighborhood	12.70	City/County	Developed
50	Olive Park East	Mini	2.53	County	Developed
51	Olive Park West	Mini	2.51	County	Developed
52	Panorama Park	Community	24.98	City	Developed
53	Patriots Park	Neighborhood	20.02	City	Developed
54	Pin Oak Park	Neighborhood	16.81	City	Developed
55	Pioneer Park	Community	14.05	County	Developed
56	Planz Park	Neighborhood	8.25	City	Developed
57	Polo Community Park	Community	38.28	City	Undeveloped
58	Potomac Park	Neighborhood	4.34	County	Developed
59	Quailwood Park	Neighborhood	6.07	City	Developed
60	Rasmussen Senior Center	Mini	3.67	County	Developed
61	Rexland Acres Park	Neighborhood	4.44	County	Developed
62	Rio Vista Park	Community	31.31	City	Undeveloped
63	River Lakes Ranch Park	Community	28.57	City	Undeveloped
64	River Oaks Park	Neighborhood	12.36	City	Developed
65	Riverview Park	Community	17.59	County	Developed
66	Rosedale Park	Community	19.60	County	Undeveloped
67	Saunders Park	Neighborhood	8.92	City	Developed
68	Sears Park	Mini	2.05	County	Developed
69	Seasons Park	Neighborhood	9.78	City	Developed
70	Seimon Park	Neighborhood	8.20	City	Developed
71	Silver Creek Park	Community	14.44	City	Developed
72	Standard Park	Community	15.37	County	Developed
73	Steirn Park	Neighborhood	5.12	City	Developed
74	Stonecreek Park	Mini	3.32	City	Developed
75	Tevis Park	Neighborhood	7.50	City	Developed
76	University Park	Neighborhood	10.76	City	Developed
77	Virginia Avenue Park	Community	9.47	County	Developed
78	Wayside Park	Neighborhood	13.02	City	Developed
79	Weedpatch Park	Neighborhood	8.00	County	Developed
80	Weill Park	Mini	2.71	City	Developed
81	Westdale Park	Neighborhood	8.11	County	Developed
82	Westwold Park	Mini	3.90	City	Developed
83	Wilderness Park	Mini	4.87	City	Developed
84	Wilkins Park	Neighborhood	2.88	County	Developed
85	Wilson Park	Neighborhood	6.75	City	Developed
86	Windermere Park	Neighborhood	5.87	City	Undeveloped
87	Windsor Park	Neighborhood	6.01	City	Developed
88	Yokuts Parks	Community	18.94	City	Developed

*Includes Hart Memorial Park.

EXHIBIT 6

City of Bakersfield Draft General Plan Update (April 2009)
Table 2.4.1-1

Appendix B • Attachment A

DRAFT EXISTING CONDITIONS, CONSTRAINTS AND OPPORTUNITIES REPORT

6. Create a master trails plan for the Metropolitan Bakersfield planning area to include trails and trail alignments identified in the various plans. This may include recission of some existing plans that would no longer be necessary.

TABLE 2.4.1-1
EXISTING PARKS IN METROPOLITAN BAKERSFIELD

	Park Name[1]	Agency	Acreage
1	Solera Garden	City of Bakersfield	3.7
2	Kern River Parkway Park	City of Bakersfield	1138.2
3	University Park	City of Bakersfield	10.8
4	Siemon Park	City of Bakersfield	8.2
5	Mesa Marin Ball Diamonds	City of Bakersfield	17.7
6	Jefferson Park	City of Bakersfield	8.0
7	Joshua Park	City of Bakersfield	0.6
8	Weill Park	City of Bakersfield	1.7
9	Central Park	City of Bakersfield	11.2
10	Yokuts Park	City of Bakersfield	16.4
11	Jastro Park	City of Bakersfield	8.7
12	Centennial Plaza	City of Bakersfield	1.1
13	MC Murtrey Aquatic Center	City of Bakersfield	2.0
14	Martin Luther King Park	City of Bakersfield	14.0
15	Saunders Park	City of Bakersfield	9.1
16	Beale Park	City of Bakersfield	6.4
17	Lowell Park	City of Bakersfield	10.2
18	Centennial Park	City of Bakersfield	9.0
19	Quailwood Park	City of Bakersfield	10.6
20	Future Park	City of Bakersfield	38.0
21	The Park at River Walk Park	City of Bakersfield	33.2
22	Bill Park Greens Park	City of Bakersfield	2.7
23	River Oaks Park	City of Bakersfield	20.0
24	Windsor Park	City of Bakersfield	6.0
25	Kroll Park	City of Bakersfield	4.2
26	Wayside Park	City of Bakersfield	14.0
27	Deer Peak Park	City of Bakersfield	6.0
28	Patriots Park	City of Bakersfield	20.0

DRAFT EXISTING CONDITIONS, CONSTRAINTS AND OPPORTUNITIES REPORT

	Park Name[1]	Agency	Acreage
29	Amberton Park	City of Bakersfield	2.7
30	Wilson Park	City of Bakersfield	6.8
31	Haggin Oaks Park	City of Bakersfield	8.9
32	Westwold Park	City of Bakersfield	8.0
33	Castle Park	City of Bakersfield	10.6
34	Pin Oak Park	City of Bakersfield	16.8
35	Windermer Park	City of Bakersfield	6.2
36	Corvallis Park	City of Bakersfield	8.8
37	Garden Park	City of Bakersfield	5.7
38	Planz Park	City of Bakersfield	8.3
39	Campus Park N.	City of Bakersfield	11.1
40	Tevis Park	City of Bakersfield	10.7
41	Grissom Park	City of Bakersfield	11.3
42	Campus Park S.	City of Bakersfield	12.1
43	Stiern Park	City of Bakersfield	7.9
44	Silver Creek Park	City of Bakersfield	14.4
45	Coral Keys Park	City of Bakersfield	2.3
46	Wilderness Park	City of Bakersfield	4.9
47	Seasons Park	City of Bakersfield	9.8
48	Challenger Park	City of Bakersfield	5.1
49	Stone Creek Park	City of Bakersfield	6.1
50	Beach Park	City of Bakersfield	21.6
51	Weston Park	City of Bakersfield	6.0
52	Tradewinds Park	City of Bakersfield	7.9
53	Greystone Park	City of Bakersfield	10.4
54	Granite Point Park	City of Bakersfield	4.0
55	Hart Memorial Park	County of Kern	451.2
56	Kern River Golf Course	County of Kern	182.1
57	Lake Ming	County of Kern	496.6
58	College Park	County of Kern	17.1
59	Panorama Park	County of Kern	30.7
60	Wilkins Park	County of Kern	1.1
61	Metropolitan Recreation Center	County of Kern	99.5

DRAFT EXISTING CONDITIONS, CONSTRAINTS AND OPPORTUNITIES REPORT

	Park Name[1]	Agency	Acreage
62	Heritage Park	County of Kern	19.3
63	Pioneer Park	County of Kern	9.5
64	Potomac Park	County of Kern	4.4
65	Virginia Avenue Park	County of Kern	9.5
66	Belle Terrace Park	County of Kern	20.7
67	Kern Delta Park	County of Kern	12.1
68	Greenfield Park	County of Kern	4.8
69	Bear Mountain Park	County of Kern	9.1
70	Lamont Park	County of Kern	7.9
71	Rexland Acres Park	County of Kern	4.5
72	North Highland Park	North Bakersfield Parks and Recreation District	15.0
73	North Park	North Bakersfield Parks and Recreation District	4.5
74	McCray Park	North Bakersfield Parks and Recreation District	1.7
75	Sears Park	North Bakersfield Parks and Recreation District	2.1
76	Fruitvale Norris Park	North Bakersfield Parks and Recreation District	17.1
77	Standard Park	North Bakersfield Parks and Recreation District	15.4
78	North Beardley Park	North Bakersfield Parks and Recreation District	6.6
79	Olive Park West	North Bakersfield Parks and Recreation District	2.5
80	Olive Park East	North Bakersfield Parks and Recreation District	2.5
81	Riverview Park	North Bakersfield Parks and Recreation District	20.0
82	Emerald Cove Park	North Bakersfield Parks and Recreation District	10.0
83	North Rosedale Park	North Bakersfield Parks and Recreation District	13.0
84	Greenacres Park	North Bakersfield Parks and Recreation District	15.1
85	Westdale Park	North Bakersfield Parks and Recreation District	8.1
86	Liberty Park	North Bakersfield Parks and Recreation District	21.7
87	Mondavi Park	North Bakersfield Parks and Recreation District	9.1
88	Almondale Park	North Bakersfield Parks and Recreation District	11.5
89	San Lauren Park	North Bakersfield Parks and Recreation District	8.1
90	Madison Grove Park	North Bakersfield Parks and Recreation District	11.0
91	North Meadows Park	North Bakersfield Parks and Recreation District	8.8
92	Rasmussen Center	North Bakersfield Parks and Recreation District	1.3
93	Riverlakes Ranch Park	North Bakersfield Parks and Recreation District	25.7
94	Polo Community Park	North Bakersfield Parks and Recreation District	38.3

DRAFT EXISTING CONDITIONS, CONSTRAINTS AND OPPORTUNITIES REPORT

	Park Name[1]	Agency	Acreage
95	Rosedale Park	North Bakersfield Parks and Recreation District	19.6
96	Silver Oak Park	North Bakersfield Parks and Recreation District	8.9
97	Austin Creek Park	North Bakersfield Parks and Recreation District	4.8
98	Kern County Soccer Park	Soccer Park Foundation	134.0
99	Kern River State Recreation Area	State of California	130.7
	Total Acreage		**3,606.6**

[1] *Does not include water banks, private facilities or the Kern County Fairgrounds*

EXHIBIT 7

City of Bakersfield Draft General Plan Update (April 2009)
Kern River Parkway Park

Appendix B • Attachment A

DRAFT EXISTING CONDITIONS, CONSTRAINTS AND OPPORTUNITIES REPORT

FIGURE 2.4.1-1
EXISTING PARKS

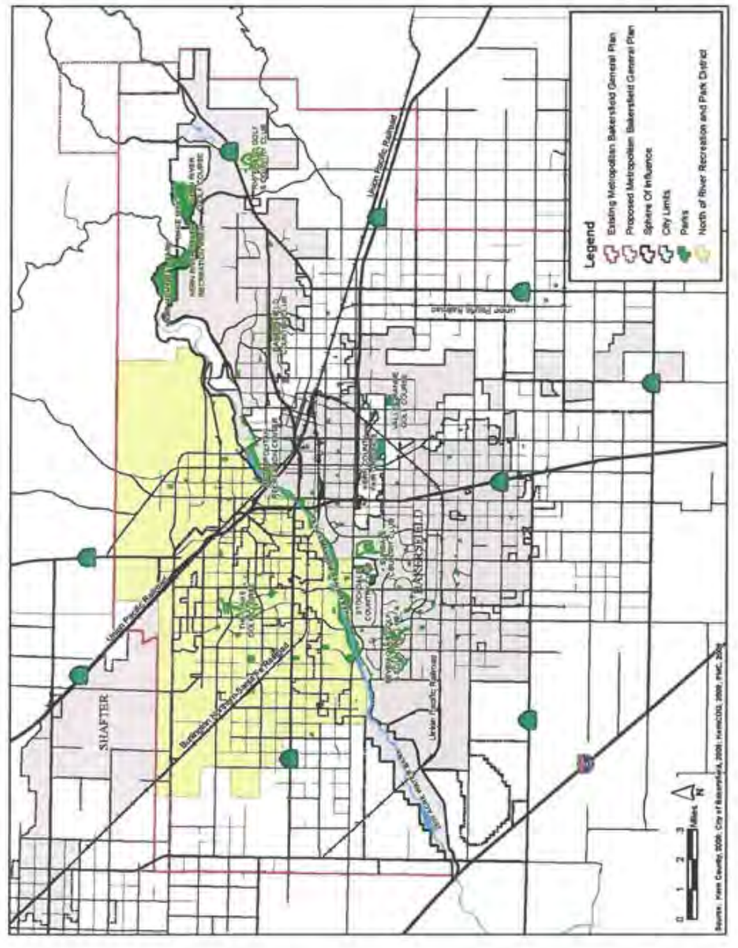

EXHIBIT 8

City of Bakersfield: Kern River Parkway Corridor: City-Owned Property
GIS Files (April 2012)

Appendix B • Attachment A

EXHIBIT 9

City of Bakersfield: Kern River Plan Element/Kern River Parkway Multi- Use Trail Map
(May 2012)

Appendix B • Attachment A

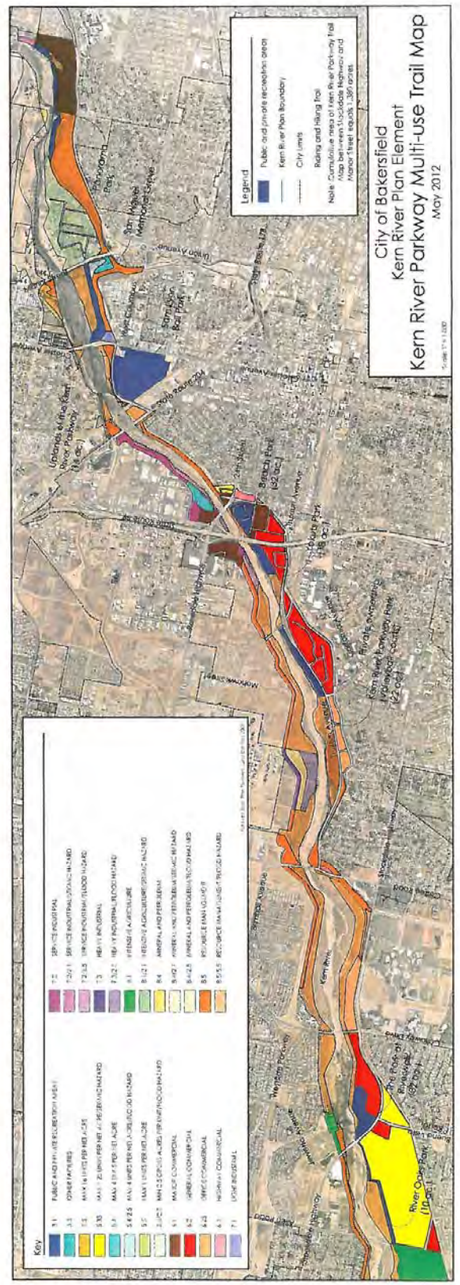

EXHIBIT 10
Acceptance from the City of Bakersfield
Planning Department
Recreation and Parks Department
(May 2012)

Appendix B • Attachment A

B A K E R S F I E L D

DEPARTMENT OF RECREATION & PARKS

DIANNE HOOVER, DIRECTOR

May 2, 2012

David Clark
TRIP – Environmental Program Manager
900 Truxtun Avenue
Bakersfield, Ca 93311

Dear Mr. Clark,

Thank you for providing a copy of the memorandum regarding the Kern River Parkway acreage estimates and section 6(f) funding for the Bakersfield TRIP Project.

The maps and corresponding acreage of public property in exhibits 8 and 9 are accurate. These exhibits reflect the public parks and the Kern River Parkway trails as they currently exist.

If you have further questions, I can be reached at (661) 326-3014.

Sincerely,

Dianne Hoover

Dianne Hoover, Director
Recreation & Parks Department

City of Bakersfield - Department of Recreation & Parks - 1600 Truxtun Avenue, 3rd Floor
Bakersfield - California - 93301
(661) 326-3866 - Fax (661) 852-2140

BAKERSFIELD
Development Services Department – Planning Division

MEMORANDUM

MAY 2, 2012

TO: DAVID CLARK, TRIP ENVIRONMENTAL PROGRAM MANAGER

FROM: JIM EGGERT, PLANNING DIRECTOR

SUBJECT: KERN RIVER PARKWAY ACREAGE ESTIMATES

I have read through the information contained in the May 1, 2012 memorandum regarding the Kern River Parkway Acreage Estimates and Section 6(f) Funding.

The information presented within that memorandum is factual with respect to the planning and land use documents prepared and on file with the Bakersfield Planning Department. Furthermore, the information depicted in the exhibits is correctly referenced and documented. Concerning Exhibits 8 and 9, they accurately represent the park boundary and the Kern River Plan Element parkway land use designations and trail system consistent with the records contained in this office.

EXHIBIT 11

City of Bakersfield City Council Resolution No. 32-90

RESOLUTION NO. 32-90

RESOLUTION OF THE COUNCIL OF THE CITY OF BAKERSFIELD AUTHORIZING APPLICATION FOR LAND AND WATER CONSERVATION FUNDS TO DEVELOP A KERN RIVER PARKWAY GROUP PICNIC AREA (PHASE 2), SUPPORT FACILITIES, AND TURF AREAS ON 15 ACRES LOCATED WEST OF STATE HIGHWAY 99, NORTH OF EMPIRE DRIVE.

WHEREAS, the Congress under Public Law 88-578 has authorized the establishment of a Federal Land and Water Conservation Fund Grant-In-Aid Program, providing matching funds to the State of California and its political subdivisions for acquiring lands and developing facilities for public outdoor recreation purposes; and

WHEREAS, the State Department of Parks and Recreation is responsible for administration of the program in the state, setting up necessary rules and procedures governing application by local agencies under the program; and

WHEREAS, said adopted procedures established by the State Department of Parks and Recreation require the applicant to certify by resolution the approval of applications and the availability of local matching funds prior to submisaion of said applications to the state; and

WHEREAS, the proposed Kern River Parkway Group Picnic, support facilities and open space turf project is consistent with the Statewide Comprehensive Recreation Resources Plan: California Outdoor Recreation Plan - 1988; and

WHEREAS, the City of Bakersfield wishes to construct a group picnic, support facilities and open space turf area on approximately 15 acres generally located west of Highway 99, south of the Kern River, and north of Empire Drive; and

WHEREAS, the project must be compatible with the land use plans of those jurisdictions immediately surrounding the project.

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Bakersfield as follows:

1. The Council hereby approves the filing of an application for Land and Water Conservation Fund assistance; and

CITY OF BAKERSFIELD ORIGINAL

2. The Council hereby certifies that said agency has matching funds from the following source of the California Wildlife, Coastal, and Park Land Conservation Act of 1988 (Proposition 70), Per Capita Grant Program, Fiscal Year 1990/91 appropriation, and can finance 100 percent of the project, half of which will be reimbursed; and

3. The Council hereby certifies that the project is compatible with the land use plans of those jurisdictions immediately surrounding the project; and

4. The Council hereby appoints the City Manager as agent of the City of Bakersfield to conduct all negotiations and execute and submit all documents, including, but not limited to, applications, agreements, amendments, billing statements and so on which may be necessary for the completion of the aforementioned project.

----------o0o----------

I HEREBY CERTIFY that the foregoing Resolution was passed and adopted by the Council of the City of Bakersfield on MAR 21 1990, by the following vote:

AYES: COUNCILMEMBERS: EDWARDS, DeMOND, SMITH, BRUNNI, PETERSON, McDERMOTT, SALVAGGIO
NOES: COUNCILMEMBERS: NONE
ABSENT: COUNCILMEMBERS: NONE
ABSTAIN: COUNCILMEMBERS: NONE

CITY CLERK and Ex Officio Clerk of the Council of the City of Bakersfield

APPROVED MAR 21 1990

CLARENCE E. MEDDERS
MAYOR of the City of Bakersfield

APPROVED as to form:

ARTHUR J. SHALFIELD
CITY ATTORNEY of the City of Bakersfield

pjt/meg
r/reepl
3/13/90

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATI

LAND AND WATER CONSERVATION FUND PROGRAM APPLICATION

This Form and Required Attachments Must Be Submitted for Each Project Site

TYPE OF PROJECT *(check one below)*

☐ Acquisition
☒ Development

PROJECT NAME Kern River Parkway Group Picnic and Open Space Area (Phase 2)	AMOUNT OF GRANT REQUESTED $ 150,000 ESTIMATED TOTAL PROJECT COST $ 300,000
GRANT APPLICANT *(Agency and address-incl. zip code)* City of Bakersfield 1501 Truxtun Avenue Bakersfield, CA 93301	COUNTY: Kern — NEAREST CITY: Bakersfield PROJECT ADDRESS: 4200 Empire Drive NEAREST CROSS STREET: Empire Drive and Truxtun Avenue CONGRESSIONAL DIST. NO.: 20 — SENATE DIST. NO.: 16 — ASSEMBLY DIST. NO.: 33

Grant Applicant's Representative Authorized in Resolution

Name *(type)*	Title	Phone
J. Dale Hawley	City Manager	(805) 326-3751

Person with day-to-day responsibility for project *(if different from authorized representative)*

Name *(type)*	Title	Phone
Paul Dow	Community Services Manager	(805) 326-3715

Brief description of project

Development of Phase 2 on a 15 acre site in the Kern River Parkway master plan as a group picnic area and open space turf area including support facilities. Phase 2 development includes large group, single and double picnic stations. The stations include tables, benches, barbecue stoves and utilities. Support facilities include utility systems, parking lot expansion, landscaping, irrigation and security lighting.

For Dev. projects Land Tenure — Project is: 15 acres:	For Acquisition projects Projects land will be _____ acres
15 Acres owned in fee simple by Grant Applicant	_____ Acquired in fee simple by Grant Applicant
_____ Acres available under a _____ year lease	_____ Acquired in other than fee simple *(explain)* _____
_____ Acres other interest *(explain)* _____	

I certify that the information contained in this project application form, including required attachments, is accurate and that this project is consistent with the park and recreation element of the applicable city or county general plan or the district park and recreation plan and will satisfy a high priority need.

Signed J Dale Hawley — Grant Applicant's Authorized Representative as shown in Resolution — 3-27-90 — Date

DPR 823 (1/89) (over)

CHECKLIST OF APPLICATION MATERIALS

1. LWCF Application Form (1 copy)
2. Resolution (1 copy)
3. Program Narrative (Part IV) (2 copies)
4. Development Cost Estimate or Acquisition Schedule (2 copies)
5. Applicant's Source of Funds (1 copy)
6. Location Map (2 copies)
7. 6(f)(3) Boundary Map (2 copies)
8. Site Plan or Acquisition Plan Map (2 copies)
9. Floor Plans of Buildings (2 copies)
10. Part II, Section A (OMB Form 80-R0184) (1 copy)
11. Part II, Section B (OMB Form 80-R0184) (1 copy)
12. Evidence of CEQA Compliance (2 copies of one of the following)
    a. Notice of Exemption
    b. Notice of Determination with Negative Declaration, Initial Study, and State Clearinghouse responses
    c. Notice of Determination with Final EIR, Initial Study, and State Clearinghouse responses
13. Evidence of NEPA Compliance (2 copies of one of the following)
    a. Environmental Assessment
    b. Environmental Certification
    c. Final EIR
14. Assurance of Compliance and Addendum (Title VI) (1 copy)
15. Assurance Section 504, Federal Rehabilitation Act of 1973 (1 copy)
16. Certification of Compliance — Relocation Act (PL 91-646) (1 copy)
17. Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion (1 copy)
18. SHPO Memorandum of Understanding (1 copy)
19. Approved Lease or Operating Agreement (1 copy)
20. Corps of Engineers Permit (1 copy)
21. Other required permits
22. Photographs of Site

DPR 823 (1/89) (Back)

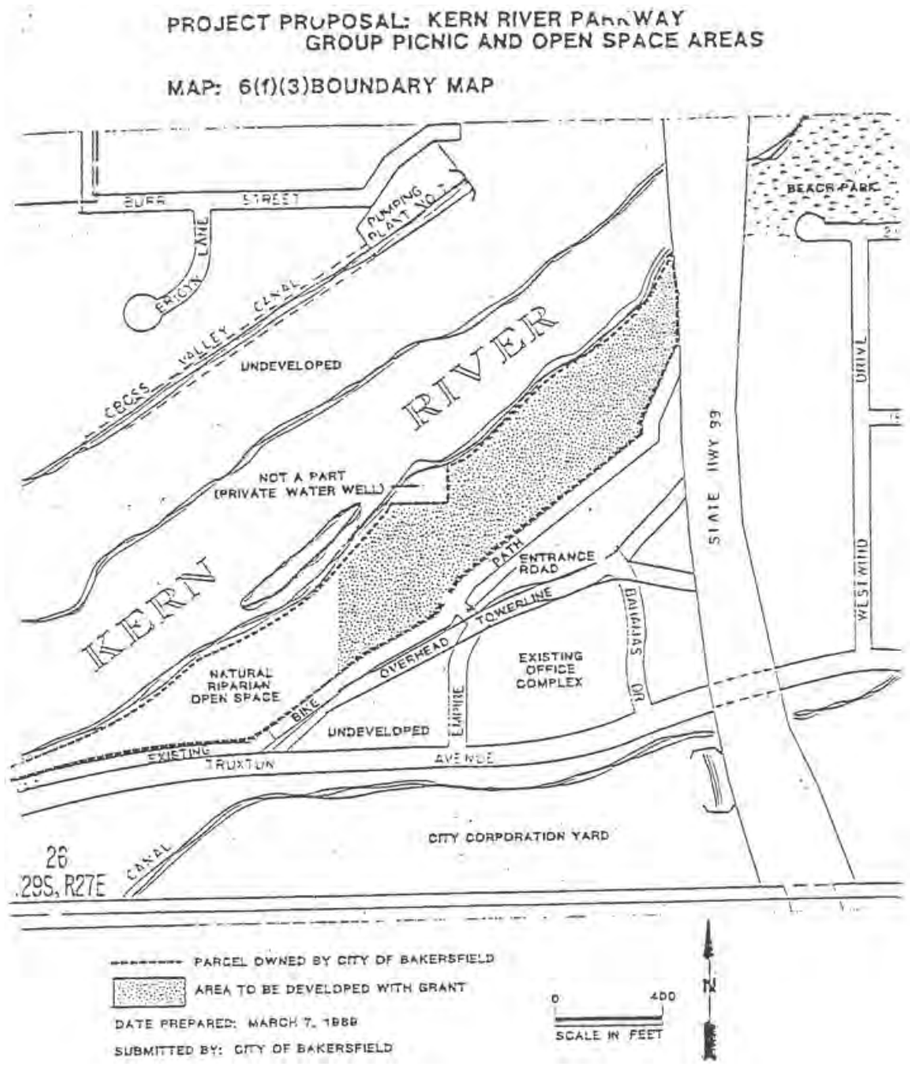

EXHIBIT 12

City of Bakersfield City Council Resolution No. 43-89

RESOLUTION NO. 43-89

RESOLUTION OF THE COUNCIL OF THE
CITY OF BAKERSFIELD

RESOLUTION AUTHORIZING APPLICATION FOR LAND AND WATER CONSERVATION FUNDS TO DEVELOP A KERN RIVER PARKWAY GROUP PICNIC AREA, SUPPORT FACILITIES, AND TURF AREAS ON 15 ACRES LOCATED WEST OF STATE HIGHWAY 99, NORTH OF EMPIRE DRIVE.

WHEREAS, the Congress under Public Law 88-578 has authorized the establishment of a Federal Land and Water Conservation Fund Grant-In-Aid Program, providing matching funds to the State of California and its political subdivisions for acquiring lands and developing facilities for public outdoor recreation purposes; and

WHEREAS, the State Department of Parks and Recreation is responsible for administration of the program in the state, setting up necessary rules and procedures governing application by local agencies under the program; and

WHEREAS, said adopted procedures established by the State Department of Parks and Recreation require the applicant to certify by resolution the approval of applications and the availability of local matching funds prior to submission of said applications to the state; and

WHEREAS, the proposed Kern River Parkway Group Picnic, support facilities and open space turf project is consistent with the Statewide Comprehensive Recreation Resources Plan: California Outdoor Recreation Plan - 1988; and

WHEREAS, the City of Bakersfield wishes to construct a group picnic, support facilities and open space turf area on approximately 15 acres generally located west of Highway 99, south of the Kern River, and north of Empire Drive; and

WHEREAS, the project must be compatible with the land use plans of those jurisdictions immediately surrounding the project;

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Bakersfield as follows:

1. Approves the filing of an application for Land and Water Conservation Fund assistance; and

2. Certifies that said agency has matching funds from the following source of the California Wildlife, Coastal, and Park Land Conservation Act of 1988 (Proposition 70), Per Capita Grant Program, Fiscal Year 1989/90 appropriation; and

3. Certifies that the project is compatible with the land use plans of those jurisdictions immediately surrounding the project; and

4. Appoints the City Manager as agent of the City of Bakersfield to conduct all negotiations and execute and submit all documents, including, but not limited to, applications, agreements, amendments, billing statements, and so on which may be necessary for the completion of the aforementioned project.

----------o0o----------

I HEREBY CERTIFY that the foregoing Resolution was passed and adopted by the Council of the City of Bakersfield at a regular meeting thereof held on the 29th day of March, 1989 by the following vote:

AYES: COUNCILMEMBERS: DeMOND, SMITH, RATTY, PETERSON, McDERMOTT, SALVAGGIO
NOES: COUNCILMEMBERS: None
ABSENT: COUNCILMEMBERS: Childs
ABSTAINING: COUNCILMEMBERS: None

Carol Williams
CITY CLERK and Ex Officio Clerk of the Council of the City of Bakersfield

APPROVED this 29th day of March, 19 89

Clarence E. McFadden
MAYOR of the City of Bakersfield

APPROVED as to form:

CITY ATTORNEY of the City of Bakersfield

pjt
a:res.lwl

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LAND AND WATER CONSERVATION FUND PROGRAM
APPLICATION

This Form and Required Attachments Must Be Submitted for Each Project Site

TYPE OF PROJECT *(check one below)*

☐ Acquisition
☒ Development

PROJECT NAME: Kern River Parkway Group Picnic and Open Space Area with Support Facilities	AMOUNT OF GRANT REQUESTED: $ 84,050 ESTIMATED TOTAL PROJECT COST: $ 168,100
GRANT APPLICANT *(Agency and address/str., zip code)*: City of Bakerfield 1501 Truxtun Avenue Bakersfield, CA 93301	COUNTY: Kern; NEAREST CITY: Bakersfield PROJECT ADDRESS: 4200 Empire Drive NEAREST CROSS STREET: Truxtun Avenue CONGRESSIONAL DIST. NO.: 20; SENATE DIST. NO.: 16; ASSEMBLY DIST. NO.: 33

Grant Applicant's Representative Authorized in Resolution

J. Dale Hawley (Name *(type)*) — City Manager (Title) — (805) 326-3751 (Phone)

Person with day-to-day responsibility for project *(if different from authorized representative)*

Paul Dow (Name *(type)*) — Community Services Manager (Title) — (805) 326-3715 (Phone)

Brief description of project

Development of Phase I on a 15 acre site in the Kern River Parkway master plan as a group picnic area and open space turf area including support facilities. Phase I Development includes two group picnic stations accommodating up to 80 people each. The stations include concrete slab, serving shelter, tables, benches, barbecue stoves, and utilities. In addition, serveral single and double picnic tables will be placed throughout the site. Support facilities include utility systems, access road, bicycle bypass, and parking lot. The site is locate west of Highway 99, south side of the Kern River, north of Empire Drive.

For Dev. projects Land Tenure – Project is: 15 acres:	For Acquisition projects Projects land will be _____ acres
15 Acres owned in fee simple by Grant Applicant	_____ Acquired in fee simple by Grant Applicant
_____ Acres available under a _____ year lease	_____ Acquired in other than fee simple *(explain)* _____
_____ Acres other interest *(explain)* _____	

I certify that the information contained in this project application form, including required attachments, is accurate and that this project is consistent with the park and recreation element of the applicable city or county general plan or the district park and recreation plan and will satisfy a high priority need.

Signed: J Dale Hawley — Grant Applicant's Authorized Representative as shown in Resolution — 3-20-89 — Date

DPR 823 (1/89) (over) 11

CHECKLIST OF APPLICATION MATERIALS

1. LWCF Application Form (1 copy)
2. Resolution (1 copy)
3. Program Narrative (Part IV) (2 copies)
4. Development Cost Estimate or Acquisition Schedule (2 copies)
5. Applicant's Source of Funds (1 copy)
6. Location Map (2 copies)
7. 6(f)(3) Boundary Map (2 copies)
8. Site Plan or Acquisition Plan Map (2 copies)
9. Floor Plans of Buildings (2 copies)
10. Part II, Section A (OMB Form 80-R0184) (1 copy)
11. Part II, Section B (OMB Form 80-R0184) (1 copy)
12. Evidence of CEQA Compliance (2 copies of one of the following)
    a. Notice of Exemption
    b. Notice of Determination with Negative Declaration, Initial Study, and State Clearinghouse responses
    c. Notice of Determination with Final EIR, Initial Study, and State Clearinghouse responses
13. Evidence of NEPA Compliance (2 copies of one of the following)
    a. Environmental Assessment
    b. Environmental Certification
    c. Final EIR
14. Assurance of Compliance and Addendum (Title VI) (1 copy)
15. Assurance Section 504, Federal Rehabilitation Act of 1973 (1 copy)
16. Certification of Compliance – Relocation Act (PL 91-646) (1 copy)
17. Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion (1 copy)
18. SHPO Memorandum of Understanding (1 copy)
19. ~~Approved Lease or Operating Agreement (1 copy)~~
20. ~~Corps of Engineers Permit (1 copy)~~
21. ~~Other required permits~~
22. Photographs of Site

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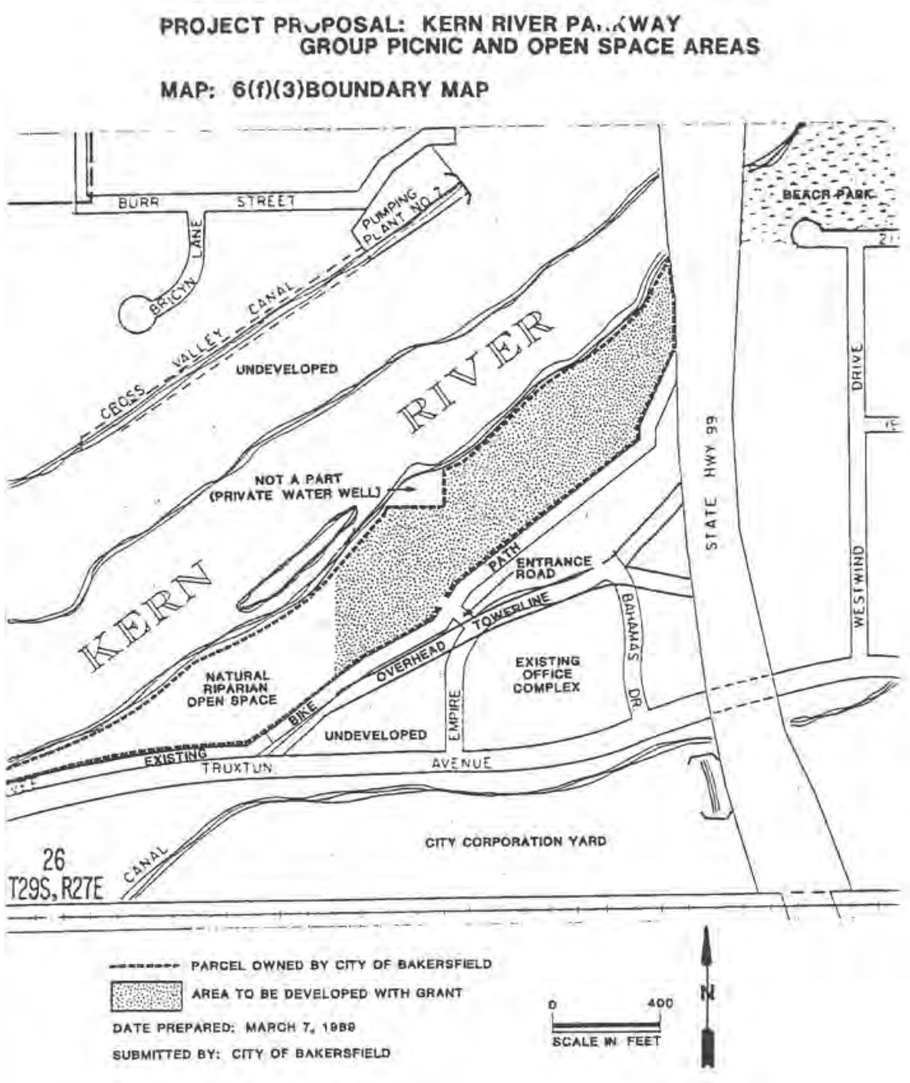
Kern River Parkway in
Group Picnic/Open Space Area

DEVELOPMENT COST ESTIMATE SCHEDULE

CONSTRUCTION COSTS FOR PHASE I

Earthwork site preparation (parking lot, road preparation)	$25,000
Picnic stations (2 group stations, serving shelter, concrete slab, barbecues, single & double nooks, utilities)	48,100
Restroom/concession	35,000
Sewer System	5,000
Water System (irrigation, domestic)	45,000
Electric system	2,000
Landscaping	7,000
Misc. site amenities (signage, trash receptacles)	1,000
Total	$168,100

L&WCF GRANT AMOUNT REQUESTED: $84,050


PROJECT PROPOSAL: KERN RIVER PARKWAY
GROUP PICNIC AND OPEN SPACE AREAS
MAP: 6(f)(3)BOUNDARY MAP
BURR STREET
PUMPING PLANT NO. 7
BRICYN LANE
CROSS VALLEY CANAL
UNDEVELOPED
RIVER
KERN
NOT A PART (PRIVATE WATER WELL)
BEACH PARK
DRIVE
STATE HWY 99
WESTWIND
ENTRANCE ROAD
PATH
TOWERLINE
OVERHEAD
BAHAMAS DR
EMPIRE
EXISTING OFFICE COMPLEX
NATURAL RIPARIAN OPEN SPACE
BIKE
UNDEVELOPED
EXISTING
TRUXTUN AVENUE
CITY CORPORATION YARD
CANAL
26
T29S, R27E
PARCEL OWNED BY CITY OF BAKERSFIELD
AREA TO BE DEVELOPED WITH GRANT
DATE PREPARED: MARCH 7, 1989
SUBMITTED BY: CITY OF BAKERSFIELD
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SCALE IN FEET
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Appendix C Title VI Policy Statement

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-5266
FAX (916) 654-6608
TTY 711
www.dot.ca.gov

Flex your power!
Be energy efficient!

March 2013

NON-DISCRIMINATION
POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, 1823 14th Street, MS-79, Sacramento, CA 95811. Telephone: (916) 324-0449, TTY: 711, or via Fax: (916) 324-1949.

MALCOLM DOUGHERTY
Director

"Caltrans improves mobility across California"

Appendix D Summary of Relocation Benefits

The City of Bakersfield and the County of Kern will be the agencies responsible for acquiring the necessary right-of-way for the project. These agencies will follow the same process that Caltrans uses, which is outlined in the Caltrans Relocation Assistance Program, which is provided below.

California Department of Transportation Relocation Assistance Program

Relocation Assistance Advisory Services

Declaration of Policy

"The purpose of this title is to establish a ***uniform policy for fair and equitable treatment*** of persons displaced as a result of federal and federally assisted programs in order that such persons ***shall not suffer disproportionate injuries*** as a result of programs designed for the benefit of the public as a whole."

The Fifth Amendment to the U.S. Constitution states, "No Person shall…be deprived of life, liberty, or property, without due process of law, nor shall private property be taken for public use without just compensation." The Uniform Act sets forth in statute the due process that must be followed in Real Property acquisitions involving federal funds. Supplementing the Uniform Act is the government-wide single rule for all agencies to follow, set forth in 49 CFR, Part 24. Displaced individuals, families, businesses, farms, and nonprofit organizations may be eligible for relocation advisory services and payments, as discussed below.

Fair Housing

The Fair Housing Law (Title VIII of the Civil Rights Act of 1968) sets forth the policy of the United States to provide, within constitutional limitations, for fair housing. This act, and as amended, makes discriminatory practices in the purchase and rental of most residential units illegal. Whenever possible, minority persons shall be given reasonable opportunities to relocate to any available housing regardless of neighborhood, as long as the replacement dwellings are decent, safe, and sanitary and are within their financial means. This policy, however, does not require Caltrans to provide a person a larger payment than is necessary to enable a person to relocate to a comparable replacement dwelling.

Any persons to be displaced will be assigned to a relocation advisor, who will work closely with each displace in order to see that all payments and benefits are fully utilized, and that all regulations are observed, thereby avoiding the possibility of displaces jeopardizing or forfeiting any of their benefits or payments. At the time of the initiation of negotiations (usually the first written offer to purchase), owner-occupants are given a detailed explanation of the state's relocation services. Tenant occupants of properties to be acquired are contacted soon after the initiation of negotiations, and also are given a detailed explanation of the Caltrans Relocation Assistance Program. To avoid loss of possible benefits, no individual, family, business, farm, or nonprofit organization should commit to purchase or rent a replacement property without first contacting a Caltrans relocation advisor.

Relocation Assistance Advisory Services

In accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, Caltrans will provide relocation advisory assistance to any person, business, farm or nonprofit organization displaced as a result of the acquisition of real property for public use, so long as they are legally present in the United States. Caltrans will assist eligible displaces in obtaining comparable replacement housing by providing current and continuing information on the availability and prices of both houses for sale and rental units that are "decent, safe and sanitary." Nonresidential displaces will receive information on comparable properties for lease or purchase (for business, farm and nonprofit organization relocation services, see below).

Residential replacement dwellings will be in a location generally not less desirable than the displacement neighborhood at prices or rents within the financial ability of the individuals and families displaced, and reasonably accessible to their places of employment. Before any displacement occurs, comparable replacement dwellings will be offered to displaces that are open to all persons regardless of race, color, religion, sex, national origin, and consistent with the requirements of Title VIII of the Civil Rights Act of 1968. This assistance will also include the supplying of information concerning federal and state assisted housing programs, and any other known services being offered by public and private agencies in the area.

Persons who are eligible for relocation payments and who are legally occupying the property required for the project will not be asked to move without first being given at least 90 days written notice. Residential occupants eligible for relocation payment(s) will not be required to move unless at least one comparable "decent, safe

and sanitary" replacement dwelling, available on the market, is offered to them by Caltrans.

Residential Relocation Payments

The Relocation Assistance Program will help eligible residential occupants by paying certain costs and expenses. These costs are limited to those necessary for or incidental to the purchase or rental of a replacement dwelling and actual reasonable moving expenses to a new location within 50 miles of the displacement property. Any actual moving costs in excess of the 50 miles are the responsibility of the displace. The Residential Relocation Assistance Program can be summarized as follows:

Moving Costs

Any displaced person, who lawfully occupied the acquired property, regardless of the length of occupancy in the property acquired, will be eligible for reimbursement of moving costs. Displaces will receive either the actual reasonable costs involved in moving themselves and personal property up to a maximum of 50 miles, or a fixed payment based on a fixed moving cost schedule. Lawful occupants who move into the displacement property after the initiation of negotiations must wait until Caltrans obtains control of the property in order to be eligible for relocation payments.

Purchase Differential

In addition to moving and related expense payments, fully eligible homeowners may be entitled to payments for increased costs of replacement housing.

Homeowners who have owned and occupied their property for 180 days or more prior to the date of the initiation of negotiations (usually the first written offer to purchase the property), may qualify to receive a price differential payment and may qualify to receive reimbursement for certain nonrecurring costs incidental to the purchase of the replacement property. An interest differential payment is also available if the interest rate for the loan on the replacement dwelling is higher than the loan rate on the displacement dwelling, subject to certain limitations on reimbursement based upon the replacement property interest rate. The maximum combination of these three supplemental payments that the owner-occupant can receive is $22,500. If the total entitlement (without the moving payments) is in excess of $22,500, the Last Resort Housing Program will be used (see the explanation of the Last Resort Housing Program below).

Rent Differential

Tenants and certain owner-occupants (based on length of ownership) who have occupied the property to be acquired by Caltrans prior to the date of the initiation of negotiations may qualify to receive a rent differential payment. This payment is made when Caltrans determines that the cost to rent a comparable "decent, safe and sanitary" replacement dwelling will be more than the present rent of the displacement dwelling. As an alternative, the tenant may qualify for a down payment benefit designed to assist in the purchase of a replacement property and the payment of certain costs incidental to the purchase, subject to certain limitations noted under the Down Payment section below. The maximum amount payable to any eligible tenant and any owner-occupant of less than 180 days, in addition to moving expenses, is $5,250. If the total entitlement for rent supplement exceeds $5,250, the Last Resort Housing Program will be used.

In order to receive any relocation benefits, the displaced person must buy or rent and occupy a "decent, safe and sanitary" replacement dwelling within one year from the date Caltrans takes legal possession of the property, or from the date the displace vacates the displacement property, whichever is later.

Down Payment

The down payment option has been designed to aid owner-occupants of less than 180 days and tenants in legal occupancy prior to Caltrans' initiation of negotiations. The down payment and incidental expenses cannot exceed the maximum payment of $5,250. The one-year eligibility period in which to purchase and occupy a "decent, safe and sanitary" replacement dwelling will apply.

Last Resort Housing

Federal regulations (49 CFR 24) contain the policy and procedure for implementing the Last Resort Housing Program on federal-aid projects. Last Resort Housing benefits are, except for the amounts of payments and the methods in making them, the same as those benefits for standard residential relocation as explained above. Last Resort Housing has been designed primarily to cover situations where a displace cannot be relocated because of lack of available comparable replacement housing, or when the anticipated replacement housing payments exceed the $22,500 and $5,250 limits of the standard relocation procedure, because either the displace lacks the financial ability or other valid circumstances.

After the initiation of negotiations, Caltrans will within a reasonable length of time, personally contact the displaces to gather important information, including the following:

- Number of people to be displaced
- Specific arrangements needed to accommodate any family member(s) with special needs
- Financial ability to relocate into comparable replacement dwelling which will adequately house all members of the family
- Preferences in area of relocation
- Location of employment or school

Nonresidential Relocation Assistance

The Nonresidential Relocation Assistance Program provides assistance to businesses, farms and nonprofit organizations in locating suitable replacement property, and reimbursement for certain costs involved in relocation. The Relocation Advisory Assistance Program will provide current lists of properties offered for sale or rent, suitable for a particular business's specific relocation needs. The types of payments available to eligible businesses, farms and nonprofit organizations are: searching and moving expenses, and possibly reestablishment expenses; or a fixed in lieu payment instead of any moving, searching and reestablishment expenses. The payment types can be summarized as follows:

Moving Expenses

Moving expenses may include the following actual, reasonable costs:

- The moving of inventory, machinery, equipment and similar business-related property, including: dismantling, disconnecting, crating, packing, loading, insuring, transporting, unloading, unpacking, and reconnecting of personal property. Items acquired in the Right of Way contract may not be moved under the Relocation Assistance Program. If the displace buys an Item Pertaining to the Realty back at salvage value, the cost to move that item is borne by the displace.
- Loss of tangible personal property provides payment for actual, direct loss of personal property that the owner is permitted not to move.
- Expenses related to searching for a new business site, up to $2,500, for reasonable expenses actually incurred.

Reestablishment Expenses

Reestablishment expenses related to the operation of the business at the new location, up to $10,000 for reasonable expenses actually incurred.

Fixed In Lieu Payment

A fixed payment in lieu of moving, searching, and reestablishment payments may be available to businesses which meet certain eligibility requirements. This payment is an amount equal to half the average annual net earnings for the last two taxable years prior to the relocation and may not be less than $1,000 nor more than $20,000.

Additional Information

Reimbursement for moving costs and replacement housing payments are not considered income for the purpose of the Internal Revenue Code of 1954, or for the purpose of determining the extent of eligibility of a displace for assistance under the Social Security Act, or any other law, except for any federal law providing local "Section 8" Housing Programs.

Any person, business, farm or nonprofit organization which has been refused a relocation payment by the Caltrans relocation advisor or believes that the payment(s) offered by the agency are inadequate, may appeal for a special hearing of the complaint. No legal assistance is required. Information about the appeal procedure is available from the relocation advisor.

California law allows for payment for lost goodwill that arises from the displacement for a pubic project. A list of ineligible expenses can be obtained from Caltrans Right of Way. California's law and the federal regulations covering relocation assistance provide that no payment shall be duplicated by other payments being made by the displacing agency.

Residential Relocation Payments Program

For more information or a brochure on the residential relocation program, please contact Chanin McKeighen at Chanin_McKeighen@dot.ca.gov, or (559) 445-6237.

The brochure on the residential relocation program is also available in English at http://www.dot.ca.gov/hq/row/pubs/residential_english.pdf and in Spanish at http://www.dot.ca.gov/hq/row/pubs/residential_spanish.pdf.

If you own or rent a mobile home that may be moved or acquired by Caltrans, a relocation brochure is available in English at

http://www.dot.ca.gov/hq/row/pubs/mobile_eng.pdf and in Spanish at http://www.dot.ca.gov/hq/row/pubs/mobile_sp.pdf.

Business and Farm Relocation Assistance Program

For more information or a brochure on the relocation of a business or farm, please contact Chanin McKeighen at Chanin_McKeighen @dot.ca.gov, or (559) 445-6237.

The brochure on the business relocation program is also available in English at http://www.dot.ca.gov/hq/row/pubs/business_farm.pdf and in Spanish at http://www.dot.ca.gov/hq/row/pubs/business_sp.pdf.

Additional Information

No relocation payment received would be considered as income for the purpose of the Internal Revenue Code of 1954 or for the purposes of determining eligibility or the extent of eligibility of any person for assistance under the Social Security Act or any other federal law (except for any federal law providing low-income housing assistance).

Appendix E Project Plans/Right-of-Way Requirements

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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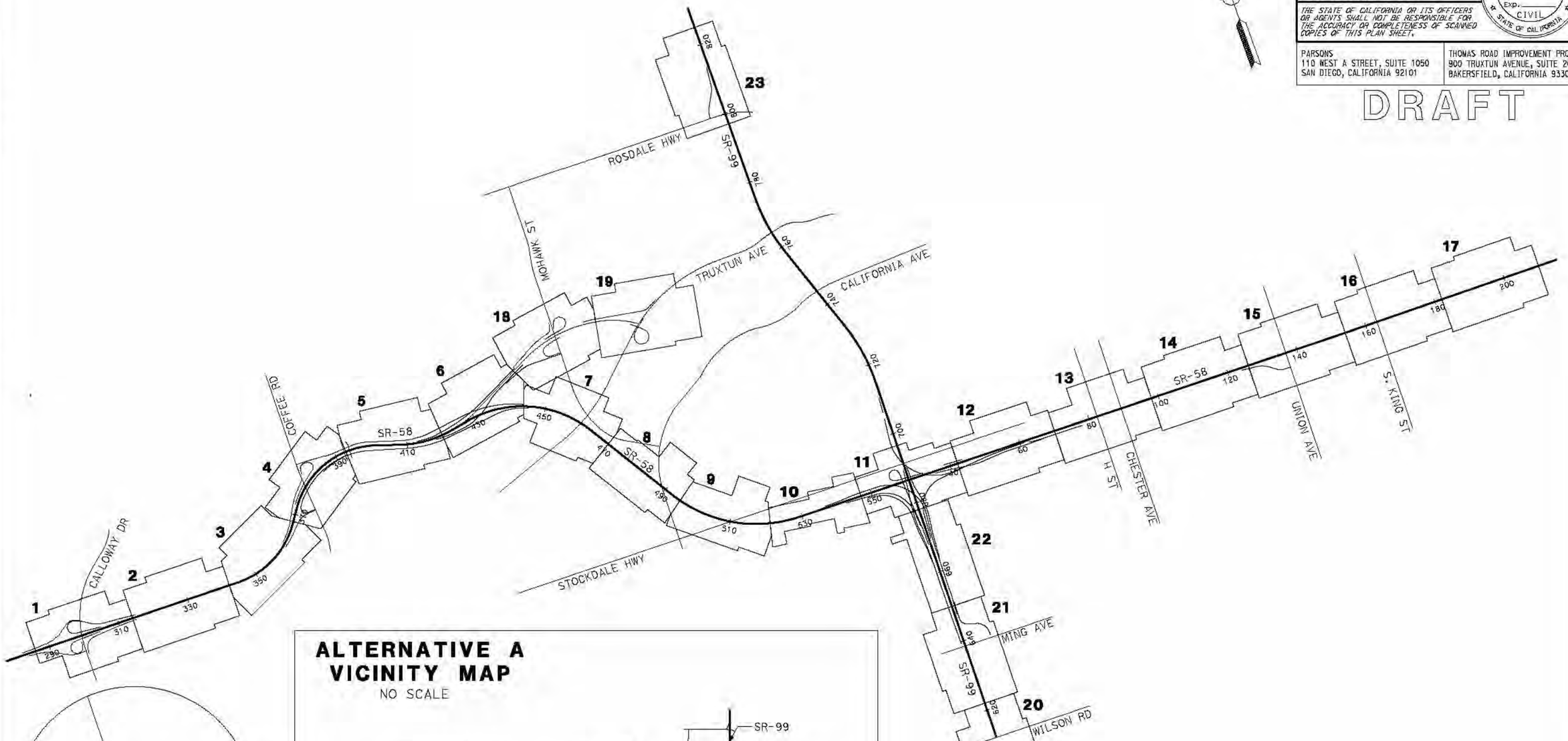

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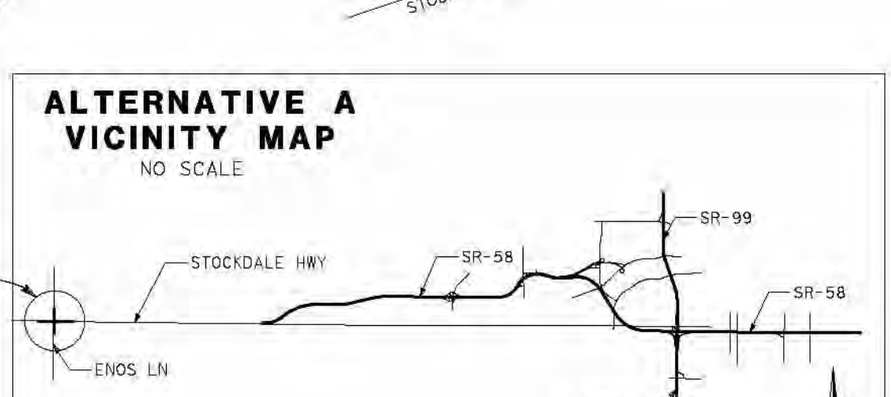

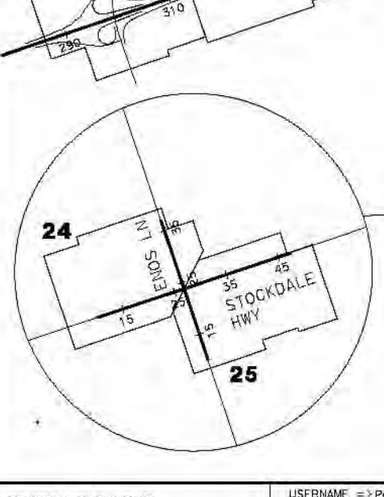

ALTERNATIVE A KEY MAP

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CALCULATED-DESIGNED BY | CHECKED BY

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	500-150-01	X			
2	500-560-01	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	1	

REGISTERED CIVIL ENGINEER DATE

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THOMAS ROAD IMPROVEMENT PROGRAM
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BAKERSFIELD, CALIFORNIA 93301

DRAFT

SIOUX CREEK DR
VERDUGO LN
BAY COLONY DR
CALLOWAY DR
METHERLY HILL RD
MAIDENSFORD DR
BATTERSEA PARK DR
ASHBOURN DR
LAKEHILL WAY
GLENEAGLES DR
CROSS VALLEY CANAL

MATCH LINE STA 314+00 SEE SHEET 2

LEGEND

- EXISTING PARCEL BOUNDARY
- EXISTING STATE RIGHT OF WAY
- PROPOSED STATE RIGHT OF WAY
- PROPOSED ROADWAY
- EXISTING ROADWAY
- RETAINING WALL
- SOUNDWALL
- GRADING LIMIT (CUT)
- GRADING LIMIT (FILL)
- DRAINAGE BASIN
- TEMPORARY CONSTRUCTION EASMENT
- WALL EASEMENT
- CLOSED RAMP

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

1

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CALCULATED-DESIGNED BY | CHECKED BY

CONSULTANT FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	500-150-01	X			
2	501-010-39	X			
3	501-010-24	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	2	

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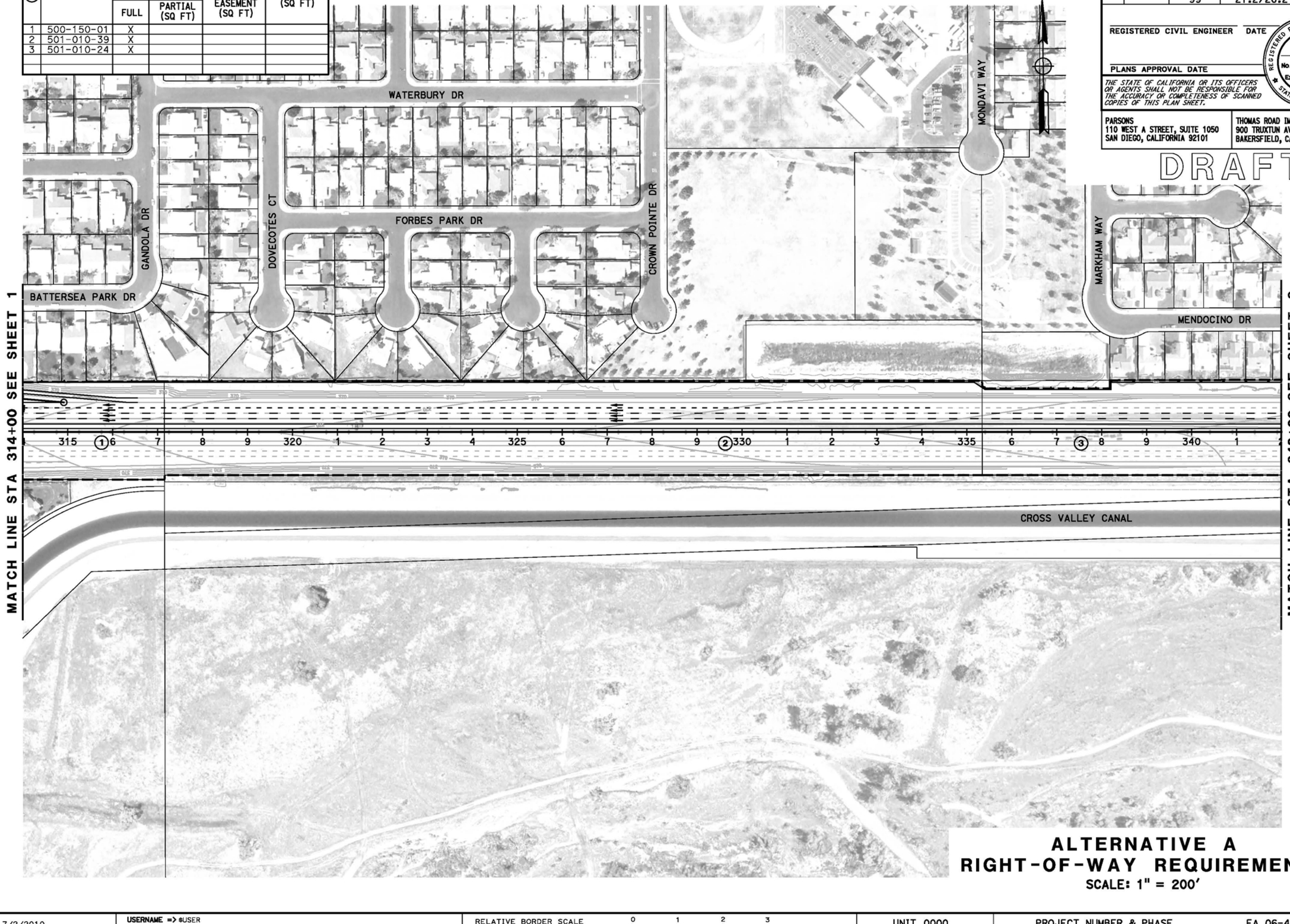

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	501-010-24	X			
2	501-010-23	X			
3	501-010-22	X			
4	501-010-12		20		
5	501-010-10		4,034		
6	501-010-14	X			
7	501-010-15	X			
8	501-010-48	X			
9	501-010-58	X			
10	501-010-56	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	3	

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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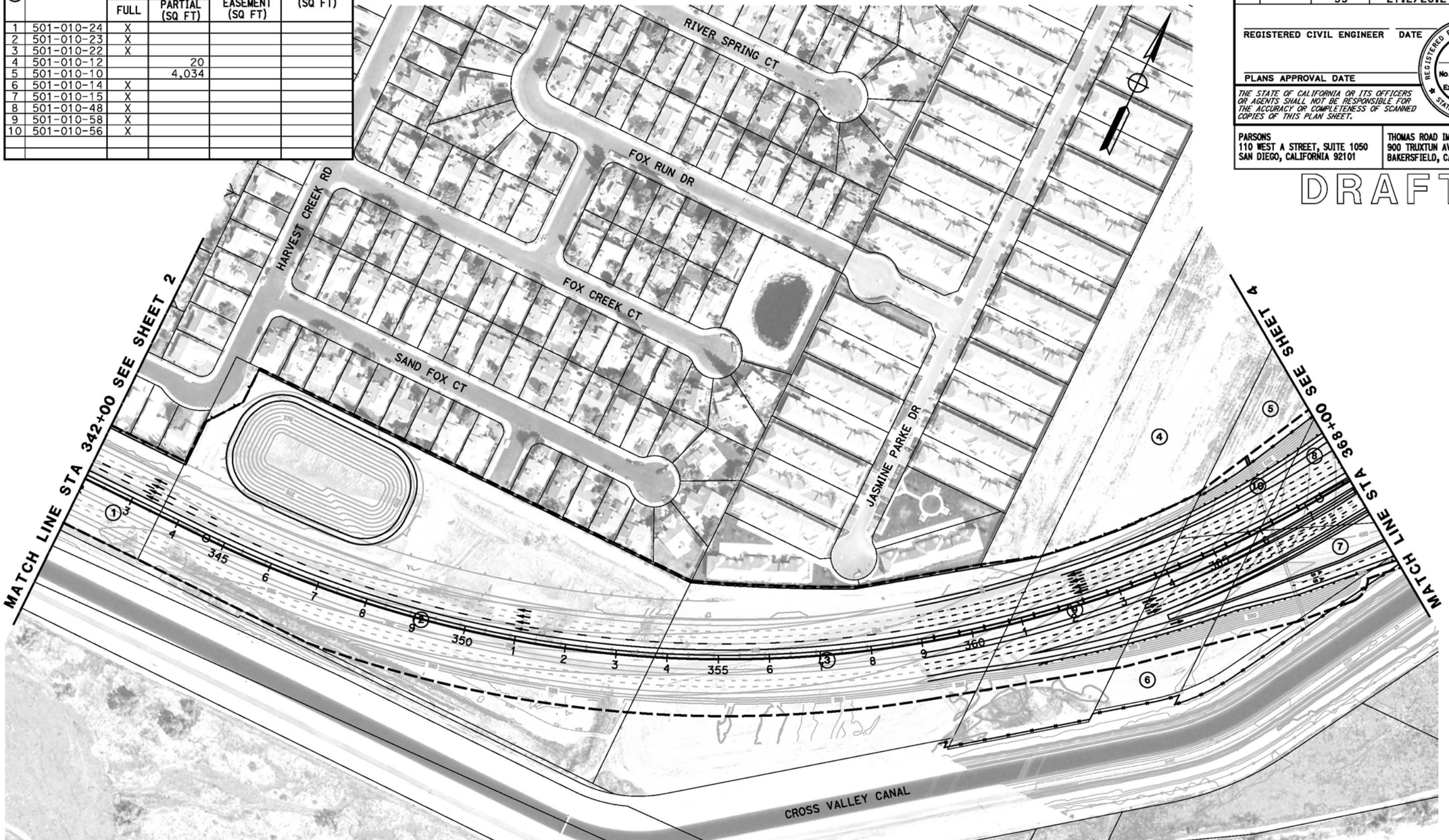

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

3

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USERNAME => $USER
DGN FILE => $REQUEST

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UNIT 0000

PROJECT NUMBER & PHASE EA 06-48460

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
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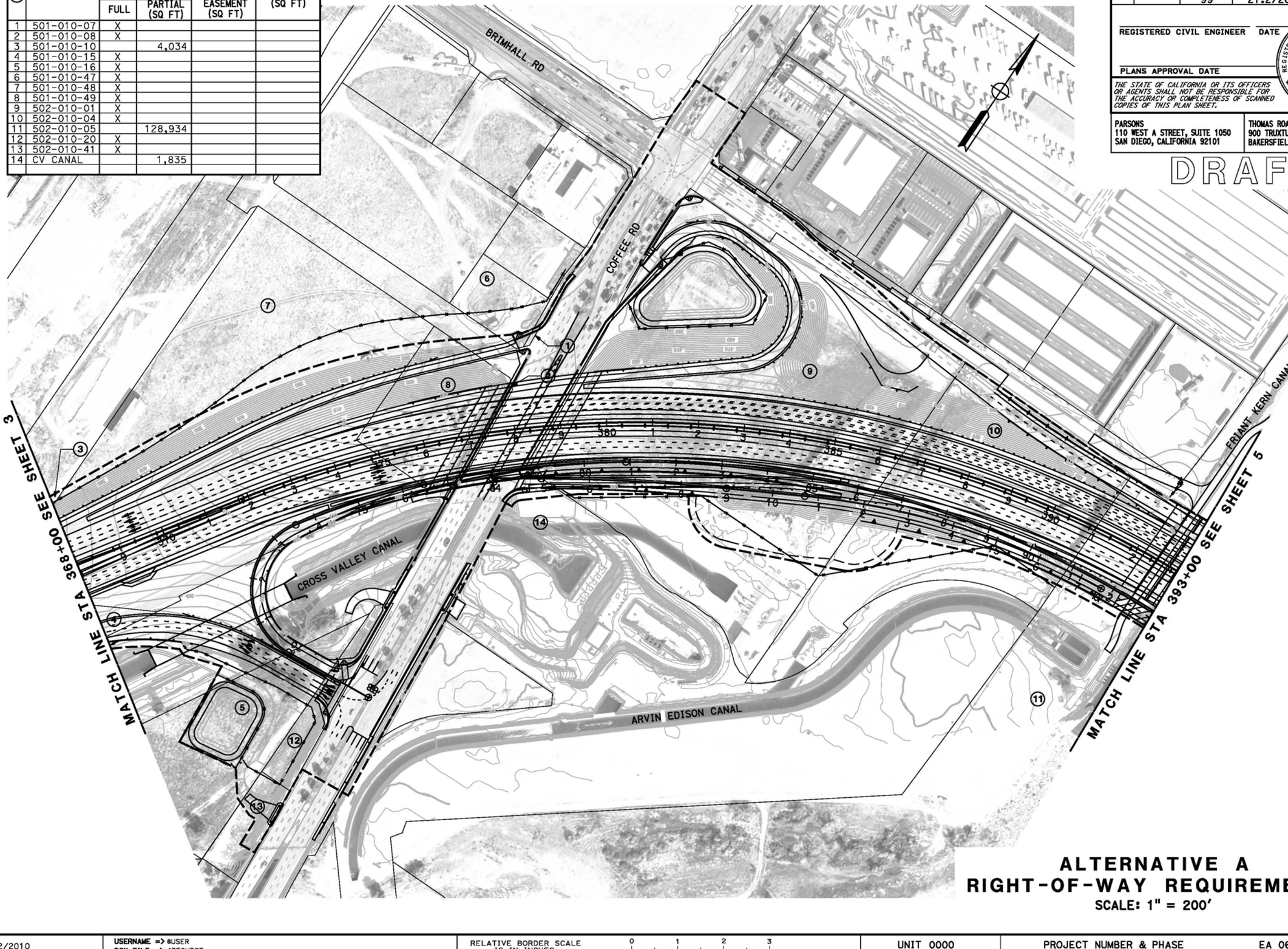
2	501-010-08	X			
3	501-010-10		4,034		
4	501-010-15	X			
5	501-010-16	X			
6	501-010-47	X			
7	501-010-48	X			
8	501-010-49	X			
9	502-010-01	X			
10	502-010-04	X			
11	502-010-05		128,934		
12	502-010-20	X			
13	502-010-41	X			
14	CV CANAL		1,835		



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	4	

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REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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BAKERSFIELD, CALIFORNIA 93301

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ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

4

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	C.O.B	X			
2	502-010-05		128,933		
3	502-010-44	X			
4	502-010-46		217,878		
5	502-010-47	X			
6	368-040-32		3,993		
7	F.K. CANAL		8,985		
8	502-010-45	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	5	

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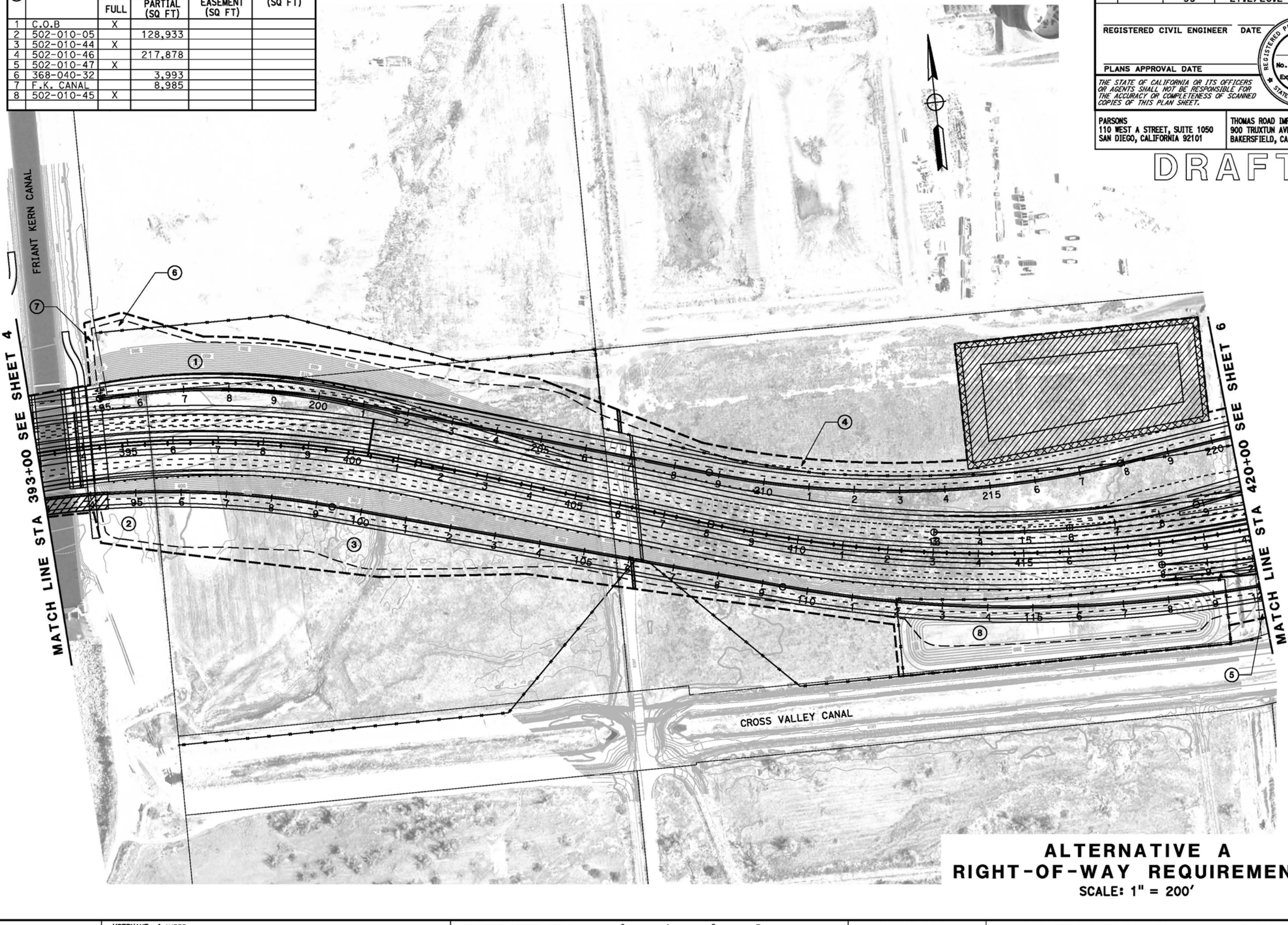

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

5

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	331-021-02		572,712		
2	C.O.B	X			
3	368-040-26	X			
4	502-010-46		12,956		
5	502-010-48	X			
6	502-010-12	X			
7	332-280-17		674		
8	C.O.B	X			
9	502-010-12	X			
10	C.O.B	X			
11	332-280-28		12,280		
12	502-010-12		19,596		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	6	

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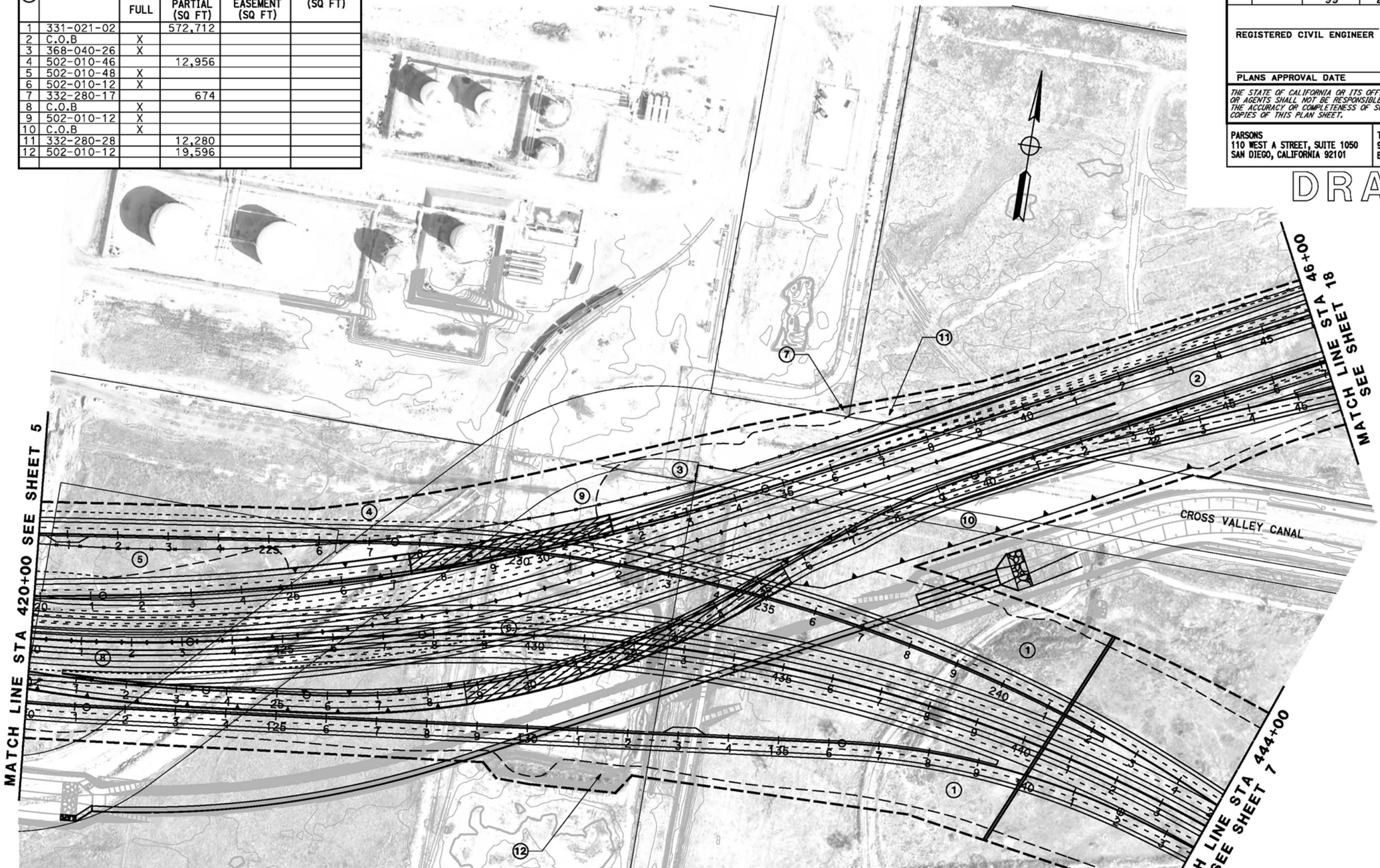

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SCALE: 1" = 200'

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2		

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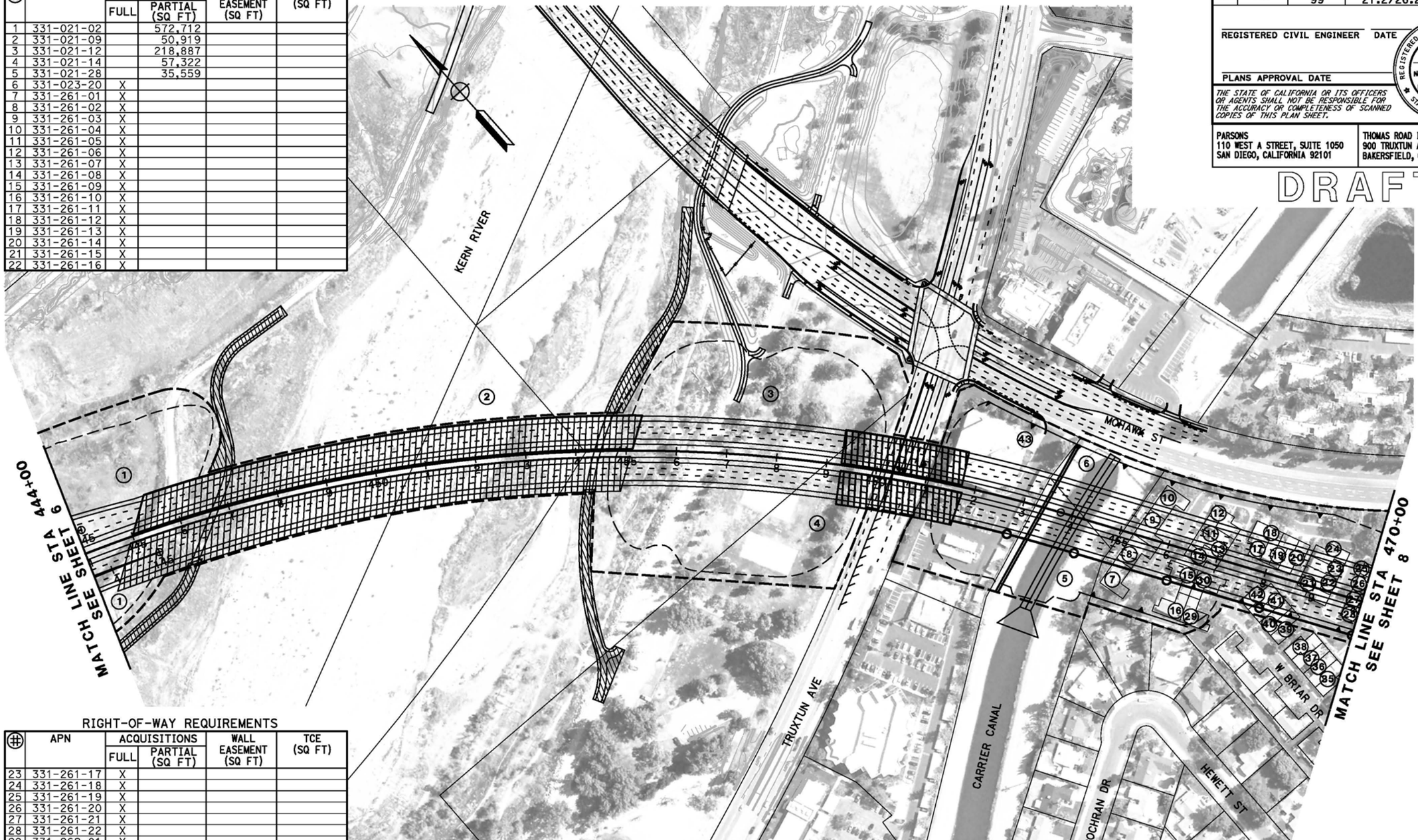
RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	331-021-02		572,712		
2	331-021-09		50,919		
3	331-021-12		218,887		
4	331-021-14		57,322		
5	331-021-28		35,559		
6	331-023-20	X			
7	331-261-01	X			
8	331-261-02	X			
9	331-261-03	X			
10	331-261-04	X			
11	331-261-05	X			
12	331-261-06	X			
13	331-261-07	X			
14	331-261-08	X			
15	331-261-09	X			
16	331-261-10	X			
17	331-261-11	X			
18	331-261-12	X			
19	331-261-13	X			
20	331-261-14	X			
21	331-261-15	X			
22	331-261-16	X			



RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
23	331-261-17	X			
24	331-261-18	X			
25	331-261-19	X			
26	331-261-20	X			
27	331-261-21	X			
28	331-261-22	X			
29	331-262-01	X			
30	331-262-02	X			
31	NOT USED				
32	NOT USED				
33	NOT USED				
34	NOT USED				
35	331-262-51	X			
36	331-262-52	X			
37	331-262-53	X			
38	331-262-54	X			
39	331-262-55	X			
40	331-262-56	X			
41	331-262-57	X			
42	331-262-58	X			
43	331-340-05	X			

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

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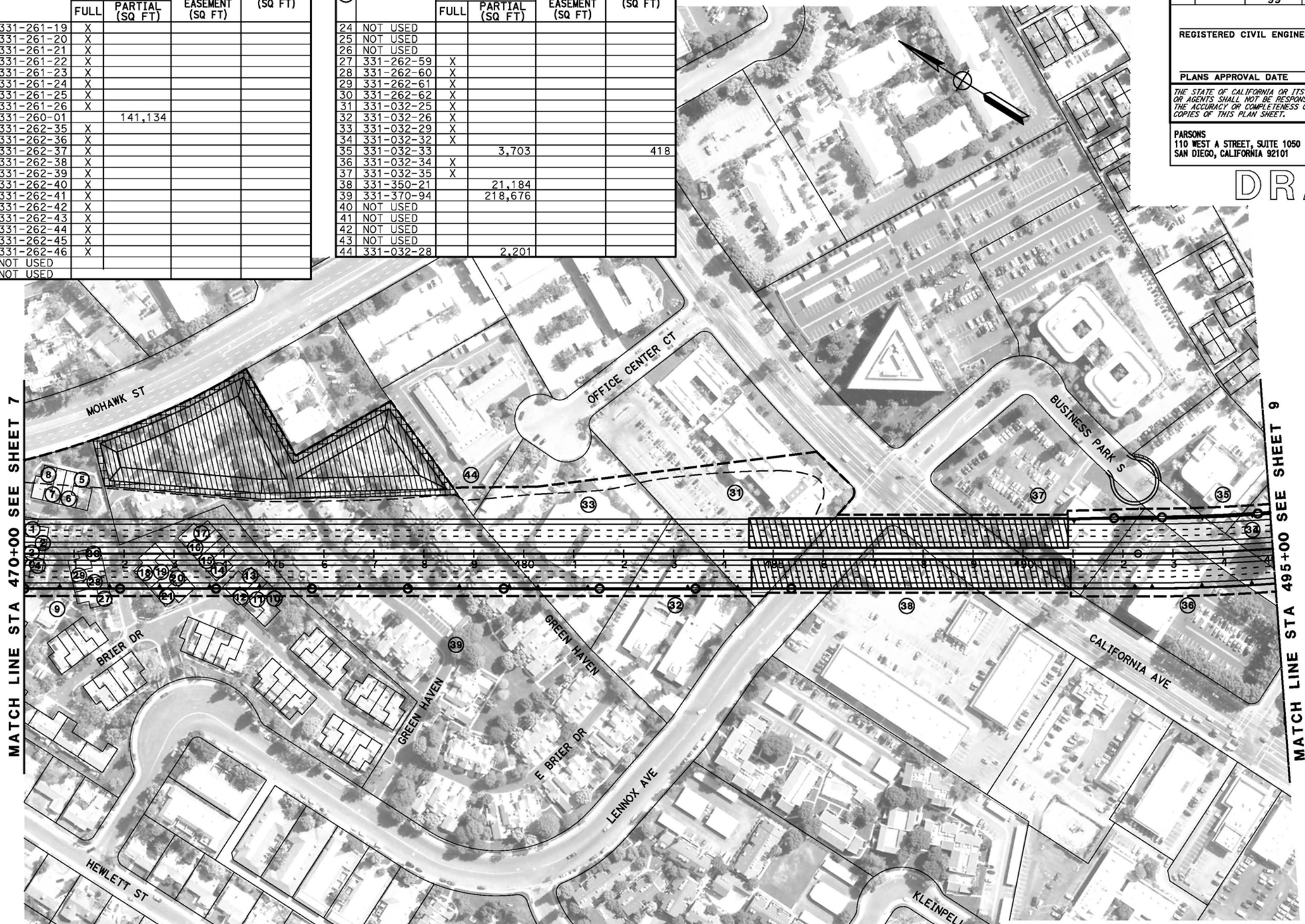
RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	331-261-19	X			
2	331-261-20	X			
3	331-261-21	X			
4	331-261-22	X			
5	331-261-23	X			
6	331-261-24	X			
7	331-261-25	X			
8	331-261-26	X			
9	331-260-01		141,134		
10	331-262-35	X			
11	331-262-36	X			
12	331-262-37	X			
13	331-262-38	X			
14	331-262-39	X			
15	331-262-40	X			
16	331-262-41	X			
17	331-262-42	X			
18	331-262-43	X			
19	331-262-44	X			
20	331-262-45	X			
21	331-262-46	X			
22	NOT USED				
23	NOT USED				

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
24	NOT USED				
25	NOT USED				
26	NOT USED				
27	331-262-59	X			
28	331-262-60	X			
29	331-262-61	X			
30	331-262-62	X			
31	331-032-25	X			
32	331-032-26	X			
33	331-032-29	X			
34	331-032-32	X			
35	331-032-33		3,703		418
36	331-032-34	X			
37	331-032-35	X			
38	331-350-21		21,184		
39	331-370-94		218,676		
40	NOT USED				
41	NOT USED				
42	NOT USED				
43	NOT USED				
44	331-032-28		2,201		



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	8	

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

8

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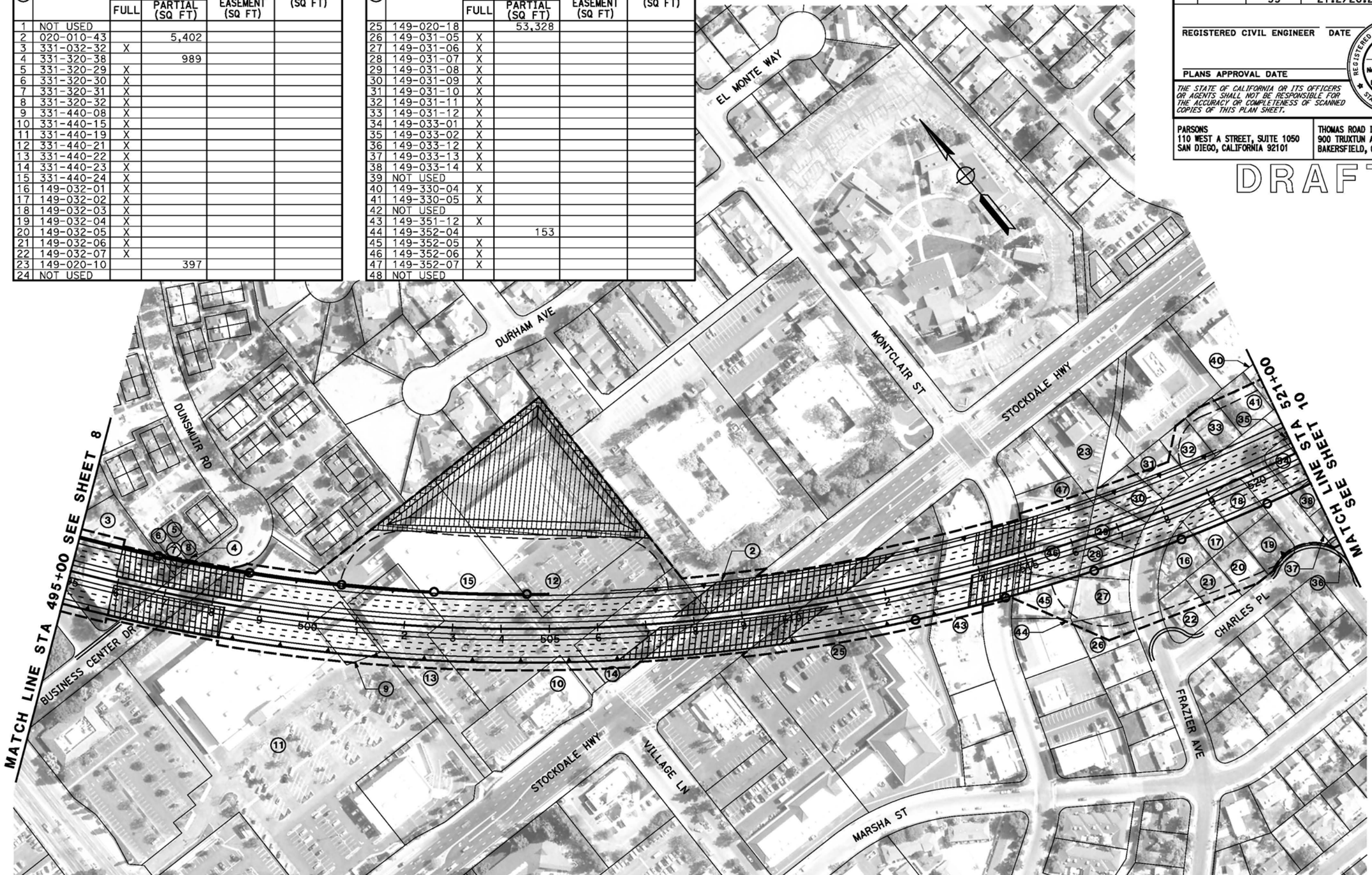
RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	NOT USED				
2	020-010-43		5,402		
3	331-032-32	X			
4	331-320-38		989		
5	331-320-29	X			
6	331-320-30	X			
7	331-320-31	X			
8	331-320-32	X			
9	331-440-08	X			
10	331-440-15	X			
11	331-440-19	X			
12	331-440-21	X			
13	331-440-22	X			
14	331-440-23	X			
15	331-440-24	X			
16	149-032-01	X			
17	149-032-02	X			
18	149-032-03	X			
19	149-032-04	X			
20	149-032-05	X			
21	149-032-06	X			
22	149-032-07	X			
23	149-020-10		397		
24	NOT USED				

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
25	149-020-18		53,328		
26	149-031-05	X			
27	149-031-06	X			
28	149-031-07	X			
29	149-031-08	X			
30	149-031-09	X			
31	149-031-10	X			
32	149-031-11	X			
33	149-031-12	X			
34	149-033-01	X			
35	149-033-02	X			
36	149-033-12	X			
37	149-033-13	X			
38	149-033-14	X			
39	NOT USED				
40	149-330-04	X			
41	149-330-05	X			
42	NOT USED				
43	149-351-12	X			
44	149-352-04		153		
45	149-352-05	X			
46	149-352-06	X			
47	149-352-07	X			
48	NOT USED				



ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

9

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	9	

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UNIT 0000

PROJECT NUMBER & PHASE EA 06-48460

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	149-033-01	X			
2	149-033-02	X			
3	149-033-03	X			
4	149-033-04	X			
5	149-033-05	X			
6	149-033-06	X			
7	149-033-12	X			
8	149-033-13	X			
9	149-033-14	X			
10	149-101-04	X			
11	149-101-05	X			
12	149-101-06	X			
13	149-101-07	X			
14	149-101-08	X			
15	149-101-09	X			
16	149-101-10	X			
17	149-101-11	X			
18	149-101-12	X			
19	149-101-17	X			
20	149-101-18	X			
21	149-101-19	X			
22	149-101-20	X			
23	149-101-21	X			
24	149-101-22	X			
25	149-101-23	X			
26	149-101-24	X			
27	149-101-25	X			
28	149-101-26	X			
29	149-102-04	X			
30	149-102-05	X			
31	149-102-06	X			
32	149-102-07	X			
33	149-102-08	X			
34	149-102-09	X			
35	149-102-10	X			
36	149-102-11	X			
37	149-102-12	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
38	149-102-13	X			
39	149-102-16	X			
40	149-102-17	X			
41	149-102-18	X			
42	149-102-19	X			
43	149-102-20	X			
44	149-102-21	X			
45	149-102-22	X			
46	149-102-23	X			
47	149-102-24	X			
48	149-120-04	X			
49	149-120-05	X			
50	149-120-06	X			
51	149-120-07	X			
52	149-120-08	X			
53	149-120-09	X			
54	149-120-10	X			
55	149-120-11	X			
56	149-120-12	X			
57	149-120-13	X			
58	149-120-14	X			
59	149-120-15	X			
60	149-120-16	X			
61	149-120-17	X			
62	149-120-18	X			
63	149-120-19	X			
64	149-120-20	X			
65	149-120-21	X			
66	149-141-02	X			
67	149-141-03	X			
68	149-141-04	X			
69	149-141-05	X			
70	149-141-06	X			
71	149-142-01	X			
72	149-142-03	X			
73	149-142-04	X			
74	149-142-05	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
75	149-142-06	X			
76	149-142-07	X			
77	149-142-08	X			
78	149-142-09	X			
79	149-142-10	X			
80	149-142-11	X			
81	149-142-12	X			
82	149-142-14	X			
83	149-142-16	X			
84	149-142-17	X			
85	149-142-18	X			
86	149-142-19	X			
87	149-170-04		35,614		
88	149-170-05		9,188		
89	NOT USED				
90	NOT USED				
91	149-221-10	X			
92	149-221-11	X			
93	149-221-12	X			
94	149-221-13	X			
95	149-221-15	X			
96	149-221-16		1,936		
97	149-221-21	X			
98	149-221-24	X			
99	149-221-26		4,227		
100	149-221-27	X			
101	149-222-01	X			
102	149-222-12	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	10	

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
103	149-222-14	X			
104	149-222-15	X			
105	149-222-16	X			
106	149-222-17	X			
107	149-222-18	X			
108	149-222-26	X			
109	149-222-31	X			
110	149-222-33	X			
111	149-222-34	X			
112	149-222-35	X			
113	149-232-01	X			
114	149-232-02	X			
115	149-233-01	X			
116	149-233-02	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
117	149-233-04	X			
118	149-320-01	X			
119	149-320-02	X			
120	149-320-03	X			
121	149-320-04	X			
122	149-320-05	X			
123	149-320-06	X			
124	149-320-07	X			
125	149-320-08	X			
126	149-320-09	X			
127	149-330-03	X			
128	149-330-04	X			
129	149-340-11	X			
130	149-033-07		160		201
131	149-033-08		203		229
132	149-033-11		23		95
133	149-102-15		562		

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

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PROJECT NUMBER & PHASE EA 06-48460

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	11	

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	147-031-27	X			
2	147-032-27	X			
3	149-180-02	X			
4	149-180-03	X			
5	149-180-21	X			
6	149-180-24	X			
7	149-180-25	X			
8	149-190-17	X			
9	149-190-06	X			
10	149-190-08	X			
11	149-190-09	X			
12	149-190-10	X			
13	149-190-11	X			
14	149-190-16	X			
15	149-200-20	X			
16	149-200-21		13,459	2,034	9,304
17	149-190-18	X			
18	149-211-09	X			
19	149-211-10	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
35	147-032-13		1,385		389
36	147-031-35			520	520
37	147-031-28			498	498
38	147-031-08			498	498
39	149-222-38				1,234
40	147-032-25			830	832
41	147-026-14		1,001	497	498
42	147-026-16		1,399	458	439
43	147-032-06			532	540

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
20	149-222-04	X			
21	149-222-05	X			
22	149-222-06	X			
23	149-222-07	X			
24	149-222-08	X			
25	149-222-09	X			
26	149-222-26	X			
27	149-222-39	X			
28	149-233-02	X			
29	149-233-03	X			
30	149-233-04	X			
31	149-240-18	X			
32	149-240-19	X			
33	149-200-05				1,857
34	149-211-01				539

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

11

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	12	

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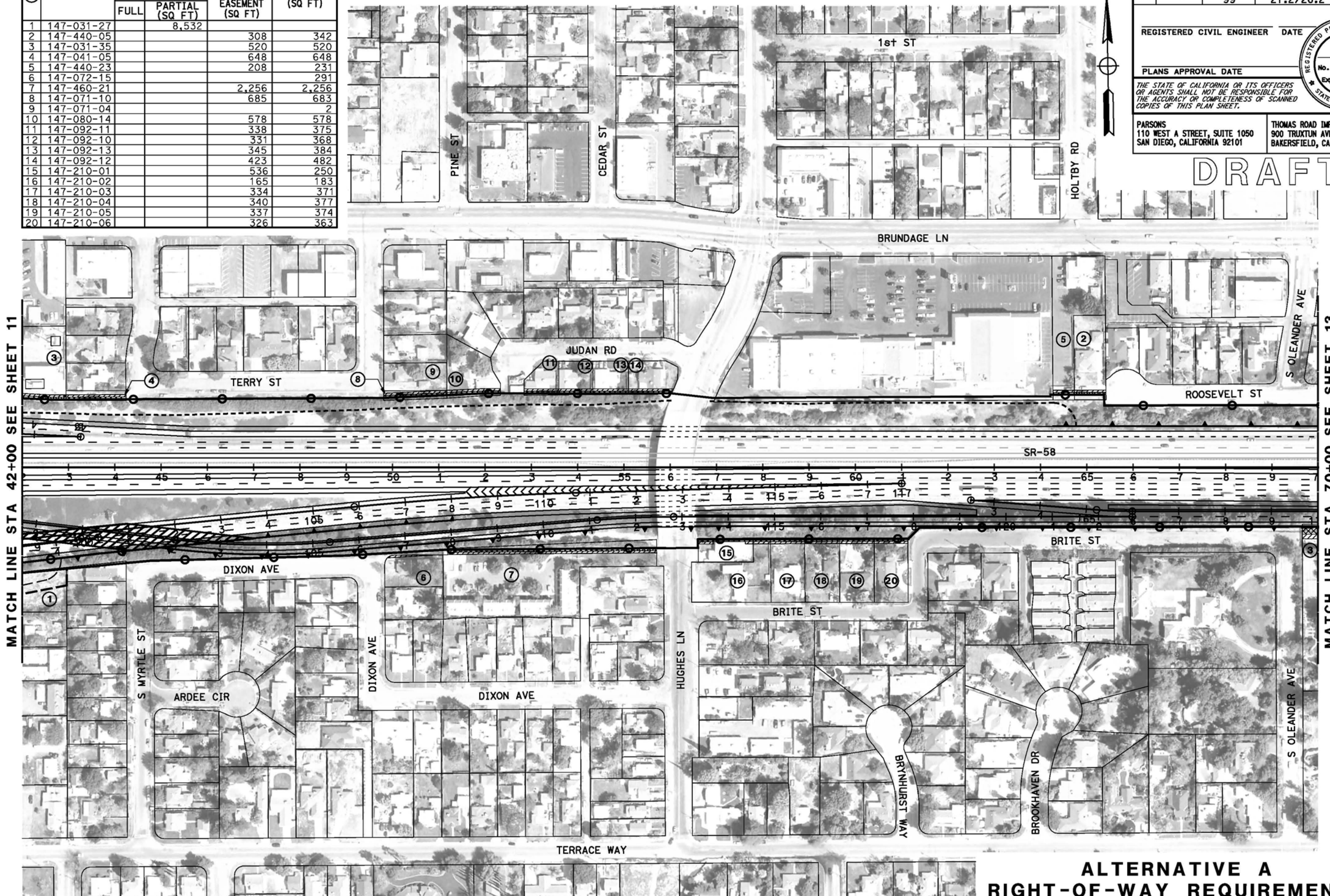
RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	147-031-27		8,532		
2	147-440-05			308	342
3	147-031-35			520	520
4	147-041-05			648	648
5	147-440-23			208	231
6	147-072-15				291
7	147-460-21			2,256	2,256
8	147-071-10			685	683
9	147-071-04				2
10	147-080-14			578	578
11	147-092-11			338	375
12	147-092-10			331	368
13	147-092-13			345	384
14	147-092-12			423	482
15	147-210-01			536	250
16	147-210-02			165	183
17	147-210-03			334	371
18	147-210-04			340	377
19	147-210-05			337	374
20	147-210-06			326	363



ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	011-111-09	X			
2	011-111-10	X			
3	011-111-11	X			
4	011-111-26	X			
5	011-111-27	X			
6	011-111-28	X			
7	011-111-37	X			
8	NOT USED				
9	147-280-01			4,210	3,837
10	147-290-11			534	534
11	147-290-02			279	279
12	011-101-09		407		252
13	011-122-18		214		131
14	011-122-17		512		302
15	011-122-16		1,016		293
16	011-122-15		358		307
17	011-122-14		209		236
18	011-122-13		115		29
19	011-101-08		332		245
20	011-101-10		799		328
21	147-310-23			1,743	1,939

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	13	

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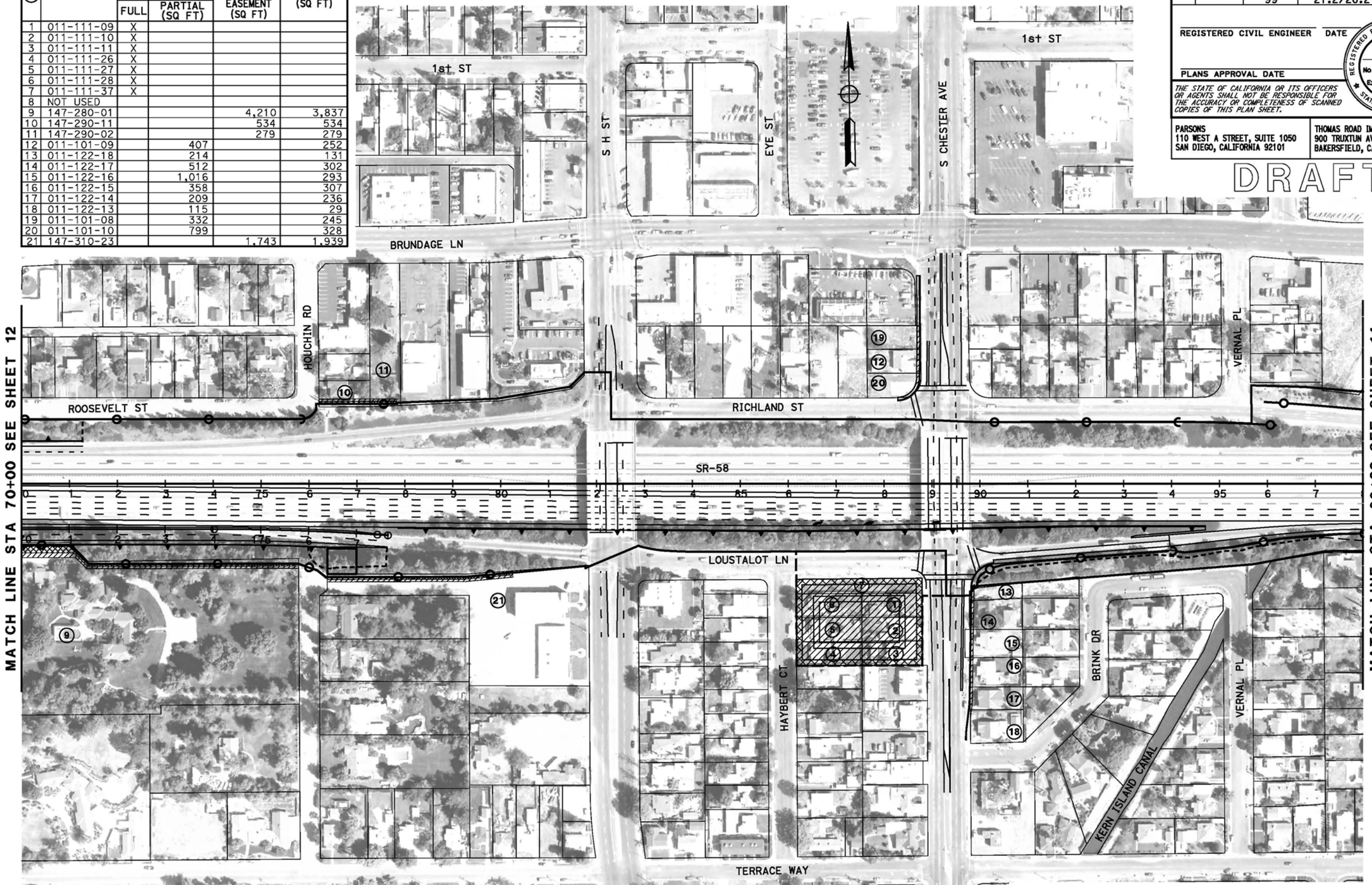

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SCALE: 1" = 200'

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1					
2					
3					

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	14	

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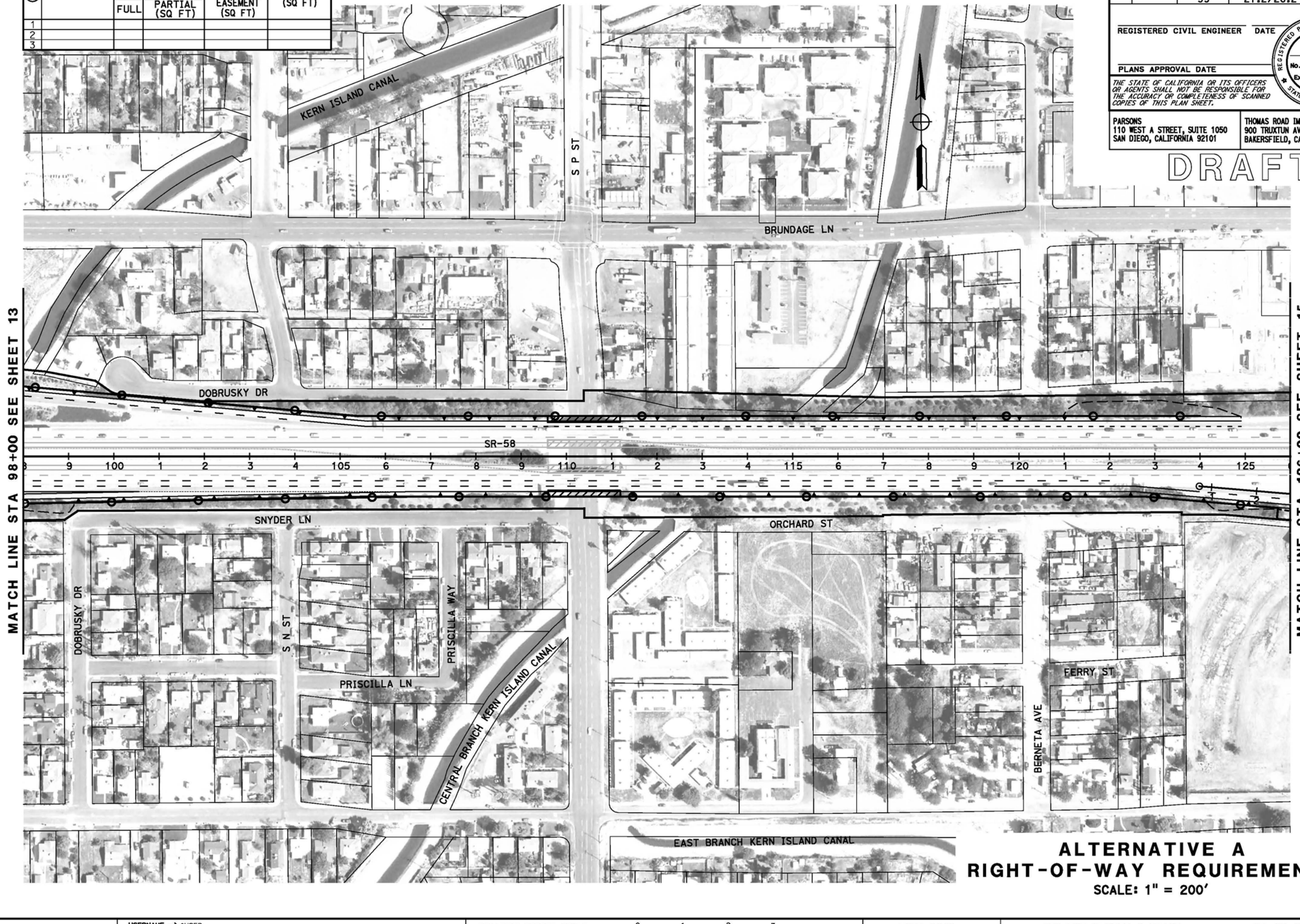

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	169-110-14			611	609
2	169-101-07			573	580
3	169-092-01			100	111
4	169-092-30			959	1025
5	169-093-11			486	381

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	15	

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ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

15

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1					
2					
3					

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	16	

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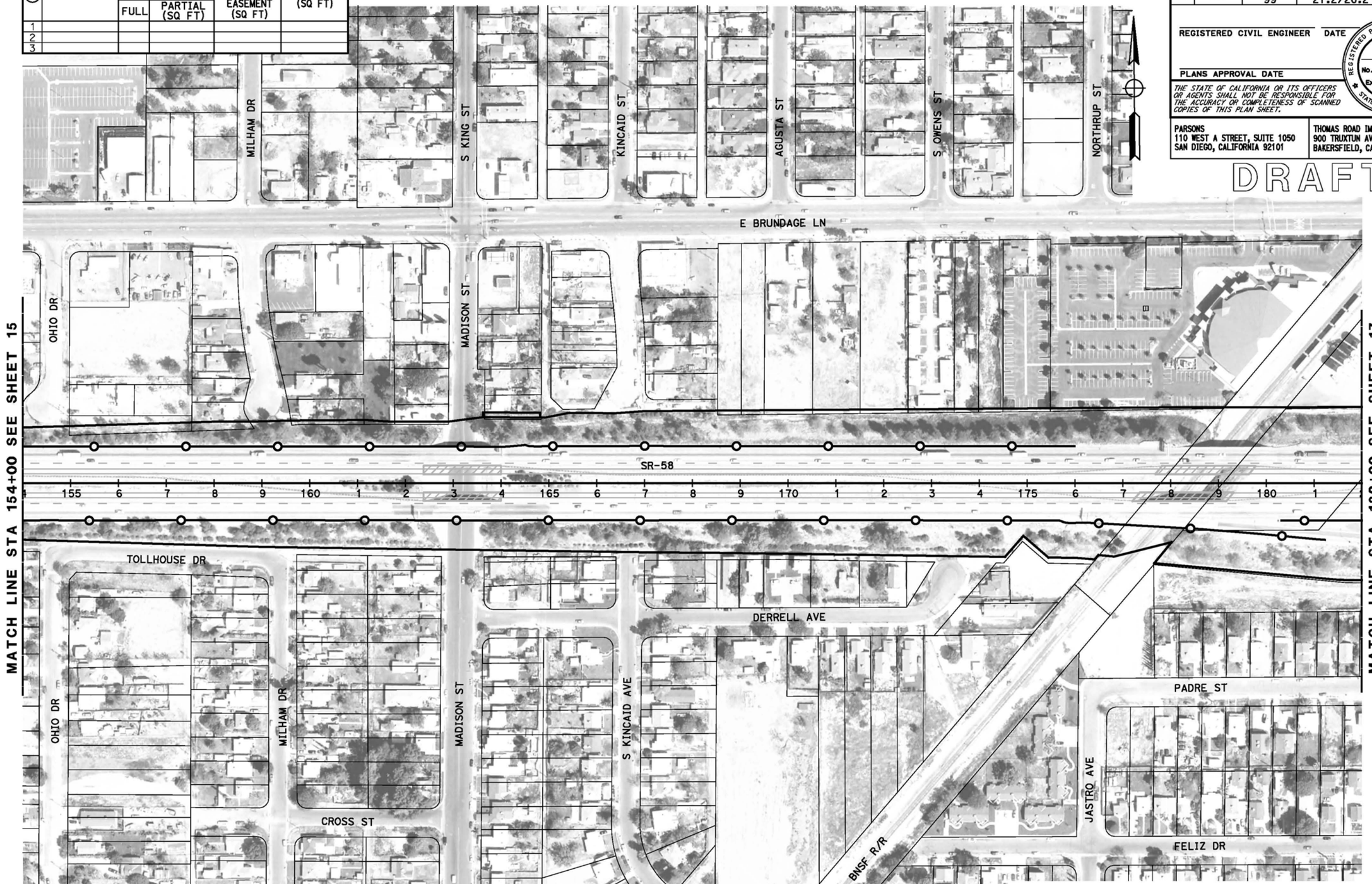

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1					
2					
3					

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	17	

REGISTERED CIVIL ENGINEER DATE

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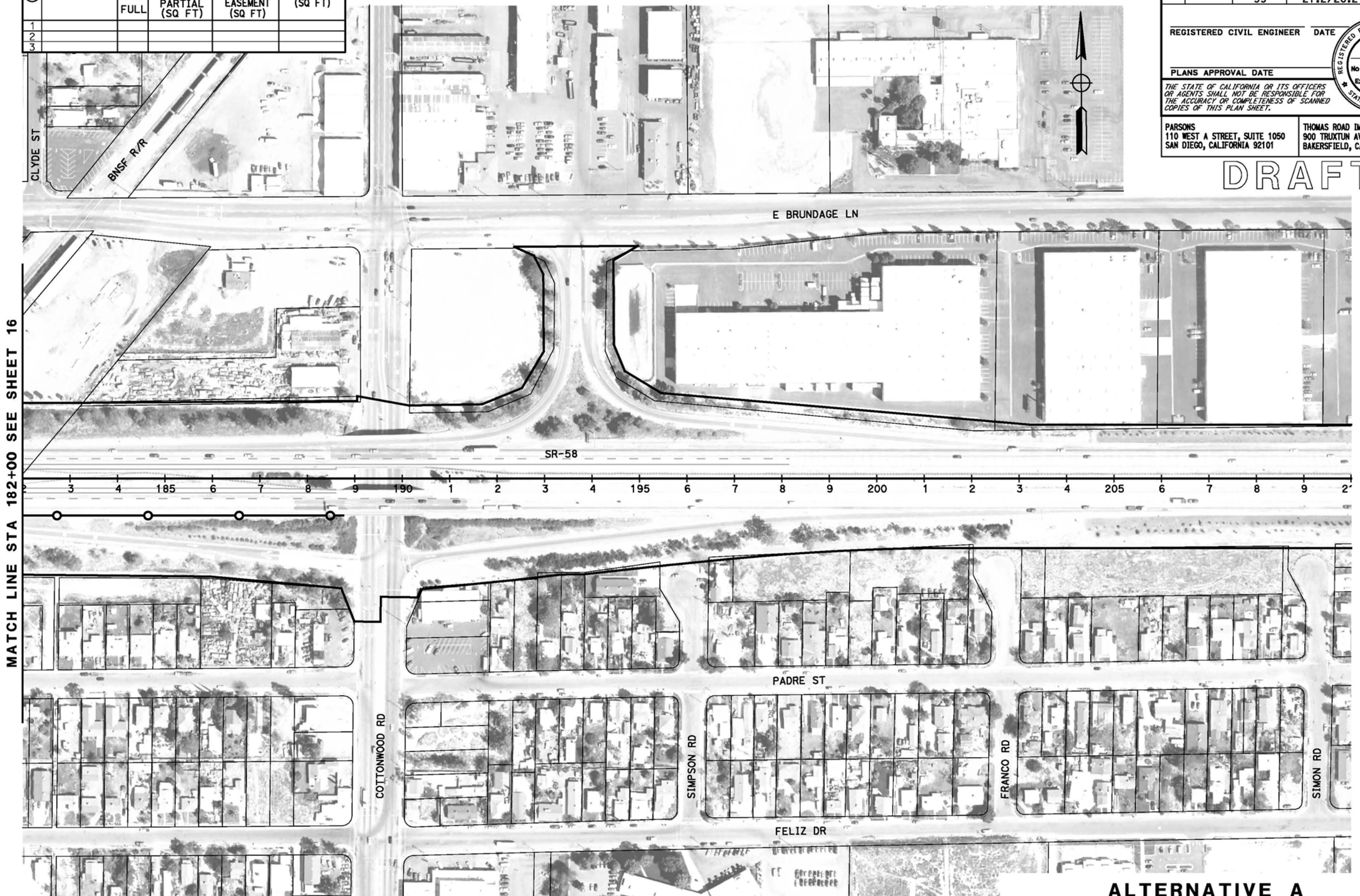

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RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	C.O.B	X			
2	C.O.B	X			
3	C.O.B	X			
4	C.O.B	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	18	

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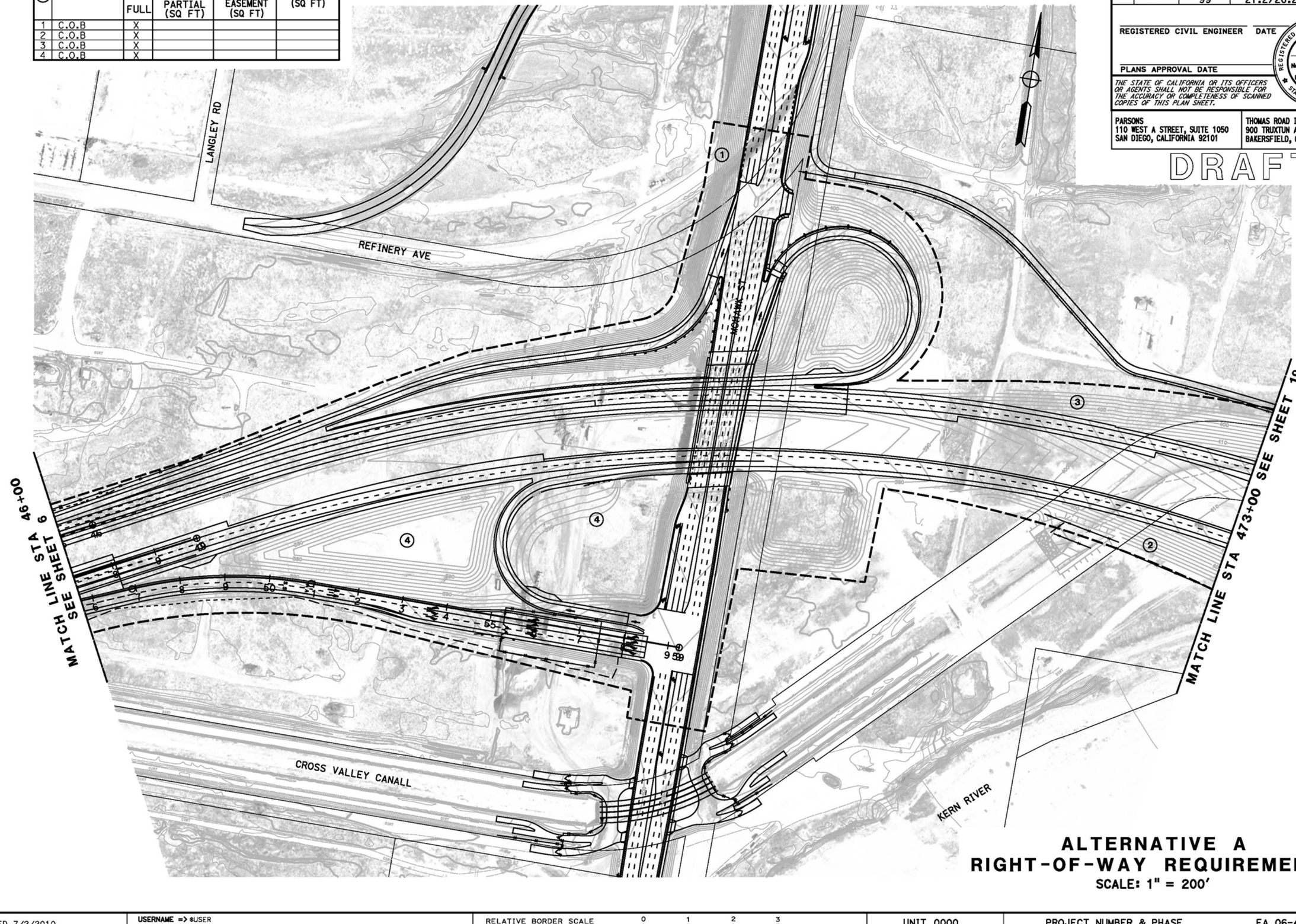

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RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	332-280-31		169		
2	C.O.B	X			
3	C.O.B	X			
4	C.O.B	X			
5	C.O.B	X			
6	C.O.B	X			
7	C.O.B	X			
8	C.O.B	X			
9	331-330-41		1,262		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	19	

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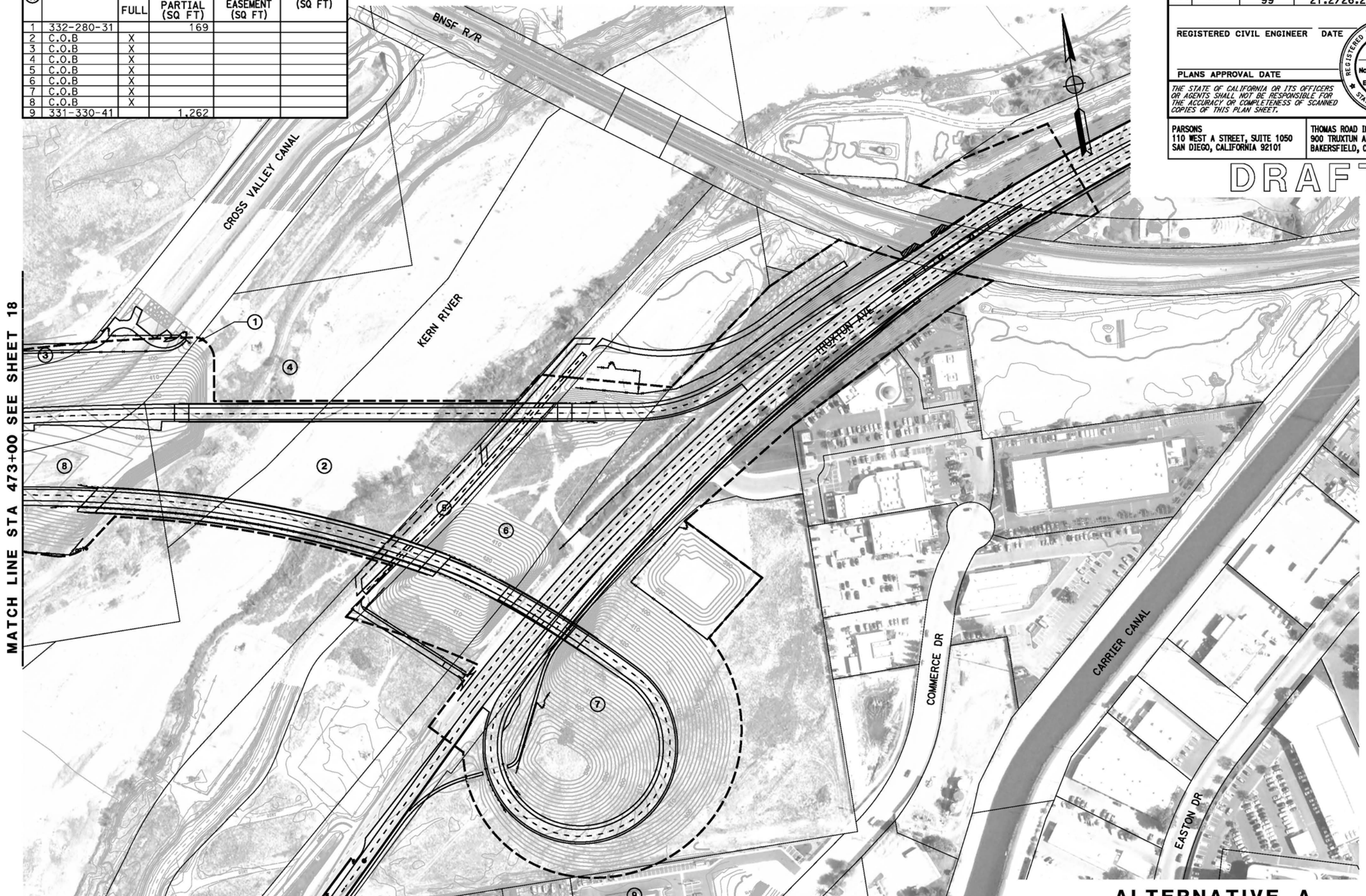

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	20	

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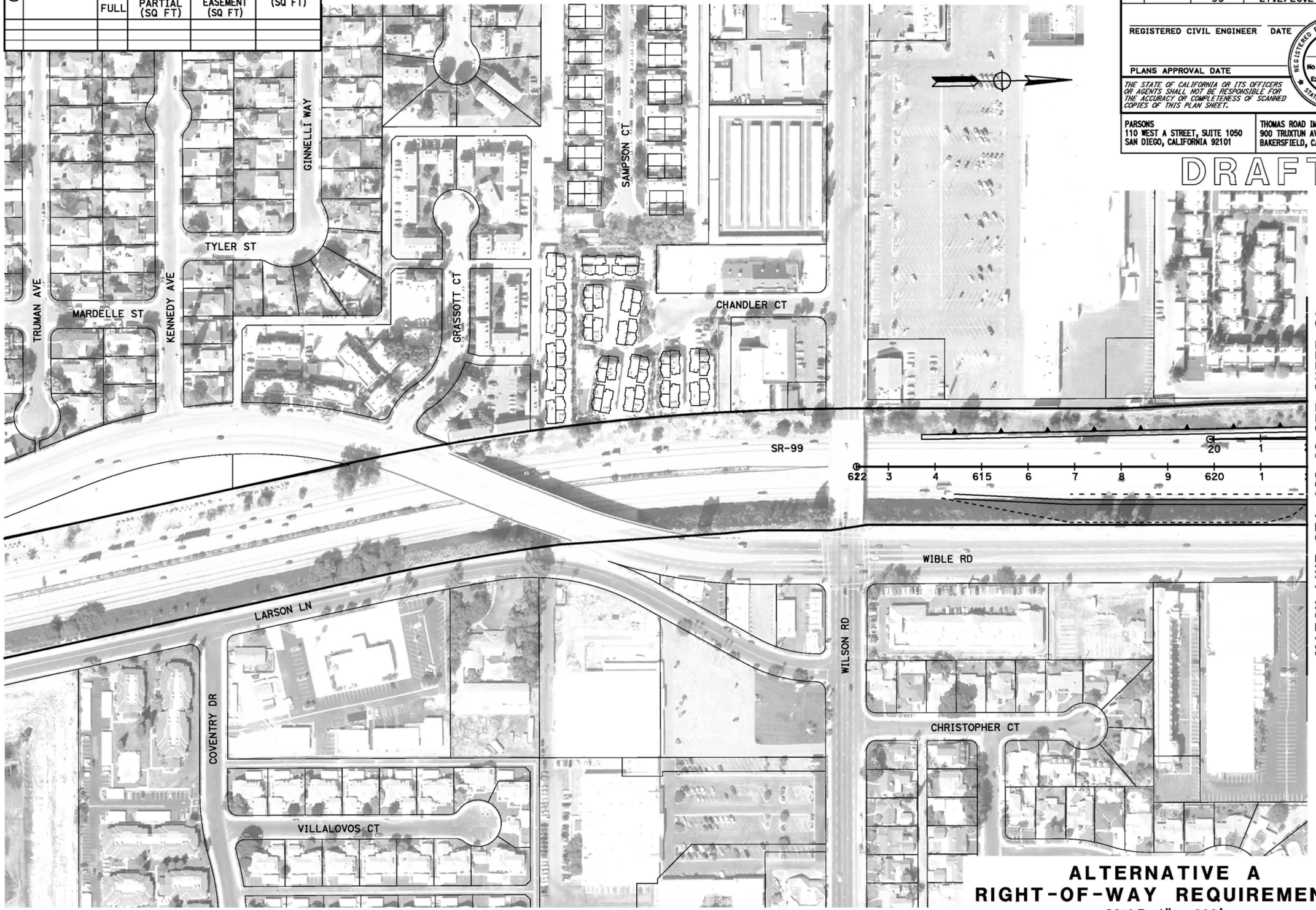

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1					
2					
3					

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	21	

REGISTERED CIVIL ENGINEER DATE

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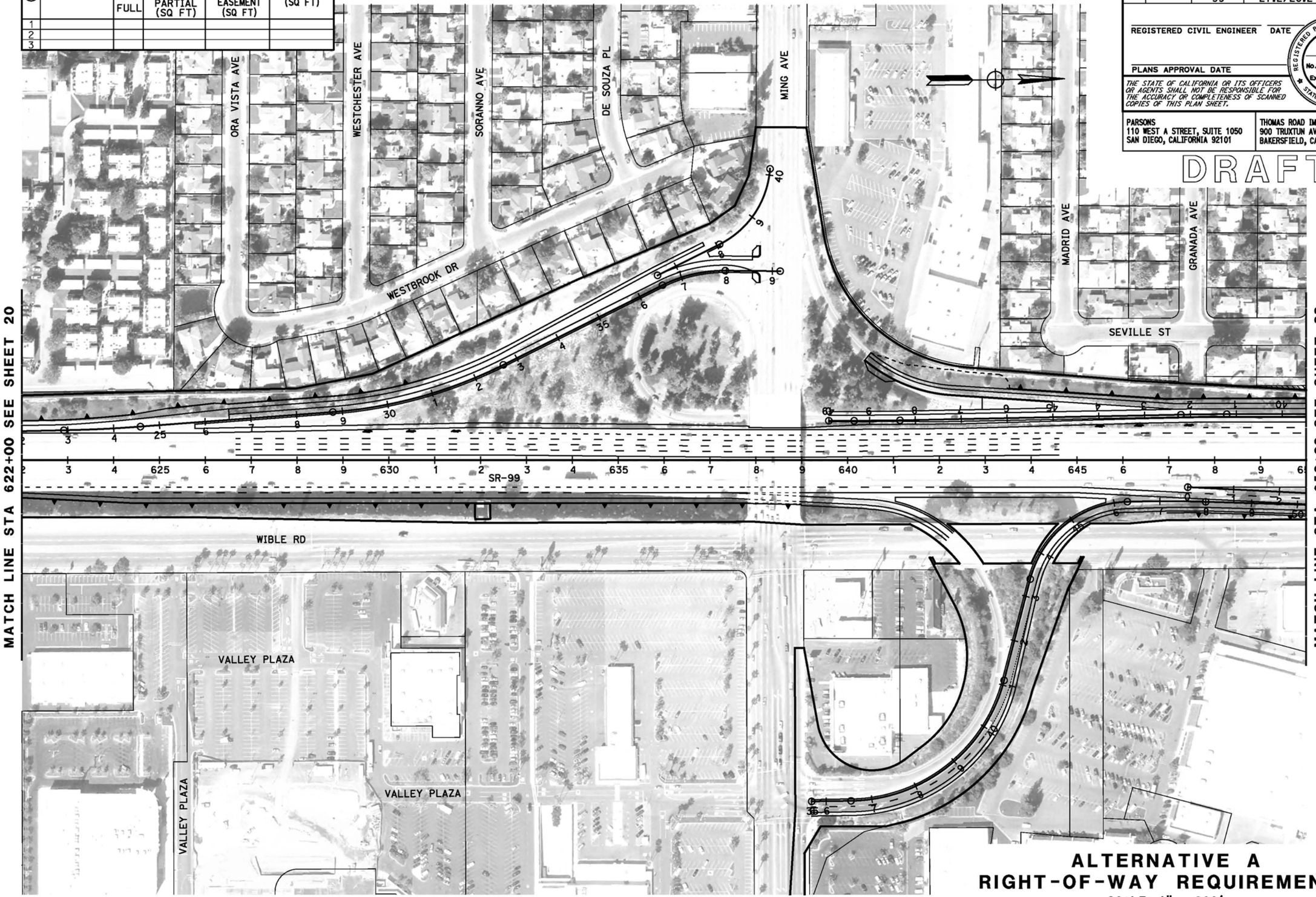

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	164-010-08				138
2	NOT USED				
3	NOT USED				
4	149-250-50		36		255
5	148-240-37		4,263		
6	148-240-38		1,753		
7	NOT USED				
8	148-240-55		2,767		
9	149-240-07	X			
10	149-240-18	X			
11	149-240-19	X			
12	149-250-09		2,025		331
13	149-250-10	X			
14	149-250-42	X			
15	149-250-43	X			
16	149-250-47	X			
17	149-250-48	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
18	149-250-49	X			
19	164-010-09				98
20	164-010-10	X			
21	164-010-18	X			
22	164-010-19	X			
23	164-010-20	X			
24	164-010-38	X			
25	164-040-30		3,037	5,140	3,605
26	164-390-02		10	230	335
27	NOT USED				
28	164-390-01	X			
29	NOT USED				
30	NOT USED				
31	NOT USED				
32	NOT USED				
33	NOT USED				
34	NOT USED				

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
35	NOT USED				
36	147-111-07				688
37	147-111-09				402
38	147-111-11				432
39	147-111-13				550
40	147-112-01				398
41	148-240-02				250
42	148-240-01	X			
43	147-112-06				10
44	147-112-07	X			
45	148-240-39	X			
46	147-112-08	X			
47	147-112-09	X			
48	147-103-12			552	535
49	147-101-14			55	164
50	147-101-21			472	460
51	147-101-20			374	277

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	22	

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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BAKERSFIELD, CALIFORNIA 93301

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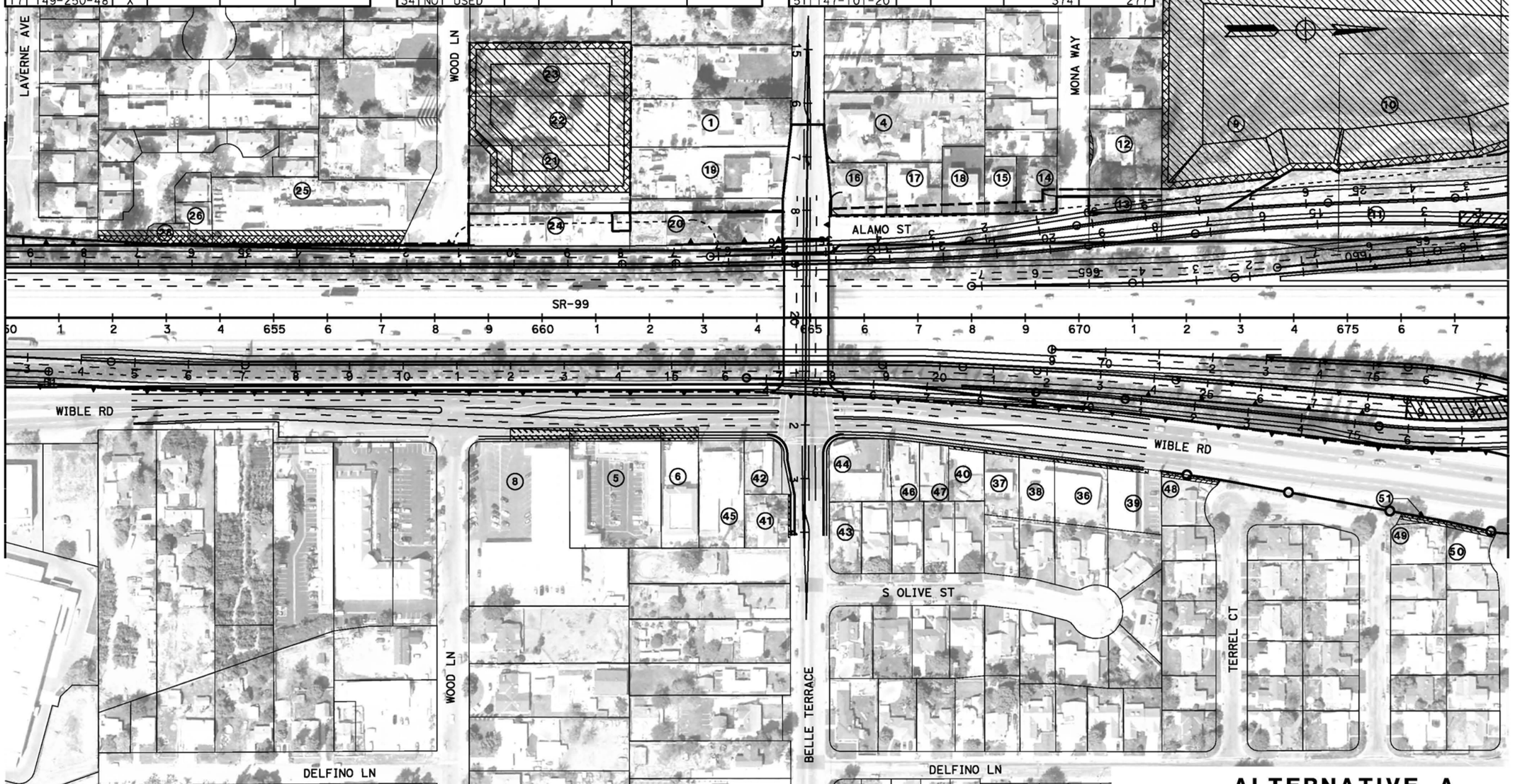

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

22

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	332-152-31			57	
2	332-152-32			3,244	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	23	

REGISTERED CIVIL ENGINEER DATE

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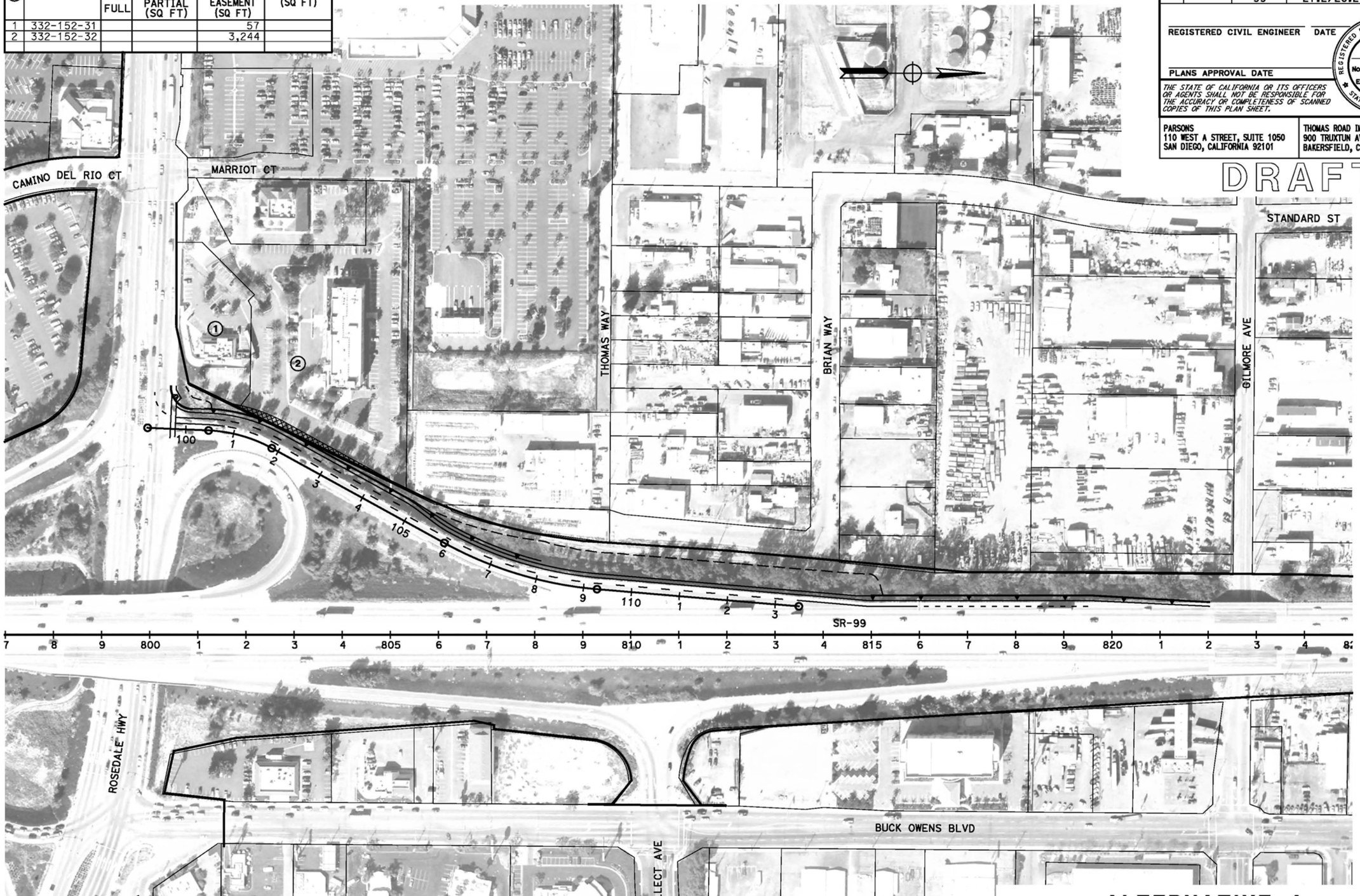

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

23

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	104-291-31		404		
2	104-291-32		10,889		
3	104-291-33		12,582		
4	104-292-04		16,332		
5	160-010-07		49,505		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	24	

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

24

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	25	

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	104-292-04		16,332		
2	160-010-07		49,505		
3	160-010-42		86,325		

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

25

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PROJECT NUMBER & PHASE
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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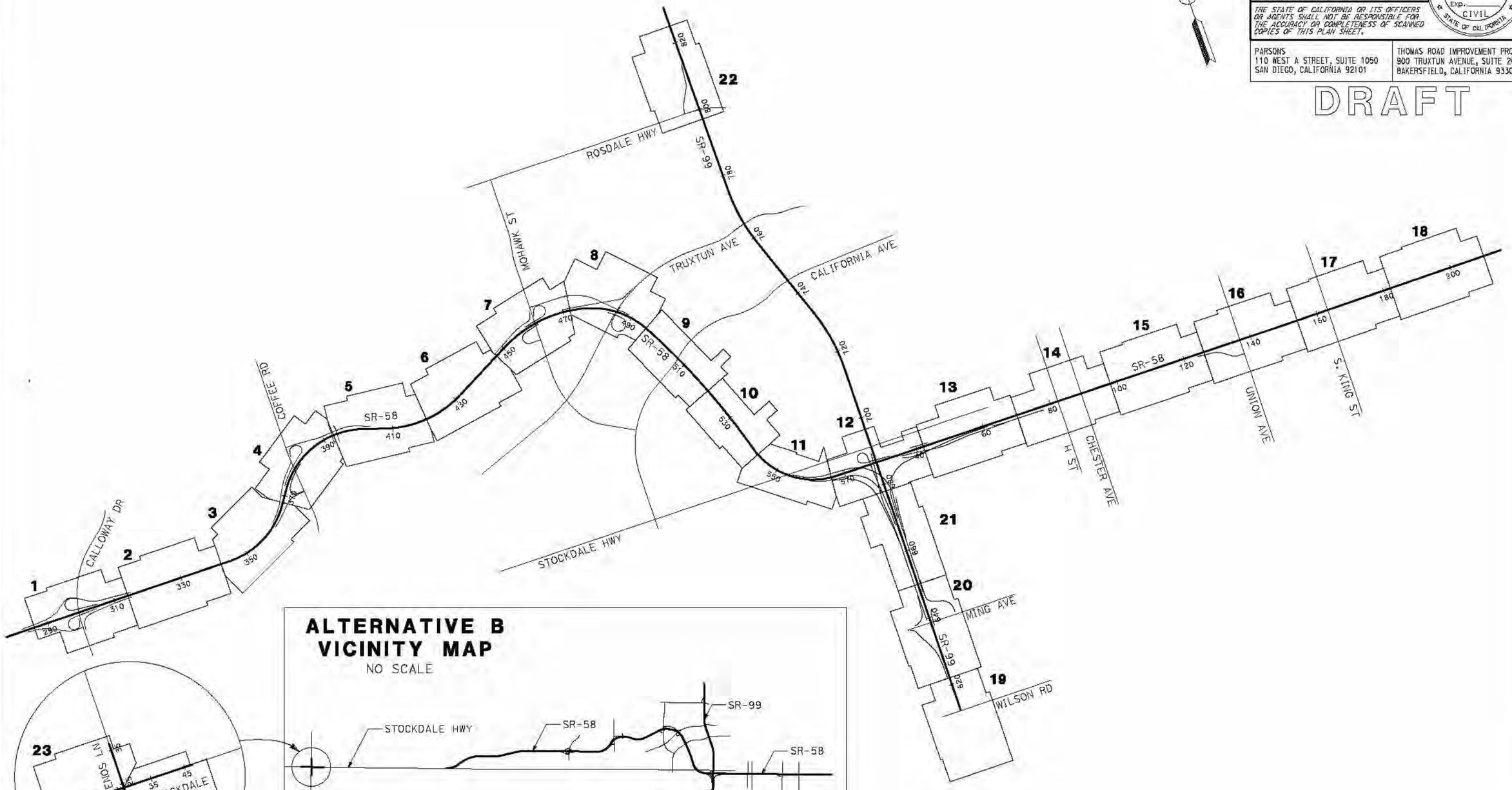
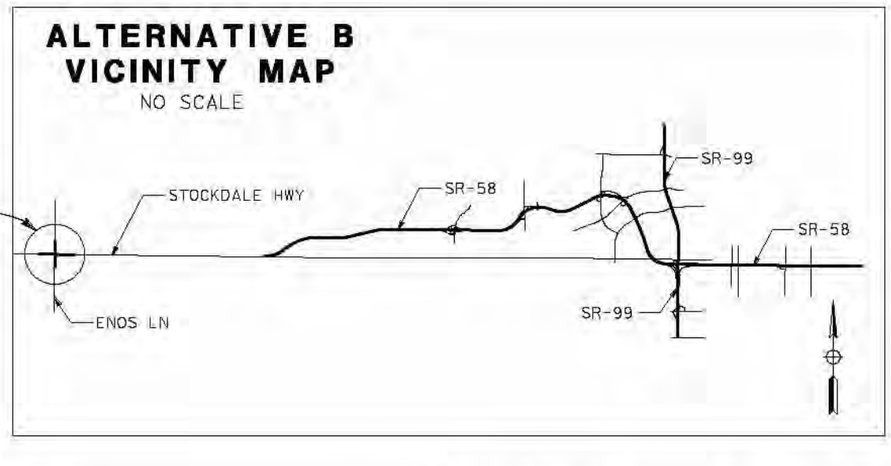


ALTERNATIVE B VICINITY MAP

NO SCALE



ALTERNATIVE B KEY MAP

NO SCALE

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	500-150-01	X			
2	500-560-01	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	1	

REGISTERED CIVIL ENGINEER DATE

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SIOUX CREEK DR
VERDUGO LN
BAY COLONY DR
CALLOWAY DR
METHERLY HILL RD
MAIDENSFORD DR
BATTERSEA PARK DR
ASHBOURN DR
LAKEHILL WAY
GLENEAGLES DR
CROSS VALLEY CANAL

MATCH LINE STA 314+00 SEE SHEET 2

LEGEND

- EXISTING PARCEL BOUNDARY
- EXISTING STATE RIGHT OF WAY
- PROPOSED STATE RIGHT OF WAY
- PROPOSED ROADWAY
- EXISTING ROADWAY
- RETAINING WALL
- SOUNDWALL
- GRADING LIMIT (CUT)
- GRADING LIMIT (FILL)
- DRAINAGE BASIN
- TEMPORARY CONSTRUCTION EASMENT
- WALL EASEMENT
- CLOSED RAMP

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

1

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	500-150-01	X			
2	501-010-24	X			
3	501-010-39	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	2	

REGISTERED CIVIL ENGINEER DATE

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ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

2

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	501-010-24	X			
2	501-010-23	X			
3	501-010-22	X			
4	501-250-16		20		
5	501-010-10		4,034		
6	501-010-14	X			
7	501-010-15	X			
8	501-010-48	X			
9	501-010-58	X			
10	501-010-56	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	3	

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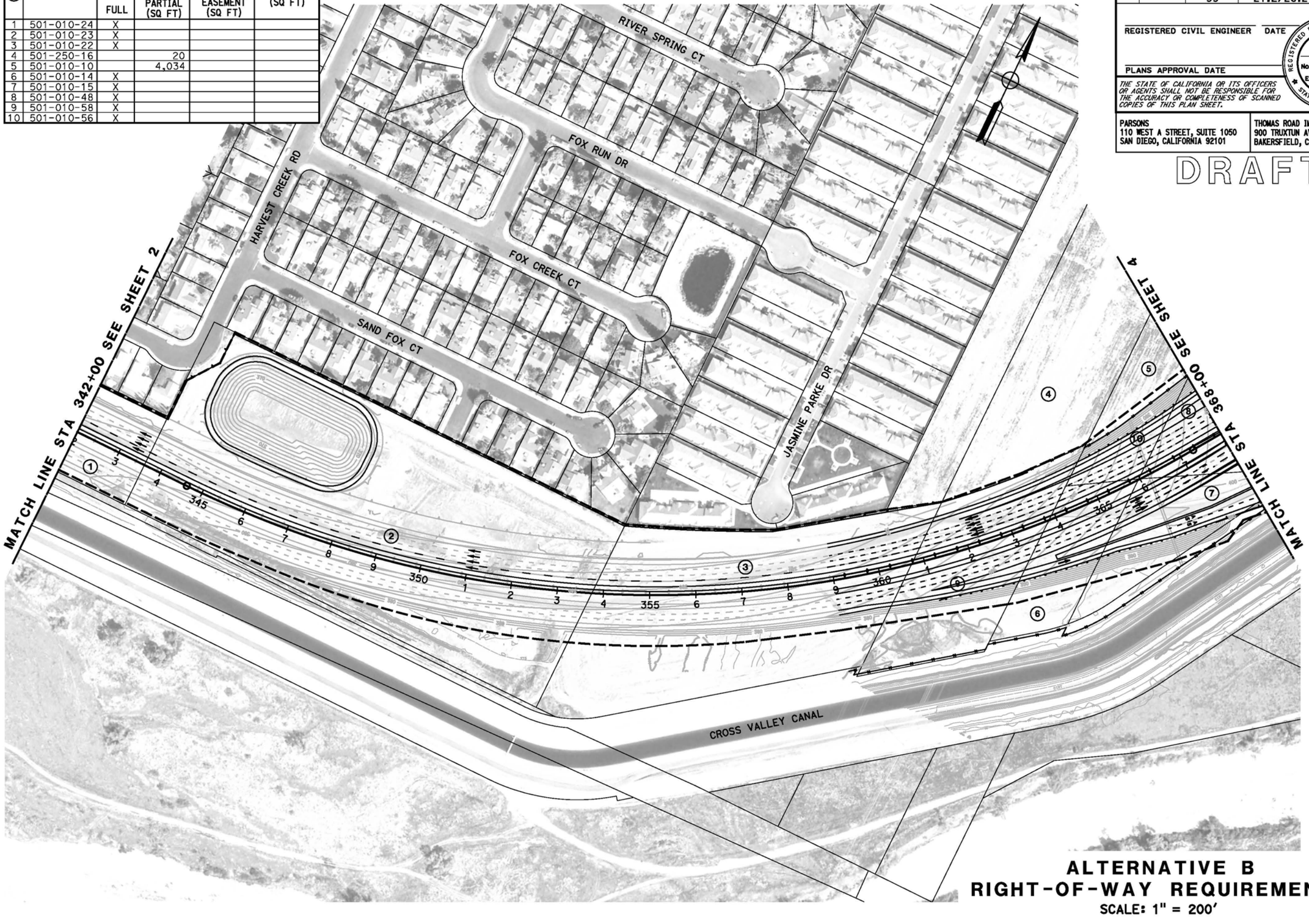

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

3

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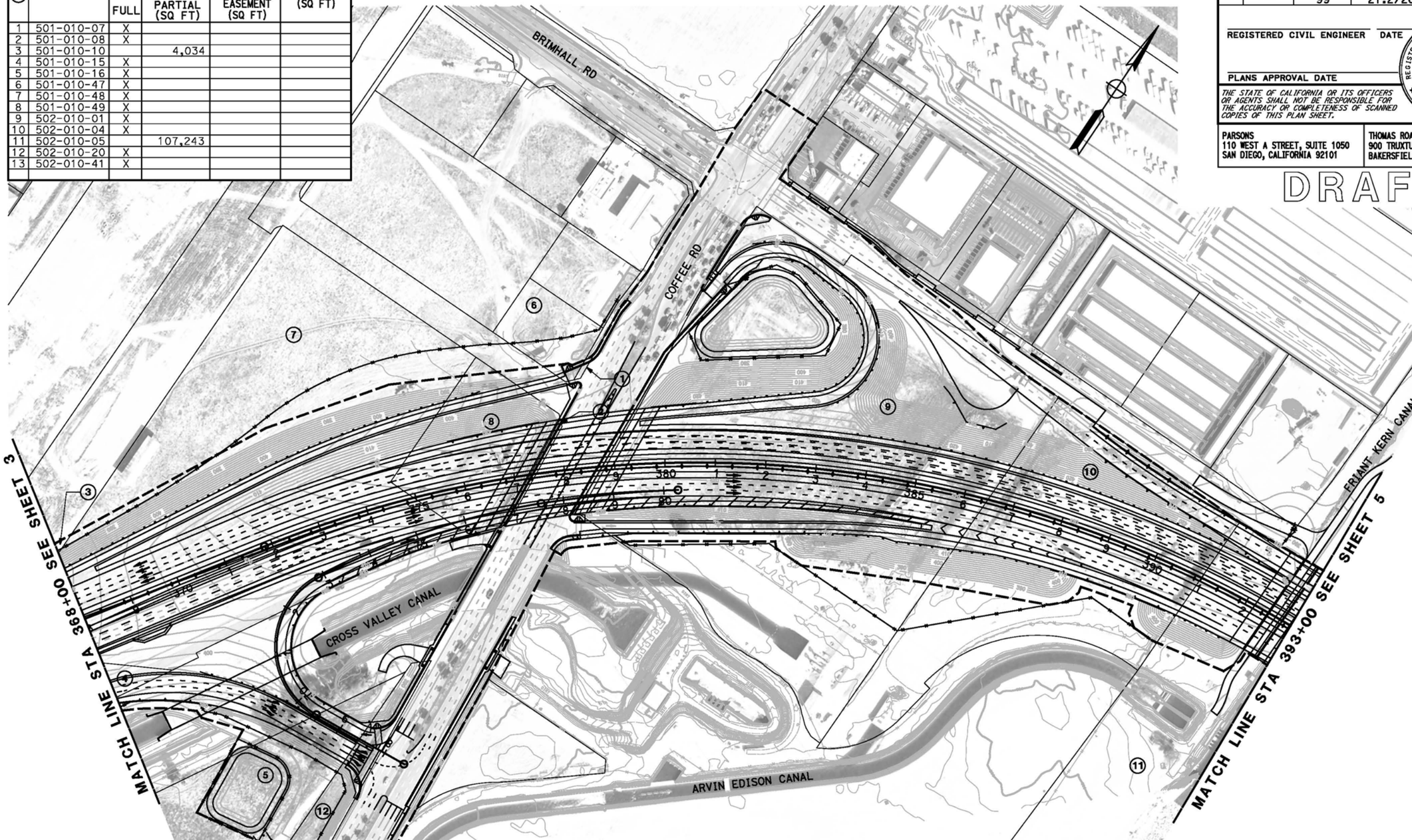
RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	501-010-07	X			
2	501-010-08	X			
3	501-010-10		4,034		
4	501-010-15	X			
5	501-010-16	X			
6	501-010-47	X			
7	501-010-48	X			
8	501-010-49	X			
9	502-010-01	X			
10	502-010-04	X			
11	502-010-05		107,243		
12	502-010-20	X			
13	502-010-41	X			



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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	4	

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ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

4

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UNIT 0000

PROJECT NUMBER & PHASE

EA 06-48460

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	C.O.B	X			
2	502-010-05		107,243		
3	502-010-44	X			
4	502-010-45	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	5	

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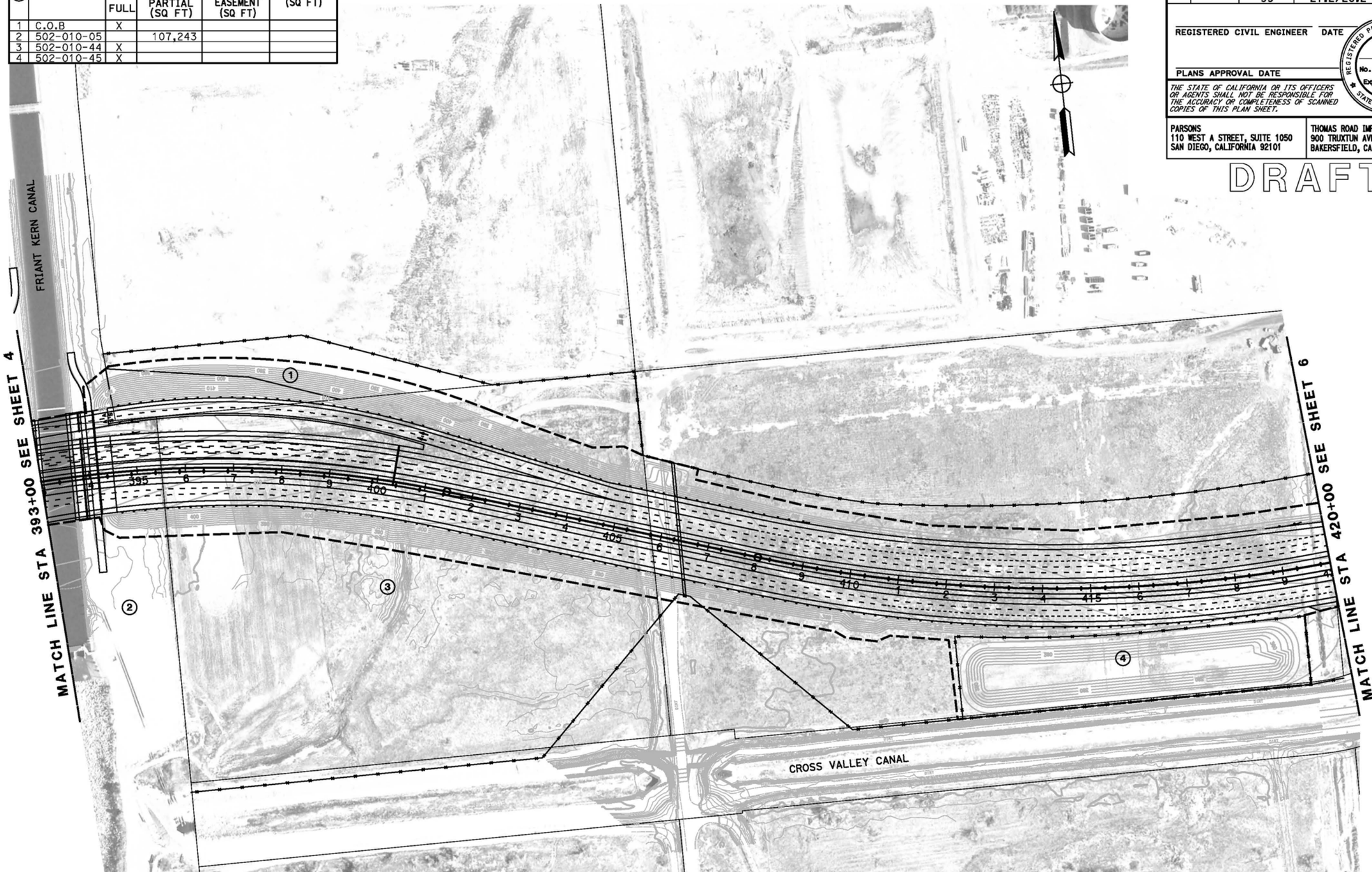

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

5

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	331-021-02	X			
2	C.O.B	X			
3	502-010-47		4		
4	C.O.B	X			
5	502-010-12	X			
6	C.O.B	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	6	

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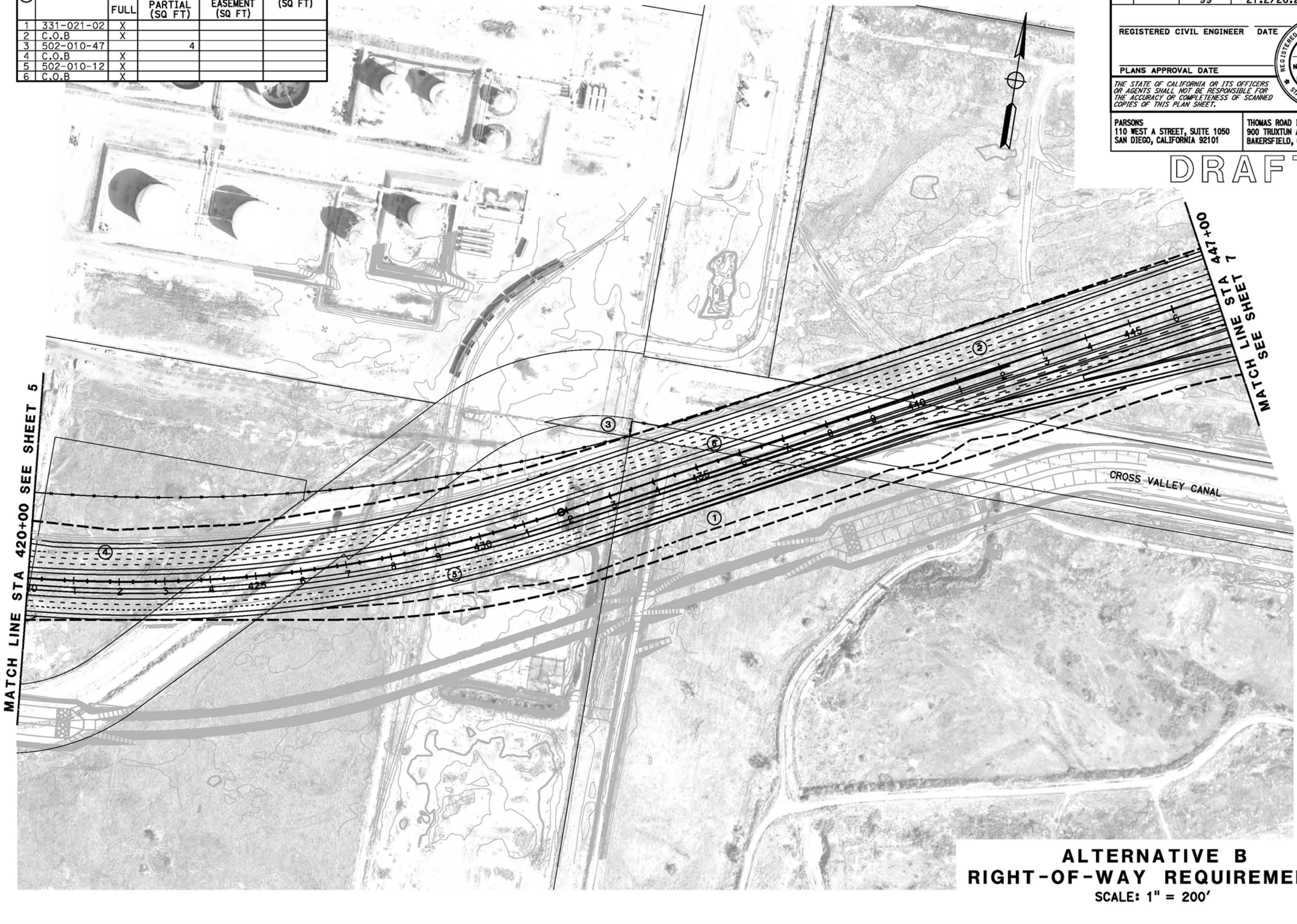

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

6

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	C.O.B	X			
2	332-280-28		22,446		
3	332-280-27		333,803		
4	C.O.B	X			
5	C.O.B	X			
6	C.O.B	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	7	

REGISTERED CIVIL ENGINEER DATE

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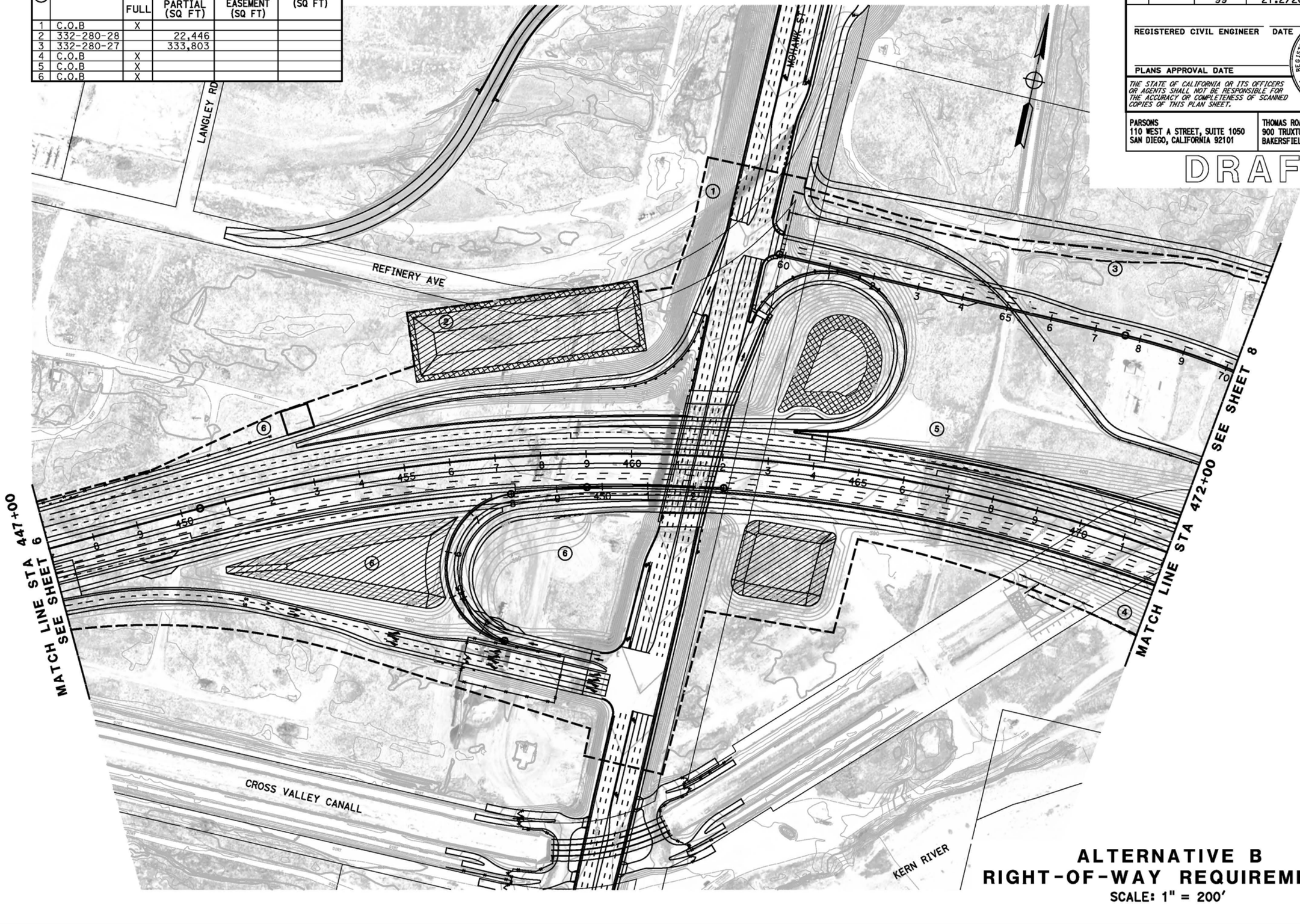

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	020-600-08		20,378		
2	331-330-28		8		
3	331-330-41		1,262		
4	NOT USED				
5	332-256-05		11,985		
6	NOT USED				
7	332-256-48	X			
8	NOT USED				
9	NOT USED				
10	332-280-27		333,803		
11	332-280-31		16,322		
12	C.O.B	X			
13	NOT USED				
14	NOT USED				
15	C.O.B	X			
16	C.O.B	X			
17	C.O.B	X			
18	C.O.B	X			
19	C.O.B	X			
20	C.O.B	X			
21	C.O.B	X			
22	332-280-32		7,049		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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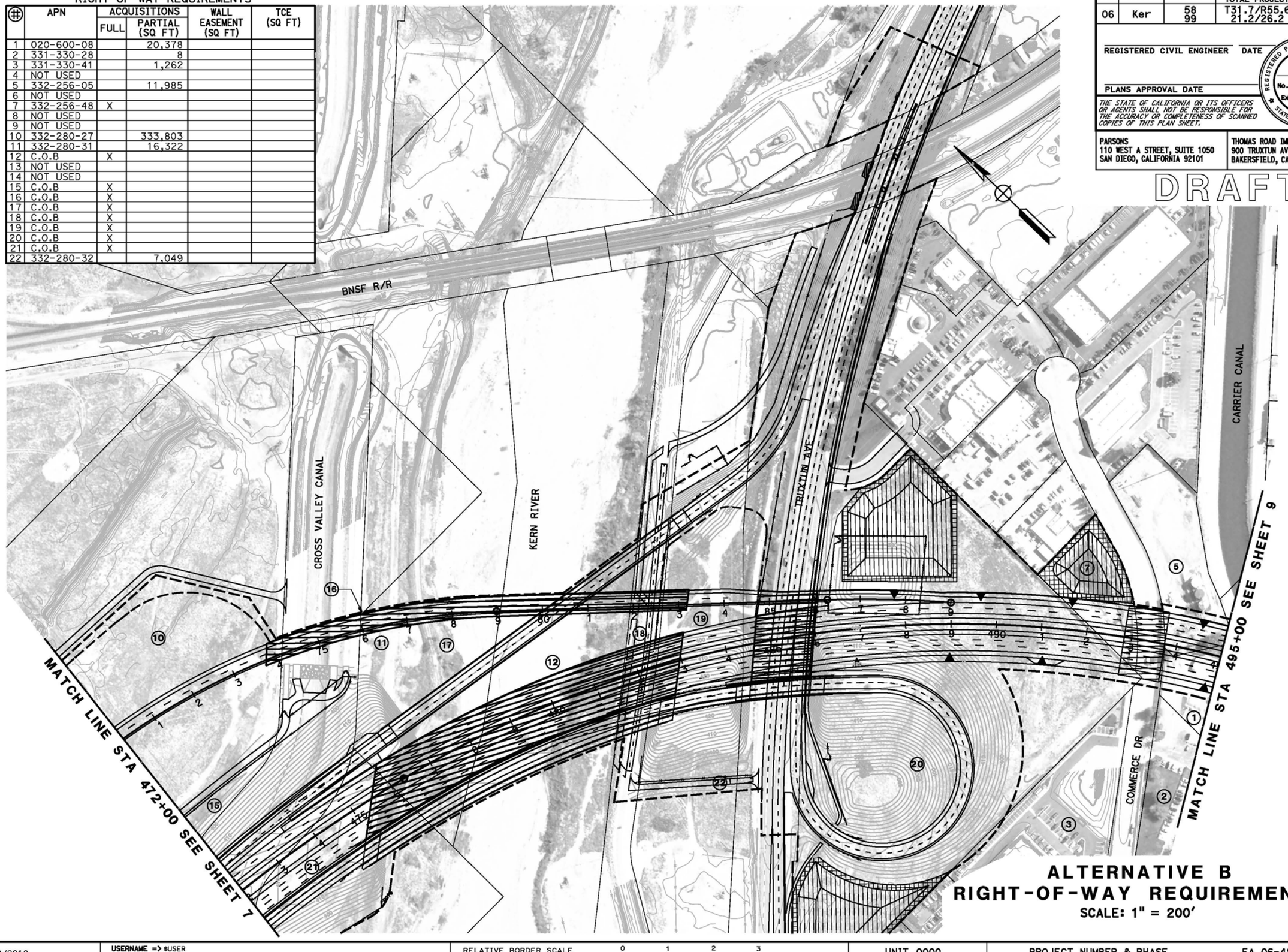

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

8

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RIGHT-OF-WAY REQUIREMENTS

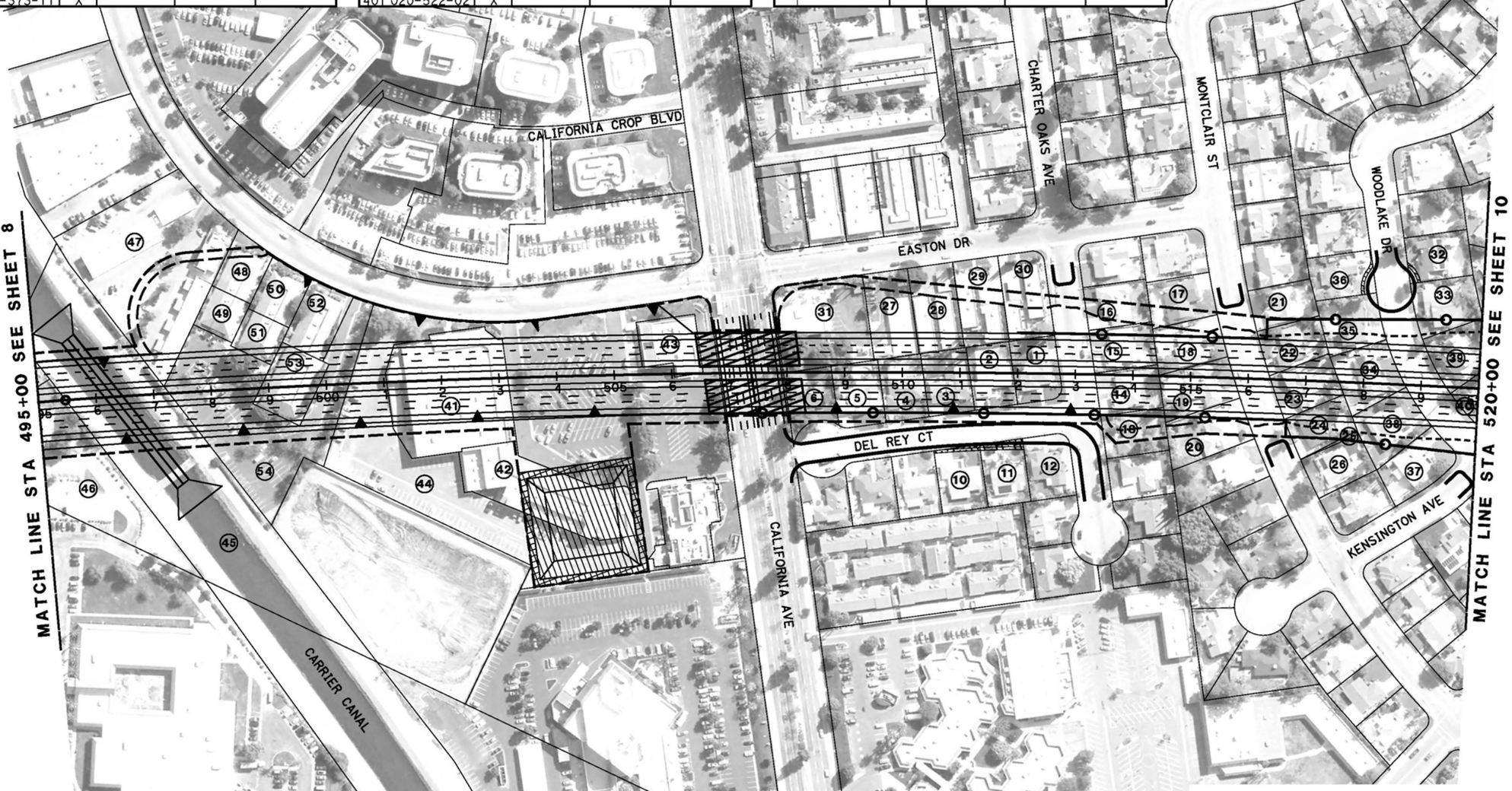
#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	020-371-01	X			
2	020-371-02	X			
3	020-371-03	X			
4	020-371-04	X			
5	020-371-05	X			
6	020-371-06	X			
7	NOT USED				
8	NOT USED				
9	NOT USED				
10	020-372-04			165	396
11	020-372-05		334	377	377
12	020-372-06	X			
13	020-373-02	X			
14	020-373-03	X			
15	020-373-04	X			
16	020-373-05	X			
17	020-373-08	X			
18	020-373-09	X			
19	020-373-10	X			
20	020-373-11	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
21	020-374-04	X			
22	020-374-10	X			
23	020-374-11	X			
24	020-374-12	X			
25	020-374-13	X			
26	020-383-02	X			
27	020-401-03	X			
28	020-401-04	X			
29	020-401-05	X			
30	020-401-06	X			
31	020-401-07	X			
32	020-512-09		270		192
33	020-512-10	X			
34	020-513-01	X			
35	020-513-02	X			
36	020-513-03		673		332
37	020-521-01	X			
38	020-521-02	X			
39	020-522-01	X			
40	020-522-02	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
41	020-600-01	X			
42	020-600-02	X			
43	020-600-04	X			
44	020-600-05	X			
45	020-600-07		32,692		
46	020-600-08		20,378		
47	332-332-13		22,012		
48	332-332-14	X			
49	332-332-15	X			
50	332-332-16	X			
51	332-332-17	X			
52	332-332-18	X			
53	332-332-19	X			
54	332-332-20	X			



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	9	

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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BAKERSFIELD, CALIFORNIA 93301

DRAFT

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

9

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	NOT USED				
2	020-261-02		35	101	162
3	020-261-03	X			
4	020-261-04	X			
5	020-261-05	X			
6	020-261-06	X			
7	020-261-07	X			
8	020-262-01		78		
9	020-262-02	X			
10	020-262-03	X			
11	020-262-04	X			
12	020-262-05	X			
13	020-262-06	X			
14	020-262-07	X			
15	020-262-08	X			
16	020-265-01	X			
17	020-265-02	X			
18	020-265-03	X			
19	020-265-04	X			
20	020-265-05	X			
21	020-265-06	X			
22	020-265-07	X			
23	020-265-08	X			
24	020-265-21	X			
25	020-295-01		322		
26	NOT USED				
27	NOT USED				
28	NOT USED				
29	NOT USED				
30	NOT USED				
31	020-265-22	X			
32	020-295-02	X			
33	020-351-52		551		354
34	020-351-53		347		314
35	NOT USED				
36	020-351-55	X			
37	020-352-01	X			
38	020-352-02		590		354
39	020-352-03		198		356
40	NOT USED				
41	020-471-01	X			
42	020-471-02	X			
43	020-471-03	X			
44	020-471-04	X			
45	020-741-05	X			
46	020-471-06	X			
47	020-471-07	X			
48	020-471-08	X			
49	020-471-09	X			
50	020-471-10	X			
51	020-471-11	X			
52	020-471-12		919	694	1136
53	020-471-13		167	400	477
54	NOT USED				
55	NOT USED				
56	NOT USED				
57	NOT USED				
58	020-474-04		74		171
59	020-474-05		325		283
60	020-474-06		785		366
61	020-474-07		1109		327
62	020-474-08	X			
63	020-474-09	X			
64	020-474-10	X			
65	020-474-11	X			
66	020-474-12	X			
67	020-474-13	X			
68	020-474-14	X			
69	020-474-15	X			
70	020-474-16	X			
71	020-474-17	X			
72	020-474-18	X			
73	020-474-19	X			
74	020-474-23	X			
75	020-474-24	X			
76	NOT USED	X			
77	020-481-05	X			
78	020-481-06	X			
79	020-481-07	X			
80	020-481-08	X			
81	020-481-09	X			
82	020-481-10	X			
83	020-481-11	X			
84	NOT USED				
85	020-481-15	X			
86	020-481-16	X			
87	NOT USED				
88	020-482-06	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
89	020-482-07	X			
90	020-482-08	X			
91	020-482-09	X			
92	020-482-10	X			
93	020-482-11	X			
94	020-482-12	X			
95	020-482-13	X			
96	020-482-14	X			
97	020-482-15	X			
98	020-482-16	X			
99	020-482-17	X			
100	020-482-18	X			
101	020-482-19	X			
102	020-482-20	X			
103	020-482-21	X			
104	020-482-22	X			
105	020-482-23	X			
106	020-482-24	X			
107	020-482-25	X			
108	020-482-26	X			
109	020-482-27	X			
110	020-482-28	X			
111	020-482-29			393	366
112	020-482-30			333	370

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
113	020-522-02	X			
114	020-522-03	X			
115	020-522-04	X			
116	020-522-05		747		
117	020-522-09	X			
118	020-524-06		32	87	69
119	020-524-07	X			
120	020-524-08	X			
121	020-524-09	X			
122	020-524-10	X			
123	020-524-11	X			
124	020-524-12	X			
125	020-524-16		57		488
126	020-524-17	X			
127	020-524-18	X			
128	020-524-19	X			
129	020-524-20	X			
130	020-524-21	X			
131	020-524-24	X			
132	020-524-25	X			
133	020-524-26	X			
134	020-524-28	X			
135	020-524-29	X			
136	020-295-03	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	10	

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

PLANS APPROVAL DATE

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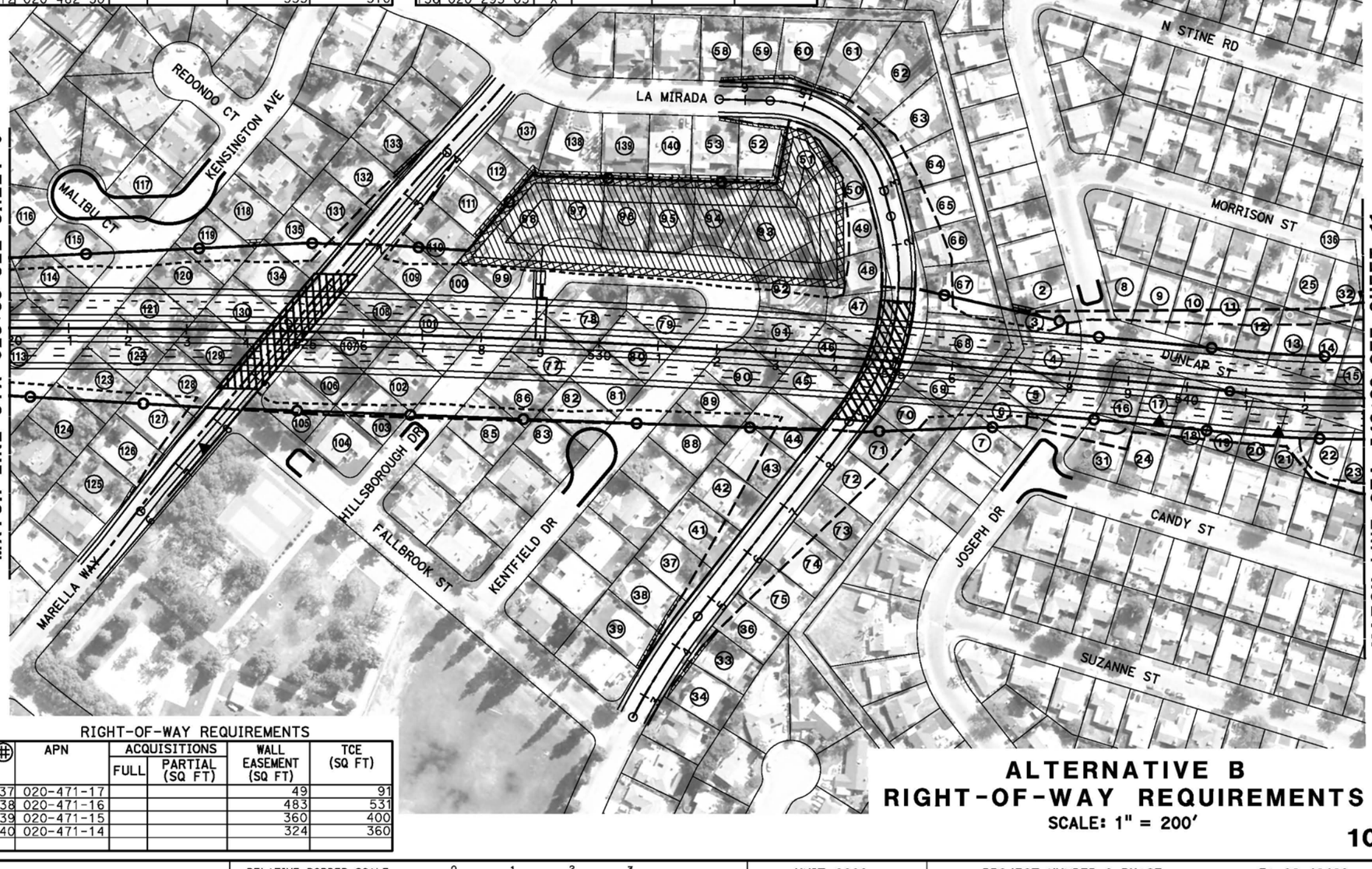

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
137	020-471-17			49	91
138	020-471-16			483	531
139	020-471-15			360	400
140	020-471-14			324	360

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

10

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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08-15-12

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE

EA 06-48460

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	020-262-08	X			
2	020-262-09	X			
3	020-262-10	X			
4	020-262-11	X			
5	020-262-12	X			
6	020-263-01	X			
7	020-263-02	X			
8	020-263-03	X			
9	020-263-04				53
10	020-265-08	X			
11	020-265-09	X			
12	020-265-10	X			
13	020-265-11	X			
14	020-293-02	X			
15	020-293-03	X			
16	020-293-04	X			
17	020-293-05	X			
18	020-293-06	X			
19	020-293-07	X			
20	020-293-08	X			
21	020-293-09	X			
22	020-293-10	X			
23	020-293-11	X			
24	020-293-12	X			
25	020-293-13	X			
26	020-293-14	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
27	020-294-01	X			
28	020-294-02	X			
29	020-294-03	X			
30	020-294-04	X			
31	020-294-05	X			
32	020-294-06	X			
33	020-295-03	X			
34	020-295-04	X			
35	020-295-05	X			
36	020-295-06	X			
37	020-295-07	X			
38	149-101-01	X			
39	149-221-03	X			
40	149-221-04	X			
41	020-293-01		130		
42	NOT USED				
43	149-221-16	X			
44	149-221-15	X			
45	149-221-17	X			
46	NOT USED				
47	149-221-21	X			
48	149-221-26	X			
49	149-221-27	X			
50	149-222-01	X			
51	149-222-12	X			
52	149-222-14	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
53	149-222-15	X			
54	149-222-16	X			
55	149-222-17	X			
56	149-222-18	X			
57	NOT USED				
58	149-222-26	X			
59	149-222-31	X			
60	149-222-33	X			
61	149-222-34	X			
62	149-222-35	X			
63	149-232-01		628		234
64	149-232-02	X			
65	149-233-01	X			
66	149-233-04	X			
67	149-233-05	X			
68	149-233-08	X			
69	149-320-01	X			
70	149-320-02	X			
71	149-320-03	X			
72	149-320-04	X			
73	149-320-05	X			
74	149-320-06	X			
75	149-320-07	X			
76	149-320-08		564		232
77	149-320-09		369		214
78	149-221-20		942		
79	149-221-05		589		
80	149-221-08		592		

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

11

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	11	

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	147-032-13		1,001	497	498
2	149-190-17	X			
3	147-026-14		1,001	497	498
4	147-026-16		1,399	458	439
5	147-031-08			498	
6	147-031-27	X			
7	147-032-06			477	538
8	147-032-25			746	831
9	147-032-27	X			
10	149-180-02	X			
11	149-180-03	X			
12	149-180-21	X			
13	149-180-24	X			
14	149-180-25	X			
15	149-190-18	X			
16	149-190-06	X			
17	149-190-08	X			
18	149-190-09	X			
19	149-190-10	X			
20	149-190-11	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
21	149-190-16	X			
22	149-190-05		2,845		1,102
23	149-200-20	X			
24	149-200-21		11,008	2,033	7,561
25	149-211-01		863		419
26	149-211-02		603		258
27	149-211-08	X			
28	149-211-09	X			
29	149-211-10	X			
30	149-222-04	X			
31	149-222-05	X			
32	149-222-06	X			
33	149-222-07	X			
34	149-222-08	X			
35	149-222-09	X			
36	149-222-29				434
37	149-222-38	X			
38	149-222-39	X			
39	149-233-02	X			
40	149-233-03	X			
41	149-233-04	X			
42	147-031-28			448	498
43	149-212-09			300	300
44	149-212-10			750	800
45	149-213-09			234	
46	149-213-07			410	
47	149-211-07		151	146	198

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	12	

REGISTERED CIVIL ENGINEER DATE

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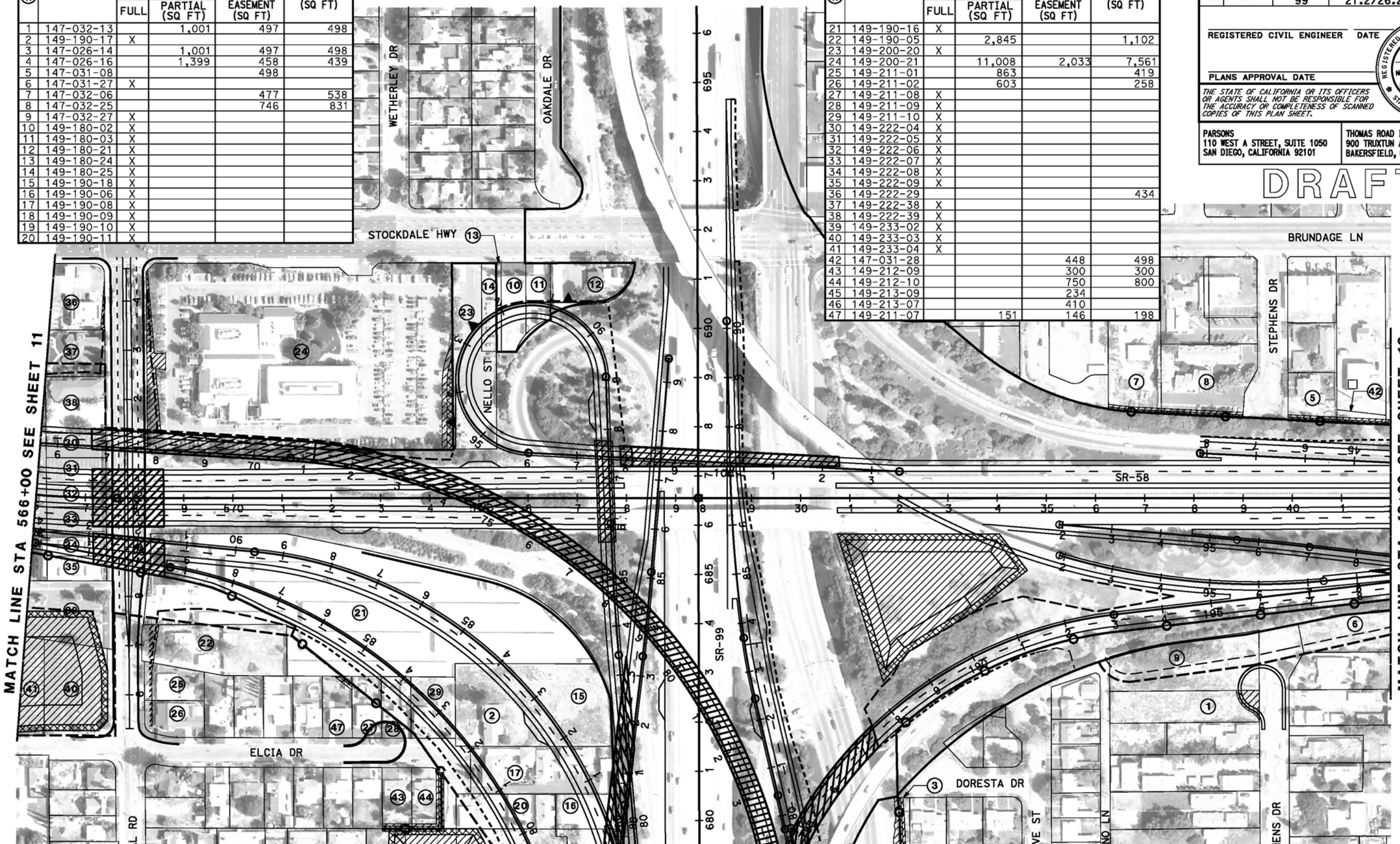

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

12

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	13	

REGISTERED CIVIL ENGINEER DATE

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900 TRUXTUN AVENUE, SUITE 200
BAKERSFIELD, CALIFORNIA 93301

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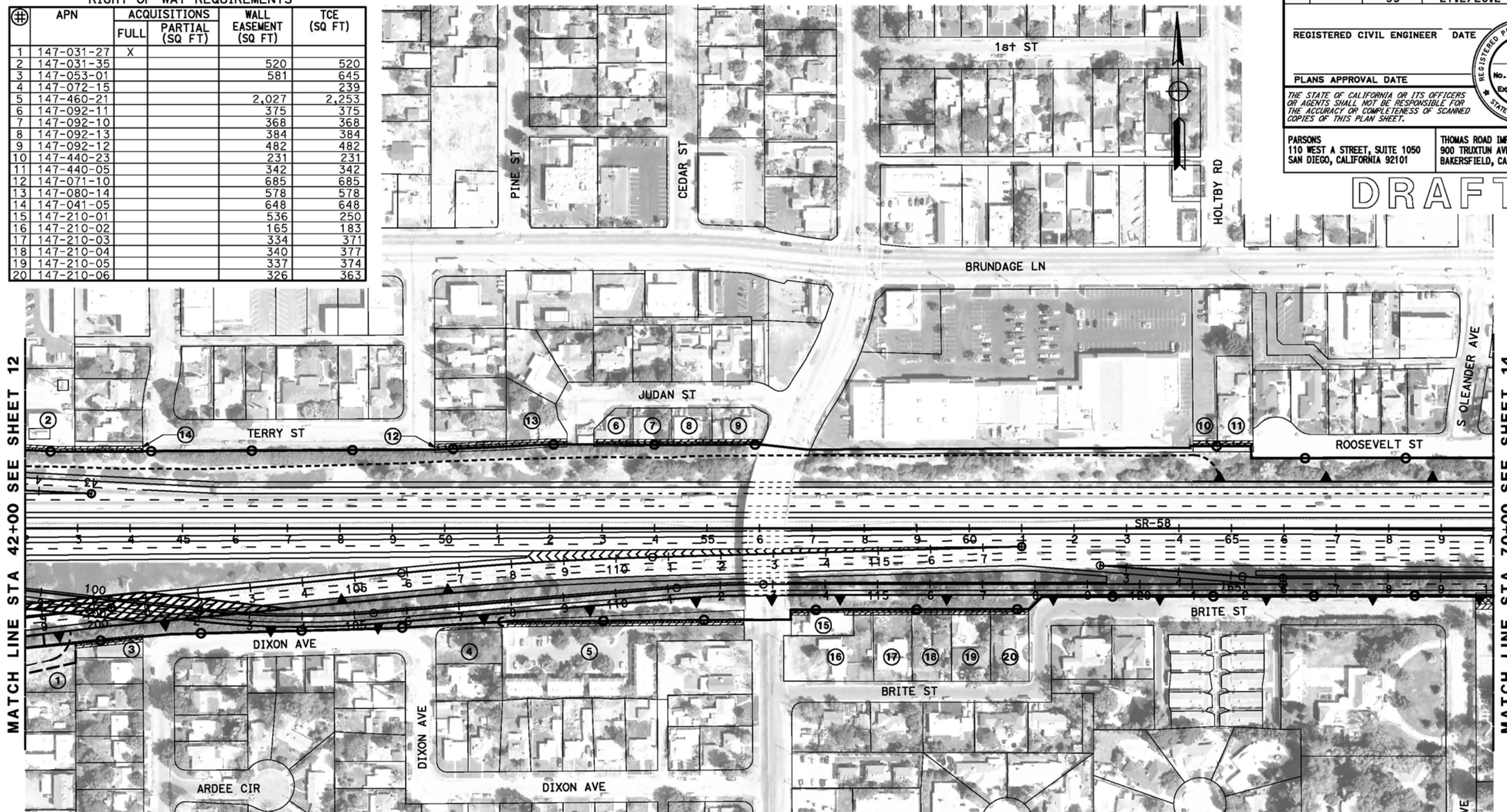
RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	147-031-27	X			
2	147-031-35			520	520
3	147-053-01			581	645
4	147-072-15				239
5	147-460-21			2,027	2,253
6	147-092-11			375	375
7	147-092-10			368	368
8	147-092-13			384	384
9	147-092-12			482	482
10	147-440-23			231	231
11	147-440-05			342	342
12	147-071-10			685	685
13	147-080-14			578	578
14	147-041-05			648	648
15	147-210-01			536	250
16	147-210-02			165	183
17	147-210-03			334	371
18	147-210-04			340	377
19	147-210-05			337	374
20	147-210-06			326	363



ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

13

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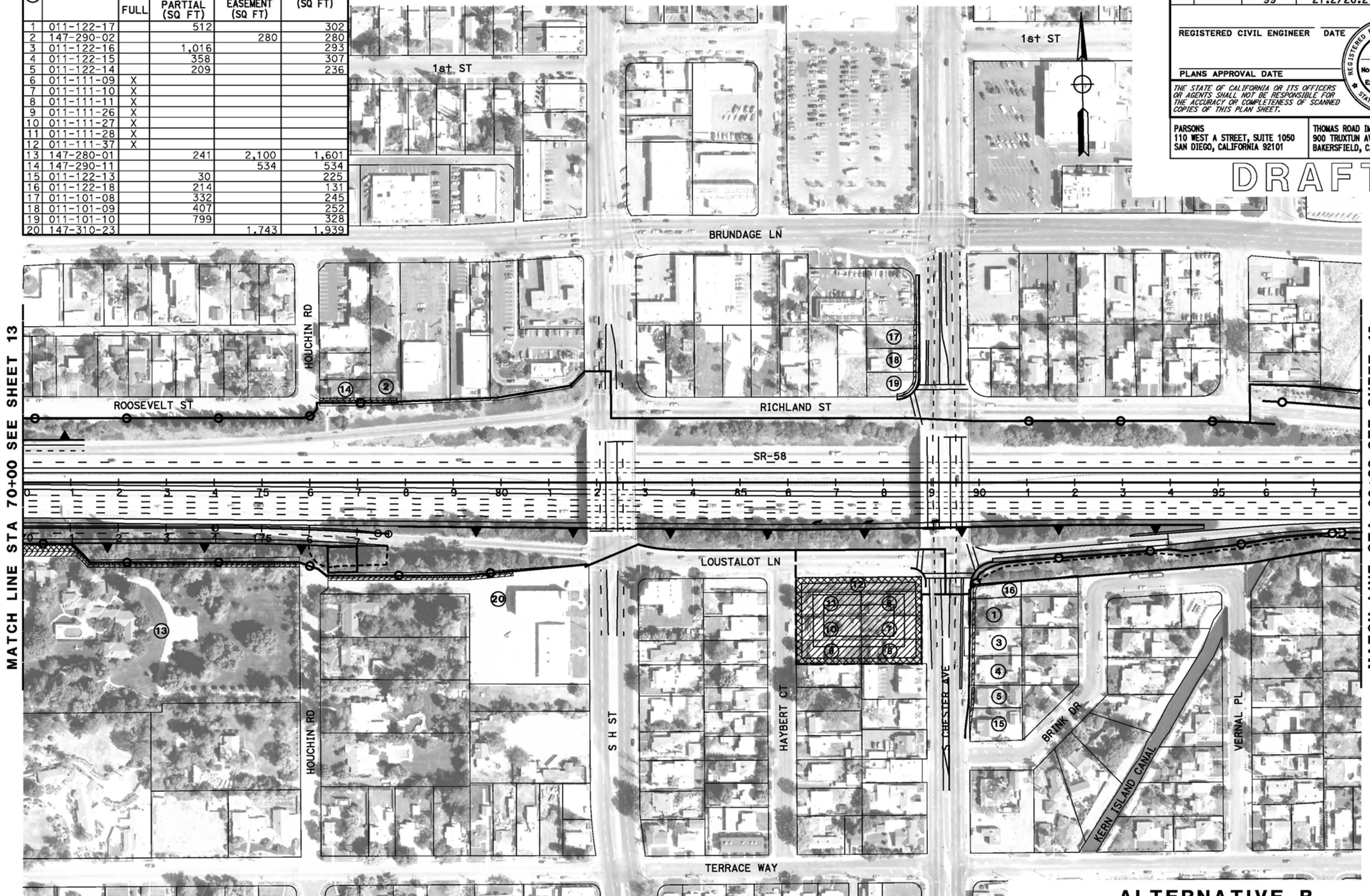
RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	011-122-17		512		302
2	147-290-02			280	280
3	011-122-16		1,016		293
4	011-122-15		358		307
5	011-122-14		209		236
6	011-111-09	X			
7	011-111-10	X			
8	011-111-11	X			
9	011-111-26	X			
10	011-111-27	X			
11	011-111-28	X			
12	011-111-37	X			
13	147-280-01		241	2,100	1,601
14	147-290-11			534	534
15	011-122-13		30		225
16	011-122-18		214		131
17	011-101-08		332		245
18	011-101-09		407		252
19	011-101-10		799		328
20	147-310-23			1,743	1,939



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	14	

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

PLANS APPROVAL DATE

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900 TRUXTUN AVENUE, SUITE 200
BAKERSFIELD, CALIFORNIA 93301

DRAFT

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

14

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BORDER LAST REVISED 7/2/2010 | USERNAME => @USER | DGN FILE => @REQUEST | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE | EA 06-48460

RIGHT-OF-WAY REQUIREMENTS

APN	ACQUISITIONS		WALL EASEMENT (SQ FT)	TCE (SQ FT)
	FULL	PARTIAL (SQ FT)		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	15	

REGISTERED CIVIL ENGINEER DATE

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DRAFT

KERN ISLAND CANAL

BRUNDAGE LN

DOBRUSKY DR

SR-58

MATCH LINE STA 98+00 SEE SHEET 14

MATCH LINE STA 126+00 SEE SHEET 16

SNYDER LN

DOBRUSKY DR

PRISCILLA WAY

PRISCILLA LN

S N ST

CENTRAL BRANCH KERN ISLAND CANAL

S P ST

ORCHARD ST

BERNETA AVE

FERRY ST

TERRACE WAY

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

15

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE EA 06-48460

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	16	

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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BAKERSFIELD, CALIFORNIA 93301

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	169-101-07			503	580
2	169-110-14			550	610
3	169-092-01			100	111
4	169-092-30			959	1025
5	169-093-11			486	381

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

16

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05-30-12

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE

EA 06-48460

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	17	

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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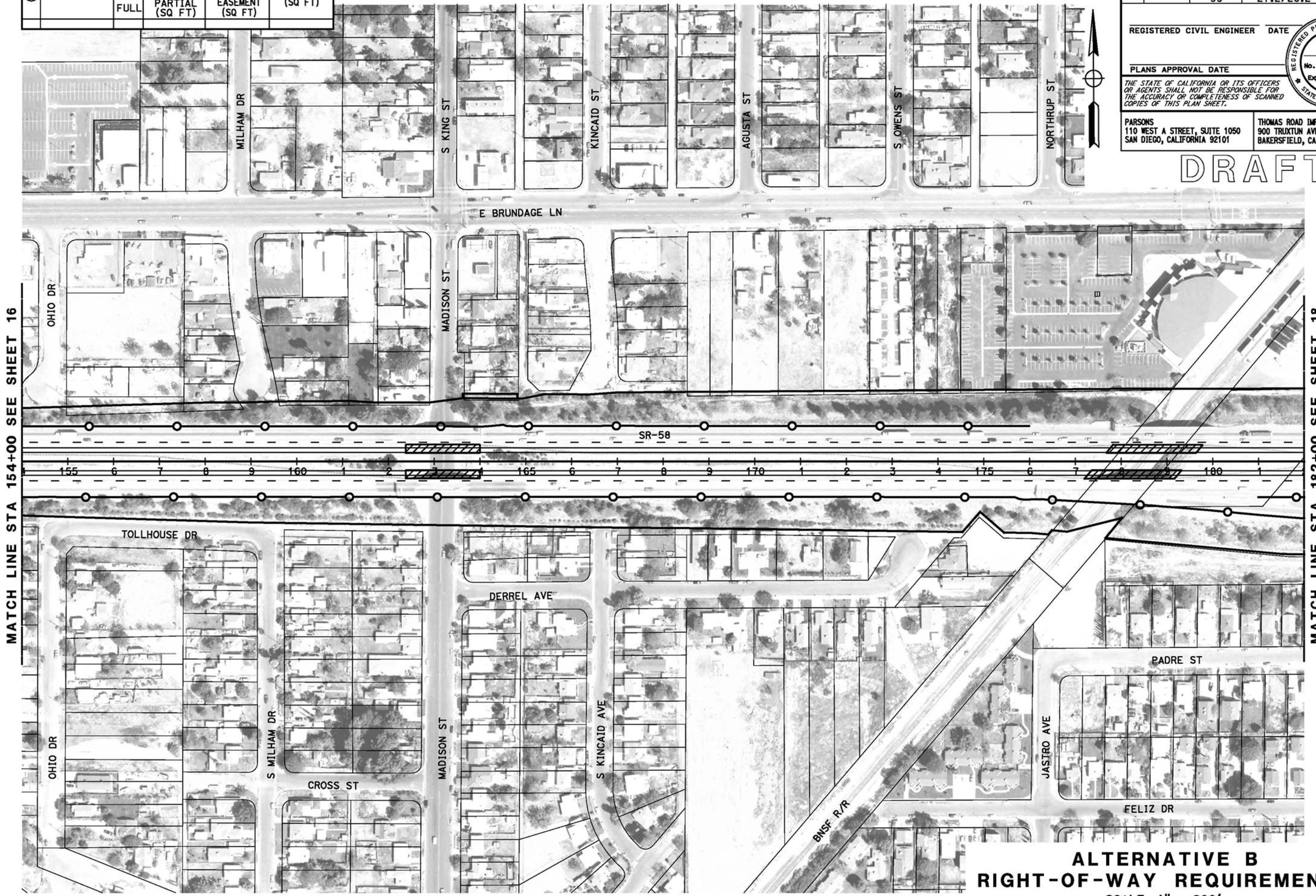

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

17

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RIGHT-OF-WAY REQUIREMENTS

APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	18	

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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BAKERSFIELD, CALIFORNIA 93301

DRAFT

CLYDE ST

BNSF R/R

E BRUNDAGE LN

SR-58

182+00 SEE SHEET 17

2 3 4 185 6 7 8 9 190 1 2 3 4 195 6 7 8 9 200 1 2 3 4 205 6 7 8 9 2

MATCH LINE STA 182+00 SEE SHEET 17

PADRE ST

COTTONWOOD RD

SIMPSON RD

FELIZ DR

FRANCO RD

SIMON RD

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

18

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE

EA 06-48460

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	19	

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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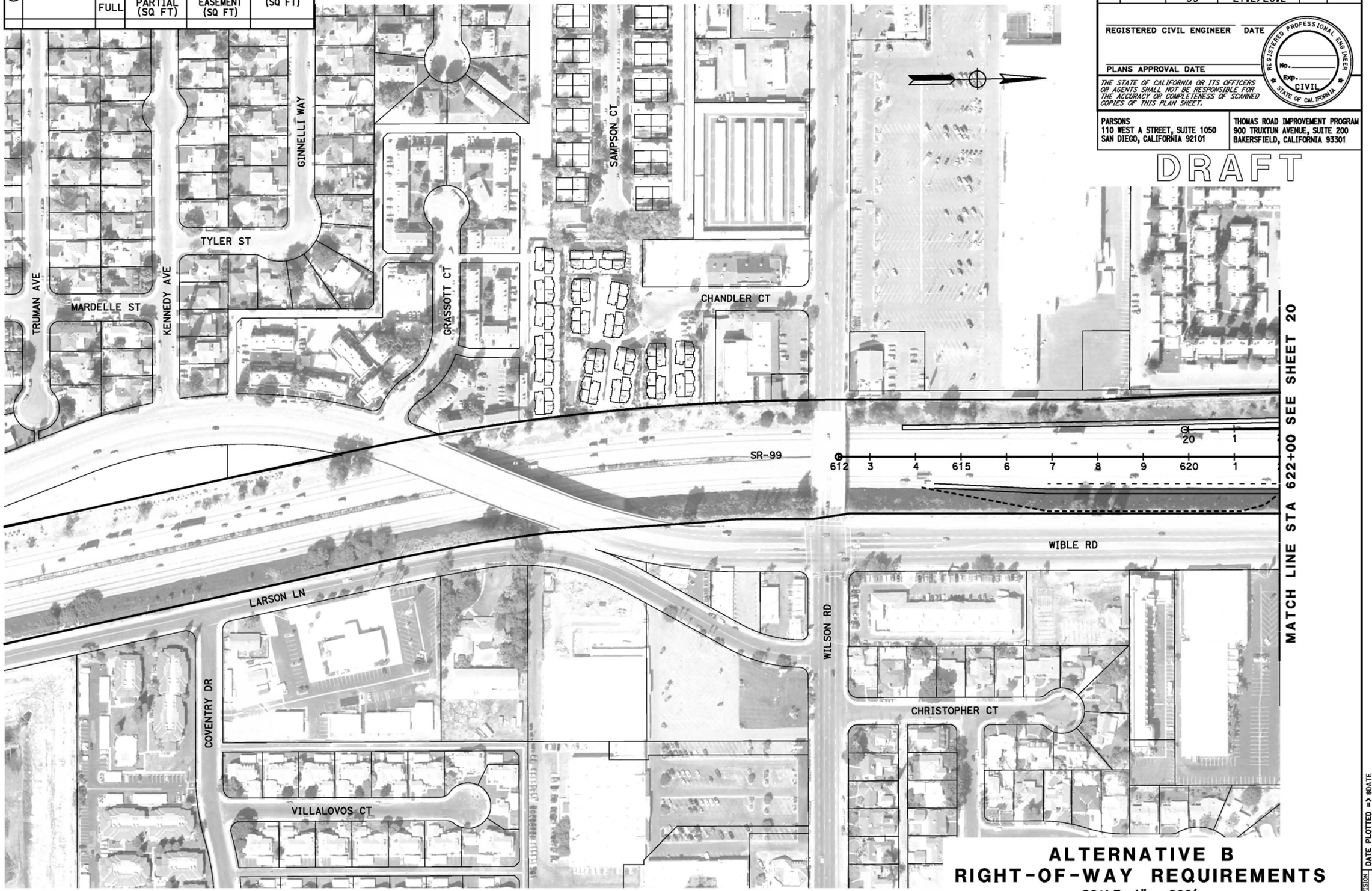
RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)



ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

19

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TIME PLOTTED => @TIME

BORDER LAST REVISED 7/2/2010
USERNAME => @USER
DGN FILE => @REQUEST
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE
EA 06-48460

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	20	

REGISTERED CIVIL ENGINEER DATE

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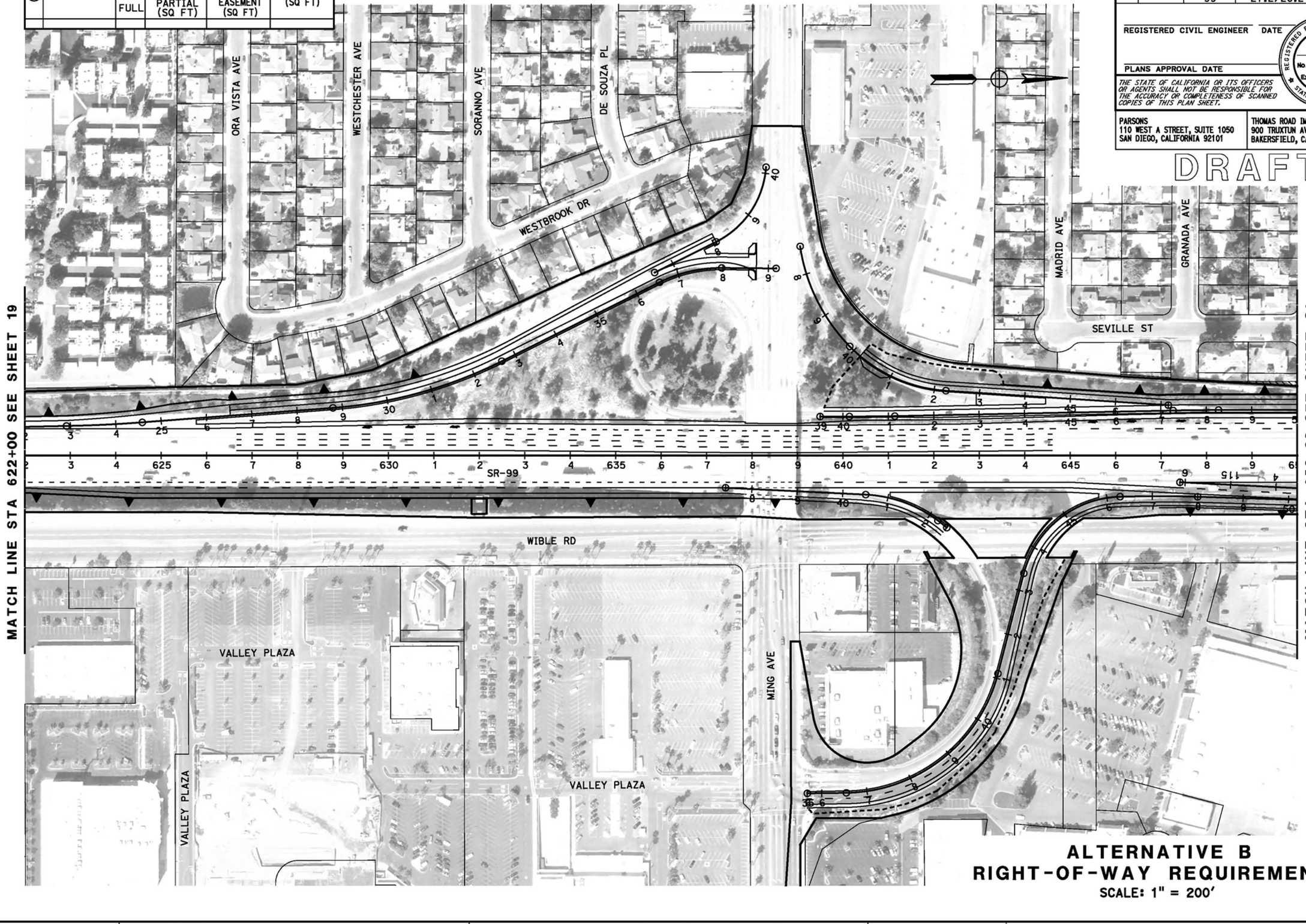
RIGHT-OF-WAY REQUIREMENTS

APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)



ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

20

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REVISED BY

DATE REVISED

LAST REVISION 06-25-12

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TIME PLOTTED => @TIME

BORDER LAST REVISED 7/2/2010

USERNAME => @USER

DGN FILE => @REQUEST

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE

EA 06-48460

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	21	

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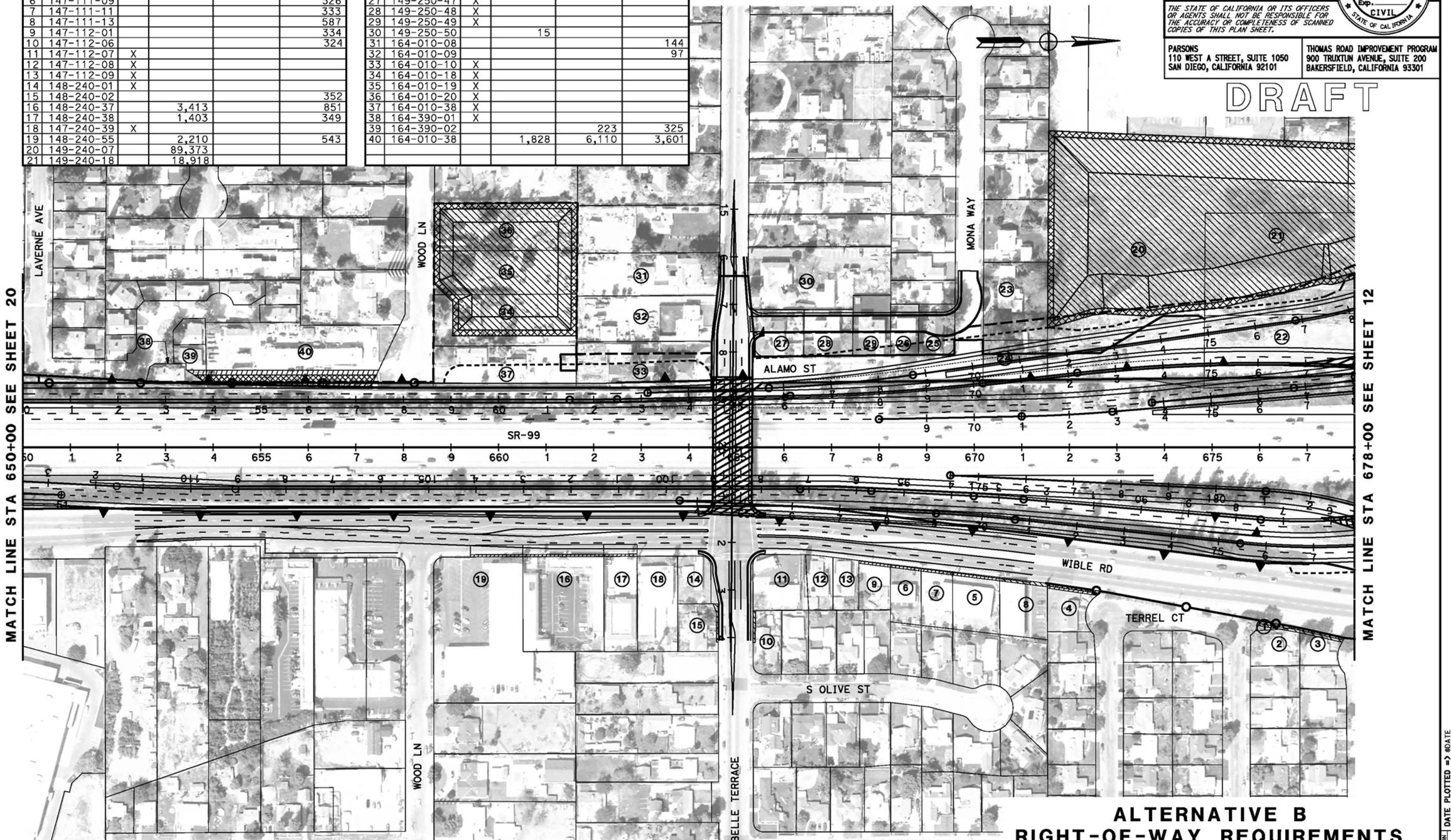
RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	147-101-12			325	283
2	147-101-14			52	152
3	147-101-21			471	458
4	147-103-12			552	535
5	147-111-07				499
6	147-111-09				326
7	147-111-11				333
8	147-111-13				587
9	147-112-01				334
10	147-112-06				324
11	147-112-07	X			
12	147-112-08	X			
13	147-112-09	X			
14	148-240-01	X			
15	148-240-02				352
16	148-240-37		3,413		851
17	148-240-38		1,403		349
18	147-240-39	X			
19	148-240-55		2,210		543
20	149-240-07		89,373		
21	149-240-18		18,918		

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
22	149-240-17	X			
23	149-250-09		5,272		
24	149-250-10	X			
25	149-250-42	X			
26	149-250-43	X			
27	149-250-47	X			
28	149-250-48	X			
29	149-250-49	X			
30	149-250-50		15		
31	164-010-08				144
32	164-010-09				97
33	164-010-10	X			
34	164-010-18	X			
35	164-010-19	X			
36	164-010-20	X			
37	164-010-38	X			
38	164-390-01	X			
39	164-390-02			223	325
40	164-010-38		1,828	6,110	3,601



ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

21

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	332-152-31			57	
2	332-152-32			3,244	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	22	

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

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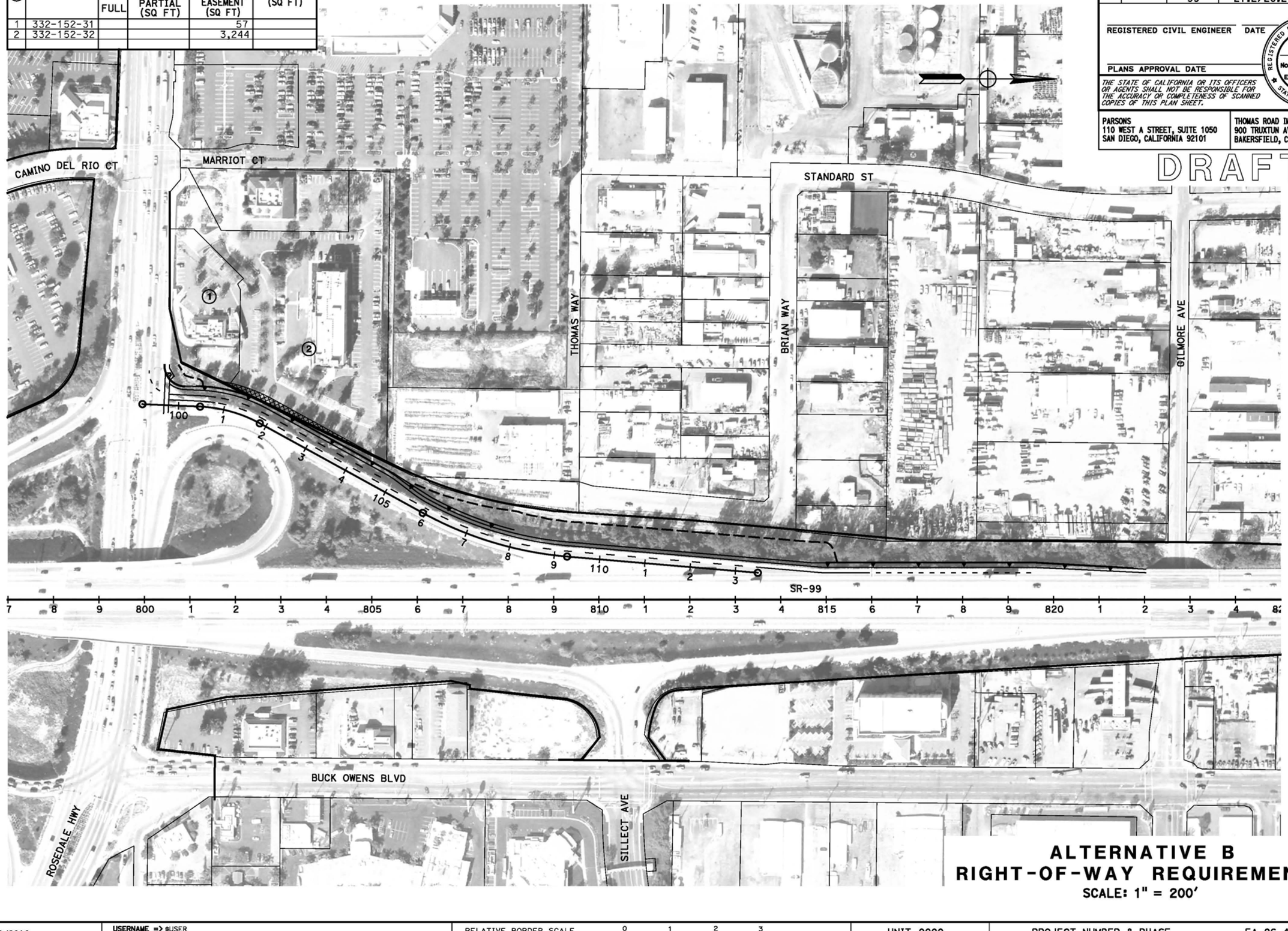

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

22

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	104-291-31		404		
2	104-291-32		10,889		
3	104-291-33		12,582		
4	104-292-04		16,332		
5	160-010-07		49,505		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	23	

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

23

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	24	

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	104-292-04		16,332		
2	160-010-07		49,505		
3	160-010-42		86,325		

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

24

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2		

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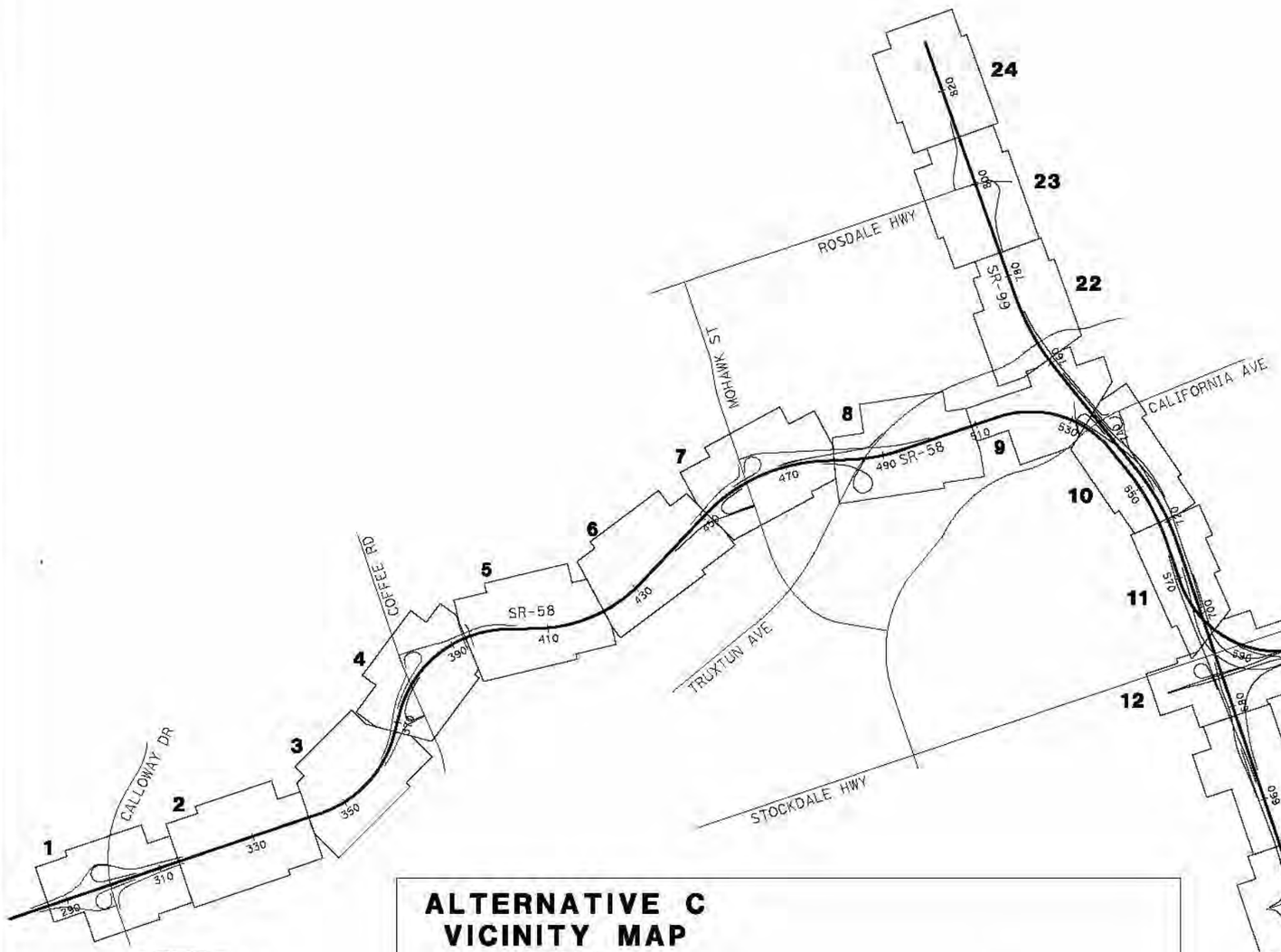
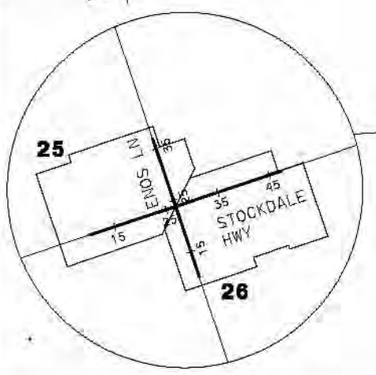
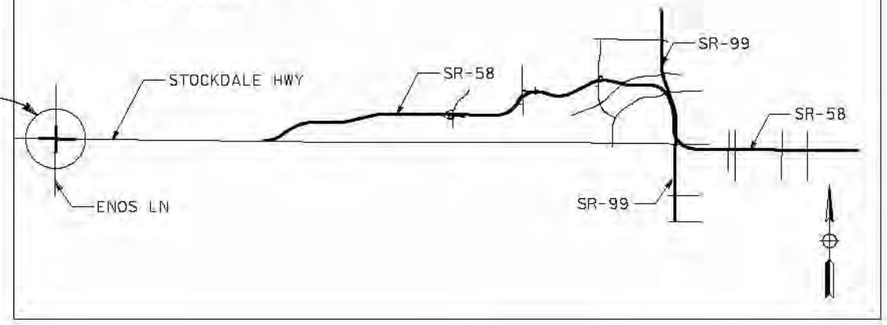




ALTERNATIVE C VICINITY MAP

NO SCALE



ALTERNATIVE C KEY MAP

NO SCALE

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	500-150-01	X			
2	500-560-01	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	1	

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

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THOMAS ROAD IMPROVEMENT PROGRAM
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BAKERSFIELD, CALIFORNIA 93301

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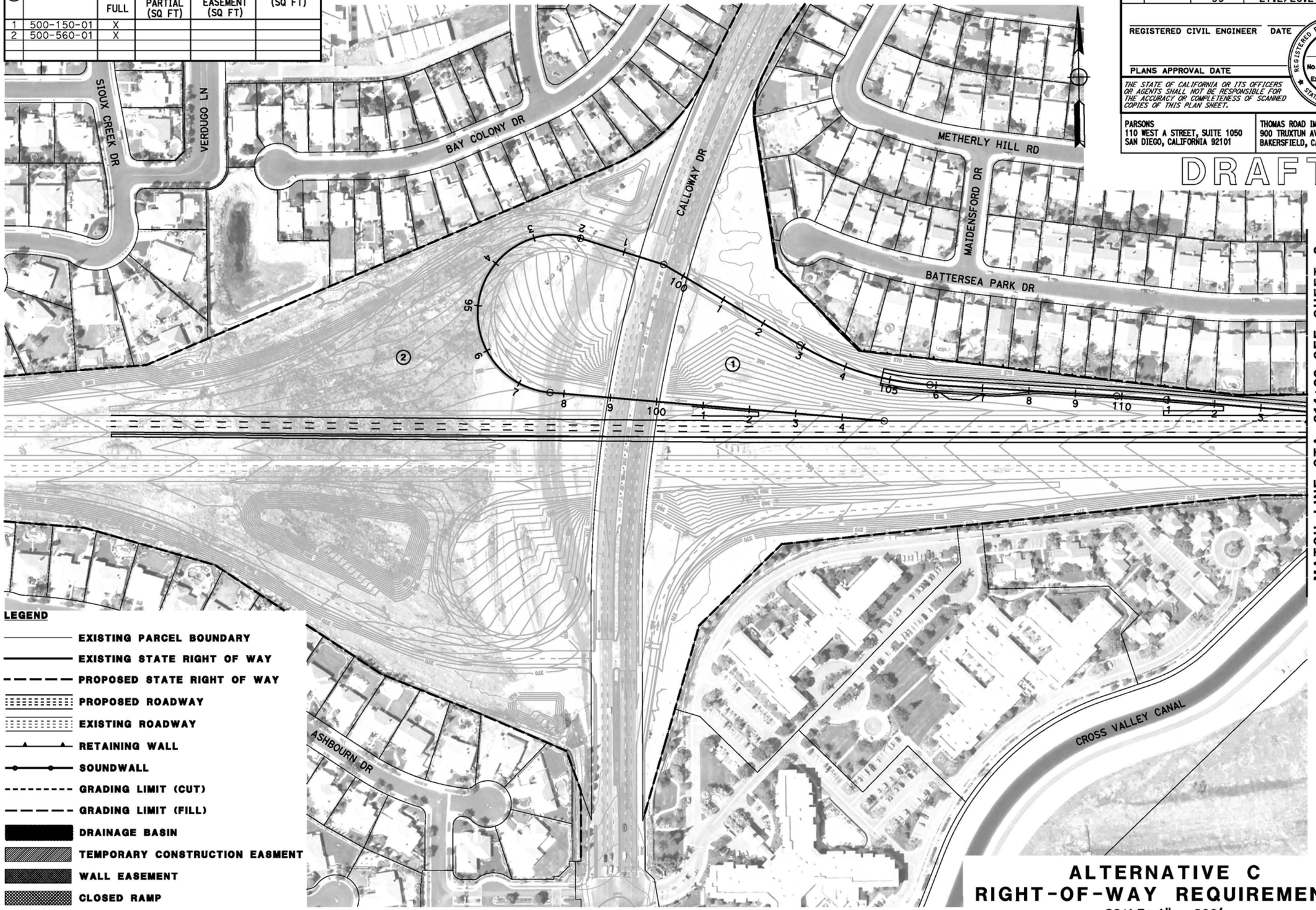

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

1

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	500-150-01	X			
2	501-010-24	X			
3	501-010-39	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	2	

REGISTERED CIVIL ENGINEER DATE

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ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	501-010-24	X			
2	501-010-23	X			
3	501-010-22	X			
4	501-010-12		20		
5	501-010-10		4,034		
6	501-010-14	X			
7	501-010-15	X			
8	501-010-48	X			
9	C.O.B	X			
10	C.O.B	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	3	

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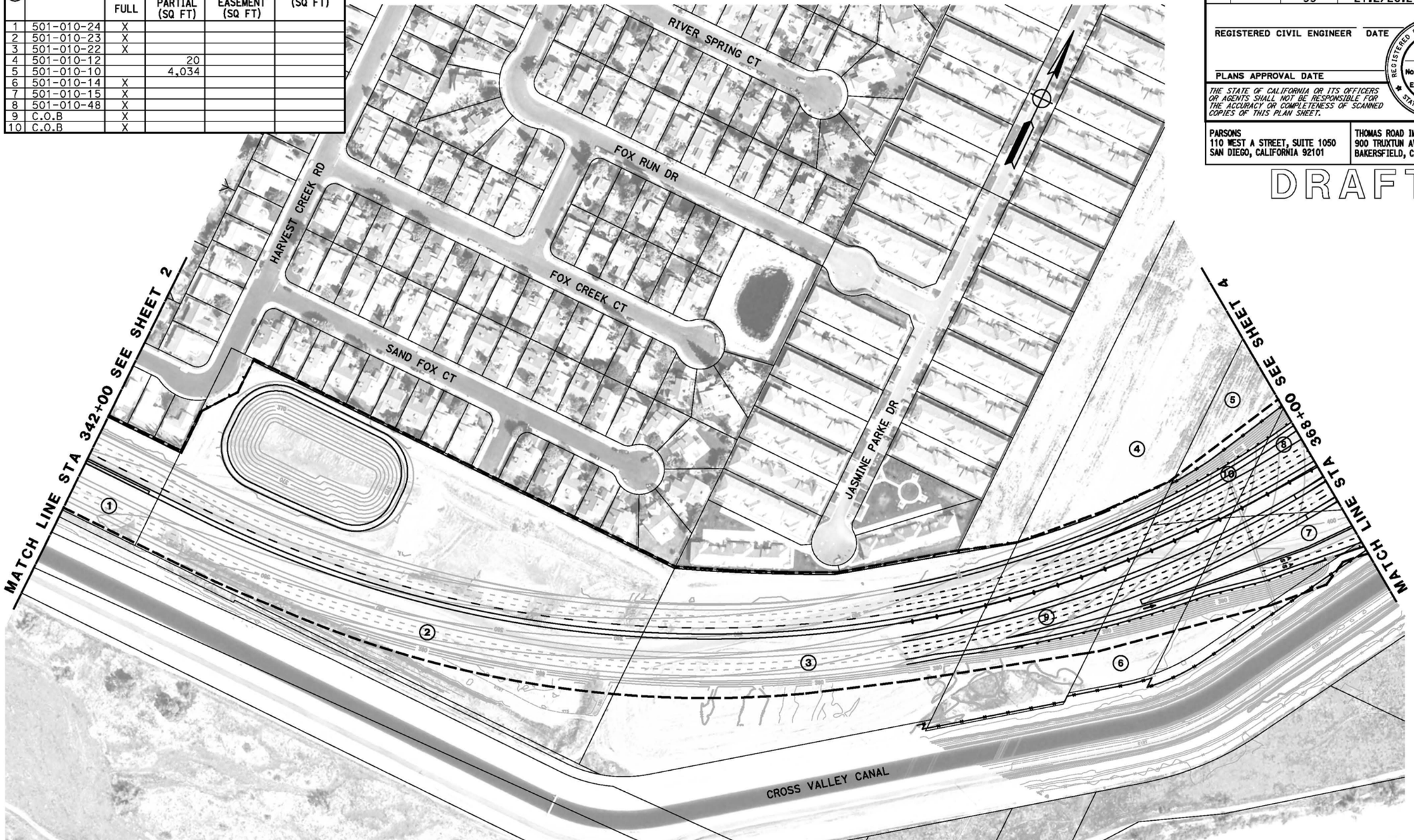

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RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	501-010-07	X			
2	501-010-08	X			
3	501-010-10		4,034		
4	501-010-15	X			
5	501-010-16	X			
6	501-010-47	X			
7	501-010-48	X			
8	501-010-49	X			
9	502-010-01	X			
10	502-010-04	X			
11	502-010-05		107,036		
12	502-010-20	X			
13	502-010-41	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	4	

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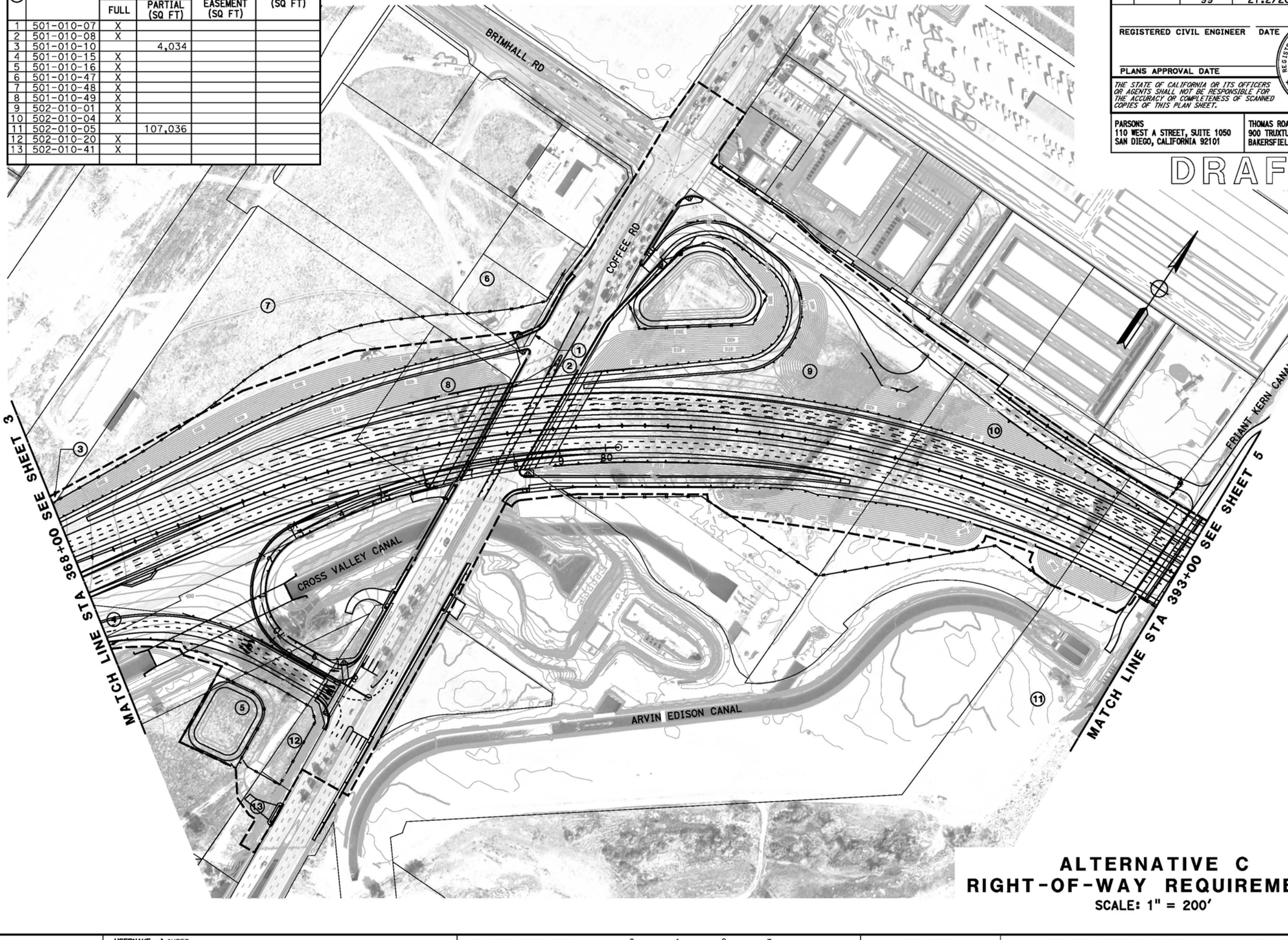

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SCALE: 1" = 200'

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS		WALL EASEMENT (SQ FT)	TCE (SQ FT)
		FULL	PARTIAL (SQ FT)		
1	C.O.B	X			
2	502-010-05		107,036		
3	502-010-44	X			
4	502-010-45	X			
5	502-010-47	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	5	

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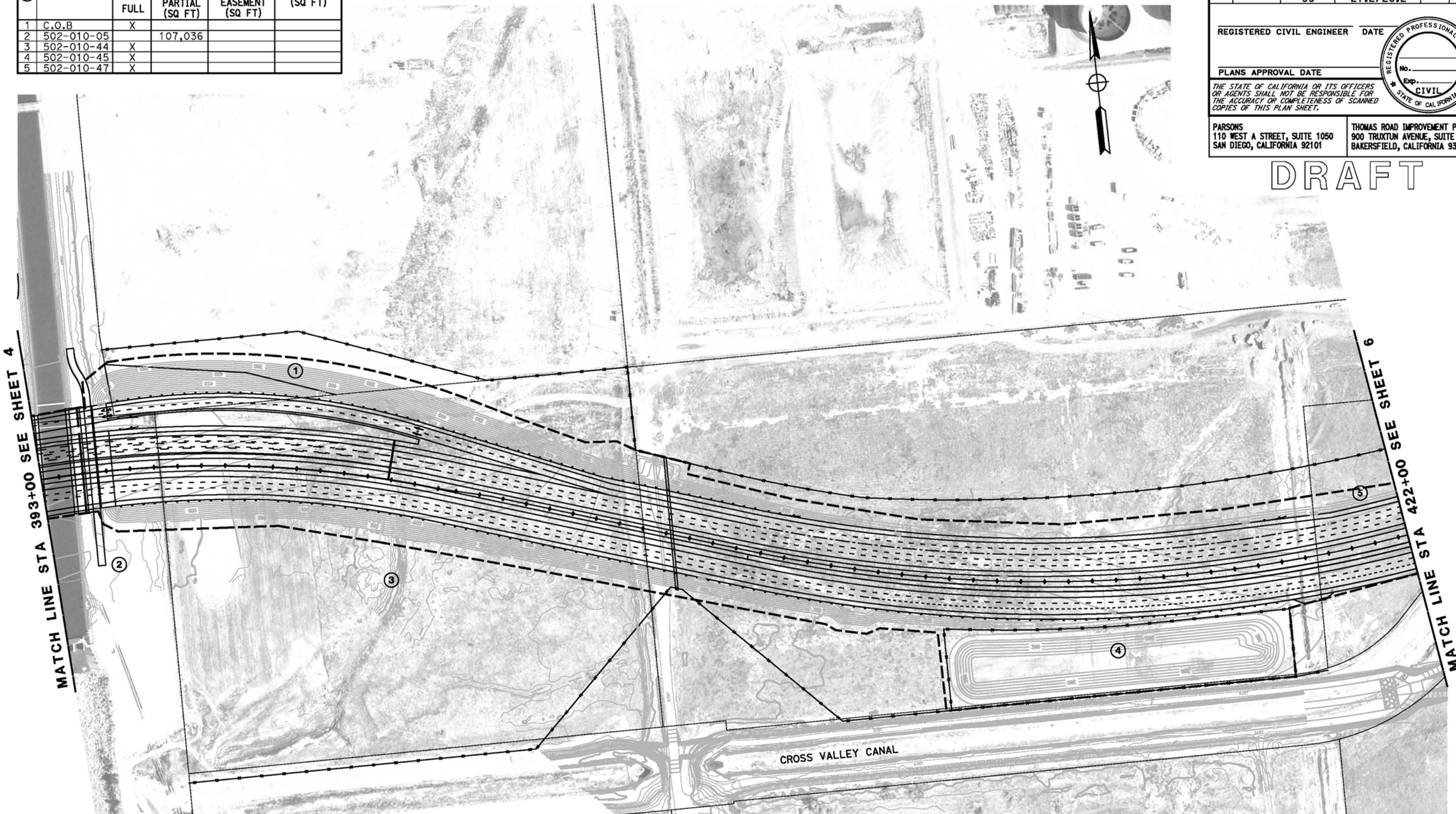

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SCALE: 1" = 200'

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UNIT 0000

PROJECT NUMBER & PHASE EA 06-48460

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS		WALL EASEMENT (SQ FT)	TCE (SQ FT)
		FULL	PARTIAL (SQ FT)		
1	C.O.B	X			
2	C.O.B	X			
3	368-040-26		4		
4	C.O.B	X			
5	C.O.B	X			
6	C.O.B	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	6	

REGISTERED CIVIL ENGINEER DATE

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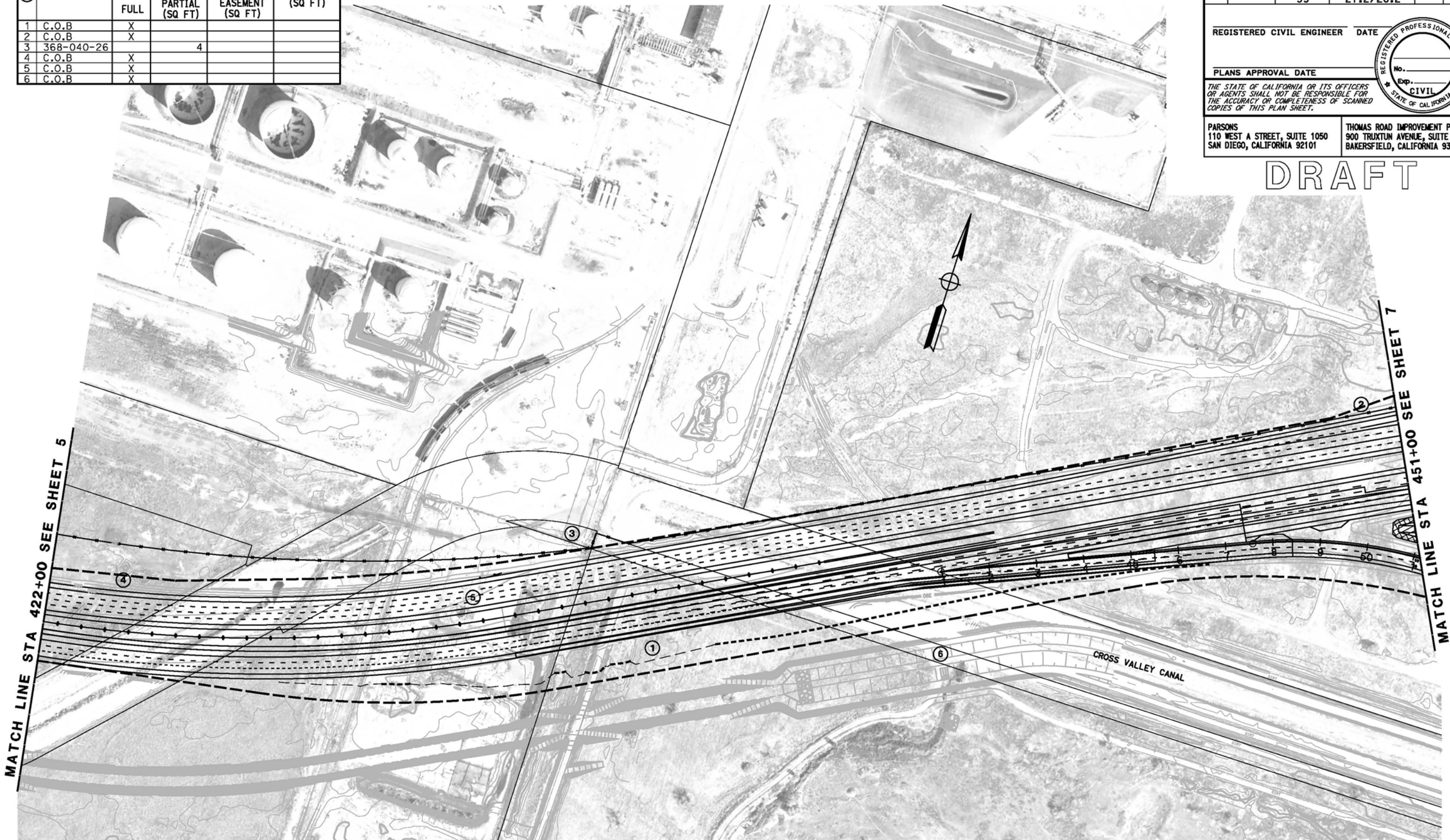

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	C.O.B	X			
2	C.O.B	X			
3	C.O.B	X			
4	C.O.B	X			
5	C.O.B	X			
6	C.O.B	X			
7	332-280-28		23,338		
8	332-280-27		102,651		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	7	

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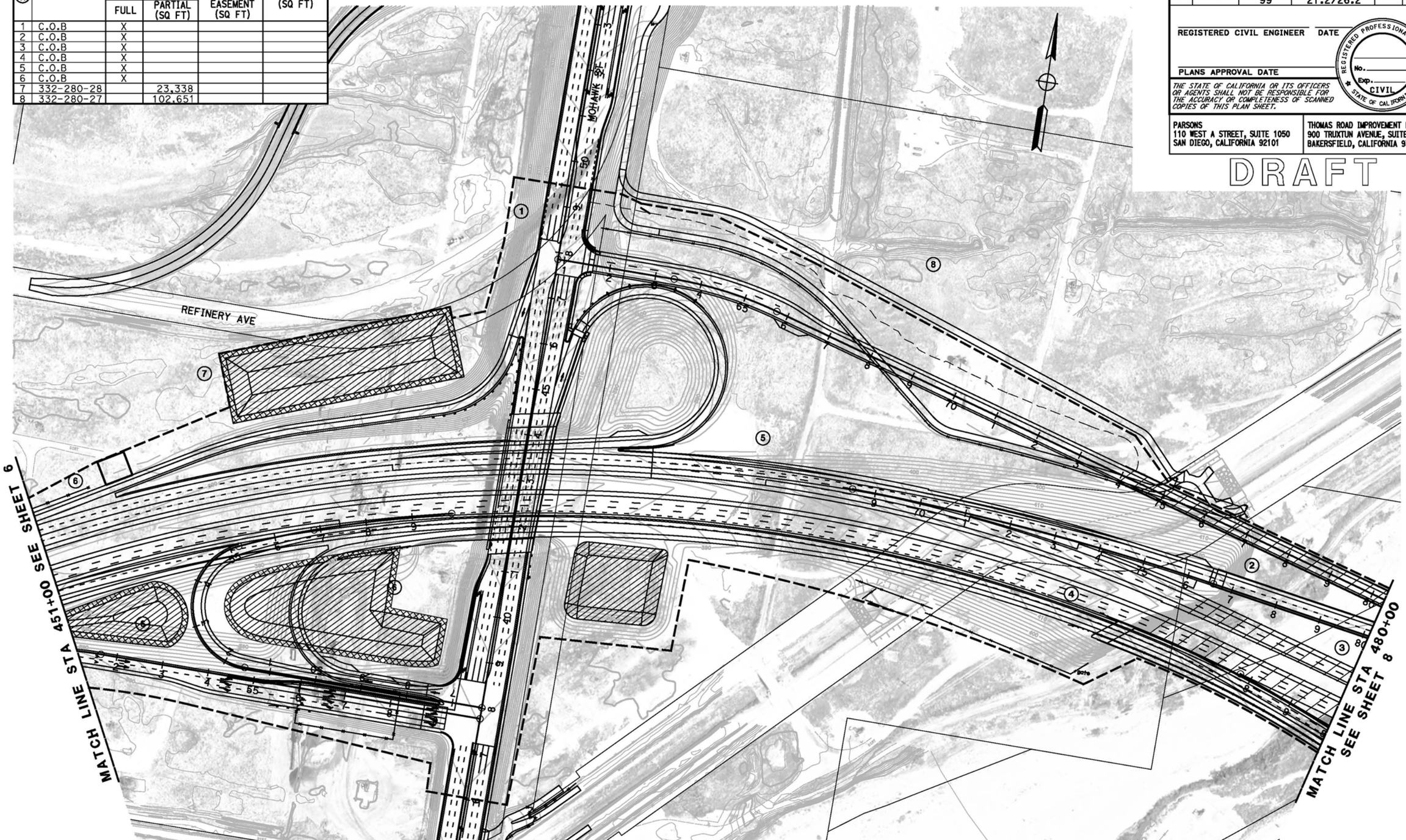

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	332-332-22	X			
2	332-332-23	X			
3	NOT USED				
4	NOT USED				
5	332-256-07	X			
6	332-256-08		49,180		
7	332-256-10		63,409		
8	332-256-11	X			
9	332-256-12	X			
10	332-256-13	X			
11	332-256-14	X			
12	332-256-15	X			
13	332-256-16	X			
14	332-256-48	X			
15	NOT USED				
16	332-256-50	X			
17	332-256-53	X			
18	332-256-54	X			
19	332-256-56	X			
20	C.O.B	X			
21	C.O.B	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	8	

REGISTERED CIVIL ENGINEER DATE

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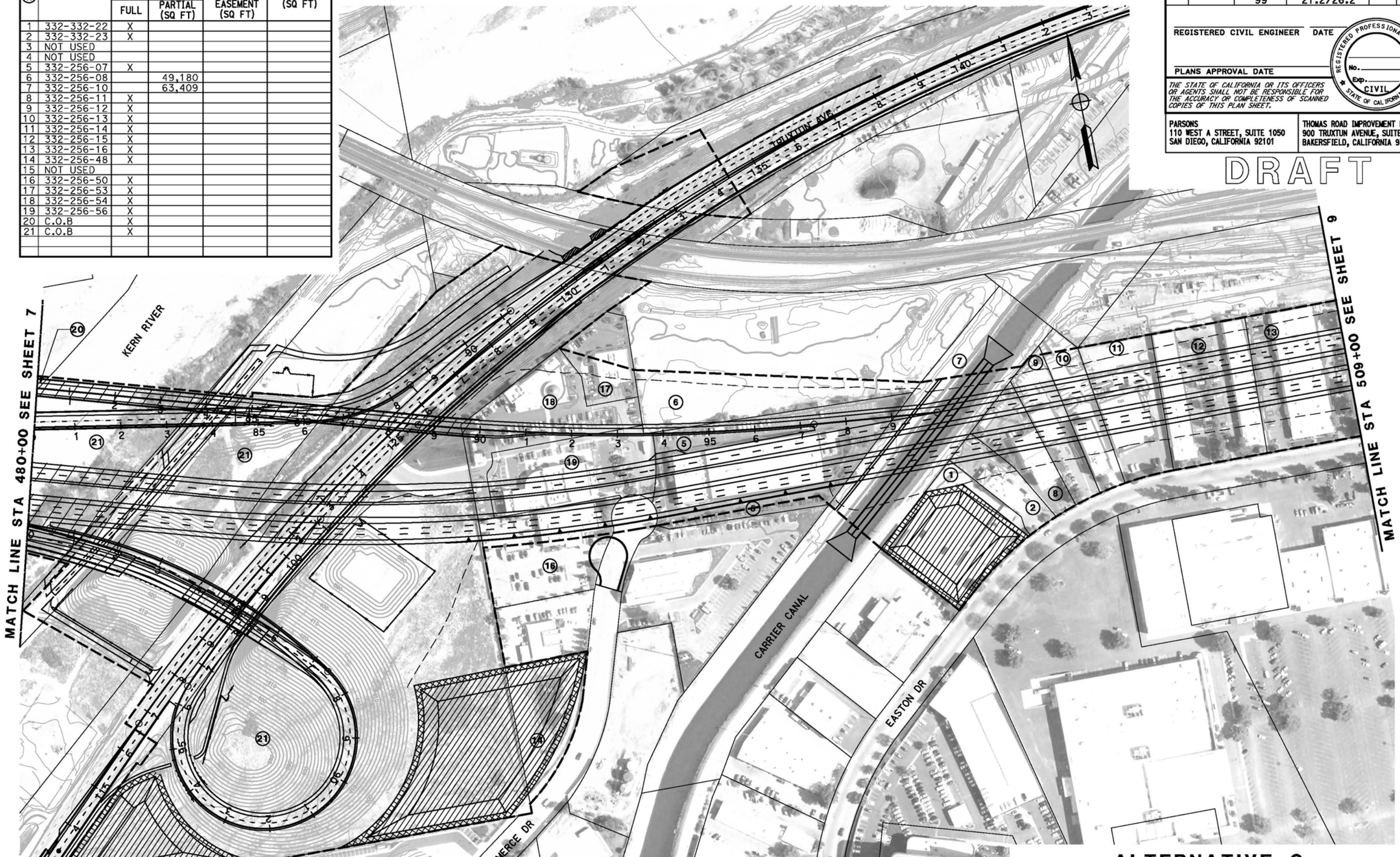

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	9	

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	332-256-16	X			
2	332-256-17	X			
3	332-256-18	X			
4	332-256-19	X			
5	332-256-26		5,528		
6	332-256-27		11,588		
7	332-321-06	X			
8	NOT USED				
9	332-321-08	X			
10	332-321-09	X			
11	332-321-12	X			
12	332-321-14	X			
13	332-321-15	X			
14	332-321-16	X			
15	332-321-17	X			
16	332-321-18	X			
17	332-322-04		22,982		
18	332-380-01	X			
19	332-380-02	X			
20	332-380-03	X			
21	332-380-04	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
22	332-380-05	X			
23	332-380-06	X			
24	332-380-07	X			
25	332-380-08	X			
26	332-380-09	X			
27	332-380-10	X			
28	332-380-11	X			
29	332-380-12	X			
30	332-380-13	X			
31	332-380-14	X			
32	332-380-15	X			
33	332-380-16	X			
34	332-380-17	X			
35	332-380-18	X			
36	332-380-19	X			
37	332-380-20	X			
38	332-380-21	X			
39	332-380-22	X			
40	332-380-23	X			
41	332-380-24	X			
42	332-380-25	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
43	332-380-26	X			
44	332-380-27	X			
45	332-380-28	X			
46	332-380-29	X			
47	332-380-30	X			
48	332-380-31	X			
49	332-380-32	X			
50	332-380-33	X			
51	332-380-34	X			
52	332-380-35	X			
53	332-380-36	X			
54	332-380-37	X			
55	332-380-38	X			
56	332-380-39	X			
57	332-380-40	X			
58	332-380-41	X			
59	332-380-42	X			
60	332-380-43	X			
61	332-380-44	X			
62	332-380-45	X			
63	332-380-46	X			
64	332-380-47	X			
65	332-380-48	X			
66	332-380-49	X			
67	332-380-50	X			
68	332-380-51	X			
69	332-380-52	X			

MATCH LINE STA 761+00 SEE SHEET 22

MATCH LINE STA 509+00 SEE SHEET 8

MATCH LINE STA 533+00 SEE SHEET 10

SR-99

EASTON DR

CHESTER LN

REAL RD

EASTON DR

CALIFORNIA AVE

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	020-100-03		3,475		
2	020-100-24		1,104	234	1,055
3	020-100-28		3,278		
4	020-110-06	X			
5	020-110-11	X			
6	020-100-26		2,134		
7	020-110-16	X			
8	020-110-22		2,302		
9	020-110-23	X			
10	020-110-24	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
11	020-110-25	X			
12	020-130-06	X			
13	NOT USED				
14	020-140-06				144
15	020-130-10	X			
16	020-110-14		216		
17	020-130-18	X			
18	020-130-20	X			
19	020-130-21	X			
20	020-130-22	X			
21	020-130-23	X			
22	NOT USED				
23	NOT USED				
24	020-140-07	X			
25	020-140-08	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
26	020-140-25	X			
27	020-140-27	X			
28	020-140-32	X			
29	020-140-35	X			
30	020-140-41	X			
31	020-140-42	X			
32	020-150-09		84,398		
33	020-150-21	X			
34	020-150-22	X			
35	020-150-23	X			
36	020-150-24	X			
37	020-150-25	X			
38	NOT USED				
39	NOT USED				
40	020-100-16		3,348	2,822	1,079

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	10	

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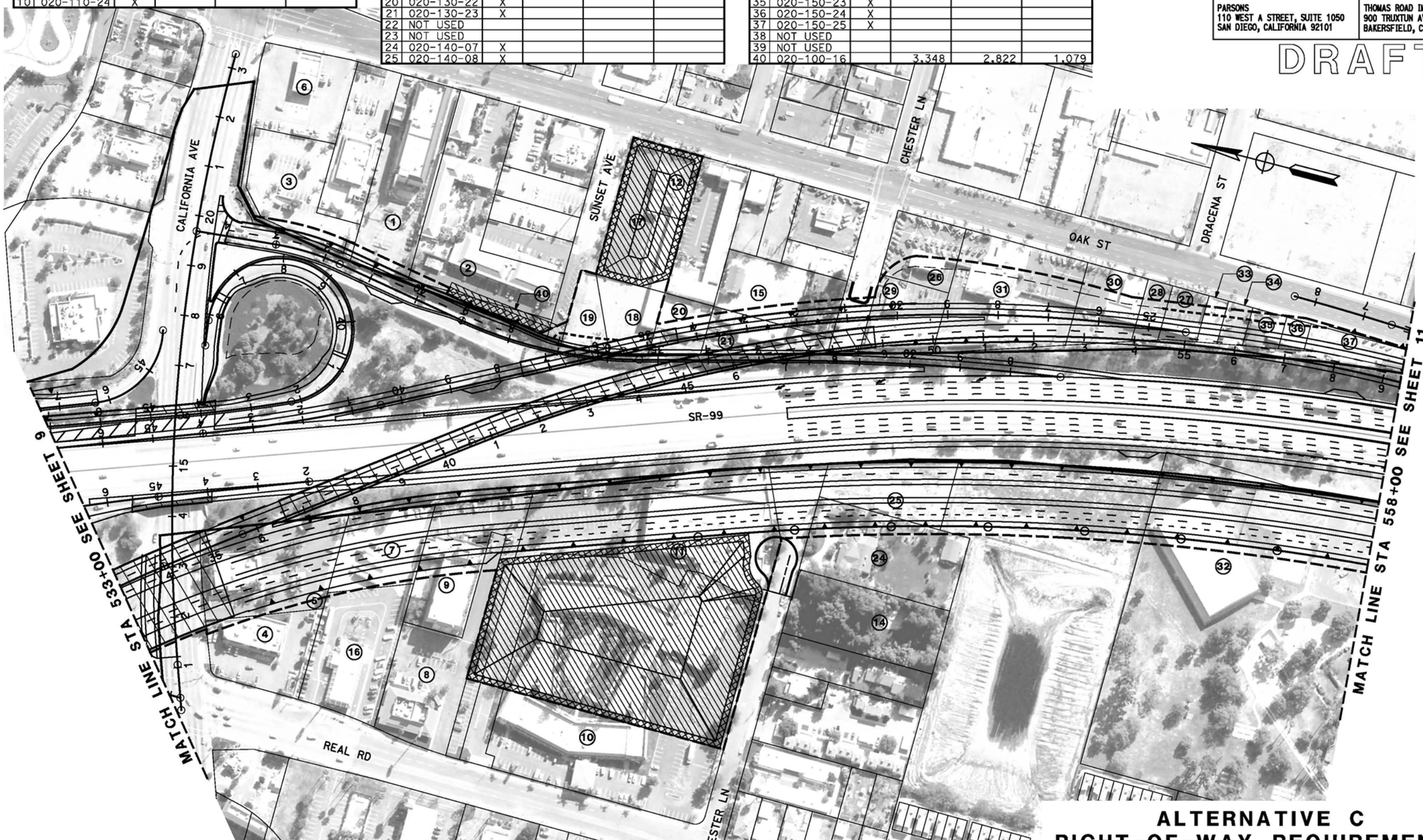

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

10

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UNIT 0000

PROJECT NUMBER & PHASE EA 06-48460

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	020-061-09	X			
2	020-061-10	X			
3	020-064-01	X			
4	020-064-02	X			
5	020-064-03	X			
6	020-064-04	X			
7	020-081-01	X			
8	020-081-02	X			
9	020-081-03	X			
10	020-081-04	X			
11	020-081-05	X			
12	020-081-06	X			
13	020-081-07	X			
14	020-081-08	X			
15	020-081-09	X			
16	020-081-10	X			
17	020-081-11	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
18	020-081-12	X			
19	020-081-13	X			
20	020-081-14	X			
21	020-081-15	X			
22	020-081-16	X			
23	020-081-17	X			
24	020-081-18	X			
25	020-081-19	X			
26	020-081-20	X			
27	020-081-21	X			
28	020-081-22	X			
29	020-082-07	X			
30	020-082-08	X			
31	020-083-01	X			
32	020-083-02	X			
33	020-083-03	X			
34	020-083-04	X			
35	020-083-05	X			
36	020-084-01	X			
37	020-084-02	X			
38	020-084-03	X			
39	020-084-04	X			
40	020-084-05	X			
41	020-084-06	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
42	020-084-07	X			
43	020-084-08	X			
44	020-084-09	X			
45	020-084-10	X			
46	020-084-11	X			
47	020-084-12	X			
48	020-084-13	X			
49	020-084-14	X			
50	020-084-15	X			
51	020-084-16	X			
52	020-084-17	X			
53	020-084-18	X			
54	020-084-19	X			
55	020-084-20	X			
56	020-084-21	X			
57	020-084-22	X			
58	020-084-33	X			
59	020-084-34	X			
60	020-084-35	X			
61	020-084-36	X			
62	020-084-37	X			
63	020-084-38	X			
64	020-084-39	X			
65	020-084-40	X			
66	020-084-41	X			
67	020-084-42	X			
68	020-084-43	X			
69	020-084-44	X			
70	NOT USED				
71	008-020-02				1,087

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	11	

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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BAKERSFIELD, CALIFORNIA 93301

DRAFT

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

11

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	12	

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	008-062-10		1,587		
2	008-062-12	X			
3	008-062-13	X			
4	008-062-15	X			
5	008-062-16	X			
6	008-062-17	X			
7	008-062-18		1,791		
8	NOT USED				
9	147-021-01	X			
10	147-021-27	X			
11	147-022-13	X			
12	147-022-14	X			
13	147-022-15	X			
14	147-031-07	X			
15	147-031-08	X			
16	147-031-28			1123	924
17	147-031-35			1130	1040
18	NOT USED				
19	NOT USED				
20	NOT USED				
21	147-032-03	X			
22	147-032-06	X			
23	147-032-25	X			

MATCH LINE STA 583+00 SEE SHEET 11

STOCKDALE HWY

BRUNDAGE LN

CYPRESS ST

BEECH ST

OAK ST

S REAL RD

NELLO ST

SR-58

SR-99

WIBLE RD

ELICIA DR

DORESTA DR

S OLIVE ST

STEPHENS DR

TERRACE WAY

MATCH LINE STA 599+00 SEE SHEET 13

MATCH LINE STA 678+00 SEE SHEET 21

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
24	147-032-26	X			
25	149-180-02	X			
26	149-180-03	X			
27	149-180-21	X			
28	149-180-24	X			
29	149-180-25	X			
30	149-190-18		12,914	672	840
31	149-190-06	X			
32	149-190-08		7,983	388	486
33	149-190-10	X			
34	NOT USED				
35	149-190-16		2,306	315	404
36	149-200-20	X			
37	149-200-21		3,739	1,505	2,704
38	147-026-14		1,034	498	499
39	147-026-16		1,532	452	435
40	147-031-37				69

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

12

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	13	

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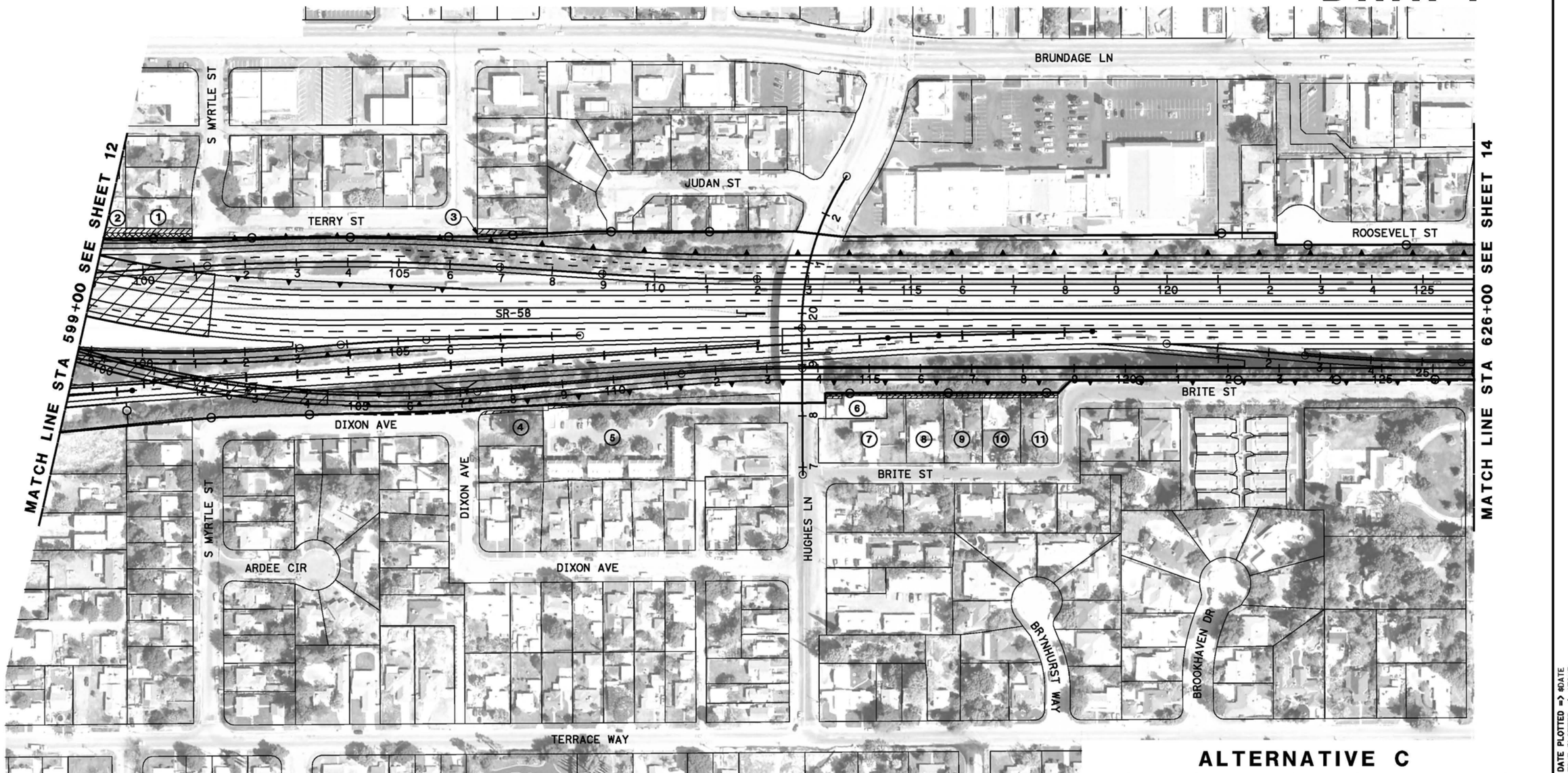
RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	147-041-05			1189	1225
2	147-031-35			1130	1040
3	147-071-10			125	927
4	147-072-15				321
5	147-460-21				353
6	147-210-01			536	250
7	147-210-02			165	183
8	147-210-03			334	371
9	147-210-04			340	377
10	147-210-05			337	374
11	147-210-06			326	363



ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	NOT USED				
2	011-111-09	X			
3	011-111-10	X			
4	011-111-11	X			
5	011-111-12	X			
6	011-111-24	X			
7	011-111-25	X			
8	011-111-26	X			
9	011-111-27	X			
10	011-111-28	X			
11	011-111-37	X			
12	147-280-01			4,210	3,837
13	NOT USED				
14	NOT USED				
15	NOT USED				

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
16	147-310-23			1,743	2,099
17	011-122-16		1,016		293
18	011-122-17		512		302
19	011-122-18		214		131
20	011-122-15		357		307
21	011-122-14		208		236
22	011-122-13		29		142
23	011-101-08		332		245
24	011-101-09		407		252
25	011-101-10		799		328

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	14	

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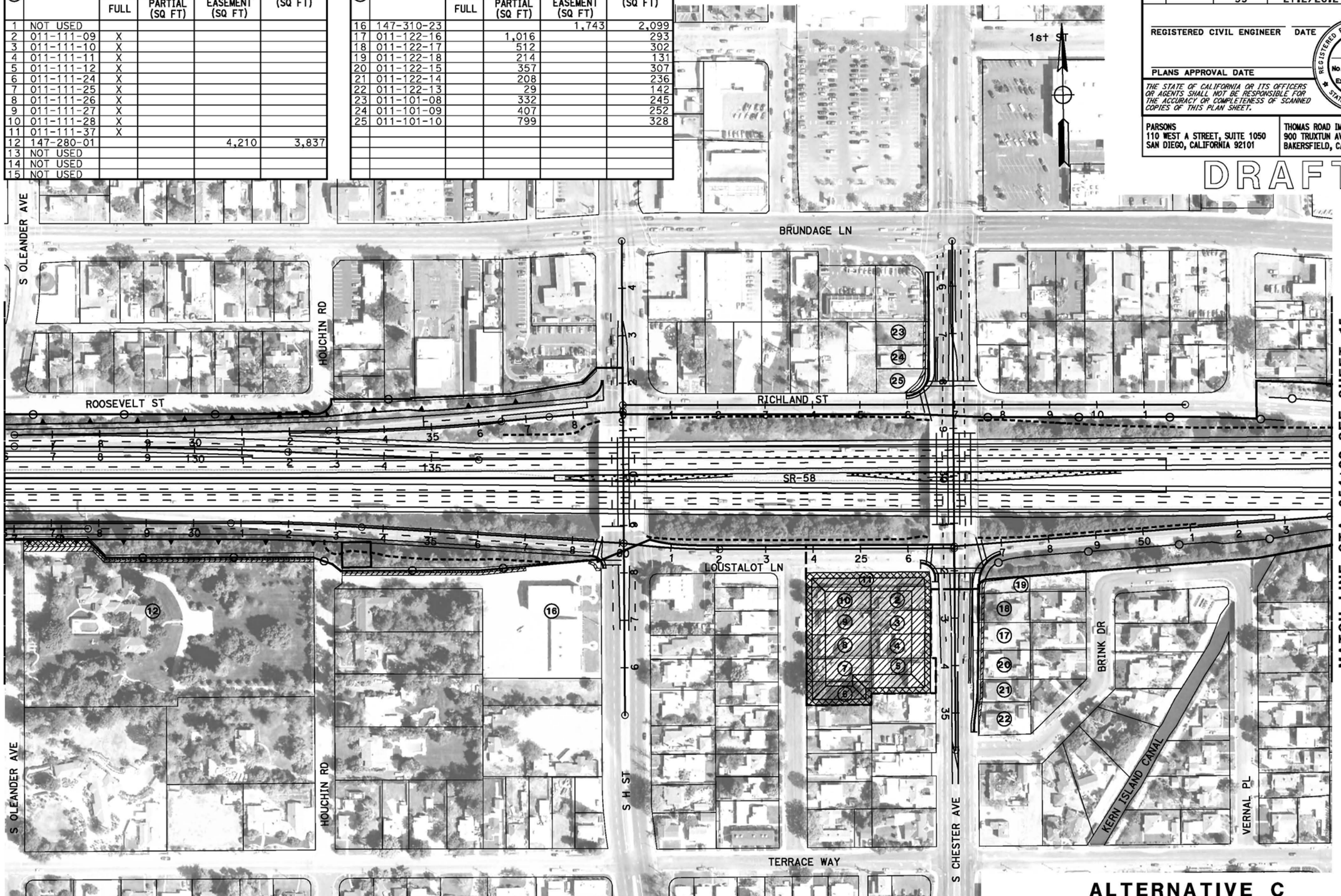

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

14

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	15	

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

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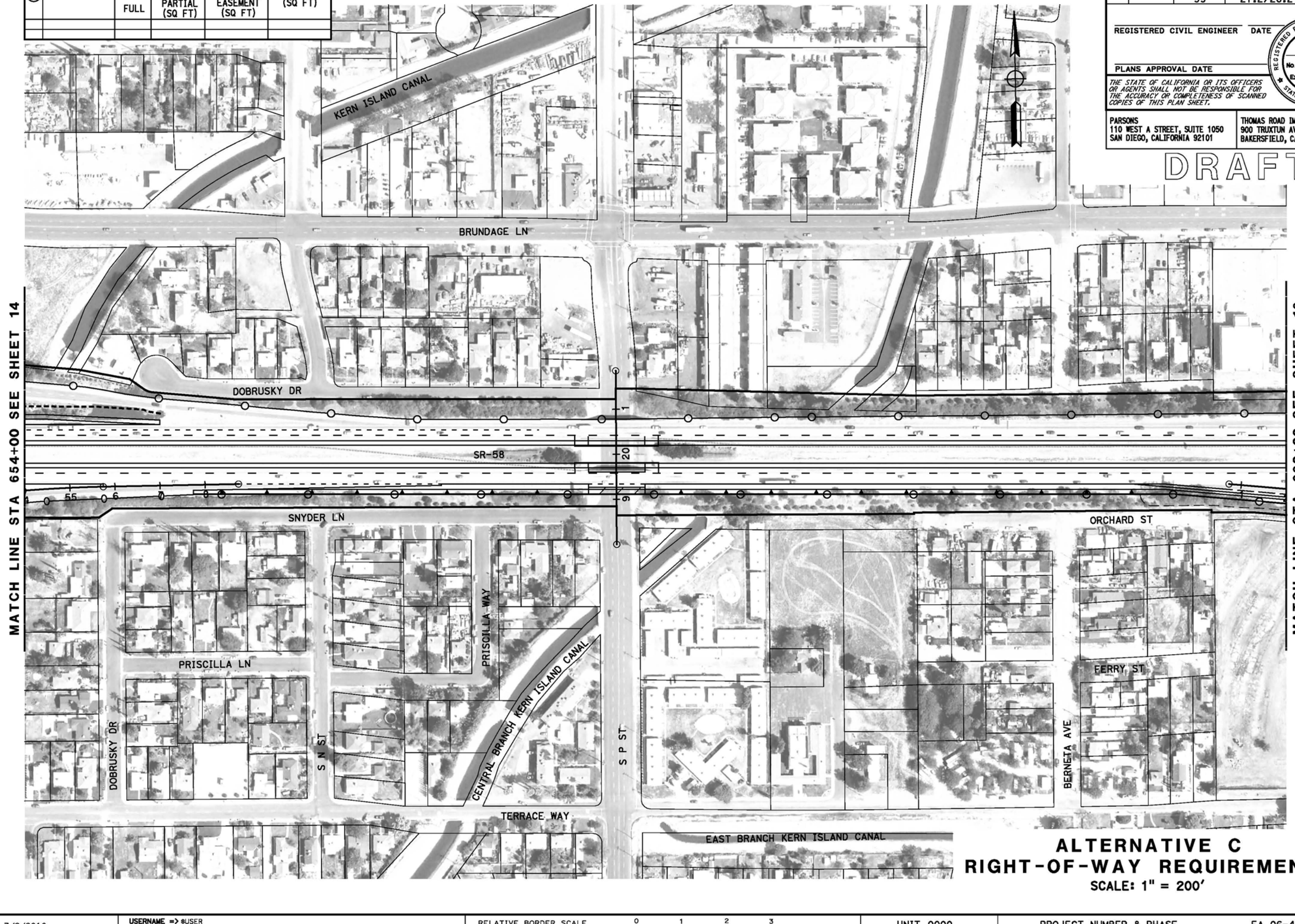

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

15

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	169-101-07			503	580
2	169-110-14			550	610
3	169-092-01			100	111
4	169-092-30			959	1025
5	169-093-11			486	381

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	16	

REGISTERED CIVIL ENGINEER DATE

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ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

16

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	17	

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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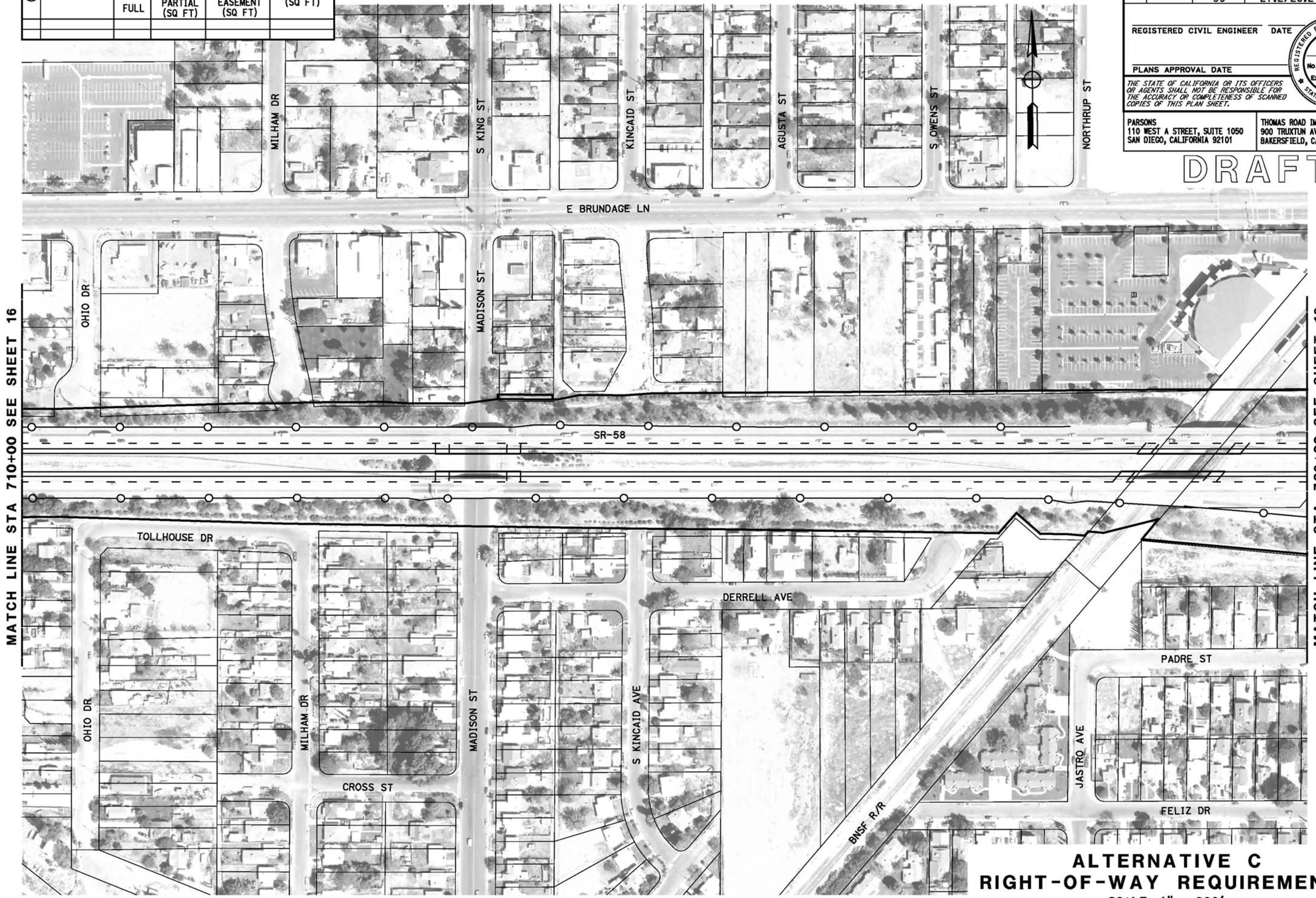

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

17

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	18	

REGISTERED CIVIL ENGINEER DATE

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No.
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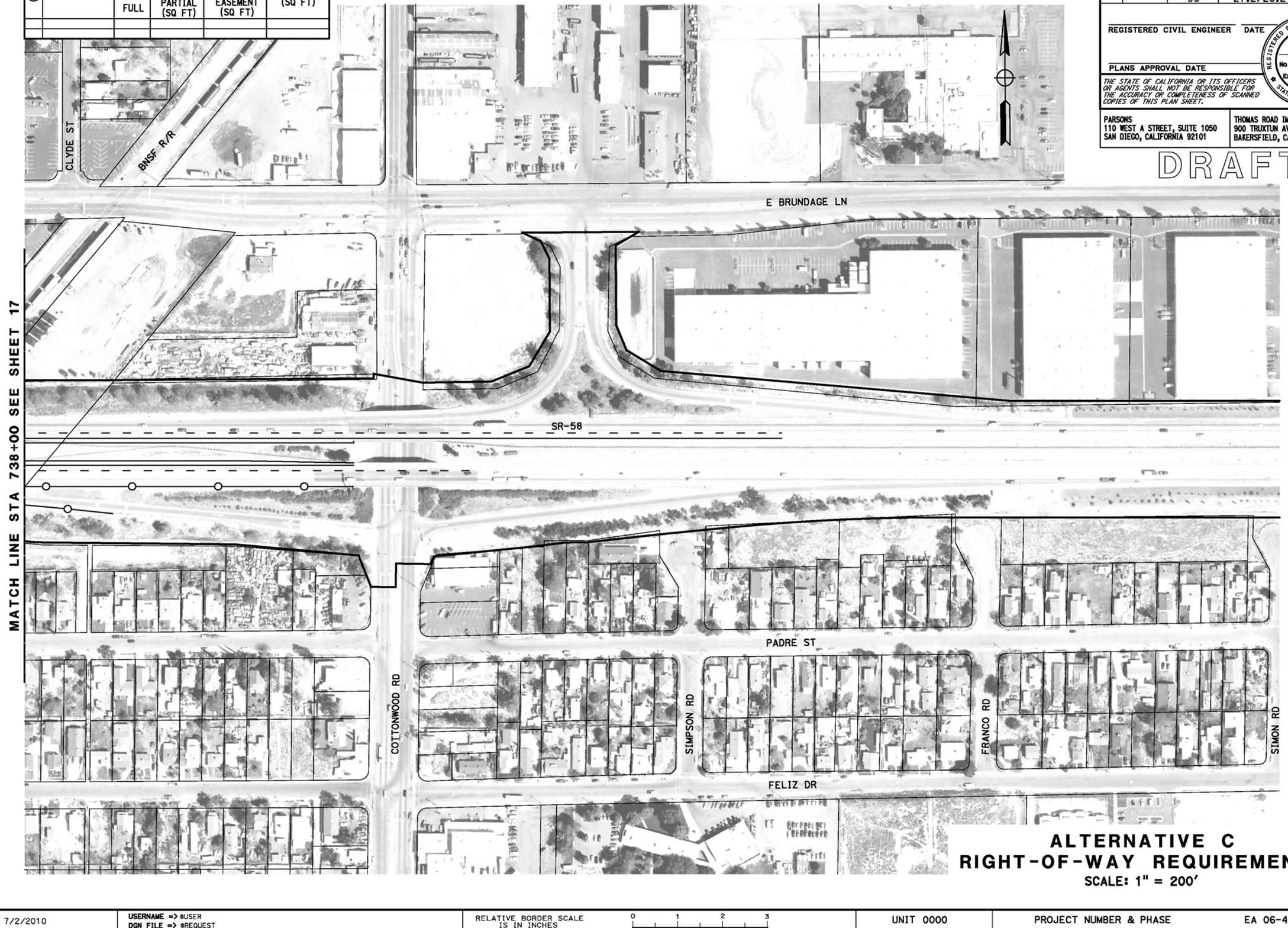

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RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

18

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	19	

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RIGHT-OF-WAY REQUIREMENTS

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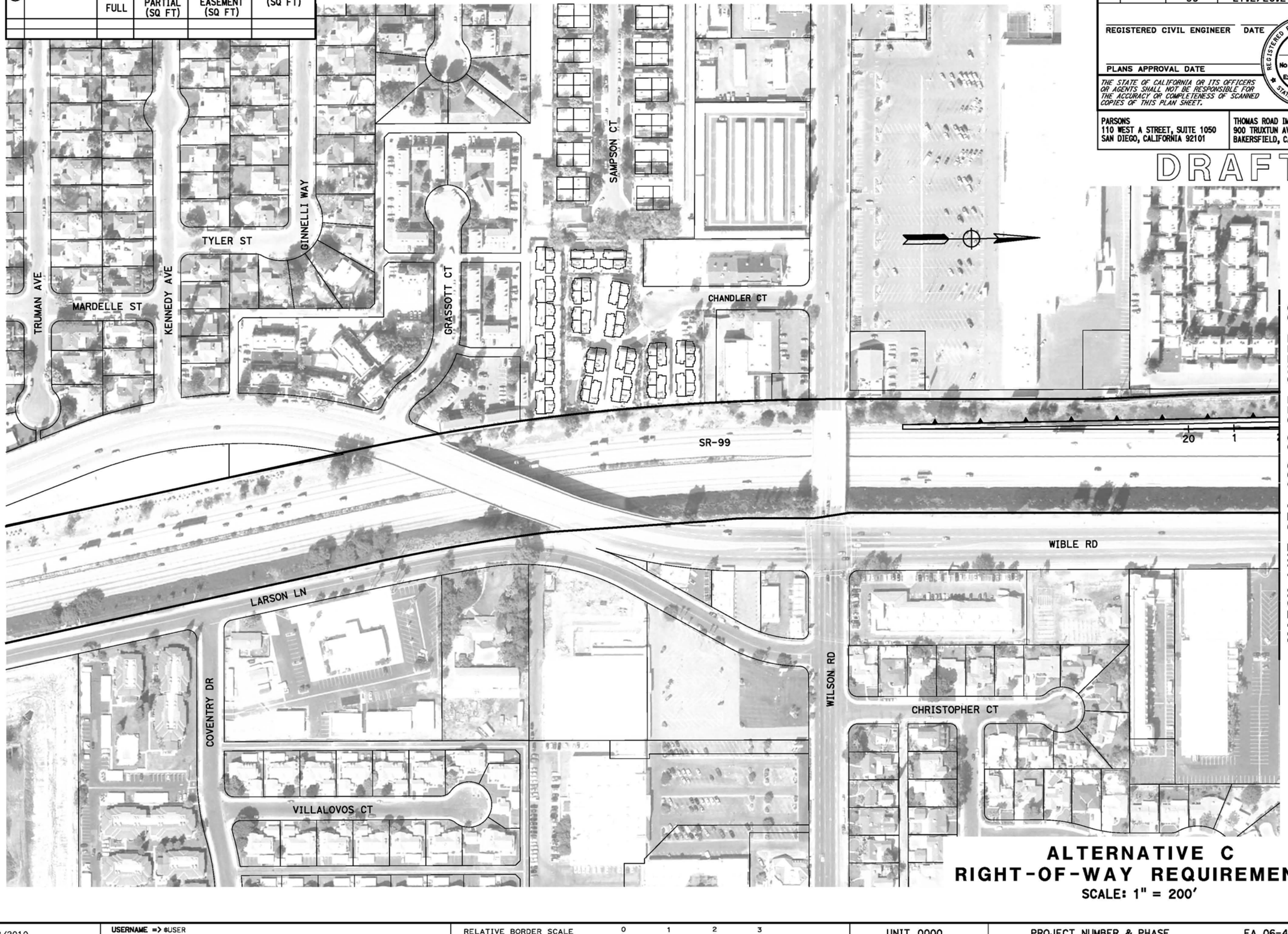

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

19

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	20	

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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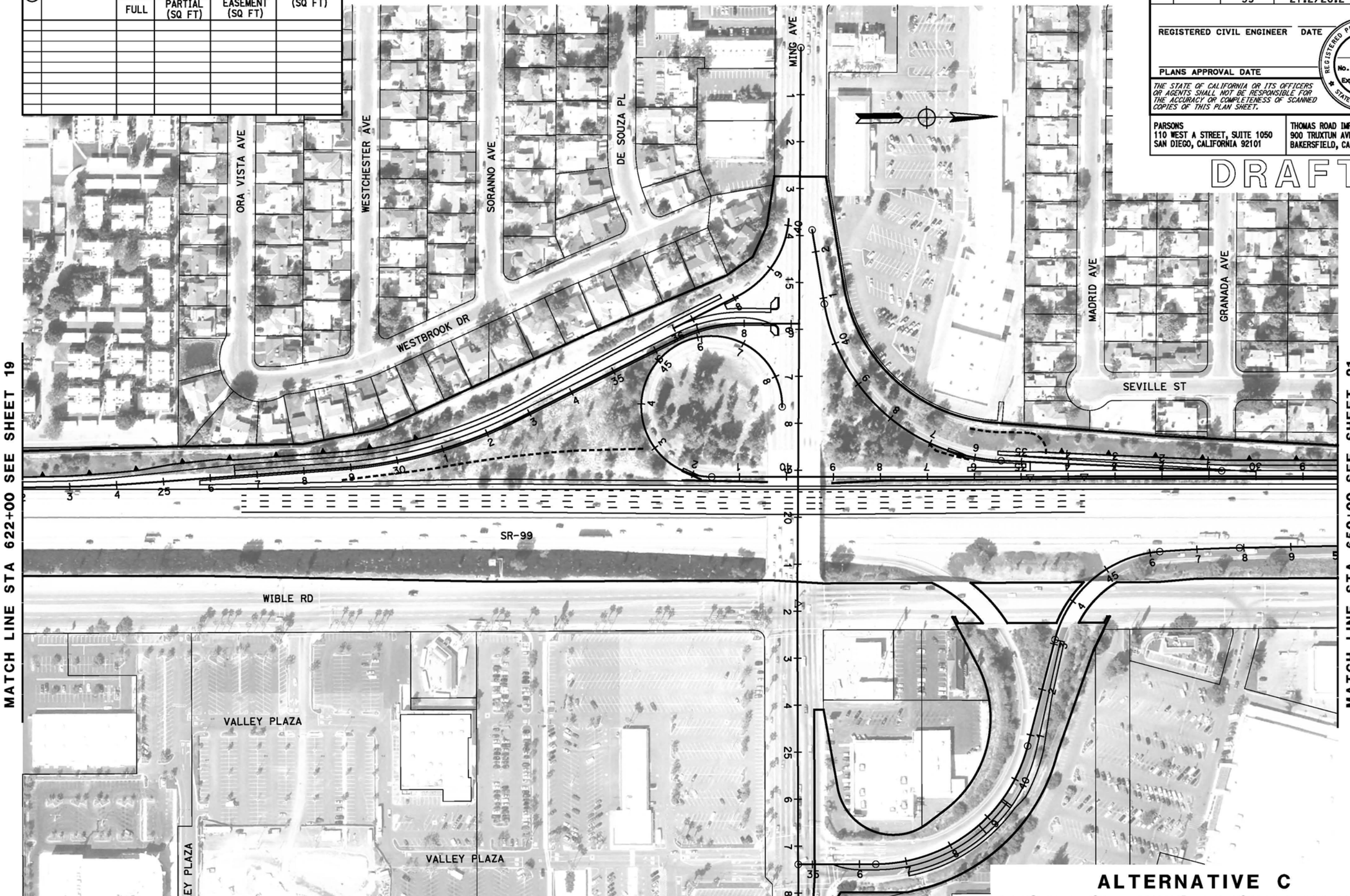

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

20

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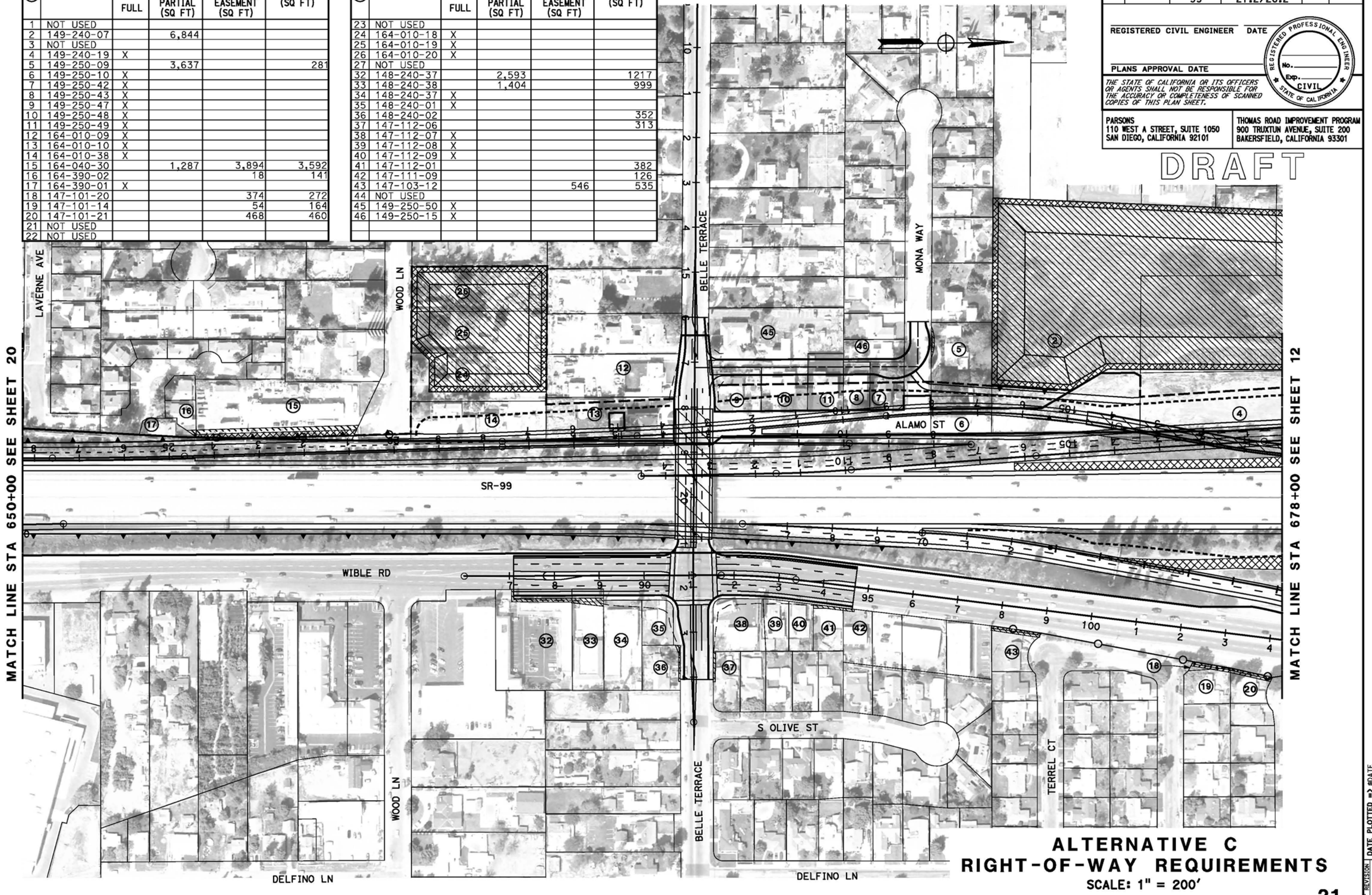
RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	NOT USED				
2	149-240-07		6,844		
3	NOT USED				
4	149-240-19	X			
5	149-250-09		3,637		281
6	149-250-10	X			
7	149-250-42	X			
8	149-250-43	X			
9	149-250-47	X			
10	149-250-48	X			
11	149-250-49	X			
12	164-010-09	X			
13	164-010-10	X			
14	164-010-38	X			
15	164-040-30		1,287	3,894	3,592
16	164-390-02			18	141
17	164-390-01	X			
18	147-101-20			374	272
19	147-101-14			54	164
20	147-101-21			468	460
21	NOT USED				
22	NOT USED				

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
23	NOT USED				
24	164-010-18	X			
25	164-010-19	X			
26	164-010-20	X			
27	NOT USED				
32	148-240-37		2,593		1217
33	148-240-38		1,404		999
34	148-240-37	X			
35	148-240-01	X			
36	148-240-02				352
37	147-112-06				313
38	147-112-07	X			
39	147-112-08	X			
40	147-112-09	X			
41	147-112-01				382
42	147-111-09				126
43	147-103-12			546	535
44	NOT USED				
45	149-250-50	X			
46	149-250-15	X			



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	21	

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ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

21

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PROJECT NUMBER & PHASE EA 06-48460

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	22	

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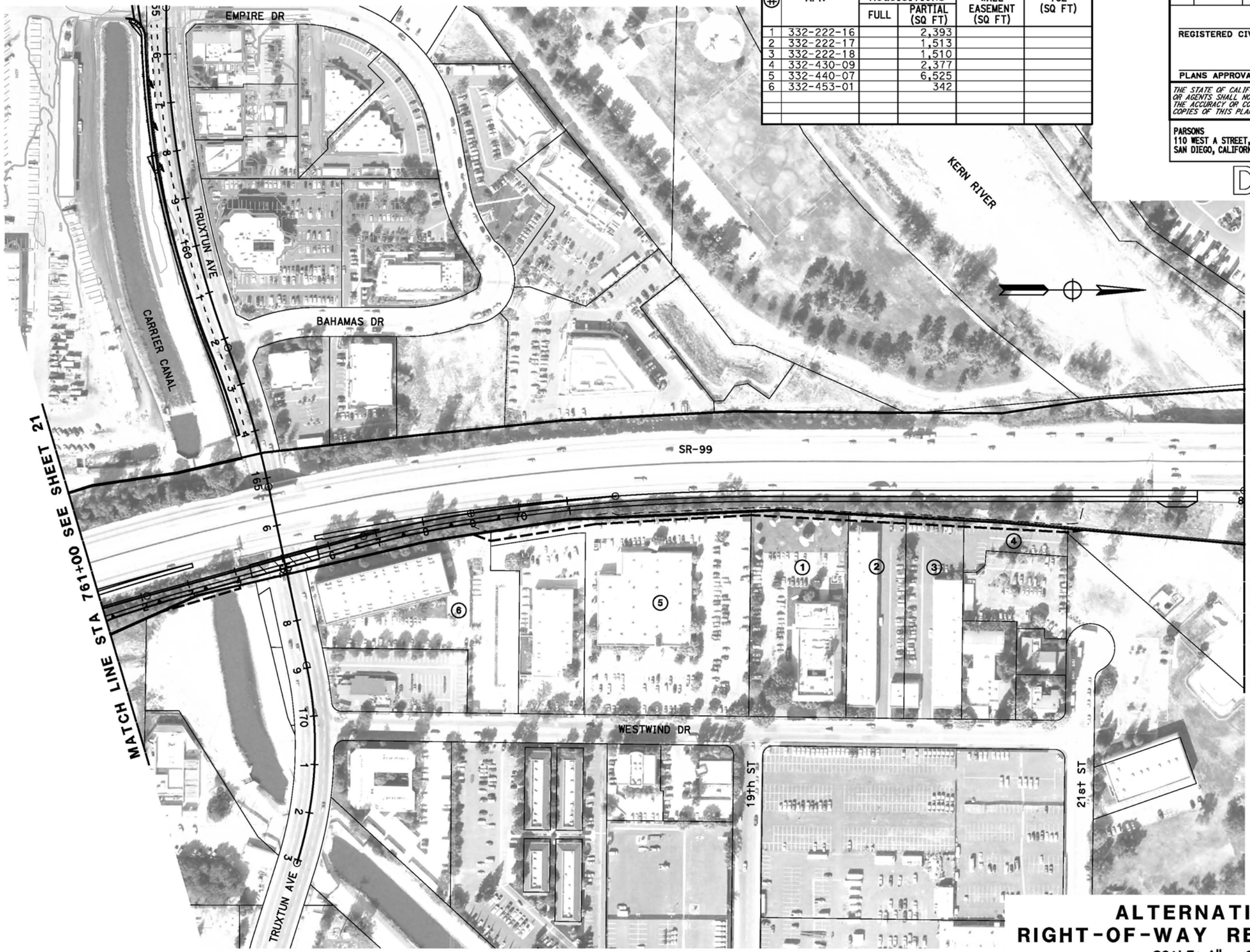
#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	332-222-16		2,393		
2	332-222-17		1,513		
3	332-222-18		1,510		
4	332-430-09		2,377		
5	332-440-07		6,525		
6	332-453-01		342		



ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

22

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EA 06-48460

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	332-152-31		57	57	
2	332-152-32		3,244	3,244	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	23	

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SCALE: 1" = 200'

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	24	

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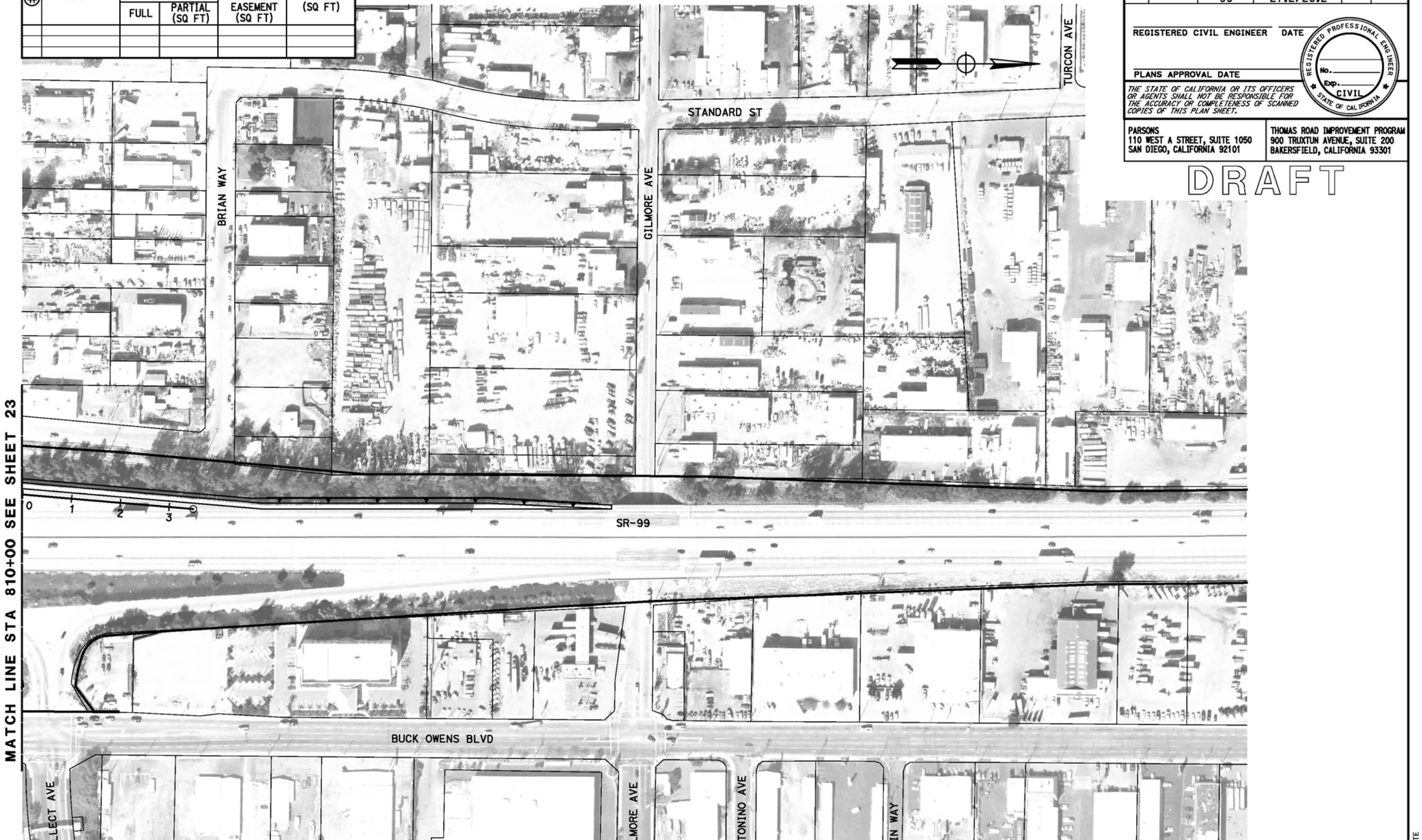

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

24

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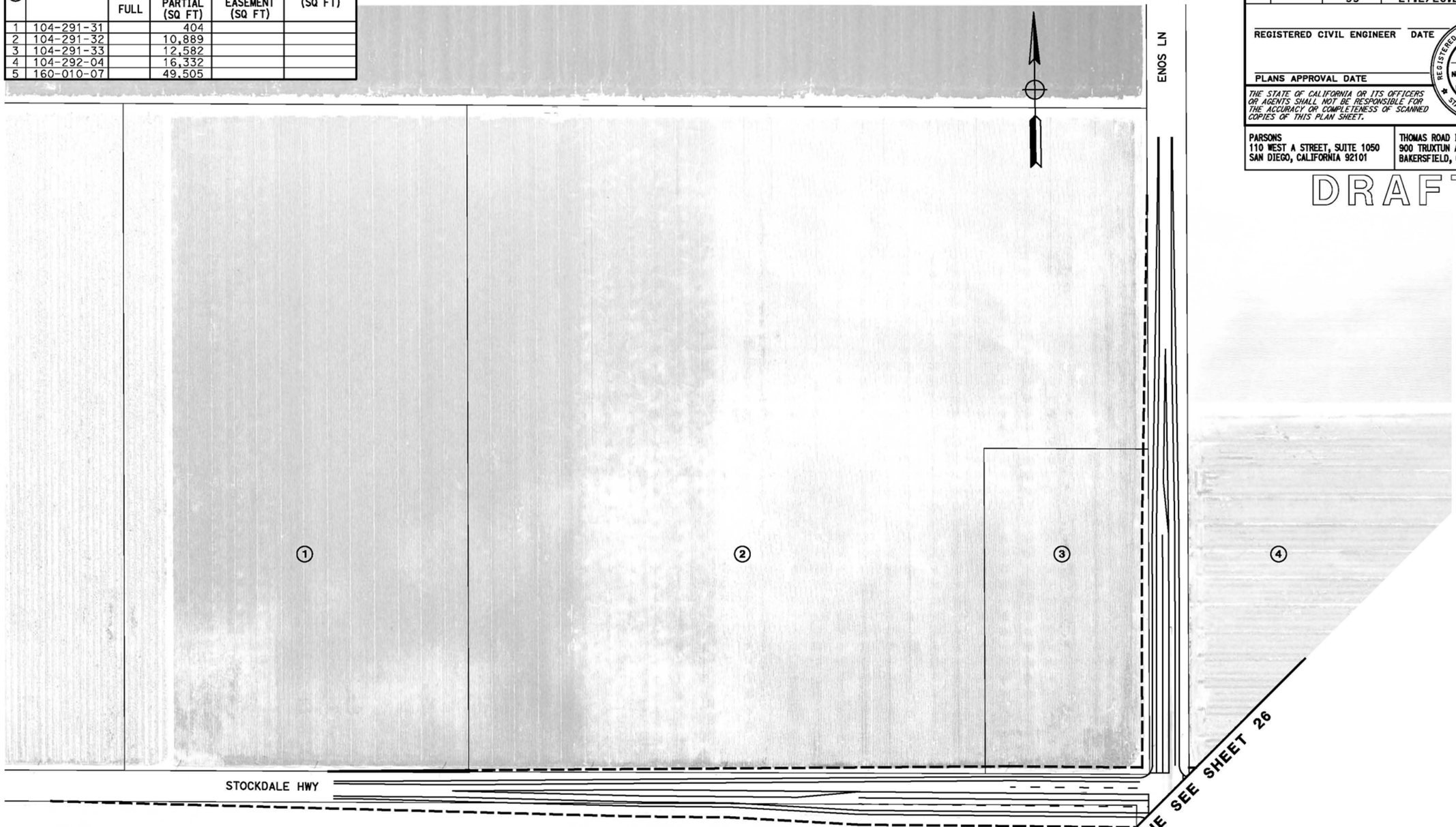
RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	104-291-31		404		
2	104-291-32		10,889		
3	104-291-33		12,582		
4	104-292-04		16,332		
5	160-010-07		49,505		



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS

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25

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06	Ker	58 99	T31.7/R55.6 21.2/26.2	26	

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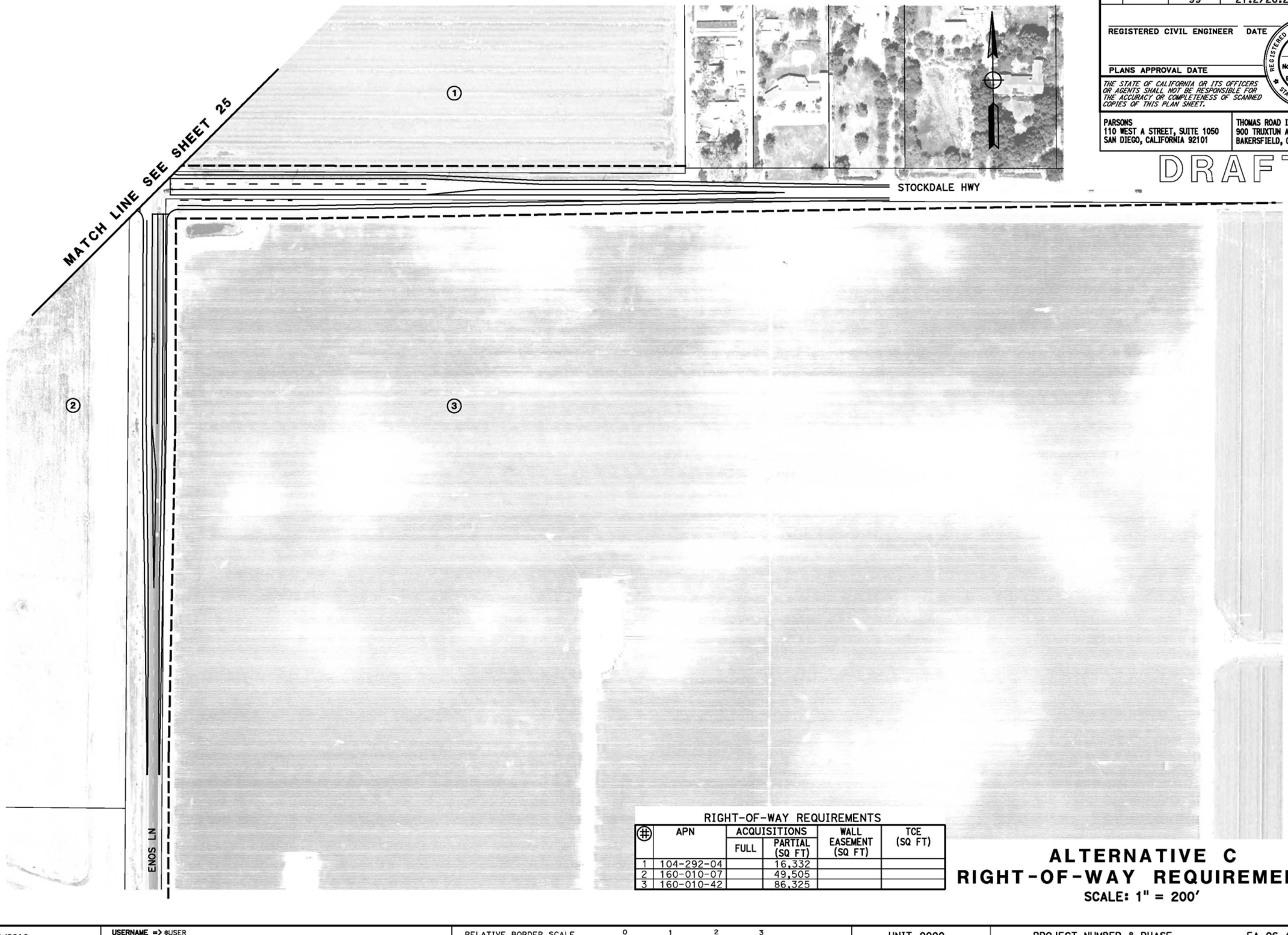

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	104-292-04		16,332		
2	160-010-07		49,505		
3	160-010-42		86,325		

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

26

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Appendix F Avoidance, Minimization and/or Mitigation Summary

The following measures are a compilation of the avoidance, minimization, and mitigation measures identified in Chapter 3 of this environmental impact report/ environmental impact statement.

Parks and Recreation

Mitigation Measures

The following mitigation measures would apply if Alternative A is selected:

PR-1 Caltrans, in coordination with the City of Bakersfield, shall implement the following measures to minimize impacts to the Kern River Parkway:

- Prior to construction, reconstruct the Kern River Multi-Use Trail and equestrian trail that would be affected by construction activities. Locate the new realigned trails at underpasses beneath the overhead structures.

- Access to the pedestrian, bicycle, and equestrian trails shall be maintained to the extent practicable during the construction period. Signs shall be furnished for all paths and for any paths temporarily closed for public safety and security.

- Prior to construction, replace the volleyball courts and other park uses potentially displaced by the project construction at a new location within the Kern River Parkway, to be identified by the City of Bakersfield.

- After construction, replant native vegetation that would be cleared during construction of the project using similar plant materials approved by the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife. All mature trees will be replaced at a 1:1 ratio.

The following measures would apply if Alternative C is selected:

PR-2 Caltrans, in coordination with the City of Bakersfield, shall implement the following measures to minimize impacts to Saunders Park that would result from implementing Alternative C:

- Assemble and consolidate excess land in the vicinity of the park to redefine a new park boundary that is estimated to comprise an estimated 12.95 acres, a net increase of 1.65 acres.

- The park shall be developed consistent with the concept plan provided in Section 7.2, Measures to Minimize Harm to Saunders Park of the *Section 4(f) Evaluation* provided in Appendix B, Volume 2. All affected facilities shall be replaced. As shown in the concept layout, the new Saunders Park includes the following relocated facilities: basketball courts, roller hockey facility, splash/water play area, group picnic areas, and parking areas. Security lighting shall be incorporated.

Farmland

Mitigation Measure

AG-1 In conjunction with right-of-way acquisition for the improvements to the Stockdale Highway/State Route 43 intersection, Caltrans shall coordinate with the County of Kern to amend the applicable Williamson Act contract to reflect the removal of the right-of-way purchased for roadway improvements from the contract.

Community Character and Cohesion

Project design would minimize impacts to the neighborhoods as much as feasible and practicable. Mitigation measures presented in Parks and Recreation, Section 3.1.1.3, Traffic and Transportation/Pedestrian and Bicycle Facilities, Section 3.1.6; Air Quality, Section 3.2.6; Noise, Section 3.2.7; and Construction Impacts, Section 3.6 of this environmental document in Volume 1, have been developed to minimize impacts to the neighborhoods affected by the project construction and operation. The following mitigation measures are provided in addition to specific measures in respective sections indicated earlier. These specifically include the aesthetic design theme, and the assistance mandated by the Uniform Relocation Act, as amended, provided during the relocation process.

Minimization and Mitigation Measures

C-1 The overall Centennial Corridor aesthetic design theme shall be compatible with surrounding neighborhoods and in keeping with the overall Westside Parkway design theme, to the extent feasible, including landscaping, aesthetic soundwall, and bridge treatments.

C-2 Caltrans, in coordination with the City of Bakersfield, shall prepare a relocation analysis as part of the Final Relocation Impact Report. The results will be incorporated into the final environmental document. The relocation analysis will enable the relocation activities to be planned so that the problems associated with the displacement of individuals, families, and businesses are recognized in advance of moves and so that solutions are developed to minimize the adverse impacts of displacement. The scope of planning will be based on the complexity and nature of the anticipated displacement activity, including the evaluation of program resources available to carry out timely and orderly relocations.

C-3 Close coordination with the Kern County Department of Human Services shall be undertaken to prepare a special publication for the residents of the

Centennial Corridor project area that will identify the variety of social service providers available from metropolitan Bakersfield and Kern County public and private community-based organizations, including local religious institutions. The publication, which will be prepared in both English and Spanish, will also include contact numbers and the methods to obtain those services. Hard copies of the publication will be widely distributed in addition to online versions being placed on a website for viewing and downloading. The following services should be anticipated: employment opportunities and workforce development; legal services; information about financial and tax consequences of relocation; possible homeowner credit-repair counseling; first-time buyer counseling; and other services for special needs populations, including disabled, low-income, and senior citizens.

Relocation and Property Acquisition

Standard Condition

SC-R-1 Caltrans, in coordination with the City of Bakersfield, shall implement all property acquisition and relocation activities in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act) of 1970 (Public Law 91-646, 84 Stat. 1894). The Uniform Act mandates that certain relocation services and payments be made available to eligible residents, businesses, and non-profit organizations displaced by the project. The Uniform Act provides uniform and equitable treatment by federal or federally assisted programs of persons displaced from their homes, businesses, or farms, and establishes uniform and equitable land acquisition policies. See Appendix D in Volume 2 for more information on the Caltrans Relocation Assistance Program.

Mitigation Measure

R-1 The following measures may be considered by Caltrans and the City of Bakersfield for incorporation into the relocation plan to minimize impacts to displaced businesses and residences:

- Disruption of children's education shall be minimized to the extent feasible. This may include, where possible, scheduling the relocation of families with school-aged children during the months of June through August, and identifying, as a priority, replacement housing options within the same Bakersfield public and private school district for those families who wish to keep their children there.
- All relocation assistance materials shall be written in a non-technical way and be available in Spanish and English. One or more of the relocation specialists shall be fluent in Spanish; have demonstrated training/be certified from the International Right-of-Way Association; and have no fewer than five years of experience in explaining to

potentially affected homeowners, tenants, and businesses, the provisions of the Uniform Relocation Act, as amended.

- To the extent applicable, relocation of residential and non-residential properties shall be phased over time so that displacees have an opportunity to select the best replacement sites without competing with other affected property owners within the same community.
- To the extent applicable, a lease-back of non-residential properties shall be considered to allow those proprietors who wish to continue to conduct their business at their current location as long as it is feasible.
- Last Resort Housing Program payments shall be used to relocate residential households being displaced, if necessary, as provided for by the Uniform Relocation Act, as amended.
- One or more specialists on the relocation team with prior experience working with people with special needs—especially the elderly, disabled, and low-income population groups—shall be made available to facilitate the relocation process.
- Supplemental transportation at no cost shall be offered for displaced persons to inspect potential relocation housing should they be unable to use their own transportation.
- At least one "business fair" shall be conducted to provide information to those businesses facing displacement. The fair will be an opportunity to provide businesses with the information and resources concerning how to optimize the impending relocations. Among people expected to participate are those working in the commercial leasing sector, moving companies, and others.
- In advance of potential relocations of minority-owned businesses, outreach to such organizations as the Kern County Black Chamber of Commerce and Kern County Hispanic Chamber of Commerce shall be undertaken to identify resources that may be of particular help to such businesses.

Utilities/Emergency Services

Minimization Measure

SC-U-1 Existing oil wells within the proposed right-of-way would be abandoned in accordance with the requirements in the California Code of Regulations. This includes filing a Notice of Intent and preparing an abandonment plan for approval by the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources. Completion of the well abandonment process in compliance with existing regulations would ensure that no environmental hazards are created by the plugging operations or the abandoned well.

Traffic and Transportation/Pedestrian and Bicycle Facilities

Minimization and Mitigation Measures

T-1 Modifications could include parking lot design modifications, space management (such as parking area restriping), or identifying parking lot replacement options.

The following measure would apply if Alternative A were selected:

T-2 For Alternative A, Caltrans shall take into consideration the means to minimize both operational and construction impacts to existing and planned bike routes and trails potentially affected by the project construction, such as rerouting the trails prior to the initiation of construction activities.

The following measure would apply if Alternative B were selected:

T-3 During final design, Caltrans shall work with the City of Bakersfield to amend the Metropolitan Bakersfield General Plan, Bikeway Master Plan to reflect the modified Class 3 bicycle route affected by Alternative B and shall take into consideration the means to minimize both operational and construction impacts to existing and planned bike routes and trails potentially affected by the project construction, including the Kern River Parkway bike path and Hoey Trail. The Kern River Parkway bike path and Hoey Trail shall be relocated, where necessary, to ensure connectivity with the existing facility on both sides of the bridge. All pedestrian facilities shall be designed to meet or exceed requirements of the Americans with Disabilities Act and current safety standards. Access to the pedestrian, bicycle, and equestrian trails shall be maintained to the extent practicable during the construction period.

The following measure would apply if Alternative C were selected:

T-4 With Alternative C, replacement parking shall be created to compensate for the loss of parking at Saunders Park. Sufficient parking shall be provided to meet zoning code requirements for the park.

Visual/Aesthetics

As identified above, the aesthetic treatment for walls, bridges, and landscaping would be consistent with the design used for the Westside Parkway to provide a cohesive visual character to the project. Figures 3-14 through 3-26 (Simulated Project View), provided in Volume 1, show the Westside Parkway treatments as they could look on the Centennial Corridor alternatives. Design features, such as depressing Alternative B between California Avenue and Ford Avenue, would minimize visual disruption of the roadway in the Westpark neighborhood. Mitigation and minimization measures listed below would be used to soften the imposition of new transportation corridor infrastructure, reduce visual impacts, and improve visual appeal to the residential, open space, and commercial areas along the proposed project alternatives. They are

also intended to mitigate the visual impacts of the proposed project for community residents, commercial employees, recreation viewers, and motorists traveling along commercial corridors near the proposed project.

Minimization Measures

V-1 In conjunction with final design, Caltrans shall develop, and the contractor shall implement, an irrigation plan that includes the following requirements:

- All drip zones of isolated trees shall be protected with fencing. In addition, the existing environmentally sensitive areas (parks, Kern River) shall remain to be protected.
- An irrigation system shall be provided to all new plantings.
- An extended three-year maintenance period after the construction is completed shall be provided for single-source maintenance through the establishment period.

V-2 The overall Centennial Corridor aesthetic design theme shall be compatible with surrounding neighborhoods and in keeping with the overall Westside Parkway design theme, to the extent feasible, including landscaping, aesthetic soundwalls, bridge treatments, and lighting fixtures. The architectural treatments are shown in the visual simulations and are primarily comprised of brick. Additionally, the simulations contain views with and without vines for walls. The City of Bakersfield and the County of Kern shall enter into maintenance agreements with Caltrans. The maintenance agreement with the City will include maintenance of the enhanced aesthetic treatment, including graffiti removal. It should be noted that the City will have to provide the beige color paint to Caltrans for graffiti removal so that it is matched with the Westside Parkway architectural treatments. In the event the City cannot provide the beige color paint, Caltrans will have to use grey color paint to remove graffiti.

V-3 As part of storm water runoff management, the infiltration basins will be designed to include buffer areas and/or plant screens to shield public views where practical.

V-4 Landscaping would be implemented upon completion of construction. Plant material would consist of native, drought tolerant, and self-sustaining species. Any adapted plant material shall be consistent with the Caltrans District 6-approved plant palette and would not include any invasive plant species.

V-5 Caltrans shall preserve as many mature trees as practical. The landscape plan will incorporate a tree replacement plan with a replacement ratio of 1:1—for every tree removed, a tree will be planted. Mature trees (larger than 20 feet high) that are to be removed shall be replaced using 20-inch box trees. A tree survey shall be completed during final design. Design

plans shall indicate locations of existing specimen-sized trees (larger than 20 feet high) to be preserved if possible. Tree replacement shall meet all Caltrans and city standards and policies.

Cultural Resources

Avoidance measures have been incorporated into the current design concepts for each of the alternative alignments near the Lester H. Houchin residence. Early design concepts assumed embankments (slopes at the edge of the freeway) would have resulted in the State Route 58 right-of-way extending onto the property of the Houchin residence. To avoid impacts to potentially eligible property, a retaining wall is proposed in this location to ensure the project does not affect this property. The retaining wall would be at the edge of right-of-way north of Brite Street. This avoids direct impacts to the Houchin residence. In addition, it allows the landscaping on the north side of the property to be retained, which provides a visual buffer to Brite Street and State Route 58.

Construction methods would also be used to avoid and minimize potential indirect adverse effects to the Rancho Vista Historic District due to vibration during construction if construction comes close to the homes. Alternative construction methods may include cast-in-drilled-hole piles rather than pile driving. Specific methods would be determined during final design.

Mitigation Measures

If either Alternative A or B is selected as the preferred alternative, a Memorandum of Agreement with the State Historic Preservation Officer and the Advisory Council on Historic Preservation would be required to identify mitigation measures to reduce the potential impacts to the Rancho Vista Historic District. Measure CR-1 provides the type of measure that would be appropriate. The following measures would apply if either Alternative A or B is selected as the preferred alternative, except as noted:

CR-1 The conceptual mitigation measures for effects to the Rancho Vista Historic District would include as appropriate:

1. Detailed documentation of the Rancho Vista Historic District as a whole, and of each adversely affected contributing property at a level specified by the State Historic Preservation Officer (similar to Historic American Building Survey Level II documentation, consisting of large format archival quality photographs, available as-built plans, and written historical data in the form of an historical report), distribution to the appropriate Regional Information Center, local public library, and other repositories to be determined.
2. Preparation of a brochure on the local history and architecture of the affected Rancho Vista Historic District.
3. Adding information to existing social media sites dealing with related architectural topics.

4. Incorporation of hardscape features (including soundwalls), landscape, and architectural treatments that are compatible with the historic character of the affected Rancho Vista Historic District, such as color, texture, and vine treatment as feasible. (See Section 3.2.7, Noise, for location and heights of proposed soundwalls.)
5. Before demolition of contributing properties (this would only occur with implementation of Alternative A) for which an adverse effect finding is made, strategies such as working with a local agency to identify appropriate sites or offering the properties for sale for $1 (or other reasonable amount) and paying up to the cost of demolition and removal of each contributing property would be attempted.
6. Architectural and structural elements or character-defining features would be made available for reuse in other buildings of the same age and style through an architectural salvage operation (this would only occur with implementation of Alternative A). No salvage would take place until an opportunity for the relocation described in item 5 above has taken place.
7. The Rancho Vista Historic District contributing buildings/structures affected by temporary construction easements would be protected by the establishment of Environmentally Sensitive Areas. After construction, the land, hardscape (e.g., residential walkways, garden walks/walls, etc.) and vegetation would be replaced in-kind per the Secretary of the Interior's *Standards for the Treatment for Historic Properties with Guidelines for Rehabilitation.*

CR-2 Contract specifications shall direct the contractor not to use pile driving for the construction of the bridge crossing at Stine Road and Stockdale Highway. The contractor shall use alternative construction methods (such as cast-in-drilled-hole piles) that would cause less than 0.12 inch per second peak particle velocity for the construction of the bridge to avoid any indirect adverse vibration effects to contributing elements of the Rancho Vista Historic District that is an Historic Property.

Hydrology and Floodplain

Standard Condition

SC-FP-1 The following measures will be incorporated into project design to minimize flood flow impacts on the Kern River:

1. Project design elements will include incorporation of bridge piers and abutments that are parallel to the direction of water flow to minimize flow obstruction.
2. Pier placement will be optimized to align the piers with existing piers in the Kern River.

3. Bridge abutments will be located outside of or as close to the limits of the floodplain as possible to minimize the reduction of conveyance capacity of the Kern River.
4. Bridges will be designed with sufficient freeboard above the 100-year flood water surface elevation to prevent the bridge deck from affecting flood flows.

Water Quality and Storm Water Runoff

Disturbed soil areas and slopes would be stabilized with permanent landscaping and/or permanent erosion-control measures as part of the Design Pollution Prevention best management practices in Caltrans' Storm Water Management Plan. In addition, velocity dissipation devices would be used in design to reduce erosion potential. Standard best management practices would maintain runoff patterns, volumes, and velocities, and would prevent erosion, channel scouring, and sediment deposition. Standard best management practices include the following:

- Consideration of downstream effects (such as flow rate and pollutant concentration) related to potentially increased flow, including peak-flow attenuation devices, reduction of paved surface, soil modification, and energy dissipation devices.
- Preservation of existing vegetation
- Concentrated flow conveyance systems (ditches, berms, dikes, and swales, overside drains, downdrains, paved spillways, channel linings, flared culvert end sections, outlet protection/velocity dissipation devices)
- Slope/Surface protection systems (specifically, vegetated surfaces, benching/terracing, slope rounding, reduce gradients, hard surfaces)

The treatment best management practices (which include use of biofiltration systems, infiltration devices, detention devices, dry weather flow diversions, gross solid removal devices, multi-chambered treatment trains, wet basins, traction sand traps, and media filters) have been evaluated for use throughout the alignments, as part of the *Storm Water Data Report*. The report found that the use of infiltration basins throughout the alignment of each build alternative would allow the storm water runoff to use the natural filtering ability of the soil to remove pollutants. Runoff from all new impervious surfaces would be directed into the infiltration basins for treatment and so would not create any surface water or groundwater quality impacts.

With the incorporation of project design features and standard best management practices into the project, no mitigation measures are required.

Hazardous Waste or Materials

Sites with potential contaminants shall be investigated, cleanup methods identified, and health and safety measures consistent with federal, state, and local requirements shall be implemented prior to and during project construction.

Minimization Measures

H-1 Prior to finalization of the environmental document, a Preliminary Site Investigation for the preferred alternative (Alternative B) shall be conducted to determine the existence and the level of contamination, if any. If contamination is identified, the wastes/materials shall be handled in accordance with all applicable federal, State, and local regulatory requirements.

H-2 Special provisions shall be included in the construction contract. Contractors will be required to prepare and work under a Health and Safety Contingency Plan(s), which will address worker safety when working with potentially hazardous materials including asbestos, lead-based paint, aerially-deposited lead and/or other construction-related materials within the project right-of-way. Asbestos-containing materials sampling and analysis of buildings subject to demolition will be done by the contractor, as needed, prior to demolition and the statement of work will be included in the specifications.

H-3 As part of project design, a Soil Management Plan shall be developed to ensure that soil excavated during the project construction which is impacted by metals or petroleum hydrocarbons is handled, stockpiled, and disposed of in accordance with federal, state, and local regulations. The Soil Management Plan will also establish Reuse Screening Levels for the excavated soils with contaminant concentrations below the Reuse Screening Levels, which may be reused during construction projects on the right-of-way, while soils with contaminant concentrations exceeding the Reuse Screening Levels will need to be managed as hazardous wastes and disposed of at a Class I landfill.

H-4 Prior to any soil disturbance at the former Tosco Coke Pile (APN#502-010-12), the Department of Toxic Substances Control shall be properly notified.

Noise

Abatement Measure

N-1 Based on the studies completed, Caltrans intends to incorporate noise abatement in the form of soundwalls that meet the criteria for reasonableness and feasibility. The recommended soundwalls would reduce the traffic noise levels by at least 5 decibels (dB) at the impacted receivers, would meet the design goal by providing a 7-decibel reduction for at least one receiver, and would cost less than the reasonableness cost allowance. If during final design, conditions have substantially changed, noise abatement may not be necessary. The final decision of the noise abatement will be made upon completion of the project design and the public involvement processes.

Prior to the formal selection of the Preferred Alternative and approval of the project, all property owners of the benefitted receptors located adjacent to each of the proposed soundwalls will be given an opportunity to vote if they want the soundwall to be constructed to abate the traffic noise in their

area or not. For soundwalls located within state right-of-way, if more than 50 percent of the votes from responding benefitted receptors oppose the abatement, the abatement will not be considered reasonable and will not be built. If the soundwall is to be located on private property (or properties), 100 percent of the property owners must vote in favor of the soundwall for it to be constructed. However, at this time, none of the recommended soundwalls are on private property.

The soundwalls that meet the feasibility and reasonableness criteria are shown in Tables F-1 through F-9 at the end of this Appendix.

Wetlands and Other Waters

Mitigation Measure

B-1 Prior to initiation of construction, Caltrans shall coordinate with and obtain necessary permits from the U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and Regional Water Quality Control Board regarding compensation for impact to jurisdictional habitat. Due to the small effect of the alternatives on jurisdictional areas, replacement habitat shall be incorporated into the jurisdictional habitat replacement plan developed for the Westside Parkway project. The mitigation approach will be negotiated with the resource agencies and will consist of a combination of the following: 1) purchase of credits at a jurisdictional resources mitigation bank; 2) enhancement of jurisdictional resources; 3) restoration of jurisdictional resources; or 4) purchase of existing jurisdictional resources and placing a conservation easement over it.

Plant Species

Mitigation Measure

The following measure would apply to Alternative A in Segment 1:

B-2 If Alternative A is selected as the preferred alternative and the two populations of Ferris' goldfields cannot be avoided, Caltrans shall develop a mitigation and monitoring program to compensate for the loss of Ferris' goldfields before this species is affected. The mitigation program shall include preservation and/or enhancement of occupied habitat for this species or it shall include seed collection within the impact area and planting within a suitable mitigation site. The mitigation and monitoring plan shall be prepared by a qualified biologist and shall contain appropriate performance criteria.

Threatened and Endangered Species

Mitigation Measures

B-3 Special Status Plant Species: Prior to project groundbreaking, a U.S. Fish and Wildlife-approved biologist(s) shall conduct updated protocol-level botanical surveys within the project footprint during the appropriate blooming periods for the following four species: the California

jewelflower, the Kern mallow, the San Joaquin woollythreads, and the Bakersfield cactus. Surveys shall be conducted in accordance with the most current protocols accepted by the U.S. Fish and Wildlife Service.

To the greatest extent practicable, efforts shall be made to avoid the species during project design. If one of these species is observed within the impact area at Stockdale Highway and State Route 43 and it cannot be avoided, Caltrans shall obtain a take authorization from the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife before impacts to this species. Caltrans shall consult with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife to determine the appropriate conservation measures to mitigate for impacts on this species. The mitigation shall include payment to an in-lieu fee program; preservation or enhancement of occupied habitat for the species; or collection of seed within the impact area and planting within a mitigation site with the appropriate microhabitat for this species. A detailed mitigation and monitoring program shall be prepared by a qualified biologist and approved by the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife.

B-4 S*an Joaquin kit fox:* Measures have been developed from standard recommendations described in the *USFWS Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011b). In addition, project design changes have been identified to reduce impacts on the kit fox and have been incorporated into the design plans for the project. The main objective of project design changes is to maintain opportunities for kit foxes to cross over the road surface while reducing the potential for unintentional vehicle strikes. Construction of the new roadway would also incorporate several features to allow continued kit fox movement, including maintaining existing movement corridors along existing linear habitat features. These features include:

- Permeable fencing shall be installed along the proposed right-of-way in all areas where there is known San Joaquin kit fox activity and lower traffic speeds/volumes. Permanent exclusionary fencing shall be installed along the proposed right-of-way in high-density residential areas and/or in areas with higher traffic speeds/volumes. In areas in need of new permeable fencing, at least one design option featured below shall be adopted to provide the San Joaquin kit fox with passage and movement opportunities, and to minimize the potential to disrupt species movement and habitat fragmentation of the project area: (1) elevate the bottom of the fence 5 inches above ground to allow unobstructed movement by San Joaquin kit fox under the fence; (2) install ground-level 8-inch-wide by 8-inch-wide gaps no more than 100 feet apart along the length of the fence to allow for San Joaquin kit fox movement at regular intervals along the right-of-way; and (3)

install fencing with a minimum mesh size of 3½ by 7 inches, preferably 5 by 12 inches, to allow unlimited movement through the fence.

- Curbed medians shall be used as part of the project design and their height shall be no greater than ten inches. Either 6-inch-high curbed medians with low vegetation (that is, less than 6 inches) or 10-inch-high unvegetated curbed medians shall be constructed so as not to obstruct the visual field of the San Joaquin kit fox near the roadway. Curbed medians less than 10 inches in height and which require landscaping shall be planted with low-level vegetation (i.e., less than 6 inches tall at maturity), or be mowed frequently to prevent overgrowth and provide an unobstructed line of sight for the species, or shall have gaps installed measuring no less than 4-feet-wide every 12 feet in areas landscaped with trees and shrubs. If required, landscaping shall be designed in conjunction with the curbed median design in order to allow unobstructed visibility to the San Joaquin kit fox and to maintain and/or enhance opportunities for movement across the roadway. Median barriers will be required in some areas of the project for the purpose of public safety. The Caltrans-designed modified median barrier type 60/S shall be used. Caltrans type 60/S design previously has been utilized in other projects (e.g., reinitiated Biological Opinion for the State Route 99 Goshen to Kingsburg 6-Lane Project, in Tulare and Fresno Counties; Service File number 81420-2009-F-0752) and includes 9-inch radius openings (semi-circular openings 9 inches high by 18 inches) spaced every 150 feet to allow passage by the San Joaquin kit fox. Maintaining permeability in this manner shall also reduce the potential to disrupt species movement and connectivity in the project area.

- In areas of known San Joaquin kit fox activity and high traffic volumes and/or speeds, existing San Joaquin kit fox movement corridors like the canal channels and the Kern River, as well as railroad right-of-ways (e.g., BNSF), shall be preserved through the use of bridges and/or culverts to facilitate crossings. Some segments of the canals under the new roadways shall be converted from trapezoidal channels to box culverts; other segments of the canals with existing box culverts shall be extended. Toe-of-road fill and bridge support walls shall be maintained and new walls will be designed no less than 20 feet from the centerlines of canal access roads and railroad.
  - An elevated bridge currently exists at the location where the Westside Parkway crosses the trapezoidal channel of the Friant-Kern Canal. Species access will continue to be provided along an elevated access road located parallel to the canal.
  - An above-grade bridge will be constructed over the trapezoidal channel of the Stine Canal. This will allow the species to move freely below the roadway.

  - An above-grade bridge (westbound Mohawk St. off-ramp) will be constructed over the Cross Valley Canal, which exists as a double box culvert. The Kern River corridor is located proximate to the canal and so it provides existing access for the species in the area; no additional crossing features are proposed at this canal site.

- Two design options are proposed for the location where the new roadway will cross the Carrier Canal: (1) box culvert – if this design is chosen, a crossing structure (with proposed 5 x 5 inch mesh size and 10 inch diameter escape pipes within a 60 inch diameter crossing culvert) will be installed to connect the access roads on the north side of the canal; (2) bridge – if this design is chosen, no additional crossing features will be necessary since the elevated bridge above the trapezoidal canal will allow the species to move freely below the roadway.

- Warning signage alerting drivers to potential kit fox presence is proposed at several locations. The need for and number of appropriate signage at intersections shall continue to be evaluated as project design advances.

- Caltrans shall verify that the City compensates for the permanent loss of 11.28 acres and temporary disturbance to 65.55 acres of habitat consisting of non-native grassland, riparian woodland/Great Valley cottonwood riparian forest, ruderal/disturbed areas, desiccated waterways, detention basins, and agricultural land suitable for the San Joaquin kit fox by purchasing 105.95 acres (using a 1:1 compensation ratio for permanent effects and 1.1:1 compensation ratio for temporary effects) through the Metropolitan Bakersfield Habitat Conservation Plan. Prior to construction, the limits of affected habitat acreage by vegetation type shall be verified and delineated on a map, and submitted for approval to the U.S. Fish and Wildlife Service. This shall be done prior to its submittal to the City Planning Department for fee payment.

Project design changes, when implemented together, are expected to reduce the potential for adverse effects on the kit fox. Project design shall be re-evaluated and adjusted as appropriate during the final project design phase and if changes are made plans shall be submitted for review and approval to the U.S. Fish and Wildlife Service.

The actions to be applied during construction are identified in Section 3.6, Construction Impacts, as part of Mitigation Measure CI-25. Mitigation CUM-1, provided in the Cumulative Impacts discussion, also addresses the San Joaquin kit fox.

Construction Impacts

Community Impacts

Standard Conditions

SC-CI-1 To the extent practical, street closures required during construction shall be scheduled to occur during nighttime hours. This requirement will be addressed in the Traffic Management Plan to be prepared during the final design phase of project development.

SC-CI-2 To the extent practical, the contractor shall avoid blocking or limiting access to businesses during construction during normal business hours. Businesses will be contacted and advised of nearby construction activities before their commencement.

SC-CI-3 Caltrans shall notify emergency service providers, such as fire, police, and ambulance services in advance of construction of the timing, location, and duration of construction activities and the locations of detours and lane closures.

SC-CI-4 During the final design phase, the City of Bakersfield and Caltrans in coordination with affected facility owners or operators shall develop and implement access plans for highly sensitive land uses such as police and fire stations, transit stations, hospitals, and schools.

Utilities and Emergency Services

Standard Conditions

SC-CI-5 Caltrans and the City of Bakersfield shall coordinate with all affected private and public service utilities in advance of the construction. Per Caltrans requirements, all linear underground utilities within Caltrans' right-of-way will be encased from right-of-way to right-of-way in either steel or concrete.

SC-CI-6 In accordance with the requirements in the California Code of Regulations, prior to the initiation of construction, the contractor shall coordinate and notify the operators of underground or overhead utility and service lines prior to any excavation activities. This coordination would avoid damage to existing utility lines and would limit disruption to existing utility services to the existing developments near the proposed alignments.

The following standard condition would avoid and/or minimize adverse effects of the Centennial Corridor on emergency services:

SC-CI-7 The contractor shall conduct construction activities in accordance with the approved Traffic Management Plan for the project and Caltrans' Manual of Uniform Traffic Control Devices to reduce impacts to emergency services and response. Coordination of roadway closures with appropriate

emergency services would be addressed in the Transportation Management Plan.

Traffic and Transportation/Pedestrian and Bicycle Facilities

Standard Conditions

SC-CI-8 Caltrans shall require the design team to develop a Traffic Management Plan to offset the effects of access restrictions and traffic congestion during construction of the freeway, ramps, and on local streets. The Traffic Management Plan will consider methods such as adjustment of signal timing and/or signal coordination to increase roadway efficiency; turn restrictions at intersections and roadways necessary to reduce congestion and improve safety; and parking restrictions on detour routes during work hours to increase capacity, reduce traffic conflicts, and improve access. The Traffic Management Plan will include a traffic contingency plan with procedures to be implemented for possible unforeseen circumstances and emergencies.

SC-CI-9 Caltrans shall require the contractor to provide motorist alert and awareness information during construction, as appropriate for the conditions, to include the following options: changeable message signs, stationary ground-mounted signs, traffic radio announcements, and the Caltrans Highway Information Network.

SC-CI-10 Caltrans, in coordination with the City of Bakersfield, shall coordinate with Golden Empire Transit and other affected transit providers to request and comply with applicable procedures for any required temporary bus stop relocations or other disruptions to transit service during construction.

Visual/Aesthetics

Measures V-1 presented in Section 3.1.7, Visual/Aesthetics would minimize visual impacts during construction.

Cultural Resources

In addition to the standard conditions and minimization measures listed below, Mitigation Measure CR-2 provided above and in Section 3.1.8, Cultural Resources, in Volume 1 and identified above, would reduce indirect adverse vibration effects to contributing elements of Rancho Vista Historic District, associated with the construction of Alternative A.

Standard Conditions

SC-CI-11 In accordance with Caltrans standard specifications, if cultural materials are discovered during construction, all earth-moving activities within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find. If human remains are discovered, Section 7050.5 of the State Health and Safety Code states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the county coroner shall be

contacted. Pursuant to Section 5097.98 of the Public Resources Code, if the remains are thought to be Native American, the coroner will notify the Resident Engineer and the Native American Heritage Commission, who will then notify the Most Likely Descendent. At this time, the Resident Engineer will contact the District 6 Environmental Branch so that staff may work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of Section 5097.98 of the Public Resources Code are to be followed as applicable.

SC-CI-12 It is Caltrans' policy to avoid cultural resources whenever possible. Further investigation may be needed if resources cannot be avoided by the project. Additional survey(s) will be required if the project changes to include areas not previously surveyed.

Minimization Measures

CI-1 Prior to finalization of the environmental document, Caltrans shall conduct Stage II of the archaeological sensitivity model to field-check the preliminary buried site sensitivity model and to further analyze the areas believed to have high and very high archaeological sensitivity. Phase II subsurface testing, will focus on those locations along the selected alternative that require excavation into native sediments that are identified as high and very high sensitivity.

Pursuant to Caltrans' policy regarding Native American monitoring during construction activities in areas where there is a high probability of buried resources, and to ensure that Native American concerns are considered, Caltrans shall retain a Native American monitor from the Santa Rosa Rancheria Tachi Yokut Tribe, or other tribe expressing interest in the project, to monitor all subsurface testing related to Stage II of the buried site sensitivity model.

CI-2 Before starting construction activities in the areas identified as a result of the Stage II of the archaeological sensitivity model, Caltrans shall retain a qualified archaeologist and Native American representative to observe grading activities and to salvage and catalogue archaeological resources, as necessary. The archaeologist and Native American representative shall also:

- Be present at the pre-construction conference.
- Establish areas of archaeological sensitivity that would need archaeological resource surveillance based on data gathered from the field survey and the Extended Phase I Geoarchaeological Study.
- In cooperation with the Caltrans Resident Engineer, establish procedures for temporarily halting or redirecting work (including sampling, identification, and evaluation) to be followed in the event artifacts are discovered.

Water Quality and Storm Water Runoff

Standard Conditions

SC-CI-13 The project shall conform to the requirements of the Caltrans' National Pollutant Discharge Elimination System Statewide Storm Water Permit (Order No. 2012-0011-DWQ, NPDES No. CAS000003), adopted by the State Water Resources Control Board on July 1, 2013, and any subsequent permit in effect at the time of construction. In addition, the contractor shall comply with the requirements of the General National Pollutant Discharge Elimination System Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002, as amended by 2010-0014-DWQ), also referred to as the Construction General Permit, as well as implementation of the best management practices specified in the Caltrans Storm Water Management Plan, to be prepared during the final design of the project.

SC-CI-14 The contractor shall develop an acceptable Storm Water Pollution Prevention Plan containing proven best management practices to minimize storm water pollution that have the potential to affect water quality. All construction site best management practices would follow the latest edition of the Storm Water Quality Handbooks and the Construction Site Best Management Practices Manual. In addition, the Storm Water Pollution Prevention Plan shall include implementation of specific stormwater effluent monitoring requirements based on the project's risk level to ensure water quality standards are met.

SC-CI-15 During construction, when dewatering is required, the contractor shall fully conform to the requirements specified in Order No. R5-00-175, General Waste Discharge requirements for Discharges to Surface Water which Pose an Insignificant (De Minimus) Threat to Water Quality, from the Central Valley Regional Water Quality Control Board.

SC-CI-16 The contractor shall comply with all requirements of the Section 404 Permit issued by the U.S. Army Corps of Engineers for the discharge of dredged or fill material into waters of the United States.

SC-CI-17 The contractor shall comply with all requirements of the Section 401 Certification issued by the Regional Water Quality Control Board to ensure that all discharges comply with applicable federal and state effluent limitations and water quality standards.

SC-CI-18 The contractor shall comply with all requirements of the Streambed Alteration Agreement per Section 1602 of the California Fish and Game Code.

Paleontology

Mitigation Measures

A Paleontological Mitigation Plan will be prepared prior to project construction. The plan would include the following mitigation measures:

CI-3 Specifications for paleontological mitigation shall be included in the construction contract special provisions section for this project to advise the construction contractor of the requirement to cooperate with the salvage of paleontological resources, particularly fossil remains and associated locality data.

CI-4 A qualified principal paleontologist approved by Caltrans shall prepare a detailed Paleontological Mitigation Plan before the start of construction. The paleontologist must have a Master of Science/Arts (M.S./M.A.) or Doctor of Philosophy (Ph.D.) degree in paleontology or geology and will be familiar with paleontological salvage or mitigation procedures and techniques. All geological work will be performed under the supervision of a California Professional Geologist.

CI-5 Caltrans will perform paleontological monitoring and salvage during construction-related excavation and other earth-moving activities. Within the boundaries of the project area, no earth-moving activity shall be allowed without written authorization of the Resident Engineer. Caltrans will provide a Paleontological Salvage Team consisting of a qualified Principal Paleontologist and Paleontological Monitors. The Resident Engineer will make arrangements for the Paleontological Salvage Team to be at the job site.

CI-6 If unanticipated fossils are discovered in an area of the project site not being actively monitored, the remains shall not be disturbed. The Resident Engineer shall direct that all work within a 60-foot radius of the discovery be stopped and that the area be protected. The Resident Engineer, in consultation with the paleontologist, will investigate and modify the dimensions of the protected area, if necessary. Paleontological resources will not be removed from the project site without authorization. Work will not resume within the specified radius of the discovery until authorized by the Resident Engineer.

CI-7 The Paleontological Salvage Team will be notified 15 days in advance of the start of excavation or any other earth-moving activity.

CI-8 The construction contractor shall attend a pre-construction meeting with the Paleontological Salvage Team and the Resident Engineer to establish procedures for cooperation in the event fossil remains are encountered and to provide for worker safety during monitoring and salvage activities. The Principal Paleontologist and the Caltrans paleontology coordinator will be

present at pre-grading meetings to consult with grading and excavation contractors.

CI-9 Before any earth-moving activity, the Principal Paleontologist shall conduct an employee environmental awareness training session for all persons involved in that earth-moving activity.

CI-10 Before the start of earth-moving activities, the Paleontological Salvage Team will conduct a pre-construction field survey of the project area, and any exposed fossil remains will be recovered. A qualified Paleontological Monitor, under the direction of the Principal Paleontologist, will be onsite to inspect cuts and debris piles to allow for the discovery and recovery of larger fossil remains. Monitoring will be conducted at all times during original grading in areas underlain by highly important rock units. If necessary, additional personnel will be assigned to recover an unusually large or numerous fossil occurrence.

CI-11 The Paleontological Salvage Team will salvage fossil remains exposed by excavation and other earth-moving activities. The Resident Engineer, at the request of the Paleontological Salvage Team, may temporarily divert or stop such activities in the vicinity of a fossil locality to avoid disturbing the locality pending removal of the remains. When fossil remains are discovered, the Paleontological Monitor will recover them and contact a Principal Paleontologist for assistance, if necessary. Earth-moving activities in these areas shall be halted or diverted to allow for the recovery of the remains in a timely manner.

CI-12 Bulk sediment or rock samples will be recovered from fossiliferous horizons and processed to allow for the recovery of microvertebrate and other microfossil remains, as determined necessary by the Principal Paleontologist.

CI-13 Fossil remains collected as a result of monitoring and salvage or sample processing will be cleaned, prepared, sorted, curated, and cataloged. Recovered specimens will be identified by appropriate paleontological specialists.

CI-14 Prepared fossils, along with copies of all pertinent field notes, photographs, and maps, shall then be deposited in a Caltrans-approved museum repository with paleontological collections and made available for future scientific study.

CI-15 A final report shall be completed by the Principal Paleontologist. The report shall outline the results of the mitigation program and will be signed by the Principal Paleontologist and Professional Geologist. A copy of the report will be supplied to the museum repository and to Caltrans.

CI-16 At the completion of the project, the Caltrans paleontological coordinator will prepare a paleontological stewardship summary with a list of any long-term commitments. The list will be provided to both Maintenance and Operations staff, including the Encroachment Permits office.

Hazardous Waste or Materials

Standard Conditions

SC-CI-19 A Health and Safety Contingency Plan shall be prepared as part of the standard engineering design process.

Air Quality

Standard Conditions

SC-CI-20 Caltrans shall incorporate requirements into the contract specifications requiring that the contractor comply with the San Joaquin Valley Air Pollution Control District's Rule 9510 (Indirect Source Review). This rule applies to transportation or transit projects with construction exhaust emissions of at least 2 tons of nitrogen oxides or 2 tons of particulate matter (PM_{10}) per year. These projects are required to reduce their construction exhaust emissions of nitrogen oxides and particulate matter (PM_{10}), by 20 and 45 percent, respectively, compared to the statewide average for construction equipment. If, after implementation of all feasible onsite mitigation measures, the required emission reduction is not achieved, the rule provides a mechanism by which Caltrans can pay an offsite mitigation fee to the district. Methods of calculating the offsite emission reduction fee are provided in Section 7.1.1 of Rule 9510 and the District's Rule 3180. District Rule 3180 establishes a 4 percent administration fee to cover the district's cost of operating an offsite emission reduction program.

Achieving a 20 percent nitrogen oxides reduction in exhaust emissions compared to the statewide fleet average can be met by implementing one or more of the following measures:

- Operate equipment with engines newer than 1996.
- Retrofit the existing equipment with control devices (e.g., exhaust oxidation catalyst).
- Use cleaner fuels such as liquid natural gas, compressed natural gas, or aqueous diesel fuel, where feasible.
- Prohibit truck idling in excess of 10 minutes, whenever practical.
- Use only well-maintained equipment; use proper planning to reduce rework and multiple handling of earth materials.
- Pay a mitigation fee to the air district to obtain reductions through incentive and other programs.

SC-CI-21 Caltrans shall incorporate requirements into the contract specifications requiring that the contractor comply with the San Joaquin Valley Air Pollution Control District's Regulation VIII (Fugitive PM_{10} Prohibitions) and shall implement all applicable control measures included in the District's Guide for Assessing and Mitigating Air Quality Impacts, specifically those measures listed in Table 6-2 (Regulation VIII Control Measures) and Table 6-3 (Enhanced and Additional Control Measures) of the document. Applicable mitigation measures as listed in these tables include the following:

- All disturbed areas, including storage piles that are not being actively used for construction purposes shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant, or they shall be covered with a tarp, another suitable cover, or vegetative ground cover.
- All onsite unpaved roads and offsite unpaved access roads shall be effectively stabilized of dust emissions using water or a chemical stabilizer/suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions by applying water or by pre-soaking.
- With the demolition of buildings up to six stories in height, all exterior surfaces of the building shall be wetted during demolition.
- When materials are transported offsite, all material shall be covered or effectively wetted to limit visible dust emissions, and at least 6 inches of freeboard space from the top of the container shall be maintained.
- All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.
- Within urban areas, an owner/operator shall prevent carryout and trackout, or immediately remove carryout and trackout when it extends 50 feet or more from the nearest unpaved surface exit point of the site.
- Any construction site with 150 or more vehicle trips per day shall prevent carryout and trackout.
- The following measures shall be implemented at construction sites with high emissions of fugitive dust:
  - Limit traffic speed on unpaved roads to 15 miles per hour.

- Install sandbags or other erosion-control measures to prevent silt runoff to public roadways from sites with a slope greater than 1 percent.

- The following measures shall be implemented at large construction sites near sensitive receptors:
  - Install wheel washers for all exiting trucks, or wash off tires of trucks and equipment leaving the site.
  - Install wind breaks at windward side(s) of construction areas.
  - Suspend excavation and grading activities when wind exceeds 20 miles per hour.
  - Limit areas subject to excavation, grading, and other earthwork activity at any one time.

SC-CI-22 Caltrans shall incorporate requirements into the contract specifications requiring that the contractor comply with the limitations of the National Emissions Standards for Hazardous Air Pollutants regulations as listed in the Code of Federal Regulations (CFR) requiring notification and inspection for the construction activities that are involved with demolition, renovation, or removal of asbestos-containing materials. Before starting any demolition or renovation of any building, Caltrans shall require the contractor to consult with the San Joaquin Valley Air Pollution Control District's Compliance Division to determine inspection and compliance requirements.

Noise and Vibration

In addition to the standard conditions and minimization measure listed below, Mitigation Measure CR-2 provided in Section 3.1.8, Cultural Resources, in Volume 1 and identified above, would reduce indirect adverse vibration effects to contributing elements of Rancho Vista Historic District, associated with the construction of Alternative A.

Standard Conditions

SC-CI-23 The contractor shall be required to adhere to the following equipment noise-control measures:

- Each internal combustion engine used for any purpose on the job or related to the job shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the job site without an appropriate muffler.
- Construction methods or equipment that will provide the lowest level of noise and ground vibration impact (for example, avoid impact pile driving near residences and consider alternative methods that are also suitable for the soil condition) shall be used.
- Idling equipment shall be turned off.

- Construction activities shall be coordinated to build recommended permanent soundwalls during the first phase of construction to protect sensitive receivers from subsequent construction noise, dust, light, glare, and other impacts, to the extent feasible.
- Temporary noise barriers shall be used and relocated, as needed, to protect sensitive receptors against excessive noise from construction activities involving large equipment and by small items such as compressors, generators, pneumatic tools, and jackhammers. Noise barriers can be made of heavy plywood, moveable insulated sound blankets, or other best available control techniques.
- Newer equipment with improved noise muffling shall be used, and all equipment items shall have the manufacturers' recommended noise-abatement measures (such as mufflers, engine covers, and engine vibration isolators) intact and operational. Newer equipment will generally be quieter in operation than older equipment. All construction equipment shall be inspected at periodic intervals to ensure proper maintenance and presence of noise-control devices (such as mufflers and shrouding).
- Construction activities shall be minimized to the extent possible in residential areas during evening, nighttime, weekend, and holiday periods. Noise impacts are typically minimized when construction activities are performed during daytime hours. However, nighttime construction may be desirable (such as in commercial areas where businesses may be disrupted during daytime hours) or necessary to avoid major traffic disruption. Coordination with the City or County shall occur before construction can be performed in noise-sensitive areas between 9:00 in the evening and 6:00 in the morning.
- Construction lay-down or staging areas shall be selected in industrially zoned districts. If industrially zoned areas are not available, commercially zoned areas may be used, or locations that are at least 100 feet from any noise-sensitive land use (such as residences, hotels, and motels).

SC-CI-24 The contractor shall be required to adhere to the following administrative noise control measures:

- Once details of the construction activities become available, the contractor shall work with local authorities to develop an acceptable approach to minimize interference with the business and residential communities, traffic disruptions, and the total duration of the construction.
- Good public relations shall be maintained with the community to minimize objections to unavoidable construction impacts. Frequent activity updates of all construction activities shall be provided. A

construction noise monitoring program to track sound levels and limit the impacts shall be implemented.

- In case of construction noise complaints by the public, the Resident Engineer shall coordinate with the construction manager, and the specific noise-producing activity may be changed, altered, or temporarily suspended, if necessary.

SC-CI-25 The contractor shall be required to adhere to the following vibration-control measures:

- Restrict the hours of vibration-intensive equipment or activities such as vibratory rollers so that impacts to residents are minimal (e.g., weekdays during daytime hours only when as many residents as possible are away from home.
- The owner of a building close enough to a construction vibration source that damage to that structure due to vibration is possible would be entitled to a pre-construction building inspection to document the pre-construction condition of that structure.
- Conduct vibration monitoring during vibration-intensive activities.

Minimization Measure

CI-17 The contractor shall prepare a Noise and Vibration Monitoring and Mitigation Plan by a qualified Acoustical Engineer and submit it for approval. The plan must outline noise- and vibration-monitoring procedures at predetermined noise- and vibration-sensitive sites as well as historic properties. The plan also must include calculated noise and vibration levels for various construction phases and mitigation measures that may need to meet the project specifications. The contractor shall not start any construction work or operate any noise-generating construction equipment at the construction site before approval of the plan. The plan must be updated every three months or sooner if there are any changes to the construction activities.

Energy

Standard Condition

SC-CI-26 The contractor shall identify specific measures that reduce the amount of refuse generated by construction of the proposed project, consistent with the waste reduction requirements established by the California Integrated Waste Management Act of 1989.

Biological Environment

Standard Condition

SC-CI-27 ***Invasive Species:*** In compliance with the Executive Order on Invasive Species (Executive Order 13112) and subsequent guidance from the Federal Highway Administration, Caltrans shall not use species listed as invasive as part of landscaping erosion control measures. In areas of

particular sensitivity, extra precautions shall be taken if invasive species are found in or adjacent to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur. To adhere to this requirement, any landscape designs shall be submitted to Caltrans for review and approval by a qualified biologist during the project design phase. The review shall verify that no noxious weeds/invasive exotic plant species are in the proposed landscaping plan. If the plan contains noxious weeds/invasive species, the reviewing biologist shall recommend suitable substitutes.

Minimization Measures

CI-18 ***Wetlands and Other Waters:*** Before starting any grading and/or construction-related activity within 50 feet of areas under the jurisdiction of the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and/or California Department of Fish and Wildlife, the contractor shall install fencing, flagging, lath and rope, or another device to delineate the jurisdictional areas that would not be affected by the project. The purpose of the fencing is to protect the jurisdictional areas from inadvertent disturbance. Placement of the fencing shall be done under the supervision of a qualified biological monitor.

CI-19 ***Western Spadefoot, Western Pond Turtle, Coast Horned Lizard, Silvery Legless Lizard:*** A pre-construction survey for western spadefoot, western pond turtle, coast horned lizard, and silvery legless lizard shall be conducted by a qualified biologist within the proposed impact area before construction. If these species are observed on or adjacent to the impact area and are in imminent danger from construction activities, a qualified biologist shall capture and relocate individuals to an appropriate location outside the impact area. Suitable habitat (such as pools for western spadefoot tadpoles or pond turtles) into which to relocate the individuals will be identified by the biologist and approved by the California Department of Fish and Wildlife before individuals are translocated. The biologist conducting the surveys shall hold necessary permits to handle the species. If animals are not in imminent danger, they shall be allowed to leave the impact area on their own.

CI-20 ***White-tailed Kite:*** A pre-construction survey for nesting raptors shall be done by a qualified biologist within the limits of project disturbance and shall be repeated annually. Any active nest found during survey efforts shall be mapped on the construction plans. If nesting activity is present, the active site shall be protected until nesting activity ends to ensure compliance with Section 3503.5 of the *California Fish and Game Code.*

Nesting activity for raptors in the region normally occurs from February 1 to August 31. If no active nests are found, no further mitigation would be

required. Results of the surveys shall be provided to the California Department of Fish and Wildlife.

To protect any white-tailed kite nest site, the following restrictions on construction would be required between February 1 and August 31 (or until nests are no longer active, as determined by a qualified biologist): (1) clearing limits shall be established a minimum of 600 feet in any direction from any occupied nest; (2) access and surveying shall be restricted within 600 feet of any occupied nest; and (3) full-time biological monitoring shall be required when construction is within 600 feet of an active nest. Any encroachment into the buffer area around the known nest shall be allowed only if it is determined by a qualified biologist that the proposed activity shall not disturb the nest occupants. Construction during the non-nesting season can occur only at the sites if a qualified biologist determines that fledglings have left the nest.

CI-21 ***Burrowing Owl****:* A pre-construction survey shall be conducted by a qualified biologist in accordance with the survey requirements detailed in the California Department of Fish and Game's March 7, 2012 *Staff Report on Burrowing Owl* no less than 14 days before initial ground-disturbing activities (California Department of Fish and Game 2012) and shall be repeated annually. Any active burrow found during pre-construction survey efforts shall be mapped and provided to the construction foreman. If no active burrows are found, no further mitigation shall be required.

No disturbance shall occur within buffers around burrows determined to be occupied. Recommended buffer distances are based on time of year and level of disturbance.

Time of Year	Level of Disturbance		
	Low	Medium	High
April 1 – August 15	656 feet	1,640 feet	1,640 feet
August 16 – October 15	656 feet	656 feet	1,640 feet
October 16 – March 31	164 feet	328 feet	1,640 feet

Source: *Staff Report on Burrowing Owl* (California Department of Fish and Game 2012).

If owls must be moved away from the disturbance area, passive relocation is preferable to trapping. Relocation shall be implemented only during the non-breeding season by a qualified biologist and would occur in coordination with the California Department of Fish and Wildlife. Owls shall be excluded from burrows in the immediate impact zone by installing one-way doors in burrow entrances. One-way doors shall be left in place for 48 hours to ensure owls have left the burrow before excavation.

An effort shall be made to preserve foraging habitat contiguous with occupied burrow sites for each pair of breeding burrowing owls or for every single unpaired resident bird.

Compensatory mitigation for the San Joaquin kit fox (discussed below) shall also mitigate for the loss of burrowing owl habitat. Additional compensatory mitigation for burrowing owls shall be required only if burrowing owls found within buffer distances specified above during pre-construction surveys cannot be avoided during construction. In this event, potential compensatory mitigation may include purchase of suitable habitat through the payment of fees to the Metropolitan Bakersfield Habitat Conservation Plan Trust Group for this species or construction of artificial burrows in city sumps similar to the City Sump Habitat Program for the San Joaquin kit fox.

CI-22 ***Loggerhead Shrike****:* A qualified biologist shall survey annually within the limits of project disturbance for the presence of any nesting locations. Any active nest found during survey efforts shall be mapped and provided to the construction foreman. If no active nests are found, no further mitigation would be required.

If nesting activity is present, the active site shall be protected until nesting activity has ended to ensure compliance with Section 3503.5 of the California Fish and Game Code. Nesting activity for birds in the region normally occurs from February 1 to August 31. To protect any nest site, the following restrictions on construction are required between February 1 to August 31 (or until nests are no longer active, as determined by a qualified biologist): (1) clearing limits shall be established a minimum of 300 feet in any direction from any occupied nest and (2) access and surveying shall be restricted within 200 feet of any occupied nest. Any encroachment into the 300-/200-foot buffer area around the known nest shall be allowed only if a qualified biologist determines that the proposed activity will not disturb the nest occupants.

CI-23 ***Western Mastiff Bat:*** During construction, when nightwork is required, lighting during the early evening twilight hours (i.e., two hours before sunrise and two hours after sunset) adjacent to open space areas shall be minimized or avoided to the greatest extent possible. Permanent night lighting for the project shall be directed away from natural open space areas.

CI-24 ***Swainson's Hawk****:* Tree removal within 500 feet of non-native grassland, agricultural areas, and detention basins shall occur outside the Swainson's hawk nesting season. An updated focused survey (5 visits) for Swainson's hawk nests shall be conducted during the breeding season before construction activities. A qualified biologist shall survey within the limits of the biological study area and within a 0.5-mile radius around the biological study area for the presence of an active nest in accordance with the Swainson's Hawk Technical Advisory Committee's *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California, Central Valley.* Any active nest found during survey efforts shall be mapped and provided to the construction foreman. If a Swainson's

hawk is nesting within 0.5 mile of the proposed impact area, the California Department of Fish and Wildlife shall be consulted to evaluate the potential for disturbance of the nesting birds during construction and to approve measures that would avoid impacts on the active nest; authorization to proceed shall be obtained before work starts. The active site shall be protected until nesting activity has ended to ensure compliance with Section 3503.5 of the California Fish and Game Code and the California Endangered Species Act. If no active nests are found, no further mitigation would be required. Results of the surveys shall be provided to the California Department of Fish and Wildlife.

A pre-construction survey (5 visits from March15 to April 30) shall be conducted annually before construction activities. To protect an active Swainson's hawk nest site, the following restrictions on construction are required between February 1 and August 31 (or until nests are no longer active, as determined by a qualified biologist): (1) clearing limits shall be established a minimum of 600 feet in any direction from any occupied Swainson's hawk nest; (2) access and surveying shall be restricted within 600 feet of any occupied Swainson's hawk nest; and (3) full-time biological monitoring shall be required when construction is within 600 feet of an active nest. Any encroachment into the 600-foot buffer area around the known nest shall be allowed only if the qualified biologist determines that the proposed activity will not disturb the nest occupants.

Mitigation Measure

CI-25 ***San Joaquin Kit Fox:*** The following measures shall be implemented before and during construction:

- Construction activities shall adhere to the standard construction and operational requirements, as described in the U.S. Fish and Wildlife Service's *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011b).
- No less than 30 but no more than 60 days prior to road construction, a U.S. Fish and Wildlife Service-approved biologist(s) shall conduct pre-construction surveys for San Joaquin kit fox dens both in the project footprint and within 200 feet of the footprint (project footprint plus temporary construction zone), inclusive of any utilities relocations. A letter report and map of known and potential kit fox dens shall be submitted to the U.S. Fish and Wildlife Service prior to the start of ground disturbance and/or construction activities. Repeat clearance surveys shall be conducted no more than 14 days before construction or after any delays in construction of over 2 weeks. Any new known or potential San Joaquin kit fox dens identified in the interim shall be reported to the U.S. Fish and Wildlife Service in a letter report and map. If no new known or potential San Joaquin kit fox dens are identified, an internal record shall be maintained that includes

the survey date, the designated biologist conducting the survey, and the general survey findings. The records will be submitted to the U.S. Fish and Wildlife Service upon request.

- Disturbance to all San Joaquin kit fox dens shall be avoided to the maximum extent possible. If known or potential dens are identified within the project footprint during 60-day and/or 14-day pre-construction surveys, Caltrans shall request to monitor and excavate those dens that are expected to be affected directly by the project and cannot be avoided. Active dens shall not be excavated during the natal season (January 1–June 30). The U.S. Fish and Wildlife Service-approved biologist(s) shall monitor potential dens for three consecutive nights using tracking medium and/or a remote sensor camera, shall submit monitoring results in a letter report to the U.S. Fish and Wildlife Service, and also shall oversee the hand excavation of dens that have been determined to be vacant following approval by the U.S. Fish and Wildlife Service. The U.S. Fish and Wildlife Service-approved biologist(s) also shall submit results of the den excavation and exclusion activities in a letter report to the agencies. The following measures shall be applied to dens that are not excavated:
  - Dens that are identified during pre-construction surveys of the project footprint boundary and a 200-foot area outside of the project footprint shall be monitored and protected by an exclusion zone around dens, as measured outward from the entrance or cluster of entrances of each den. Potential and atypical dens within 50 feet of the project footprint shall be protected with a 50-foot zone delineated by flagged stakes. Known dens within 100 feet of the project footprint shall be protected with a 100-foot zone. To ensure protection, the exclusion zone shall be demarcated by fencing/flagging that does not prevent access to the den by the San Joaquin kit fox. Acceptable designs shall have openings for San Joaquin kit fox ingress/egress but shall keep humans and equipment out, e.g., wooden posts connected with caution tape; orange construction cones; orange construction fencing with a mesh size less than 2 inches in diameter (to prevent the San Joaquin kit fox from becoming entangled in the fencing) with gaps every 50 feet. Fencing/flagging shall be maintained until all construction-related disturbances have been terminated. At that time, all fencing/flagging shall be removed to avoid attracting subsequent attention at the dens. .
  - If natal/pupping dens are discovered either within the project footprint or within 200 feet of the project footprint, Caltrans shall immediately notify the U.S. Fish and Wildlife Service.
- The U.S. Fish and Wildlife Service-approved biologist(s) shall conduct a worker environmental awareness program for all construction crews

prior to ground-disturbing activities, with the purpose of informing all crew members of the potential for the San Joaquin kit fox to occur on site, the effects on the species from construction activities, how to minimize effects to the species, and the penalties for non-exempted take. The training shall be repeated to all new crew members working in San Joaquin kit fox habitat. Crew members shall sign an attendance sheet and confirm that they understand the protection measures and construction restrictions. Training materials and records of attendees shall be submitted to the U.S. Fish and Wildlife Service.

- The U.S. Fish and Wildlife Service-approved biologist(s) shall monitor road construction on a daily basis and shall verify that construction complies with the measures laid out in the Biological Opinion. The U.S. Fish and Wildlife Service-approved biologist(s) shall maintain a log of daily monitoring notes that can be summarized and transmitted to the U.S. Fish and Wildlife Service by request.
- Upon completion of project construction, all areas subject to temporary ground disturbance, including storage and staging areas, shall be restored to original grade and contour. Appropriate methods and plant species used to revegetate shall be determined on a site-specific basis in consultation with revegetation experts.
- To minimize opportunistic predatory effects to the San Joaquin kit fox, the City and Caltrans shall condition contracts with contractors to require that trash be removed at least once daily from project areas and disposed of off site so as not to attract predator species like coyotes (*Canis latrans*) and bobcats (*Lynx rufus*) to the project area.
- The City and Caltrans shall condition contracts with contractors to require that contained water sources, which are inaccessible to the San Joaquin kit fox (e.g., elevated water trucks), be used for dust control and other construction water activities.

Cumulative Impacts

Mitigation Measure

CUM-1 The basic conceptual framework for the Sump Habitat Program is described in the September 2010 Draft Sump Habitat Program Plan, which addresses five core conservation goals in detail that are integral to the implementation and success of the Sump Habitat Program: 1) the selection of sumps that maintain San Joaquin kit fox accessibility and/or habitat (i.e. those of high/medium conservation priority based on the relative potential for minimizing program-level effects); 2) the installation and maintenance of San Joaquin kit fox enhancement features (i.e. fence/gate gaps, artificial dens, conservation zones, signs, and enhancement maintenance and repair); 3) the management of sump vegetation compatible with San Joaquin kit fox presence and/or use (i.e. performance of routine maintenance outside the San Joaquin kit fox natal season and the use of hand tools in conservation zones and new active dens); 4) the biological

monitoring and reporting of results (i.e. pre-maintenance surveys; den monitoring and supervised den excavation; environmental awareness training; maintenance monitoring; annual enhancement inspection; annual San Joaquin kit fox sump use monitoring; and annual reporting); and 5) the provision of long-term conservation assurances (i.e. individual conservation easements for each sump; a perpetual non-wasting endowment for management, maintenance, and monitoring costs associated with ongoing implementation; and a Service-approved Long-Term Management Plan. The proposed easement and endowment holder(s) will be Service-approved third-party organizations). Further details in regards to these five core measures can be found in the Draft Sump Habitat Program Plan.

a. The Sump Habitat Program will continue to be updated, refined, and ultimately finalized through an ongoing collaborative consultation process involving Caltrans, the City, Parsons/Thomas Roads Improvement Program, and the Service over the course of the final remaining Thomas Roads Improvement Program project.

b. The finalized Sump Habitat Program will be established and implemented within one year of the approval of the Final Environmental Document for the last of the six Thomas Roads Improvement Program projects; the City will fully fund the Sump Habitat Program within one year of this approval. Caltrans and the City will share responsibility for the Sump Habitat Program; Caltrans will adhere to the proposed avoidance and minimization measures and terms and conditions of this biological opinion and will be responsible for the overall implementation of the Sump Habitat Program, while the City will be responsible for enhancing sumps and conducting long term management of the Sump Habitat Program. A Service-approved third-party will be responsible for administering endowment funds and providing compliance oversight with the terms of the conservation easements for each sump in the Sump Habitat Program.

ATTACHMENT F-1
List of Soundwalls to be Incorporated into Project Design to Abate Traffic Noise Impacts

Alternative A

Under Alternative A, the soundwalls identified in Tables F-1 through F-3 below meet the feasibility and reasonableness criteria.

Table F-1 Summary of Noise Barrier Key Information – Alternative A

Location	Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences[1]	Total Reasonable Allowance	Masonry Estimated Construction Cost	Reasonable? (Cost Less Than Allowance?)
West of State Route 99	S474	14	Yes	9 SFR, 62 MFR, 1 REC	$3,960,000	$726,000	Yes
	S499	14	Yes	3 SFR, 51 MFR	$2,970,000	$400,000	Yes
	S526	10–16	Yes	43 SFR, 3 MFR	$2,530,000	$1,752,000	Yes
	S531	12	Yes	11 SFR	$605,000	$497,000	Yes

[1] SFR: single-family residence; MFR: multi-family residence; REC: recreational.
Source: *Noise Study Report* 2013 *and Noise Abatement Decision Report* 2013.

Table F-2 Summary of Noise Barrier Key Information – Alternative A

Location	Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences[1]	Total Reasonable Allowance	Masonry Estimated Construction Cost	Reasonable? (Cost Less Than Allowance?)
South of State Route 58	S676	10	Yes	13 SFR	$715,000	$370,000	Yes

[1] SFR: single-family residence.
Source: *Noise Study Report* 2013 *and Noise Abatement Decision Report* 2013.

Table F-3 Summary of Abatement Measures – Alternative A

Location	Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences[1]	Total Reasonable Allowance	Masonry Estimated Construction Cost	Reasonable? (Cost Less Than Allowance?)
East of State Route 99	S45	12	Yes	17 SFR, 5 MFR	$1,210,000	$978,000	Yes
	S68	8–10	Yes	11 SFR, 4 MFR	$825,000	$739,000	Yes
	S71A	8	Yes	2 SFR	$110,000	$65,000	Yes
	S88	12	Yes	12 SFR	$660,000	$435,000	Yes
	S93	16	Yes	7 SFR	$385,000	$345,000	Yes
	S106	8–12	Yes	8 SFR, 1 REC	$495,000	$471,000	Yes
	S107	10–12	Yes	18 SFR	$990,000	$421,000	Yes
	S108	12–14	Yes	34 SFR, 24 MFR	$3,190,000	$1,036,000	Yes
	S119	10–12	Yes	12 SFR	$660,000	$276,000	Yes

Table F-3 Summary of Abatement Measures – Alternative A

Location	Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences[1]	Total Reasonable Allowance	Masonry Estimated Construction Cost	Reasonable? (Cost Less Than Allowance?)
	S144	10–12	Yes	8 SFR	$440,000	$445,000	Yes (Estimated cost almost identical to reasonableness allowance)
	S147 and S165	10–12	Yes	31 SFR, 10 MFR, 22 MH	$3,465,000	$1,253,000	Yes
	S164 and S184	10–14	Yes	67 SFR, 4 MFR	$3,905,000	$1,365,000	Yes

[1] SFR: single-family residence, MFR: multi-family residence; REC: recreational.
Source: *Noise Study Report* 2013 *and Noise Abatement Decision Report* 2013.

Alternative B

Under Alternative B, the soundwalls identified in the Tables F-4 through F-6 meet the feasibility and reasonableness criteria.

Table F-4 Summary of Noise Barrier Key Information – Alternative B

Location	Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences[1]	Total Reasonable Allowance	Masonry Estimated Construction Cost	Reasonable? (Cost Less Than Allowance?)
West of State Route 99	S509 and S519	14	Yes	14 SFR, 15 MFR, 1 SCH	$1,650,000	$643,000	Yes
	S518	14–16	Yes	19 SFR	$1,045,000	$667,000	Yes
	S529	8–12	Yes	3 SFR	$165,000	$328,000	No*
	S530	10–12	Yes	8 SFR	$440,000	$379,000	Yes
	S536, S544, and S552	12–14	Yes	19 SFR	$1,045,000	$616,000	Yes
	S537 and S555	12–16	Yes	51 SFR	$2,805,000	$1,774,000	Yes

[1] SFR: single-family residence; MFR; multi-family residence; SCH: school.
*: Soundwall is recommended for gap closure.
Source: *Noise Study Report* 2013 *and Noise Abatement Decision Report* 2013.

Table F-5 Summary of Noise Barrier Key Information – Alternative B

Location	Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences[1]	Total Reasonable Allowance	Masonry Estimated Construction Cost	Reasonable? (Cost Less Than Allowance?)
South of State Route 58	S676	12–14	Yes	9 SFR	$495,000	$426,000	Yes

[1] SFR: single-family residence.
Source: *Noise Study Report* 2013 *and Noise Abatement Decision Report* 2013.

Table F-6 Summary of Noise Barrier Key Information – Alternative B

Location	Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences[1]	Total Reasonable Allowance	Masonry Estimated Construction Cost	Reasonable? (Cost Less Than Allowance?)
East of State Route 99	S45	12–14	Yes	17 SFR, 5 MFR	$1,210,000	$994,000	Yes
	S68	8–10	Yes	11 SFR, 4 MFR	$825,000	$739,000	Yes
	S71A	8	Yes	2 SFR	$110,000	$65,000	Yes
	S93	16	Yes	7 SFR	$385,000	$345,000	Yes
	S106	14	Yes	15 SFR, 1 REC	$880,000	$628,000	Yes
	S107	10–12	Yes	18 SFR	$990,000	$421,000	Yes
	S108	12–14	Yes	34 SFR, 24 MFR	$3,190,000	$1,036,000	Yes
	S119	10–12	Yes	12 SFR	$660,000	$276,000	Yes
	S144	10–12	Yes	8 SFR	$440,000	$445,000	Yes (Estimated cost almost identical to reasonableness allowance).
	S164 and S184	10–14	Yes	67 SFR, 4 MFR	$3,905,000	$1,365,000	Yes
	S147 and S165	10–12	Yes	31 SFR, 10 MFR, 22 MH	$3,465,000	$1,253,000	Yes
	S194	12	Yes	12 SFR	$660,000	$447,000	Yes

[1] SFR: single-family residence; MFR: multi-family residence; MH: mobile home; REC: recreational.
Source: *Noise Study Report* 2013 *and Noise Abatement Decision Report* 2013.

Alternative C

Under Alternative C, the soundwalls identified in the Tables F-7 through F-9 meet the feasibility and reasonableness criteria.

Table F-7 Summary of Noise Barrier Key Information – Alternative C

Location	Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences[1]	Total Reasonable Allowance	Masonry Estimated Construction Cost	Reasonable? (Cost Less Than Allowance?)
West of State Route 99	S561	10–16	Yes	21 SFR, 4 MFR, 3 REC	$1,540,000	$1,017,000	Yes

Note:
[1] SFR: single-family residence; MFR: multi-family residence; REC: recreational.
Source: *Noise Study Report* 2013 *and Noise Abatement Decision Report* 2013

Table F-8 Summary of Noise Barrier Key Information – Alternative C

Location	Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences[1]	Total Reasonable Allowance	Masonry Estimated Construction Cost	Reasonable? (Cost Less Than Allowance?)
South of State Route 58	S676	10	Yes	13 SFR	$715,000	$375,000	Yes
	S683	16	Yes	1 SFR, 7 MFR	$440,000	$366,000	Yes

[1] SFR: single-family residence; MFR: multi-family residence.
Source: *Noise Study Report* 2013 *and Noise Abatement Decision Report* 2013.

Table F-9 Summary of Noise Barrier Key Information – Alternative C

Location	Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences[1]	Total Reasonable Allowance	Masonry Estimated Construction Cost	Reasonable? (Cost Less Than Allowance?)
East of State Route 99	S90	12–14	Yes	13 SFR	$715,000	$639,000	Yes
	S103 and S109	10–14	Yes	14 SFR	$770,000	$492,000	Yes
	S624	8–10	Yes	11 SFR, 4 MFR	$825,000	$739,000	Yes
	S629A	8	Yes	2 SFR	$110,000	$65,000	Yes
	S649	16	Yes	7 SFR	$385,000	$192,000	Yes
	S663	10–12	Yes	20 SFR	$1,100,000	$592,000	Yes
	S664	10–14	Yes	34 SFR, 24 MFR	$3,190,000	$1,000,000	Yes
	S677	10–12	Yes	12 SFR	$660,000	$340,000	Yes
	S702	10–12	Yes	8 SFR	$440,000	$445,000	Yes (Estimated cost almost identical to reasonableness allowance).
	S703 and S721	10–12	Yes	31 SFR, 10 MFR, 22 MH	$3,465,000	$1,253,000	Yes
	S722 and S742	12–14	Yes	67 SFR, 4 MFR	$3,905,000	$1,390,000	Yes

[1] SFR: single-family residence; MFR: multi-family residence; MH: mobile home.
Source: *Noise Study Report* 2013 *and Noise Abatement Decision Report* 2013.

Appendix G Right-of-Way Acquisition Summary

Table G.1 List of Acquisitions for Alternative A

Impact ID	Site Address	Present Use	Type of Take
1	15 CHESTER AVE, BAKERSFIELD CA 93301	Vacant	Partial
2	13 CHESTER AVE, BAKERSFIELD CA 93301	Store	Partial
3		Parking	Partial
4	229 CHESTER AVE, BAKERSFIELD CA 93301	SFR	Full
5	136 HAYBERT CT, BAKERSFIELD CA 93304	Vacant	Full
6	233 S CHESTER AVE, BAKERSFIELD CA 93304-3648	SFR	Full
7	301 S CHESTER AVE, BAKERSFIELD CA 93304-3650	SFR	Full
8	216 HAYBERT CT, BAKERSFIELD CA 93304-1849	SFR	Full
9	206 HAYBERT CT, BAKERSFIELD CA 93304-1849	SFR	Full
10	204 HAYBERT CT, BAKERSFIELD CA 93304-1849	SFR	Full
11	318 S CHESTER AVE, BAKERSFIELD CA 93304	SFR	Perm Esmt
12	308 CHESTER AVE, BAKERSFIELD CA 93304	4-plex	Partial
13	304 S CHESTER AVE, BAKERSFIELD CA 93304	SFR	Partial
14	234 CHESTER AVE, BAKERSFIELD CA 93304	SFR	Partial
15	230 S CHESTER AVE, BAKERSFIELD CA 93304	Duplex	Partial
16		Vacant	Partial
17	4800 STOCKDALE HWY, BAKERSFIELD CA 93309-2636	Office Building	Partial
18		Farm land	Partial
19		Farm land	Partial
20		Farm land	Partial
21		Farm land	Partial
22		Vacant	Partial
23	3112 TERRACE WAY, BAKERSFIELD CA 93304	SFR	Partial
24		SFR	Perm Esmt
25		Vacant	Full
26		Vacant	Perm Esmt
27			Perm Esmt
28		Access Lane	Perm Esmt
29		Auto Repair	Perm Esmt
30	321 STEPHENS DR, BAKERSFIELD CA 93304	Vacant	Partial
31		Apartments	Perm Esmt
32	313 STEPHENS DR, BAKERSFIELD CA 93304	Vacant	Full
33	201 S MYRTLE ST, BAKERSFIELD CA 93304-3335	SFR	Perm Esmt
34	123 DIXON AVE, BAKERSFIELD CA 93304	SFR	TCE
35		RES LOT	Perm Esmt
36	300 DIXON AVE, BAKERSFIELD CA 93304-3388	SFR	TCE
37	205 JUDAN ST, BAKERSFIELD CA 93304	SFR	Perm Esmt
38	2405 ROBBIN RD, BAKERSFIELD CA 93304	SFR	Perm Esmt
39	2407 ROBBIN RD, BAKERSFIELD CA 93304	SFR	Perm Esmt
40	2401 ROBBIN RD, BAKERSFIELD CA 93304	SFR	Perm Esmt
41	2403 ROBBIN RD, BAKERSFIELD CA 93304	SFR	Perm Esmt
42	3120 TERREL CT, BAKERSFIELD CA 93304	SFR	Perm Esmt
43		Vacant lot	Perm Esmt
44	3117 TERRACE WAY, BAKERSFIELD CA 93304	SFR	Perm Esmt
45	3152 TERREL CT, BAKERSFIELD CA 93304	SFR	Perm Esmt
46	606 WIBLE RD, BAKERSFIELD CA 93304	Acapulco Tires Auto Repair	TCE
47	612 WIBLE RD, BAKERSFIELD CA 93304	Xpress Lube	TCE

Table G.1 List of Acquisitions for Alternative A

Impact ID	Site Address	Present Use	Type of Take
48	608 WIBLE RD, BAKERSFIELD CA 93304	Distinctive Coach Auto Body	TCE
49	700 WIBLE RD, BAKERSFIELD CA 93304	Fleet Auto Brokers/Estradas Car Wash	TCE
50	520 WIBLE RD, BAKERSFIELD CA 93304	Computer Smog Specialists	TCE
51	717 S OLIVE ST, BAKERSFIELD CA 93304	SFR	TCE
52	720 WIBLE RD, BAKERSFIELD CA 93304	Larson's Food & Gas	Full
53	708 WIBLE RD, BAKERSFIELD, CA 93304	Duplex	Full
54	704 WIBLE RD, BAKERSFIELD, CA 93304	Duplex	Full
55	206 HUGHES LN, BAKERSFIELD, CA 93304	SFR	Perm Esmt
56	210 HUGHES LN, BAKERSFIELD, CA 93304	SFR	Perm Esmt
57	2396 BRITE ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
58	2394 BRITE ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
59	2324 BRITE ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
60	2300 BRITE ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
61	309 HOUCHIN RD, BAKERSFIELD CA 93304-3409	Estate	Perm Esmt
62		SFR	Perm Esmt
63		SFR	Perm Esmt
64	203 H ST, BAKERSFIELD CA, 93304	Church	Perm Esmt
65	2200 ROOSEVELT ST, BAKERSFIELD CA 93304	SFR	Perm Esmt
66	2129 BRUNDAGE LN, BAKERSFIELD CA 93304	Restaurant	Perm Esmt
67		Apartments	Partial
68	800 WIBLE RD, BAKERSFIELD, CA 93304	Jolly Kone	Full
69	3109 BELLE TER, BAKERSFIELD CA 93304	SFR	TCE
70	830 WIBLE RD, BAKERSFIELD CA 93304	Motel	Partial
71	812 WIBLE RD, BAKERSFIELD CA 93304	Motel	Partial
72	806 WIBLE RD, BAKERSFIELD, CA 93304	Mr. Matress Store	Full
73	930 WIBLE RD, BAKERSFIELD CA 93304	Shopping Center	Partial
74	4545 STOCKDALE HWY D, BAKERSFIELD CA 93309-2024	Office Building	Partial
75	4709 STOCKDALE HWY, BAKERSFIELD CA 93309-2639	Retail Center	Partial
76	4528 FRAZIER AVE, BAKERSFIELD CA 93309-3108	SFR	Full
77	4524 FRAZIER AVE, BAKERSFIELD CA 93309-3108	SFR	Full
78	4520 FRAZIER AVE, BAKERSFIELD CA 93309-3108	SFR	Full
79	4516 FRAZIER AVE, BAKERSFIELD CA 93309-3108	SFR	Full
80	4512 FRAZIER AVE, BAKERSFIELD CA 93309-3108	SFR	Full
81	4508 FRAZIER AVE, BAKERSFIELD CA 93309-3108	SFR	Full
82	4502 FRAZIER AVE, BAKERSFIELD CA 93309-3108	SFR	Full
83	4418 FRAZIER AVE, BAKERSFIELD CA 93309-3106	SFR	Full
84	4519 FRAZIER AVE, BAKERSFIELD CA 93309-3107	SFR	Full
85	4509 FRAZIER AVE, BAKERSFIELD CA 93309-3107	SFR	Full
86	4503 FRAZIER AVE, BAKERSFIELD CA 93309-3107	SFR	Full
87	4502 CHARLES PL, BAKERSFIELD CA 93309-3104	SFR	Full
88	4508 CHARLES PL, BAKERSFIELD CA 93309-3104	SFR	Full
89	4514 CHARLES PL, BAKERSFIELD CA 93309-3104	SFR	Full
90	4520 CHARLES PL, BAKERSFIELD CA 93309-3104	SFR	Full
91	4411 FRAZIER AVE, BAKERSFIELD CA 93309-3105	SFR	Full
92	4407 FRAZIER AVE, BAKERSFIELD CA 93309-3105	SFR	Full

Table G.1 List of Acquisitions for Alternative A

Impact ID	Site Address	Present Use	Type of Take
93	201 MCDONALD WAY, BAKERSFIELD CA 93309-3129	SFR	Full
94	209 MCDONALD WAY, BAKERSFIELD CA 93309-3129	SFR	Full
95	215 MCDONALD WAY, BAKERSFIELD CA 93309-3129	SFR	Full
96	221 MCDONALD WAY, BAKERSFIELD CA 93309-3129	SFR	Full
97		SFR	Partial
98		SFR	Partial
99		SFR	Partial
100	220 WESTWOOD ST, BAKERSFIELD CA 93309-3134	SFR	Full
101	214 WESTWOOD ST, BAKERSFIELD CA 93309-3134	SFR	Full
102	208 WESTWOOD ST, BAKERSFIELD CA 93309-3134	SFR	Full
103	21 STINE RD, BAKERSFIELD CA 93309-2010	SFR	Full
104	101 STINE RD, BAKERSFIELD CA 93309-2012	SFR	Full
105	105 STINE RD, BAKERSFIELD CA 93309-2012	SFR	Full
106	109 STINE RD, BAKERSFIELD CA 93309-2012	SFR	Full
107	113 STINE RD, BAKERSFIELD CA 93309-2012	SFR	Full
108	117 STINE RD, BAKERSFIELD CA 93309-2012	SFR	Full
109	121 STINE RD, BAKERSFIELD CA 93309-2012	SFR	Full
110	125 STINE RD, BAKERSFIELD CA 93309-2012	SFR	Full
111	129 STINE RD, BAKERSFIELD CA 93309-2012	SFR	Full
112	128 JONES ST, BAKERSFIELD CA 93309-2009	SFR	Full
113	124 JONES ST, BAKERSFIELD CA 93309-2009	SFR	Full
114	120 JONES ST, BAKERSFIELD CA 93309-2009	SFR	Full
115	116 JONES ST, BAKERSFIELD CA 93309-2009	SFR	Full
116	112 JONES ST, BAKERSFIELD CA 93309-2009	SFR	Full
117	108 JONES ST, BAKERSFIELD CA 93309-2009	SFR	Full
118	104 JONES ST, BAKERSFIELD CA 93309-2009	SFR	Full
119	100 JONES ST, BAKERSFIELD CA 93309-2009	SFR	Full
120	20 JONES ST, BAKERSFIELD CA 93309-2032	SFR	Full
121	16 JONES ST, BAKERSFIELD CA 93309-2032	SFR	Full
122	17 JONES ST, BAKERSFIELD CA 93309-2041	SFR	Full
123	21 JONES ST, BAKERSFIELD CA 93309-2041	SFR	Full
124	101 JONES ST, BAKERSFIELD CA 93309-2008	SFR	Full
125	105 JONES ST, BAKERSFIELD CA 93309-2008	SFR	Full
126	109 JONES ST, BAKERSFIELD CA 93309-2008	SFR	Full
127	113 JONES ST, BAKERSFIELD CA 93309-2008	SFR	Full
128	117 JONES ST, BAKERSFIELD CA 93309-2008	SFR	Full
129	121 JONES ST, BAKERSFIELD CA 93309-2008	SFR	Full
130	125 JONES ST, BAKERSFIELD CA 93309-2008	SFR	Full
131	129 JONES ST, BAKERSFIELD CA 93309-2008	SFR	Full
132		SFR	Partial
133	124 GRIFFITHS ST, BAKERSFIELD CA 93309-2007	SFR	Full
134	120 GRIFFITHS ST, BAKERSFIELD CA 93309-2007	SFR	Full
135	116 GRIFFITHS ST, BAKERSFIELD CA 93309-2007	SFR	Full
136	112 GRIFFITHS ST, BAKERSFIELD CA 93309-2007	SFR	Full
137	108 GRIFFITHS ST, BAKERSFIELD CA 93309-2007	SFR	Full
138	104 GRIFFITHS ST, BAKERSFIELD CA 93309-2007	SFR	Full
139	100 GRIFFITHS ST, BAKERSFIELD CA 93309-2007	SFR	Full
140	20 GRIFFITHS ST, BAKERSFIELD CA 93309-2030	SFR	Full

Table G.1 List of Acquisitions for Alternative A

Impact ID	Site Address	Present Use	Type of Take
141	16 GRIFFITHS ST, BAKERSFIELD CA 93309-2030	SFR	Full
142	17 GRIFFITHS ST, BAKERSFIELD CA 93309-2028	SFR	Full
143	21 GRIFFITHS ST, BAKERSFIELD CA 93309-2028	SFR	Full
144	101 GRIFFITHS ST, BAKERSFIELD CA 93309-2006	SFR	Full
145	105 GRIFFITHS ST, BAKERSFIELD CA 93309-2006	SFR	Full
146	109 GRIFFITHS ST, BAKERSFIELD CA 93309-2006	SFR	Full
147	113 GRIFFITHS ST, BAKERSFIELD CA 93309-2006	SFR	Full
148	117 GRIFFITHS ST, BAKERSFIELD CA 93309-2006	SFR	Full
149	121 GRIFFITHS ST, BAKERSFIELD CA 93309-2006	SFR	Full
150	3806 PECKHAM AVE, BAKERSFIELD CA 93309-3250	SFR	Full
151	3816 PECKHAM AVE, BAKERSFIELD CA 93309-3250	SFR	Full
152	116 CURRAN ST, BAKERSFIELD CA 93309-2004	SFR	Full
153	112 CURRAN ST, BAKERSFIELD CA 93309-2004	SFR	Full
154	108 CURRAN ST, BAKERSFIELD CA 93309-2004	SFR	Full
155	104 CURRAN ST, BAKERSFIELD CA 93309-2004	SFR	Full
156	100 CURRAN ST, BAKERSFIELD CA 93309-2004	SFR	Full
157	20 CURRAN ST, BAKERSFIELD CA 93309-2002	SFR	Full
158	16 CURRAN ST, BAKERSFIELD CA 93309-2002	SFR	Full
159	12 CURRAN ST, BAKERSFIELD CA 93309-2002	SFR	Full
160	17 CURRAN ST, BAKERSFIELD CA 93309-2001	SFR	Full
161	3904 FRAZIER AVE, BAKERSFIELD CA 93309-2005	SFR	Full
162	3908 FRAZIER AVE, BAKERSFIELD CA 93309-2005	SFR	Full
163	3912 FRAZIER AVE, BAKERSFIELD CA 93309-2005	DUPLEX	Full
164	3920 FRAZIER AVE, BAKERSFIELD CA 93309-2005	SFR	Full
165	101 CURRAN ST, BAKERSFIELD CA 93309-2003	SFR	Full
166	113 CURRAN ST, BAKERSFIELD CA 93309-2003	SFR	Full
167	113 CURRAN ST, BAKERSFIELD CA 93309-2003	RES LOT	Full
168	117 CURRAN ST, BAKERSFIELD CA 93309-2003	SFR	Full
169	121 CURRAN ST, BAKERSFIELD CA 93309-2003	SFR	Full
170	3908 PECKHAM AVE, BAKERSFIELD CA 93309-3252	SFR	Full
171	3912 PECKHAM AVE, BAKERSFIELD CA 93309-3252	SFR	Full
172	3990 PECKHAM AVE, BAKERSFIELD CA 93309-3252	SFR	Full
173		RES LOT	Full
174	114 MCDONALD WAY, BAKERSFIELD CA 93309-3128	SFR	Full
175	109 CURRAN ST, BAKERSFIELD CA 93309-2003	SFR	Full
176	109 CURRAN ST, BAKERSFIELD CA 93309-2003	RES LOT	Full
177	110 MCDONALD WAY, BAKERSFIELD CA 93309-3128	SFR	Full
178		RES LOT	Full
179	3911 FRAZIER AVE, BAKERSFIELD CA 93309-2000	SFR	Full
180	40 MCDONALD WAY, BAKERSFIELD CA 93309-3109	SFR	Full
181		Flood Control	Perm Esmt
182		Flood Control	Perm Esmt
183	3333 STOCKDALE HWY, BAKERSFIELD CA 93309	Utilities	Full
184		Vacant	Full
185		Vacant	Full
186	3403 STOCKDALE HWY, BAKERSFIELD CA 93309-2143	Office building	Full
187		Park & Ride	Full
188		Park & Ride	Full

Table G.1 List of Acquisitions for Alternative A

Impact ID	Site Address	Present Use	Type of Take
189		Vacant lot	Full
190		Vacant	Full
191		Vacant	Full
192	3330 ELCIA DR, BAKERSFIELD CA 93309-3340	MFR	Full
193	3320 ELCIA DR, BAKERSFIELD CA 93309-3301	Duplex	Full
194	200 S REAL RD, BAKERSFIELD CA 93309-2140	Storage	Full
195	200 S REAL RD, BAKERSFIELD CA 93309	Vacant lot	Full
196	3324 ELCIA DR, BAKERSFIELD CA 93309	SFR	Full
197	210 S REAL RD, BAKERSFIELD CA 93309-2140	SFR	Partial
198	3501 STOCKDALE HWY, BAKERSFIELD CA 93309-2150	Hospital	Partial
199		SFR	Partial
200	3404 ELCIA DR, BAKERSFIELD CA 93309-3327	SFR	Full
201	3400 ELCIA DR, BAKERSFIELD CA 93309-3327	SFR	Full
202	26 STINE RD, BAKERSFIELD CA 93309-2011	SFR	Full
203	22 STINE RD, BAKERSFIELD CA 93309-2011	SFR	Full
204	16 STINE RD, BAKERSFIELD CA 93309-2011	SFR	Full
205	20 STINE RD, BAKERSFIELD CA 93309-2011	SFR	Full
206		Vacant	Partial
207	195 S GARNSEY AVE, BAKERSFIELD CA 93309-2144	SFR	Full
208	30 STINE RD, BAKERSFIELD CA 93309-2011	MFR	Full
209		Parking	Partial
210	100 S GARNSEY AVE, BAKERSFIELD CA 93309-2191	SFR	Full
211	20 WILLIAMSON WAY, BAKERSFIELD CA 93309-2158	Apartments	Full
212	3617 STOCKDALE HWY, BAKERSFIELD CA 93309	Shopping Center	Full
213	201 S REAL RD, BAKERSFIELD CA 93309	Office Building	Full
214	205 S REAL RD, BAKERSFIELD CA 93309	Office Building	Full
215	101 S REAL RD, BAKERSFIELD CA 93309	Parking	Full
216	115 S REAL RD, BAKERSFIELD CA 93309	Parking	Full
217	131 S REAL RD, BAKERSFIELD CA 93309	Parking	Full
218	141 S REAL RD, BAKERSFIELD CA 93309	Parking	Full
219	209 S REAL RD, BAKERSFIELD CA 93309	Parking	Full
220	96 WILLIAMSON WAY, BAKERSFIELD CA 93309-2142	SFR	Full
221	209 WILLIAMSON WAY, BAKERSFIELD CA 93309-2199	2 SFRs	Full
222	205 WILLIAMSON WAY, BAKERSFIELD CA 93309-2199	SFR	Full
223	201 WILLIAMSON WAY, BAKERSFIELD CA 93309-2199	SFR	Full
224	125 WILLIAMSON WAY, BAKERSFIELD CA 93309-2197	SFR	Full
225	25 WILLIAMSON WAY, BAKERSFIELD CA 93309-2112	Apartments	Full
226	206 WILLIAMSON WAY, BAKERSFIELD CA 93309-0900	SFR	Full
227		Res lot	Full
228	100 WILLIAMSON WAY, BAKERSFIELD CA 93309-2179	Apartments	Full
229	200 WILLIAMSON WAY, BAKERSFIELD CA 93309-2180	Apartments	Full
230	204 WILLIAMSON WAY, BAKERSFIELD CA 93309-2181	Apartments	Full
231		Office Building	Full
232	33 S REAL RD, BAKERSFIELD CA 93309-2135	Office Building	Full
233	300 S GARNSEY AVE, BAKERSFIELD CA 93309-2134	SFR	Full
234	215 WILLIAMSON WAY, BAKERSFIELD CA 93309-2199	SFR	Full
235	219 S REAL RD, BAKERSFIELD CA 93309	Parking	Full
236	3610 ELCIA DR, BAKERSFIELD CA 93309	Parking	Full

Table G.1 List of Acquisitions for Alternative A

Impact ID	Site Address	Present Use	Type of Take
237	3232 MONA WAY, BAKERSFIELD CA 93309-3395	SFR	Partial
238		Vacant	Full
239	3201 MONA WAY, BAKERSFIELD CA 93309-3395	SFR	Full
240	601 ALAMO ST, BAKERSFIELD CA 93309-3355	SFR	Full
241	627 ALAMO ST, BAKERSFIELD CA 93309	SFR	Full
242	619 ALAMO ST, BAKERSFIELD CA 93309-3355	SFR	Full
243	611 ALAMO ST, BAKERSFIELD CA 93309-3355	SFR	Full
244	3234 BELLE TER, BAKERSFIELD CA 93309	Private School	Partial
245	200 S GARNSEY AVE, BAKERSFIELD CA 93309-2196	SFR	Full
246	206 S GARNSEY AVE, BAKERSFIELD CA 93309-2196	SFR	Full
247	212 S GARNSEY AVE, BAKERSFIELD CA 93309-2196	SFR	Full
248	218 S GARNSEY AVE, BAKERSFIELD CA 93309-2196	SFR	Full
249	201 S GARNSEY AVE, BAKERSFIELD CA 93309-2133	SFR	Full
250	201 S GARNSEY AVE, BAKERSFIELD CA 93309-2133	SFR	Full
251	205 S GARNSEY AVE, BAKERSFIELD CA 93309-2133	SFR	Full
252	209 S GARNSEY AVE, BAKERSFIELD CA 93309-2133	SFR	Full
253	221 GARNSEY AVE, BAKERSFIELD CA 93309	SFR	Full
254	255 GARNSEY AVE, BAKERSFIELD CA 93309	SFR	Full
255	4400 FRAZIER AVE, BAKERSFIELD CA 93309-3106	SFR	Full
256	4404 FRAZIER AVE, BAKERSFIELD CA 93309-3106	SFR	Full
257	4414 FRAZIER AVE, BAKERSFIELD CA 93309-3106	SFR	Full
258	96 STINE RD, BAKERSFIELD CA 93309-2058	4-plex	Full
259	4701 STOCKDALE HWY, BAKERSFIELD CA 93309-2641	Office Building	Full
260	200 S MONTCLAIR ST, BAKERSFIELD CA 93309-3110	Office Building	Partial
261	140 S MONTCLAIR ST, BAKERSFIELD CA 93309-3162	Office Building	Full
262	110 S MONTCLAIR ST, BAKERSFIELD CA 93309-3118	Office Building	Full
263	110 S MONTCLAIR ST, BAKERSFIELD CA 93309-3118	Office Building	Full
264	22645 STOCKDALE HWY, BAKERSFIELD CA 93305-2432	Farm land	Partial
265		Farm land	Partial
266	3231 BELLE TER, BAKERSFIELD CA 93309	SFR	TCE
267	3229 BELLE TER, BAKERSFIELD CA 93309-4101	SFR	TCE
268	3227 BELLE TER, BAKERSFIELD CA 93309-4101	2 SFRs	Full
269	3310 WOOD LN, BAKERSFIELD CA 93309-7321	2 SFRs	Full
270	3320 WOOD LN, BAKERSFIELD CA 93309-7321	SFR	Full
271	3330 WOOD LN, BAKERSFIELD CA 93309-7321	SFR	Full
272	3308 WOOD LN, BAKERSFIELD CA 93309-7321	2 SFRs	Full
273	1117 WIBLE RD, BAKERSFIELD CA 93304	Auto Repair	Full
274	3317 LAVERNE AVE, BAKERSFIELD CA 93309	SFR	Full
275	3316 LAVERNE AVE B, BAKERSFIELD CA 93309-4122	SFR	Partial
276	201 E BRUNDAGE LN, BAKERSFIELD, CA 93304	Church	Perm Esmt
277	200 WAYCROSS ST, BAKERSFIELD, CA 93304	Church	Perm Esmt
278	340 WAYCROSS ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
279	200 S UNION AVE, BAKERSFIELD CA 93307	Auto Sales	Perm Esmt
280		Paved Access	Perm Esmt
281		Park/Preserve	Partial
282		Park/Preserve	Partial
283		Park/Preserve	Partial
284		Park/Preserve	Partial

Table G.1 List of Acquisitions for Alternative A

Impact ID	Site Address	Present Use	Type of Take
285		Flood Control	Partial
286		Flood Control	Full
287	5300 CALIFORNIA AVE 200, BAKERSFIELD CA 93309-1642	Office Building (Nursing School)	Full
288	5300 LENNOX AVE, BAKERSFIELD CA 93309-1662	Office Building	Full
289	5329 OFFICE CENTER CT, BAKERSFIELD CA 93309-7425	Office Building	Full
290		Office Building	Partial
291	5555 BUSINESS PARK S, BAKERSFIELD CA 93309-1677	Office Building	Full
292	5531 BUSINESS PARK S, BAKERSFIELD CA 93309-1668	Office Building	Partial
293	5555 CALIFORNIA AVE, BAKERSFIELD CA 93309-1648	Office Building	Full
294	5401 CALIFORNIA AVE, BAKERSFIELD CA 93309-0702	Retail Bank & Office Building	Full
295		HOA Commons	Partial
296	1001 MOHAWK ST 16, BAKERSFIELD CA 93309-1576	Condo	Full
297	1001 MOHAWK ST 14, BAKERSFIELD CA 93309-1576	Condo	Full
298	1001 MOHAWK ST 12, BAKERSFIELD CA 93309-1576	Condo	Full
299	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
300	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
301	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
302	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
303	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
304	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
305	1001 MOHAWK ST 19, BAKERSFIELD CA 93309-1576	Condo	Full
306	1001 MOHAWK ST 7, BAKERSFIELD CA 93309-1575	Condo	Full
307	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
308	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
309	1001 MOHAWK ST 1, BAKERSFIELD CA 93309-1575	Condo	Full
310	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
311	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
312	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
313	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
314	1001 MOHAWK ST 76, BAKERSFIELD CA 93309-1577	Condo	Full
315	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
316	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
317	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
318	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
319	1001 MOHAWK ST 64, BAKERSFIELD CA 93309-1578	Condo	Full
320	1001 MOHAWK ST 66, BAKERSFIELD CA 93309-1578	Condo	Full
321	1001 MOHAWK ST 68, BAKERSFIELD CA 93309-1578	Condo	Full
322	5500 LENNOX AVE, BAKERSFIELD CA 93309-1569	Condo	Full
323	5500 LENNOX AVE 59, BAKERSFIELD CA 93309-1568	Condo	Full
324	5500 LENNOX AVE, BAKERSFIELD CA 93309-1569	Condo	Full
325	5500 LENNOX AVE, BAKERSFIELD CA 93309-1569	Condo	Full
326	5500 LENNOX AVE 22, BAKERSFIELD CA 93309-1571	Condo	Full
327	5500 LENNOX AVE 24, BAKERSFIELD CA 93309-1571	Condo	Full
328	5500 LENNOX AVE, BAKERSFIELD CA 93309-1569	Condo	Full
329	5500 LENNOX AVE, BAKERSFIELD CA 93309-1569	Condo	Full
330	5500 LENNOX AVE, BAKERSFIELD CA 93309-1569	Condo	Full

Table G.1 List of Acquisitions for Alternative A

Impact ID	Site Address	Present Use	Type of Take
331	5500 LENNOX AVE, BAKERSFIELD CA 93309-1569	Condo	Full
332	5500 LENNOX AVE 31, BAKERSFIELD CA 93309-1567	Condo	Full
333	5500 LENNOX AVE, BAKERSFIELD CA 93309-1569	Condo	Full
334	5500 LENNOX AVE 27, BAKERSFIELD CA 93309-1571	Condo	Full
335	5500 LENNOX AVE 25, BAKERSFIELD CA 93309-1571	Condo	Full
336	5500 LENNOX AVE 42, BAKERSFIELD CA 93309-1556	Condo	Full
337	5500 LENNOX AVE, BAKERSFIELD CA 93309-1569	Condo	Full
338	5500 LENNOX AVE, BAKERSFIELD CA 93309-1569	Condo	Full
339	5500 LENNOX AVE 48, BAKERSFIELD CA 93309-1556	Condo	Full
340	5500 LENNOX AVE, BAKERSFIELD CA 93309-1569	Condo	Full
341	5500 LENNOX AVE 52, BAKERSFIELD CA 93309-1563	Condo	Full
342	5500 LENNOX AVE 54, BAKERSFIELD CA 93309-1563	Condo	Full
343	5500 LENNOX AVE 56, BAKERSFIELD CA 93309-1568	Condo	Full
344	5500 LENNOX AVE 61, BAKERSFIELD CA 93309-1568	Condo	Full
345	5500 LENNOX AVE 63, BAKERSFIELD CA 93309-1568	Condo	Full
346	5500 LENNOX AVE 65, BAKERSFIELD CA 93309-1568	Condo	Full
347	5500 LENNOX AVE 67, BAKERSFIELD CA 93309-1568	Condo	Full
348	5500 DUNSMUIR RD 29, BAKERSFIELD CA 93309-8563	Condo	Full
349	5500 DUNSMUIR RD 30, BAKERSFIELD CA 93309-8563	Condo	Full
350	5500 DUNSMUIR RD 31, BAKERSFIELD CA 93309-8563	Condo	Full
351	5500 DUNSMUIR RD 32, BAKERSFIELD CA 93309-8576	Condo	Full
352	5400 DUNSMUIR RD, BAKERSFIELD CA 93309-8523	HOA Commons	Partial
353		Medical	Partial
354	5601 TRUXTUN AVE 190, BAKERSFIELD CA 93309-0627	Office Building	Full
355		Retail Strip	Partial
356	901 MOHAWK ST, BAKERSFIELD CA 93309-1508	Apartments	Partial
357	5180 STOCKDALE HWY, BAKERSFIELD CA 93309-2672	Retail Center	Full
358	5190 STOCKDALE HWY, BAKERSFIELD CA 93309	Retail Market	Full
359	5200 STOCKDALE HWY, BAKERSFIELD CA 93309	Retail Store	Full
360	5100 STOCKDALE HWY, BAKERSFIELD CA 93309-2671	Fast Food	Full
361	4980 STOCKDALE HWY, BAKERSFIELD CA 93309-2638	Retail Store	Full
362	5120 STOCKDALE HWY, BAKERSFIELD CA 93309-2671	Retail Center	Full
363	4950 STOCKDALE HWY, BAKERSFIELD CA 93309-2600	Restaurant	Full
364	5000 STOCKDALE HWY, BAKERSFIELD CA 93309-2650	Retail Store	Full
365	3520 ROSEDALE HWY, BAKERSFIELD CA 93308-6229	Carl's Jr	Perm Esmt
366	3540 ROSEDALE HWY, BAKERSFIELD CA 93308-6229	Hotel	Perm Esmt
367		Vacant	Partial
368		Vacant	Partial
369		Vacant	Partial
370		Vacant	Full
371		Vacant	Partial
372		Vacant	Partial
373		Vacant	Partial
374		Vacant	Partial
375		Vacant	Partial
376		Vacant	Partial
377		Vacant	Full
378		Drainage	Full

Table G.1 List of Acquisitions for Alternative A

Impact ID	Site Address	Present Use	Type of Take
379		Drainage	Full
380		Drainage	Full
381		Vacant	Full
382	CALLOWAY DR, BAKERSFIELD CA	Vacant	Full
383		Esmt	Full
384		Vacant	Full
385		Vacant	Full
386		Vacant	Full
387		vacant	Full
388		Vacant	Full
389		Vacant	Full
390		Vacant	Full
391		Vacant	Full
392	COFFEE RD, BAKERSFIELD CA	Vacant	Full
393	PRESIDIO WAY, BAKERSFIELD CA	Vacant	Full
394	COFFEE RD, BAKERSFIELD CA	Vacant	Full
395		Vacant	Full
396		Vacant	Full
397		Vacant	Full
398		Vacant	Full
399		Vacant	Partial
400		Vacant	Full
401		Vacant	Full
402		Vacant	Full
403		Vacant	Full
404		Vacant	Full

Table G.2 Business Inventory List for Alternative A

Truxtun Avenue to California Avenue	
1	Frank J. Cicone Law Corporation
2	Gregory D. Bynam and Associates. Inc. (real estate development)
3	Bonanza Creek Energy, Inc.
4	Morgan Stanley
5	Platinum Home Mortgage
6	The Trade Center
7	CTB Commercial Trade Inc.
8	Global Business Communication Solutions
9	California Retina Consultants
10	Physicians Network Billing Service, Inc.
11	Better Way Services Inc.
12	Saba Agency (Media Marketing Design)
13	Quantum Data Systems
14	New Your Life
15	Dr. Park Dentistry
16	Penolope S. Sutes, O.D., Elizabeth Torres, O.D.
17	A+ The Employment Company
18	Alliance Human Services
19	Consumer Credit Counselors
20	Comprehensive Cardiovascular
21	Thompson Family Chiropractor
22	Kern LAFCO
23	Pacific Health Education Center
24	Santa Barbara Business College
25	Taj Mahal *
26	Pho Hut *
27	Backstage Style & Barber
California Avenue to Stockdale Avenue	
28	Wells Fargo
29	Chevron Valley Credit Union
30	Mid State Development
31	Paychex
32	Trusted Pardon Services
33	Kelly Management
34	Quest Imaging
35	Move International
36	Northern Digital
37	Kern Farming Corp.
38	Carter Carter & Associates (Real Estate)
39	American Financial Network
40	The Barrentine Company
41	Advanced Network Solutions

Table G.2 Business Inventory List for Alternative A

42	Christian Counseling Services
43	White Gold Cotton LLC.
44	Turkey Cotton Compress LLC.
45	Brian Rice Construction, Inc.
46	Morgan Corporation
47	In N Out
48	Chipotle
49	Sports Chalet
50	Fresh & Easy
51	Jamba Juice
52	Star Nails Spa
53	Image Hair Supply
54	Panda Express
55	Jersey Mike's Subs
56	Bakersfield Dental Group
57	Bed Bath & Beyond
58	Smart & Final
Along Stockdale from Stockdale to Real Road	
59	Houston Jewelers
60	Jules
61	Café Med
62	H&R Block
63	David Yurman (Jewelers)
64	Cartier (Jewelers)
65	A.B.L.E. (Adult Based Life Experience)
66	Path Point
67	Spherion
68	Jay E Fisher (Clinical Psychologist)
69	Merriman Hurst & Associates (Real Estate)
70	Meyer Civil Engineering
71	One America Financial Partner
72	KAXL (radio station)
73	Gary Crabtree Affiliated Appraisers
74	A2Z Escrow, Inc.
75	Northern Mutual Financial Network
76	Mit Wolfe & Associates (Environmental Consulting)
77	Quick & Easy Income Tax Service
78	Great Hands Massage
79	Vincent Tran – Attorney at Law
80	Immigration Attorney
81	Intuitive Touch Massage Therapy
82	Practical Options Legal Document Services
83	E-Fitness Studio
84	Aflac

Table G.2 Business Inventory List for Alternative A

85	TrafficSchoolForm.com
86	TrafficSchoolExperts.com
87	TrafficSchoolpeople.com
88	WayTooEasyTrafficSchool.com
89	MyEasyTrafficSchool.com
90	PainFreeTrafficSchool.com
91	Ellis Island Pizza Company
92	Avon
93	Alliance Investments (real estate) *
94	Insurance
95	Select Staffing *
96	Massage Body & Feet
97	Southern California Medical College
98	The Book Exchange
99	Launderland
100	High Desert Medical College
101	Santa Barbara Business College
102	Advanced Internet Property Management & Real Estate
103	Canto's Industrial Alliance
104	Power House Realty
105	Exam One – A Quest Diagnostics Company
106	Marta Valdez – Real Estate Broker
107	Cal Title Loans
108	Infinity Auto Insurance
109	Willies Bookkeeping & Tax Service
Along and west of SR 99 from Stockdale to Ming	
110	Payless Mini Storage
111	Hugie Offices / Sun Trail, Inc. (Law Firm)
Along and east of SR 99 from Stockdale to Ming	
112	Jolly Cone Drive Thru
113	Mr. Mattress
114	Larsons's (Food and Gas)
Along and north of SR 58 from Oak to Union	
	None
Along and south of SR 58 from Oak to Union	
	None
* Minority Oriented Business	

Table G.3 List of Acquisitions for Alternative B

Impact ID	Site Address	Present Use	Type of Take
1	13 CHESTER AVE, BAKERSFIELD CA 93301	Store	Partial
2	15 CHESTER AVE, BAKERSFIELD CA 93301	Vacant	Partial
3		Parking	Partial
4	229 CHESTER AVE, BAKERSFIELD CA 93301	SFR	Full
5	136 HAYBERT CT, BAKERSFIELD CA 93304	Vacant	Full
6	233 S CHESTER AVE, BAKERSFIELD CA 93304-3648	SFR	Full
7	301 S CHESTER AVE, BAKERSFIELD CA 93304-3650	SFR	Full
8	216 HAYBERT CT, BAKERSFIELD CA 93304-1849	SFR	Full
9	206 HAYBERT CT, BAKERSFIELD CA 93304-1849	SFR	Full
10	204 HAYBERT CT, BAKERSFIELD CA 93304-1849	SFR	Full
11	318 S CHESTER AVE, BAKERSFIELD CA 93304	SFR	Perm Esmt
12	308 CHESTER AVE, BAKERSFIELD CA 93304	4-plex	Perm Esmt
13	304 S CHESTER AVE, BAKERSFIELD CA 93304	SFR	Perm Esmt
14	234 CHESTER AVE, BAKERSFIELD CA 93304	SFR	Partial
15	230 S CHESTER AVE, BAKERSFIELD CA 93304	Duplex	Partial
16		Vacant	Partial
17		City Park	Perm Esmt
18	4208 JOSEPH DR, BAKERSFIELD CA 93309-2042	SFR	Partial
19	4212 JOSEPH DR, BAKERSFIELD CA 93309-2042	SFR	Full
20	4300 JOSEPH DR, BAKERSFIELD CA 93309-2053	SFR	Full
21	4304 JOSEPH DR, BAKERSFIELD CA 93309-2053	SFR	Full
22	4308 JOSEPH DR, BAKERSFIELD CA 93309-2053	SFR	Full
23	4312 JOSEPH DR, BAKERSFIELD CA 93309-2053	SFR	Full
24	144 DUNLAP ST, BAKERSFIELD CA 93309-2038	SFR	Partial
25	140 DUNLAP ST, BAKERSFIELD CA 93309-2038	SFR	Full
26	136 DUNLAP ST, BAKERSFIELD CA 93309-2038	SFR	Full
27	132 DUNLAP ST, BAKERSFIELD CA 93309-2038	SFR	Full
28	128 DUNLAP ST, BAKERSFIELD CA 93309-2038	SFR	Full
29	124 DUNLAP ST, BAKERSFIELD CA 93309-2038	SFR	Full
30	120 DUNLAP ST, BAKERSFIELD CA 93309-2038	SFR	Full
31	116 DUNLAP ST, BAKERSFIELD CA 93309-2038	SFR	Full
32	112 DUNLAP ST, BAKERSFIELD CA 93309-2038	SFR	Full
33	108 DUNLAP ST, BAKERSFIELD CA 93309-2038	SFR	Full
34	104 DUNLAP ST, BAKERSFIELD CA 93309-2038	SFR	Full
35	100 DUNLAP ST, BAKERSFIELD CA 93309-2038	SFR	Full
36	22 DUNLAP ST, BAKERSFIELD CA 93309-2036	SFR	Full
37	18 DUNLAP ST, BAKERSFIELD CA 93309-2036	SFR	Full
38	14 DUNLAP ST, BAKERSFIELD CA 93309-2036	SFR	Full
39	10 DUNLAP ST, BAKERSFIELD CA 93309-2036	SFR	TCE
40	141 DUNLAP ST, BAKERSFIELD CA 93309-2037	SFR	Full
41	137 DUNLAP ST, BAKERSFIELD CA 93309-2037	SFR	Full
42	133 DUNLAP ST, BAKERSFIELD CA 93309-2037	SFR	Full
43	129 DUNLAP ST, BAKERSFIELD CA 93309-2037	SFR	Full
44	125 DUNLAP ST, BAKERSFIELD CA 93309-2037	SFR	Full
45	121 DUNLAP ST, BAKERSFIELD CA 93309-2037	SFR	Full
46	117 DUNLAP ST, BAKERSFIELD CA 93309-2037	SFR	Full
47	113 DUNLAP ST, BAKERSFIELD CA 93309-2037	SFR	Full
48	109 DUNLAP ST, BAKERSFIELD CA 93309-2037	SFR	Full

Table G.3 List of Acquisitions for Alternative B

Impact ID	Site Address	Present Use	Type of Take
49	105 DUNLAP ST, BAKERSFIELD CA 93309-2037	SFR	Full
50	101 DUNLAP ST, BAKERSFIELD CA 93309-2037	SFR	Full
51	136 CANDY ST, BAKERSFIELD CA 93309-2035	SFR	Full
52	140 CANDY ST, BAKERSFIELD CA 93309-2035	SFR	Full
53	27 N STINE RD, BAKERSFIELD CA 93309	SFR	Partial
54	23 N STINE RD, BAKERSFIELD CA 93309-2014	SFR	Full
55	19 N STINE RD, BAKERSFIELD CA 93309-2014	SFR	Full
56	15 N STINE RD, BAKERSFIELD CA 93309-2014	SFR	Full
57	11 STINE RD, BAKERSFIELD CA 93309	SFR	Full
58	7 STINE RD, BAKERSFIELD CA 93309	SFR	Full
59	1 N STINE RD, BAKERSFIELD CA 93309-2014	SFR	Full
60	2 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
61	6 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
62	10 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
63	14 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
64	18 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
65	22 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
66	26 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
67	25 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
68	19 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
69	15 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
70	11 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
71	7 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
72	1 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
73	125 MORRISON ST, BAKERSFIELD CA 93309	SFR	Partial
74	121 MORRISON ST, BAKERSFIELD CA 93309-2047	SFR	Full
75	117 MORRISON ST, BAKERSFIELD CA 93309-2047	SFR	Full
76	113 MORRISON ST, BAKERSFIELD CA 93309-2047	SFR	Full
77	109 MORRISON ST, BAKERSFIELD CA 93309-2047	SFR	Full
78	105 MORRISON ST, BAKERSFIELD CA 93309-2047	SFR	Full
79	101 MORRISON ST, BAKERSFIELD CA 93309-2047	SFR	Full
80	4501 LA MIRADA DR, BAKERSFIELD CA 93309-1727	SFR	Partial
81	4505 LA MIRADA DR, BAKERSFIELD CA 93309-1727	SFR	Partial
82	4417 LA MIRADA DR, BAKERSFIELD CA 93309-1725	SFR	Full
83	4416 LA MIRADA DR, BAKERSFIELD CA 93309-1726	SFR	Full
84	4500 LA MIRADA DR, BAKERSFIELD CA 93309-1798	SFR	Partial
85	4504 LA MIRADA DR, BAKERSFIELD CA 93309-1798	SFR	Partial
86	800 DEL REY CT, BAKERSFIELD CA 93309-1138	SFR	Full
87	804 DEL REY CT, BAKERSFIELD CA 93309-1138	SFR	Full
88	808 DEL REY CT, BAKERSFIELD CA 93309-1138	SFR	Full
89	812 DEL REY CT, BAKERSFIELD CA 93309-1138	SFR	Full
90	816 DEL REY CT, BAKERSFIELD CA 93309-1138	SFR	Full
91	820 DEL REY CT, BAKERSFIELD CA 93309-1138	SFR	Full
92	809 DEL REY CT, BAKERSFIELD CA 93309-1138	SFR	Perm Esmt
93	805 DEL REY CT, BAKERSFIELD CA 93309-1138	SFR	Partial
94	801 DEL REY CT, BAKERSFIELD CA 93309-1138	SFR	Full
95	4601 CHARTER OAKS AVE, BAKERSFIELD CA 93309-1118	SFR	Full
96	4515 CHARTER OAKS AVE, BAKERSFIELD CA 93309-1115	SFR	Full

Table G.3 List of Acquisitions for Alternative B

Impact ID	Site Address	Present Use	Type of Take
97	4509 CHARTER OAKS AVE, BAKERSFIELD CA 93309-1115	SFR	Full
98	4505 CHARTER OAKS AVE, BAKERSFIELD CA 93309-1115	SFR	Full
99	713 MONTCLAIR ST, BAKERSFIELD CA 93309-1759	SFR	Full
100	709 MONTCLAIR ST, BAKERSFIELD CA 93309-1759	SFR	Full
101	705 MONTCLAIR ST, BAKERSFIELD CA 93309-1759	SFR	Full
102	701 MONTCLAIR ST, BAKERSFIELD CA 93309-1759	SFR	Full
103	708 MONTCLAIR ST, BAKERSFIELD CA 93309-1760	SFR	Full
104	704 MONTCLAIR ST, BAKERSFIELD CA 93309-1760	SFR	Full
105	700 MONTCLAIR ST, BAKERSFIELD CA 93309-1760	SFR	Full
106	608 MONTCLAIR ST, BAKERSFIELD CA 93309-8545	SFR	Full
107		Res lot	Full
108	604 MONTCLAIR ST, BAKERSFIELD CA 93309-8545	SFR	Full
109	4601 CALIFORNIA AVE, BAKERSFIELD CA 93309-1105	School	Full
110	5041 EASTON DR, BAKERSFIELD CA 93309	School parking/storage	Full
111	5071 EASTON DR, BAKERSFIELD CA 93309-1153	4-plex	Full
112	5085 EASTON DR, BAKERSFIELD CA 93309-1154	4-plex	Full
113	5091 EASTON DR, BAKERSFIELD CA 93309-7010	4-plex	Full
114	4412 LA MIRADA DR, BAKERSFIELD CA 93309-1726	SFR	Full
115	4408 LA MIRADA DR, BAKERSFIELD CA 93309-1726	SFR	Full
116	4404 LA MIRADA DR, BAKERSFIELD CA 93309-1726	SFR	Full
117	4400 LA MIRADA DR, BAKERSFIELD CA 93309-1726	SFR	Full
118	4316 LA MIRADA DR, BAKERSFIELD CA 93309-1724	SFR	Full
119	4312 LA MIRADA DR, BAKERSFIELD CA 93309-1724	SFR	Full
120	4306 LA MIRADA DR, BAKERSFIELD CA 93309-1724	SFR	Full
121	4300 LA MIRADA DR, BAKERSFIELD CA 93309-1724	SFR	Full
122	4224 LA MIRADA DR, BAKERSFIELD CA 93309-1722	SFR	Full
123	4220 LA MIRADA DR, BAKERSFIELD CA 93309-1722	SFR	Full
124	4212 LA MIRADA DR, BAKERSFIELD CA 93309-1722	SFR	Full
125	4204 LA MIRADA DR, BAKERSFIELD CA 93309-1722	SFR	Partial
126	4200 LA MIRADA DR, BAKERSFIELD CA 93309-1722	SFR	Partial
127	4112 LA MIRADA DR, BAKERSFIELD, CA 93309-1722	SFR	Perm Esmt
128	4108 LA MIRADA DR, BAKERSFIELD, CA 93309-1722	SFR	Perm Esmt
129	4104 LA MIRADA DR, BAKERSFIELD, CA 93309-1722	SFR	Perm Esmt
130	4100 LA MIRADA DR, BAKERSFIELD, CA 93309-1722	SFR	Perm Esmt
131	4201 LA MIRADA DR, BAKERSFIELD CA 93309-1721	SFR	Partial
132	4205 LA MIRADA DR, BAKERSFIELD CA 93309-1721	SFR	Partial
133	4209 LA MIRADA DR, BAKERSFIELD CA 93309-1721	SFR	Partial
134	4213 LA MIRADA DR, BAKERSFIELD CA 93309-1721	SFR	Partial
135	4217 LA MIRADA DR, BAKERSFIELD CA 93309-1721	SFR	Full
136	4221 LA MIRADA DR, BAKERSFIELD CA 93309-1721	SFR	Full
137	4225 LA MIRADA DR, BAKERSFIELD CA 93309-1721	SFR	Full
138	4229 LA MIRADA DR, BAKERSFIELD CA 93309-1721	SFR	Full
139	4233 LA MIRADA DR, BAKERSFIELD CA 93309-1721	SFR	Full
140	4301 LA MIRADA DR, BAKERSFIELD CA 93309-1723	SFR	Full
141	4305 LA MIRADA DR, BAKERSFIELD CA 93309-1723	SFR	Full
142	4309 LA MIRADA DR, BAKERSFIELD CA 93309-1723	SFR	Full
143	4313 LA MIRADA DR, BAKERSFIELD CA 93309-1723	SFR	Full
144	4317 LA MIRADA DR, BAKERSFIELD CA 93309-1723	SFR	Full

Table G.3 List of Acquisitions for Alternative B

Impact ID	Site Address	Present Use	Type of Take
145	4401 LA MIRADA DR, BAKERSFIELD CA 93309-1725	SFR	Full
146	4405 LA MIRADA DR, BAKERSFIELD CA 93309-1725	SFR	Full
147	4409 LA MIRADA DR, BAKERSFIELD CA 93309-1725	SFR	Full
148	4413 LA MIRADA DR, BAKERSFIELD CA 93309-1725	SFR	Full
149	4307 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1711	SFR	Full
150	4301 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1711	SFR	Full
151	4300 KENTFIELD DR, BAKERSFIELD CA 93309-8546	SFR	Full
152	4312 KENTFIELD DR, BAKERSFIELD CA 93309-8546	SFR	Full
153	4316 KENTFIELD DR, BAKERSFIELD CA 93309-8546	SFR	Full
154	4400 KENTFIELD DR, BAKERSFIELD CA 93309-1716	SFR	Full
155	4404 KENTFIELD DR, BAKERSFIELD CA 93309-1716	SFR	Full
156	4405 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1713	SFR	Full
157	4401 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1713	SFR	Full
158	4317 KENTFIELD DR, BAKERSFIELD CA 93309-8547	SFR	Full
159	4313 KENTFIELD DR, BAKERSFIELD CA 93309-8547	SFR	Full
160	4309 KENTFIELD DR, BAKERSFIELD CA 93309-8547	SFR	Full
161	4305 KENTFIELD DR, BAKERSFIELD CA 93309-8547	SFR	Full
162	4301 KENTFIELD DR, BAKERSFIELD CA 93309-8547	SFR	Full
163	4200 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1710	SFR	Full
164	4204 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1710	SFR	Full
165	4208 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1710	SFR	Full
166	4212 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1710	SFR	Full
167	4216 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1710	SFR	Full
168	4300 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1712	SFR	Full
169	4304 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1712	SFR	Full
170	4308 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1712	SFR	Full
171	4400 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1714	SFR	Full
172	4404 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1714	SFR	Full
173	4408 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1714	SFR	Full
174	4412 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1714	SFR	Full
175	4409 MARELLA WAY, BAKERSFIELD CA 93309-1735	SFR	Full
176	4405 MARELLA WAY, BAKERSFIELD CA 93309-1735	SFR	Full
177	4401 MARELLA WAY, BAKERSFIELD CA 93309-1735	SFR	Full
178	4313 MARELLA WAY, BAKERSFIELD CA 93309-1733	SFR	Full
179	4309 MARELLA WAY, BAKERSFIELD CA 93309-1733	SFR	Full
180	4305 MARELLA WAY, BAKERSFIELD CA 93309-1733	SFR	Full
181	4301 MARELLA WAY, BAKERSFIELD CA 93309-1733	SFR	Full
182	4205 MARELLA WAY, BAKERSFIELD, CA 93309-1733	SFR	Perm Esmt
183	4413 WOODLAKE DR, BAKERSFIELD CA 93309-8551	SFR	Partial
184	4417 WOODLAKE DR, BAKERSFIELD CA 93309-8551	SFR	Full
185	4500 WOODLAKE DR, BAKERSFIELD CA 93309-8549	SFR	Full
186	4416 WOODLAKE DR, BAKERSFIELD CA 93309-8548	SFR	Full
187	4412 WOODLAKE DR, BAKERSFIELD CA 93309-8548	SFR	Partial
188	4508 WOODLAKE DR, BAKERSFIELD CA 93309-8549	SFR	Full
189	4504 WOODLAKE DR, BAKERSFIELD CA 93309-8549	SFR	Full
190	4501 WOODLAKE DR, BAKERSFIELD CA 93309-8550	SFR	Full
191	4507 WOODLAKE DR, BAKERSFIELD CA 93309-8550	SFR	Full
192	4414 KENSINGTON AVE, BAKERSFIELD CA 93309-1748	SFR	Full

Table G.3 List of Acquisitions for Alternative B

Impact ID	Site Address	Present Use	Type of Take
193	4408 KENSINGTON AVE, BAKERSFIELD CA 93309-1748	SFR	Full
194	505 MALIBU CT, BAKERSFIELD CA 93309-1752	SFR	Partial
195		SFR	Full
196	4321 KENSINGTON AVE, BAKERSFIELD CA 93309-1745	SFR	Partial
197	4401 KENSINGTON AVE, BAKERSFIELD CA 93309-1747	SFR	Full
198	4405 KENSINGTON AVE, BAKERSFIELD CA 93309-1747	SFR	Full
199	4409 KENSINGTON AVE, BAKERSFIELD CA 93309-1747	SFR	Full
200	4415 KENSINGTON AVE, BAKERSFIELD CA 93309-1747	SFR	Full
201	4419 KENSINGTON AVE, BAKERSFIELD CA 93309-1747	SFR	Full
202	4421 KENSINGTON AVE, BAKERSFIELD CA 93309-1747	SFR	Full
203	4428 MARELLA WAY, BAKERSFIELD CA 93309-1736	SFR	Partial
204	4424 MARELLA WAY, BAKERSFIELD CA 93309-1736	SFR	Full
205	4420 MARELLA WAY, BAKERSFIELD CA 93309-1736	SFR	Full
206	4416 MARELLA WAY, BAKERSFIELD CA 93309-1736	SFR	Full
207	4412 MARELLA WAY, BAKERSFIELD CA 93309-1736	SFR	Full
208	4408 MARELLA WAY, BAKERSFIELD CA 93309-1736	SFR	Full
209	4310 MARELLA WAY, BAKERSFIELD CA 93309-1734	SFR	Full
210	4308 MARELLA WAY, BAKERSFIELD CA 93309-1734	SFR	Full
211	4304 MARELLA WAY, BAKERSFIELD CA 93309-1734	SFR	Full
212	4404 MARELLA WAY, BAKERSFIELD CA 93309-1736	SFR	Full
213	4400 MARELLA WAY, BAKERSFIELD CA 93309-1736	SFR	Full
214	4606 CALIFORNIA AVE, BAKERSFIELD CA 93309-1106	Retail center	Full
215	4600 CALIFORNIA AVE, BAKERSFIELD CA 93309-1100	Com	Full
216	CALIFORNIA-PRKNG AV, BAKERSFIELD CA	Parking Lot	Full
217	4600 CALIFORNIA AVE, BAKERSFIELD CA 93309-1100	Bank	Full
218		Storm Drain	Partial
219		Hospital	Partial
220		Farm land	Partial
221		Farm land	Partial
222		Farm land	Partial
223		Farm land	Partial
224		Vacant	Partial
225	3112 TERRACE WAY, BAKERSFIELD CA 93304	SFR	Partial
226		SFR	Perm Esmt
227		Vacant	Full
228		Vacant	Perm Esmt
229			Perm Esmt
230		Access Lane	Perm Esmt
231		Auto Repair	Perm Esmt
232	321 STEPHENS DR, BAKERSFIELD CA 93304	Vacant	Partial
233		Apartments	Perm Esmt
234	313 STEPHENS DR, BAKERSFIELD CA 93304	Vacant	Full
235	201 S MYRTLE ST, BAKERSFIELD CA 93304-3335	SFR	Perm Esmt
236		RES LOT	Perm Esmt
237	300 DIXON AVE, BAKERSFIELD CA 93304-3388	SFR	Perm Esmt
238	205 JUDAN ST, BAKERSFIELD CA 93304	SFR	Perm Esmt
239	2405 ROBBIN RD, BAKERSFIELD CA 93304	SFR	Perm Esmt
240	2407 ROBBIN RD, BAKERSFIELD CA 93304	SFR	Perm Esmt

Table G.3 List of Acquisitions for Alternative B

Impact ID	Site Address	Present Use	Type of Take
241	2401 ROBBIN RD, BAKERSFIELD CA 93304	SFR	Perm Esmt
242	2403 ROBBIN RD, BAKERSFIELD CA 93304	SFR	Perm Esmt
243	3120 TERREL CT, BAKERSFIELD CA 93304	SFR	Perm Esmt
244		Vacant lot	Perm Esmt
245	3117 TERRACE WAY, BAKERSFIELD CA 93304	SFR	Perm Esmt
246	3152 TERREL CT, BAKERSFIELD CA 93304	SFR	Perm Esmt
247	606 WIBLE RD, BAKERSFIELD CA 93304	Acapulco Tires Auto Repair	TCE
248	612 WIBLE RD, BAKERSFIELD CA 93304	Xpress Lube	TCE
249	608 WIBLE RD, BAKERSFIELD CA 93304	Distinctive Coach Auto Body	TCE
250	700 WIBLE RD, BAKERSFIELD CA 93304	Fleet Auto Brokers/Estradas Car Wash	TCE
251	520 WIBLE RD, BAKERSFIELD CA 93304	Computer Smog Specialists	TCE
252	717 S OLIVE ST, BAKERSFIELD CA 93304	SFR	TCE
253	720 WIBLE RD, BAKERSFIELD CA 93304	Larson's Food & Gas	Full
254	708 WIBLE RD, BAKERSFIELD, CA 93304	Duplex	Full
255	704 WIBLE RD, BAKERSFIELD, CA 93304	Duplex	Full
256	206 HUGHES LN, BAKERSFIELD, CA 93304	SFR	Perm Esmt
257	210 HUGHES LN, BAKERSFIELD, CA 93304	SFR	Perm Esmt
258	2396 BRITE ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
259	2394 BRITE ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
260	2324 BRITE ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
261	2300 BRITE ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
262	309 HOUCHIN RD, BAKERSFIELD CA 93304-3409	Estate	Perm Esmt
263		SFR	Perm Esmt
264		SFR	Perm Esmt
265	203 H ST, BAKERSFIELD, CA 93304	Church	Perm Esmt
266	2200 ROOSEVELT ST, BAKERSFIELD CA 93304	SFR	Perm Esmt
267	2129 BRUNDAGE LN, BAKERSFIELD CA 93304	Restaurant	Perm Esmt
268		Apartments	Partial
269	800 WIBLE RD, BAKERSFIELD, CA 93304	Jolly Kone	Full
270	3109 BELLE TER, BAKERSFIELD CA 93304	SFR	TCE
271	830 WIBLE RD, BAKERSFIELD CA 93304	Motel	Partial
272	812 WIBLE RD, BAKERSFIELD CA 93304	Motel	Partial
273	806 WIBLE RD, BAKERSFIELD, CA 93304	Mr. Matress Store	Full
274	930 WIBLE RD, BAKERSFIELD CA 93304	Shopping Center	Partial
275	3857 STOCKDALE HWY, BAKERSFIELD CA 93309-2187	Medical	Full
276		Flood Control	Perm Esmt
277	3847 STOCKDALE HWY, BAKERSFIELD CA 93309-2156	Barber Shop	Full
278	3333 STOCKDALE HWY, BAKERSFIELD CA 93309	Utilities	Full
279		Vacant	Full
280		Vacant	Full
281	3403 STOCKDALE HWY, BAKERSFIELD CA 93309-2143	Office building	Full
282		Park & Ride	Full
283		Park & Ride	Full
284		Vacant lot	Full

Table G.3 List of Acquisitions for Alternative B

Impact ID	Site Address	Present Use	Type of Take
285		Vacant	Full
286		Vacant	Full
287	3330 ELCIA DR, BAKERSFIELD CA 93309-3340	MFR	Full
288	3320 ELCIA DR, BAKERSFIELD CA 93309-3301	Duplex	Full
289		Storage	Full
290	200 S REAL RD, BAKERSFIELD CA 93309	Vacant lot	Full
291	3324 ELCIA DR, BAKERSFIELD CA 93309	SFR	Full
292	210 S REAL RD, BAKERSFIELD CA 93309-2140	SFR	Partial
293	3501 STOCKDALE HWY, BAKERSFIELD CA 93309-2150	Hospital	Partial
294		SFR	Partial
295	240 REAL RD, BAKERSFIELD CA 93309	SFR	Partial
296	3412 ELCIA DR, BAKERSFIELD CA 93309-3327	SFR	Partial
297	3408 ELCIA DR, BAKERSFIELD CA 93309-3327	SFR	Full
298	3404 ELCIA DR, BAKERSFIELD CA 93309-3327	SFR	Full
299	3400 ELCIA DR, BAKERSFIELD CA 93309-3327	SFR	Full
300	3405 ELCIA DR, BAKERSFIELD CA 93309	SFR	Perm Esmt
301	3401 ELCIA DR, BAKERSFIELD CA 93309	SFR	Perm Esmt
302	3845 STOCKDALE HWY, BAKERSFIELD CA 93309-3192	Office Building	Full
303		Vacant	Full
304	3815 STOCKDALE HWY, BAKERSFIELD CA 93309-2156	Office building	Partial
305	3737 STOCKDALE HWY, BAKERSFIELD CA 93309-2100	Office building	Partial
306		Parking Lot	Full
307	201 S GARNSEY AVE, BAKERSFIELD CA 93309-2133	SFR	Full
308	201 S GARNSEY AVE, BAKERSFIELD CA 93309-2133	SFR	Full
309		Triplex	Full
310	3839 STOCKDALE HWY, BAKERSFIELD CA 93309-2156	Retail Building	Partial
311	195 S GARNSEY AVE, BAKERSFIELD CA 93309-2144	SFR	Full
312	100 S GARNSEY AVE, BAKERSFIELD CA 93309-2191	SFR	Full
313	20 WILLIAMSON WAY, BAKERSFIELD CA 93309-2158	MFR	Full
314	3617 STOCKDALE HWY, BAKERSFIELD CA 93309	Shopping Center	Full
315	201 S REAL RD, BAKERSFIELD CA 93309	Office building	Full
316	205 S REAL RD, BAKERSFIELD CA 93309	Office building	Full
317	101 S REAL RD, BAKERSFIELD CA 93309	Parking	Full
318	115 S REAL RD, BAKERSFIELD CA 93309	Parking	Full
319	131 S REAL RD, BAKERSFIELD CA 93309	Parking	Full
320	141 S REAL RD, BAKERSFIELD CA 93309	Parking	Full
321	209 S REAL RD, BAKERSFIELD CA 93309	Parking	Full
322	96 WILLIAMSON WAY, BAKERSFIELD CA 93309-2142	SFR	Full
323	209 WILLIAMSON WAY, BAKERSFIELD CA 93309-2199	2 SFRs	Full
324	205 WILLIAMSON WAY, BAKERSFIELD CA 93309-2199	SFR	Full
325	201 WILLIAMSON WAY, BAKERSFIELD CA 93309-2199	SFR	Full
326	125 WILLIAMSON WAY, BAKERSFIELD CA 93309-2197	SFR	Full
327	25 WILLIAMSON WAY, BAKERSFIELD CA 93309-2112	Apartments	Full
328	3601 STOCKDALE HWY, BAKERSFIELD CA 93309-2152	Gas Station	TCE
329	206 WILLIAMSON WAY, BAKERSFIELD CA 93309-0900	SFR	Full
330		Res lot	Full
331	100 WILLIAMSON WAY, BAKERSFIELD CA 93309-2179	Apartments	Full
332	200 WILLIAMSON WAY, BAKERSFIELD CA 93309-2180	Apartments	Full

Table G.3 List of Acquisitions for Alternative B

Impact ID	Site Address	Present Use	Type of Take
333	204 WILLIAMSON WAY, BAKERSFIELD CA 93309-2181	Apartments	Full
334	31 S REAL RD, BAKERSFIELD CA 93309-2110	Office building	Full
335	33 S REAL RD, BAKERSFIELD CA 93309-2135	Office building	Full
336	300 S GARNSEY AVE, BAKERSFIELD CA 93309-2134	SFR	Partial
337	215 WILLIAMSON WAY, BAKERSFIELD CA 93309-2199	SFR	Full
338	219 S REAL RD, BAKERSFIELD CA 93309	Parking	Full
339	3610 ELCIA DR, BAKERSFIELD CA 93309	Parking	Full
340	3618 ELCIA DR, BAKERSFIELD CA 93309-3329	SFR	Full
341	218 WILLIAMSON WAY, BAKERSFIELD CA 93309-0900	SFR	Full
342	3232 MONA WAY, BAKERSFIELD CA 93309-3395	SFR	Partial
343		Vacant	Full
344	3201 MONA WAY, BAKERSFIELD CA 93309-3395	SFR	Full
345	601 ALAMO ST, BAKERSFIELD CA 93309-3355	SFR	Full
346	627 ALAMO ST, BAKERSFIELD CA 93309	SFR	Full
347	619 ALAMO ST, BAKERSFIELD CA 93309-3355	SFR	Full
348	611 ALAMO ST, BAKERSFIELD CA 93309-3355	SFR	Full
349	3234 BELLE TER, BAKERSFIELD CA 93309	Private School	Partial
350	200 S GARNSEY AVE, BAKERSFIELD CA 93309-2196	SFR	Full
351	206 S GARNSEY AVE, BAKERSFIELD CA 93309-2196	SFR	Full
352	212 S GARNSEY AVE, BAKERSFIELD CA 93309-2196	SFR	Full
353	218 S GARNSEY AVE, BAKERSFIELD CA 93309-2196	SFR	Full
354	205 S GARNSEY AVE, BAKERSFIELD CA 93309-2133	SFR	Full
355	209 S GARNSEY AVE, BAKERSFIELD CA 93309-2133	SFR	Full
356	221 GARNSEY AVE, BAKERSFIELD CA 93309	SFR	Partial
357	255 GARNSEY AVE, BAKERSFIELD CA 93309	SFR	Partial
358	22645 STOCKDALE HWY, BAKERSFIELD CA 93305-2432	Farm land	Partial
359		Farm land	Partial
360	3231 BELLE TER, BAKERSFIELD CA 93309	SFR	TCE
361	3229 BELLE TER, BAKERSFIELD CA 93309-4101	SFR	TCE
362	3227 BELLE TER, BAKERSFIELD CA 93309-4101	2 SFRs	Full
363	3310 WOOD LN, BAKERSFIELD CA 93309-7321	2 SFRs	Full
364	3320 WOOD LN, BAKERSFIELD CA 93309-7321	SFR	Full
365	3330 WOOD LN, BAKERSFIELD CA 93309-7321	SFR	Full
366	3308 WOOD LN, BAKERSFIELD CA 93309-7321	2 SFRs	Full
367	1117 WIBLE RD, BAKERSFIELD CA 93304	Auto Repair	Full
368	3317 LAVERNE AVE, BAKERSFIELD CA 93309	SFR	Full
369	3316 LAVERNE AVE B, BAKERSFIELD CA 93309-4122	SFR	Perm Esmt
370	201 E BRUNDAGE LN, BAKERSFIELD, CA 93304	Church	Perm Esmt
371	200 WAYCROSS ST, BAKERSFIELD, CA 93304	Church	Perm Esmt
372	340 WAYCROSS ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
373		Auto Sales	Perm Esmt
374		Paved Access	Perm Esmt
375	5001 COMMERCE DR, BAKERSFIELD CA 93309-0648	Hospital	Partial
376	5000 COMMERCE DR, BAKERSFIELD CA 93309	Medical	Partial
377	3520 ROSEDALE HWY, BAKERSFIELD CA 93308-6229	Carl's Jr	Perm Esmt
378	3540 ROSEDALE HWY, BAKERSFIELD CA 93308-6229	Hotel	Perm Esmt
379		Oil Extraction	Partial
380	4950 COMMERCE DR, BAKERSFIELD CA 93309	Basin	Full

Table G.3 List of Acquisitions for Alternative B

Impact ID	Site Address	Present Use	Type of Take
381		Vacant	Partial
382		Vacant	Partial
383	4700 EASTON DR, BAKERSFIELD CA 93309-9426	Offices	Partial
384	4800 EASTON DR, BAKERSFIELD CA 93309-9423	Offices	Full
385	4800 EASTON DR, BAKERSFIELD CA 93309-9423	Offices	Full
386	4800 EASTON DR, BAKERSFIELD CA 93309-9427	Offices	Full
387	4800 EASTON DR, BAKERSFIELD CA 93309-9427	Offices	Full
388	4800 EASTON DR 114, BAKERSFIELD CA 93309-9424	Offices	Full
389	4800 EASTON DR, BAKERSFIELD CA 93309-9427	Offices	Full
390		Parking Lot	Full
391		Vacant	Partial
392		Vacant	Partial
393		Vacant	Partial
394		Vacant	Partial
395		Drainage	Full
396		Drainage	Partial
397		Drainage	Partial
398		Park/Preserve	Full
399		Vacant	Full
400	CALLOWAY DR, BAKERSFIELD CA	Vacant	Full
401		Esmt	Full
402		Vacant	Full
403		Vacant	Full
404		Vacant	Full
405		vacant	Full
406		Vacant	Full
407		Vacant	Full
408		Vacant	Full
409		Vacant	Full
410	COFFEE RD, BAKERSFIELD CA	Vacant	Full
411	PRESIDIO WAY, BAKERSFIELD CA	Vacant	Full
412	COFFEE RD, BAKERSFIELD CA	Vacant	Full
413		Vacant	Full
414		Vacant	Full
415		Vacant	Full
416		Vacant	Full
417		Vacant	Partial
418		Vacant	Full
419		Vacant	Full
420		Vacant	Full
421		Vacant	Full
422		Vacant	Full

Table G.4 Business Inventory List for Alternative B

Truxtun Avenue to California Avenue	
1	ECBMC
2	NCR
3	Clean Tech Janitorial
4	01’s Racing
5	Jim Warren, X-Ray Solution Service
6	Cravens Performance
7	Cal-Air
8	Rutherford Vision, Inc.
9	GNM Computer Repair
10	ClearATicket.com
11	EasyToFinishTrafficSchool.com
12	Less Time Traffic School
13	OneGoodDriver.com
14	Green Light Traffic School
15	One Day Traffic School
16	SimpleToFinishTrafficSchool.com
17	InADayTrafficSchool.com
18	Self Paced Traffic School
19	Crystal Glass Window Repair
20	Pensinger Properties – Property Management
21	Farmers Insurance Agency
22	Brian L Ward – Structural Engineer
23	KBS – Property Management & Real Estate
24	Arrache & Potter – Attorneys at Law
25	Walls Hearing Aid Center
26	Century 21 Hometown Reality
27	Christopher J. Aasness, CPA
28	Number Crunchers (Bookkeeping and tax services)
29	Ironwood (Retirement Plan Consultants)
30	ProCare hospice
31	John B Linford Attorney at Law
32	Law office of Phillip H. Darling
33	Pacific Geotechnical Assoc., Inc.
34	Simply Scrapbooks
35	A Total Health (Salon, Nutritionist, Refloxology)
36	Pinnacle Civil Engineering
37	Kumon – Math & Reading Center
38	Affordable Dentures
39	Family Dentistry
40	Affordable Dentures
41	Citizens Business Bank

Table G.4 Business Inventory List for Alternative B

California Avenue to Stockdale Avenue	
42	Little Red School House
Along Stockdale from Stockdale to Real Road	
43	Quick & Easy Income Tax Service
44	Great Hands Massage
45	Vincent Tran – Attorney at Law
46	Immigration Attorney
447	Intuitive Touch Massage Therapy
48	Practical Options Legal Document Services
49	E-Fitness Studio
50	Aflac
51	TrafficSchoolForm.com
52	TrafficSchoolExperts.com
53	TrafficSchoolpeople.com
54	WayTooEasyTrafficSchool.com
55	MyEasyTrafficSchool.com
56	PainFreeTrafficSchool.com
57	Ellis Island Pizza Company
58	Avon
59	Alliance Investments (real estate) *
60	Insurance
61	Select Staffing *
62	Massage Body & Feet
63	Southern California Medical College
64	The Book Exchange
65	Launderland
66	High Desert Medical College
67	Santa Barbara Business College
68	Advanced Internet Property Management & Real Estate
69	Canto's Industrial Alliance
70	Power House Realty
71	Exam One – A Quest Diagnostics Company
72	Marta Valdez – Real Estate Broker *
73	Cal Title Loans
74	Infinity Auto Insurance
75	Willies Bookkeeping & Tax Service
Significant Parking Loss – 3737 Stockdale Hwy (76-79)	
76	Daniel Purdy – Pediatric Dentistry
77	San Joaquin Chiropractic Clinic
78	JVE Multi Services (Income Tax & Bookkeeping)
79	Unknown Business *

Table G.4 Business Inventory List for Alternative B

Along and west of SR 99 from Stockdale to Ming	
80	Payless Mini Storage
81	Hugie Offices / Sun Trail, Inc. (Law Firm)
Along and east of SR 99 from Stockdale to Ming	
82	Jolly Cone Drive Thru
83	Mr. Mattress
84	Larsons's (Food and Gas)
Along and north of SR 58 from Oak to Union	
	None
Along and south of SR 58 from Oak to Union	
	None

* Minority Oriented Business

Table G.5 List of Residential and Non-Residential Acquisitions for Alternative C

Impact ID	Site Address	Present Use	Type of Take
1	350 OAK ST, BAKERSFIELD CA 93304	Motel	TCE
2	3030 BRUNDAGE LN, BAKERSFIELD CA 93304	Youngs Market	Partial
3	3040 BRUNDAGE LN, BAKERSFIELD CA 93304	Commercial Showroom	Full
4	3050 BRUNDAGE LN, BAKERSFIELD CA 93304	Commercial	Full
5	2 OAK ST, BAKERSFIELD CA 93304	Service Station	Full
6	90 OAK ST, BAKERSFIELD CA 93304		Full
7	92 OAK ST, BAKERSFIELD CA 93304	Auto Repair	Full
8	100 OAK ST, BAKERSFIELD CA 93304	Retail	Partial
9	15 CHESTER AVE, BAKERSFIELD CA 93301	Store	Partial
10	13 CHESTER AVE, BAKERSFIELD CA 93301	Vacant	Partial
11		Parking	Partial
12	229 CHESTER AVE, BAKERSFIELD CA 93301	SFR	Full
13	136 HAYBERT CT, BAKERSFIELD CA 93304	Vacant	Full
14	233 S CHESTER AVE, BAKERSFIELD CA 93304-3648	SFR	Full
15	301 S CHESTER AVE, BAKERSFIELD CA 93304-3650	SFR	Full
16		Mixed Residential & Commercial	Full
17		SFR	Full
18		SFR	Full
19	216 HAYBERT CT, BAKERSFIELD CA 93304-1849	SFR	Full
20	206 HAYBERT CT, BAKERSFIELD CA 93304-1849	SFR	Full
21	204 HAYBERT CT, BAKERSFIELD CA 93304-1849	SFR	Full
22	318 S CHESTER AVE, BAKERSFIELD CA 93304	SFR	Partial
23	308 CHESTER AVE, BAKERSFIELD CA 93304	4-plex	Partial
24	304 S CHESTER AVE, BAKERSFIELD CA 93304	SFR	Partial
25	234 CHESTER AVE, BAKERSFIELD CA 93304	SFR	Partial
26	230 S CHESTER AVE, BAKERSFIELD CA 93304	Duplex	Partial
27		Vacant	Partial
28	140 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
29	132 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
30	139 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
31	135 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
32	131 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
33	127 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
34	3231 PALM ST, BAKERSFIELD CA 93309	SFR	Full
35	356 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
36	352 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
37	348 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
38	344 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
39	340 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
40	336 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
41	332 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
42	328 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
43	324 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
44	320 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
45	316 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
46	312 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full

Table G.5 List of Residential and Non-Residential Acquisitions for Alternative C

Impact ID	Site Address	Present Use	Type of Take
47	308 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
48	304 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
49	300 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
50	240 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
51	236 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
52	232 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
53	228 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
54	224 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
55	3230 BANK ST, BAKERSFIELD CA 93309	SFR	Full
56	220 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
57	200 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
58	3301 BANK ST, BAKERSFIELD CA 93309	SFR	Full
59	213 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
60	209 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
61	205 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
62	201 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
63	3301 PALM ST, BAKERSFIELD CA 93309	SFR	Full
64	357 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
65	353 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
66	349 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
67	345 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
68	341 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
69	337 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
70	333 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
71	329 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
72	325 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
73	321 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
74	317 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
75	313 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
76	309 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
77	305 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
78	301 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
79	241 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
80	237 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
81	233 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
82	229 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
83	225 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
84	3300 BANK ST, BAKERSFIELD CA 93309	SFR	Full
85	316 WETHERLEY DR, BAKERSFIELD CA 93309	SFR	Full
86	320 WETHERLEY DR, BAKERSFIELD CA 93309	SFR	Full
87	324 WETHERLEY DR, BAKERSFIELD CA 93309	SFR	Full
88	328 WETHERLEY DR, BAKERSFIELD CA 93309	SFR	Full
89	332 WETHERLEY DR, BAKERSFIELD CA 93309	SFR	Full
90	336 WETHERLEY DR, BAKERSFIELD CA 93309	SFR	Full
91	340 WETHERLEY DR, BAKERSFIELD CA 93309	SFR	Full
92	344 WETHERLEY DR, BAKERSFIELD CA 93309	SFR	Full

Table G.5 List of Residential and Non-Residential Acquisitions for Alternative C

Impact ID	Site Address	Present Use	Type of Take
93	348 WETHERLEY DR, BAKERSFIELD CA 93309	SFR	Full
94	352 WETHERLEY DR, BAKERSFIELD CA 93309	SFR	Full
95	356 WETHERLEY DR, BAKERSFIELD CA 93309	SFR	Full
96	3331 PALM ST, BAKERSFIELD CA 93309	SFR	Full
97	1017 OAK ST, BAKERSFIELD CA 93304	Hotel	Partial
98		Parking lot	Partial
99	1011 OAK ST, BAKERSFIELD CA 93304	Commercial	Partial
100	963 OAK ST, BAKERSFIELD CA 93304		Partial
101	1131 OAK ST, BAKERSFIELD CA 93304	Chevron Gas	Partial
102	3621 CALIFORNIA AVE, BAKERSFIELD CA 93309	Commercial	Full
103	3501 CALIFORNIA AVE, BAKERSFIELD CA 93309	Commercial	Full
104	1000 REAL RD, BAKERSFIELD CA 93309	McDonalds	Partial
105	1000 REAL RD, BAKERSFIELD CA 93309	Parking Lot	Full
106	900 REAL RD, BAKERSFIELD CA 93309	Restaurant	Partial
107	828 REAL RD, BAKERSFIELD CA 93309	Hotel	Full
108	818 REAL RD, BAKERSFIELD CA 93309	Hotel & Restaurant	Full
109	820 REAL RD, BAKERSFIELD CA 93309	Commercial	Full
110	911 OAK ST, BAKERSFIELD CA 93304	Auto Dealership	Full
111	911 OAK ST, BAKERSFIELD CA 93304	Auto Village Sales	Full
112			Full
113		Car Lot	Full
114	3212 CHESTER LN, BAKERSFIELD CA 93304	MFR	Full
115		Industrial	Full
116	3232 CHESTER LN, BAKERSFIELD CA 93304	Industrial	Full
117	3311 CHESTER LN, BAKERSFIELD CA 93309	SFR	TCE
118	3289 CHESTER LN, BAKERSFIELD CA 93309	MFR	Full
119	3279 CHESTER LN, BAKERSFIELD CA 93309	Vacant	Full
120	727 OAK ST, BAKERSFIELD CA 93304	First Car Loans	Full
121	601 OAK ST, BAKERSFIELD CA 93304	Vacant Auto Sales	Full
122	601 OAK ST, BAKERSFIELD CA 93304	Vacant Auto Sales	Full
123	3231 CHESTER LN, BAKERSFIELD CA 93304	BK Transmissions	Full
124	601 OAK ST, BAKERSFIELD CA 93304	Vacant Auto Sales	Full
125	711 OAK ST, BAKERSFIELD CA 93304	Auto Planet Super Store	Full
126		City Park	Partial
127	555 OAK ST, BAKERSFIELD CA 93304	Auto Repair	Full
128	555 OAK ST, BAKERSFIELD CA 93304	Parking Lot	Full
129	525 OAK ST, BAKERSFIELD CA 93304	Commercial	Full
130		Barts Parts	Full
131		Auto Sales	Full
132		Farm land	Partial
133		Farm land	Partial
134		Farm land	Partial
135		Farm land	Partial
136	2911 BRUNDAGE LN, BAKERSFIELD CA 93304	Commercial	Full
137	16 OLIVE ST, BAKERSFIELD CA 93304	Commercial	Full
138		Auto Related Commercial	Full

Table G.5 List of Residential and Non-Residential Acquisitions for Alternative C

Impact ID	Site Address	Present Use	Type of Take
139	3001 BRUNDAGE LN, BAKERSFIELD CA 93304	Auto Related Commercial	Full
140	3011 BRUNDAGE LN, BAKERSFIELD CA 93304	KFC	Full
141	2907 BRUNDAGE LN, BAKERSFIELD CA 93304	Auto Repair	Full
142		Vacant	Partial
143	3112 TERRACE WAY, BAKERSFIELD CA 93304	SFR	Partial
144	24 STEPHENS DR, BAKERSFIELD CA 93304	4-plex	Full
145	28 STEPHENS DR, BAKERSFIELD CA 93304	SFR	Full
146		Commercial	Perm Esmt
147	2819 BRUNDAGE LN 1/2, BAKERSFIELD CA 93304	Warehouse	Perm Esmt
148		Access Lane	Perm Esmt
149	2821 BRUNDAGE LN, BAKERSFIELD CA 93304		TCE
150		Parking lot	Full
151	117 STEPHENS DR, BAKERSFIELD CA 93304	Apartments	Full
152	2905 BRUNDAGE LN, BAKERSFIELD CA 93304	Animal Hospital	Full
153		RES LOT	Perm Esmt
154	300 DIXON AVE, BAKERSFIELD CA 93304	SFR	TCE
155	3120 TERREL CT, BAKERSFIELD CA 93304	SFR	Perm Esmt
156		Vacant lot	Perm Esmt
157	3117 TERRACE WAY, BAKERSFIELD CA 93304	SFR	Perm Esmt
158	3152 TERREL CT, BAKERSFIELD CA 93304	SFR	Perm Esmt
159	612 WIBLE RD, BAKERSFIELD CA 93304	Xpress Lube	TCE
160	700 WIBLE RD, BAKERSFIELD CA 93304	Fleet Auto Brokers/Estradas Car Wash	TCE
161	717 S OLIVE ST, BAKERSFIELD CA 93304	SFR	TCE
162	720 WIBLE RD, BAKERSFIELD CA 93304	Larson's Food & Gas	Full
163	708 WIBLE RD, BAKERSFIELD, CA 93304	Duplex	Full
164	704 WIBLE RD, BAKERSFIELD, CA 93304	Duplex	Full
165	206 HUGHES LN, BAKERSFIELD, CA 93304	SFR	Perm Esmt
166	210 HUGHES LN, BAKERSFIELD, CA 93304	SFR	Perm Esmt
167	2396 BRITE ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
168	2394 BRITE ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
169	2324 BRITE ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
170	2300 BRITE ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
171	309 HOUCHIN RD, BAKERSFIELD CA 93304-3409	Estate	Perm Esmt
172	203 H ST, BAKERSFIELD CA 93304	Church	Perm Esmt
173		Apartments	TCE
174	800 WIBLE RD, BAKERSFIELD, CA 93304	Jolly Kone	Full
175	3109 BELLE TER, BAKERSFIELD CA 93304	SFR	TCE
176	830 WIBLE RD, BAKERSFIELD CA 93304	Motel	Partial
177	812 WIBLE RD, BAKERSFIELD CA 93304	Motel	Partial
178	806 WIBLE RD, BAKERSFIELD, CA 93304	Mr. Matress Store	Full
179	3333 STOCKDALE HWY, BAKERSFIELD CA 93309	Utilities	Full
180		Water Service Site	Full
181		Vacant	Full
182	3403 STOCKDALE HWY, BAKERSFIELD CA 93309	Office Building	Full

Table G.5 List of Residential and Non-Residential Acquisitions for Alternative C

Impact ID	Site Address	Present Use	Type of Take
183		Park & Ride	Full
184		Park & Ride	Full
185		Vacant lot	Full
186		Vacant	Full
187		Vacant	Full
188		MFR	Partial
189		Storage	Partial
190	200 S REAL RD, BAKERSFIELD CA 93309	Vacant lot	Partial
191	3501 STOCKDALE HWY, BAKERSFIELD CA 93309	Hospital	Partial
192	3232 MONA WAY, BAKERSFIELD CA 93309	SFR	Partial
193		Vacant	Full
194	3209 MONA WAY, BAKERSFIELD CA 93309	SFR	Full
195	3201 MONA WAY, BAKERSFIELD CA 93309	SFR	Full
196	601 ALAMO ST, BAKERSFIELD CA 93309	SFR	Full
197	627 ALAMO ST, BAKERSFIELD CA 93309	SFR	Full
198	619 ALAMO ST, BAKERSFIELD CA 93309	SFR	Full
199	611 ALAMO ST, BAKERSFIELD CA 93309	SFR	Full
200	3234 BELLE TER, BAKERSFIELD CA 93309	Private School	Full
201	22645 STOCKDALE HWY, BAKERSFIELD CA 93305-2432	Farm land	Partial
202		Farm land	Partial
203	3229 BELLE TER, BAKERSFIELD CA 93309	SFR	Full
204	3227 BELLE TER, BAKERSFIELD CA 93309	2 SFRs	Full
205	3310 WOOD LN, BAKERSFIELD CA 93309	2 SFRs	Full
206	3320 WOOD LN, BAKERSFIELD CA 93309	SFR	Full
207	3330 WOOD LN, BAKERSFIELD CA 93309	SFR	Full
208	3308 WOOD LN, BAKERSFIELD CA 93309	2 SFRs	Full
209	1117 WIBLE RD, BAKERSFIELD CA 93304	Auto Repair	Full
210	3317 LAVERNE AVE, BAKERSFIELD CA 93309	SFR	Full
211	3316 LAVERNE AVE B, BAKERSFIELD CA 93309	SFR	Perm Esmt
212	201 E BRUNDAGE LN, BAKERSFIELD, CA 93304	Church	Perm Esmt
213	200 WAYCROSS ST, BAKERSFIELD, CA 93304	Church	Perm Esmt
214	340 WAYCROSS ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
215	200 S UNION AVE, BAKERSFIELD CA 93307	Auto Sales	Perm Esmt
216		Paved Access	Perm Esmt
217		Medical	Partial
218	3520 ROSEDALE HWY, BAKERSFIELD CA 93308-6229	Carl's Jr	Perm Esmt
219	3540 ROSEDALE HWY, BAKERSFIELD CA 93308-6229	Hotel	Perm Esmt
220	1901 WESTWIND DR, BAKERSFIELD CA 93301	Communications Building	Partial
221	2001 WESTWIND DR, BAKERSFIELD CA 93301	Office Building	Partial
222	2015 WESTWIND DR, BAKERSFIELD CA 93301	Office Building	Partial
223	4901 COMMERCE DR, BAKERSFIELD CA 93309	Kern County Department of Human Services	Full
224		Vacant	Partial
225		RR	Perm Esmt
226		RR	Perm Esmt

Table G.5 List of Residential and Non-Residential Acquisitions for Alternative C

Impact ID	Site Address	Present Use	Type of Take
227		Flood Control	Partial
228	4440 EASTON DR, BAKERSFIELD CA 93309	IndustrialOffice	Full
229	4430 EASTON DR, BAKERSFIELD CA 93309	Industrial office	Full
230	4420 EASTON DR 102A, BAKERSFIELD CA 93309	Professional Office	Full
231	4400 EASTON DR, BAKERSFIELD CA 93309	Print Shop	Full
232	4300 EASTON DR 2, BAKERSFIELD CA 93309	Multi-tenant Industrial Office Warehouse	Full
233	4200 EASTON DR, BAKERSFIELD CA 93309	Multi-tenant Industrial Office Warehouse	Full
234	4100 EASTON DR, BAKERSFIELD CA 93309	Multi-tenant Industrial Office Warehouse	Full
235	4040 EASTON DR, BAKERSFIELD CA 93309	Multi-tenant Industrial Office Warehouse	Full
236	4000 EASTON DR, BAKERSFIELD CA 93309	Multi-tenant Individual Office Warehouse	Full
237	4950 COMMERCE DR, BAKERSFIELD CA 93309	Basin	Full
238	4850 COMMERCE DR, BAKERSFIELD CA 93309	Beautologie	Full
239	4801 TRUXTUN AVE, BAKERSFIELD CA 93309	Interim Healthcare	Full
240	4865 TRUXTUN AVE, BAKERSFIELD CA 93309	Paragon Salon Spa	Full
241	4885 TRUXTUN AVE, BAKERSFIELD CA 93309	Commercial Businesses	Full
242		Vacant	Partial
243	1350 EASTON DR, BAKERSFIELD CA 93309	Motel 6	Full
244	4040 EASTON DR, BAKERSFIELD CA 93309	Industrial Manufacture	Full
245		parking lot	Full
246		parking lot	Full
247		parking lot	Full
248		Vacant	Full
249		Vacant	Full
250	3700 EASTON DR, BAKERSFIELD CA 93309	Multi-tenant Industrial Office Warehouse	Full
251		Industrial Office Warehouse	Full
252	3800 CALIFORNIA AVE, BAKERSFIELD CA 93309	Vacant	Partial
253	4540 EASTON DR, BAKERSFIELD CA 93309	Industrial Warehouse Manufacture	Full
254	4510 EASTON DR, BAKERSFIELD CA 93309	Industrial Warehouse Manufacture	Full
255	1400 EASTON DR 101, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
256	1400 EASTON DR 102, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
257	1400 EASTON DR 103, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
258	1400 EASTON DR 104, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
259	1400 EASTON DR 105, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
260	1400 EASTON DR 106, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
261	1400 EASTON DR 107, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full

Table G.5 List of Residential and Non-Residential Acquisitions for Alternative C

Impact ID	Site Address	Present Use	Type of Take
262	1400 EASTON DR 108, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
263	1400 EASTON DR 109, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
264	1400 EASTON DR 110, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
265	1400 EASTON DR 111, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
266	1400 EASTON DR 112, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
267	1400 EASTON DR 113, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
268	1400 EASTON DR 114, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
269	1400 EASTON DR 115, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
270	1400 EASTON DR 116, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
271	1400 EASTON DR 117, BAKERSFIELD CA 93309	Vacant	Full
272	1400 EASTON DR 118, BAKERSFIELD CA 93309	Office	Full
273	1400 EASTON DR 119, BAKERSFIELD CA 93309	Vacant	Full
274	1400 EASTON DR 120, BAKERSFIELD CA 93309	Shop	Full
275	1400 EASTON DR 121, BAKERSFIELD CA 93309	Office	Full
276	1400 EASTON DR 122, BAKERSFIELD CA 93309	Office	Full
277	1400 EASTON DR 123, BAKERSFIELD CA 93309	Medical Office	Full
278	1400 EASTON DR 124, BAKERSFIELD CA 93309	Auto Glass & Tint Service	Full
279	1400 EASTON DR 125, BAKERSFIELD CA 93309	Office	Full
280	1400 EASTON DR 126, BAKERSFIELD CA 93309	Office	Full
281	1400 EASTON DR 129, BAKERSFIELD CA 93309	Office	Full
282	1400 EASTON DR 130, BAKERSFIELD CA 93309	Office	Full
283	1400 EASTON DR 134, BAKERSFIELD CA 93309	DJ Booth & Office	Full
284	1400 EASTON DR 144, BAKERSFIELD CA 93309	Office	Full
285	1400 EASTON DR 127, BAKERSFIELD CA 93309	Vacant	Full
286	1400 EASTON DR 128, BAKERSFIELD CA 93309	Office	Full
287	1400 EASTON DR 131, BAKERSFIELD CA 93309	Vacant	Full
288	1400 EASTON DR 132, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
289	1400 EASTON DR 133, BAKERSFIELD CA 93309	Office	Full
290	1400 EASTON DR 135, BAKERSFIELD CA 93309	Professional Office	Full
291	1400 EASTON DR 136, BAKERSFIELD CA 93309	Professional Office	Full
292	1400 EASTON DR 137, BAKERSFIELD CA 93309	Professional Office	Full
293	1400 EASTON DR 138, BAKERSFIELD CA 93309	Professional Office	Full
294	1400 EASTON DR 139, BAKERSFIELD CA 93309	Office	Full
295	1400 EASTON DR 140, BAKERSFIELD CA 93309	Office	Full
296	1400 EASTON DR 141, BAKERSFIELD CA 93309	Office	Full
297	1400 EASTON DR 142, BAKERSFIELD CA 93309	Office	Full
298	1400 EASTON DR 143, BAKERSFIELD CA 93309	Office	Full
299	1400 EASTON DR 145, BAKERSFIELD CA 93309	Office	Full

Table G.5 List of Residential and Non-Residential Acquisitions for Alternative C

Impact ID	Site Address	Present Use	Type of Take
300	1400 EASTON DR 146, BAKERSFIELD CA 93309	Office	Full
301	1400 EASTON DR 147, BAKERSFIELD CA 93309	Office	Full
302	1400 EASTON DR 148, BAKERSFIELD CA 93309	Office	Full
303	1400 EASTON DR 149, BAKERSFIELD CA 93309	Office/ Warehouse	Full
304	1400 EASTON DR 150, BAKERSFIELD CA 93309	Office	Full
305	1400 EASTON DR 151, BAKERSFIELD CA 93309	Office	Full
306	1400 EASTON DR 152, BAKERSFIELD CA 93309	Office	Full
307	2025 WESTWIND DR 5, BAKERSFIELD CA 93301	Parking lot	Partial
308	1801 WESTWIND DR, BAKERSFIELD CA 93301	Office Building	Partial
309	1701 WESTWIND DR, BAKERSFIELD CA 93301	Office Building	Partial
310		Vacant	Partial
311		Vacant	Partial
312		Vacant	Partial
313		Vacant	Partial
314		Drainage	Partial
315		Park/Preserve	Full
316		Vacant	Full
317	CALLOWAY DR, BAKERSFIELD CA	Vacant	Full
318		Esmt	Full
319		Vacant	Full
320		Vacant	Full
321		Vacant	Full
322		Vacant	Full
323		Vacant	Full
324		Vacant	Full
325		Vacant	Full
326		Vacant	Full
327	COFFEE RD, BAKERSFIELD CA	Vacant	Full
328	PRESIDIO WAY, BAKERSFIELD CA	Vacant	Full
329	COFFEE RD, BAKERSFIELD CA	Vacant	Full
330		Vacant	Full
331		Vacant	Full
332		Vacant	Full
333		Vacant	Full
334		Vacant	Partial
335		Vacant	Full
336		Vacant	Full
337	COFFEE RD, BAKERSFIELD CA 93309	Vacant	Full
338		Vacant	Full
339		Vacant	Full
340		Vacant	Full

Table G.6 Business Inventory List for Alternative C

North of California along SR 99	
1	Extended Stay America
Along Easton Drive	
2	Motel 6
3	American General Media
4	E&B Natural Resources
5	Western Continental Operating Company
6	NCR (calculating & accounting machines, except electronic computers)
7	San Joaquin Energy Consultants
8	Ultrex Business Solutions – Ultimate Digital Copier Company
9	KC Thomas Cattle Company
10	Scott McHone, CPA
11	CRC Consulting Group
12	Mendez Petty – CPA & Consultants
13	ADT Alarm Company
14	Sunshine Interiors
15	Canines & Kids, Inc. (Licensed Clinical Social Worker)
16	Heise Media Group
17	ABM Janitorial Services
18	Ferguson Resources - Energy Investments
19	Auto Tint West
20	American General Media
21	Dale Bender CPA
22	SLM Staffing & Associates
23	The Auction Group
24	San Joaquin Art Glass
25	First Choice Medical Supply
26	Allure Salon
27	La Bonita Mexican Food Products *
28	Urban Land Advisors
29	Weybridge Asset Management Inc
30	Kern County Family Magazine
31	RAP Services (Emission Measurement Consultants)
32	Phan T. Huynh Chiropractor
33	HCS Real Estate Loans
34	Four Corners Inc (?)
35	Lloyd E. Plank – Real Estate Consultants
36	David Janes Company – Accounting Services
37	Gerald Congdon – Builder
38	Key West Real Estate
39	Potter Services (Bookkeeping)
40	California Veterans Assistance Foundation
41	Joseph Etienne (?)

Table G.6 Business Inventory List for Alternative C

42	Trek Imaging – Bakersfield Blue Print and Copy
43	Golden Valley Supportive Services
44	P&L Interior Designs
45	Brown Bag It
46	NV Catering
47	Gary Williams O.D.
48	Optical Lab
49	Matson Alarm Company
50	Angels Auto Detailing
51	Custom Works
52	Audio Visual Plus
53	Granger Industrial Supply
54	C&C Printing
55	All About You Driving School
56	Alpha Dog Graphics
57	Griffin Graphics
58	Cal Western Resources, Inc
59	Reece Homecare Services
60	Studio 9 – Dance Studio
61	www.77SunsetBooks.com
62	Kennedy's Home & Office Improvement Services
63	Coconut Joes Studios
64	Direct Distributing
65	Ammo Dump
66	Bailey Hardwood Floor Service
67	Classy Canine Cuts
68	Advanced Billing Solutions
69	Preferred Power Solutions
70	Dish Network
71	Life Journey Christian Church
72	Valadons Plumbing Service, Inc
73	V.A. Kali-Karate
74	Crystal Glass Window Repair
75	Watson Strip Shop
76	MGW Electric, Inc.
77	JJ Griswold Products & Supplies
78	Gargoyle Stained Glass Shop
79	Rehan Industrial Supply/Marcos Enterprises
80	The Andersons Rail Group
81	CBS Inc. – (Coffee Break Service)
82	Petro Resources, Inc.
83	Absher – title Services & Notary
84	San Joaquin Valley Railroad Co.
85	Personally Yours – Custom Embroidery

Table G.6 Business Inventory List for Alternative C

86	Lanpro Systems, Inc. (Computer Support, IT, Network)
87	Hillis Insurance Agency / Allstate Insurance
88	NICR – National Institute of Clinical Research
89	Northwest Petroleum, Inc.
90	Don Kinzel construction
91	Spectrum Technologies
92	Keigly Promotional Group
93	American Toner
94	Moses Master Carpet
95	Photography by Silvia
96	Bakersfield Pool Supply
97	Animal Emergency & Urgent Care
98	Great Scott Builders, Inc.
99	Great Eats, Inc.
100	Gallo Wine Company
101	Lee's Printing Center
102	Elite Real Estate Services
103	Bowen Accounting
104	Acme Maintenance
105	Portfolio Properties (Real Estate Management)
106	Traffic Schools
107	Applied Technology Group
108	ATG – Internet
109	Accu Word – Business Support Services
110	Minuteman Press
111	Roofline Supply
Along Commerce Drive	
112	Optometrists' Offices
113	California Department of Rehabilitation
114	Trovato Wealth Management
115	Beautologue Medical Group
116	Hocking, Denton, & Palmquist (HDP) CPA's
117	Moo Creamery (Restaurant)
118	Charles Schwab
119	Interim Health Care
120	Paragon Salon & Spa
Along Oak from California to Palm	
121	Nexcar USA (Car Sales lot)
122	America's Best Value in (hotel)
123	Auto Village (Car Sales lot)
124	Kern Computer Corp (office)
125	Chris Bruff Corp (Office)
126	BK Transmissions (Auto Repair)
127	Auto Planet Superstore (Auto Repair)

Table G.6 Business Inventory List for Alternative C

128	Fiat Bakersfield (Car Sales lot)
129	Quan's Auto Pro *
130	Bakersfield Auto Repair and Smog
131	Bart's Parts (Auto Repair)
132	Superior Used cars (Car Sales lot)
West of SR 99 between California and Stockdale	
133	T-Mobile
134	Quiznos Subs
135	U-NO Smoke Shop
136	Last Call Lounge
137	SBI Boardshop/Wavelengths Surf shop (Clothing, Surf, Skating)
138	McDonalds
139	Ramada Hotel
140	Days Inn
141	Millennium Events & Restaurant
142	Elevation Lounge
143	Regency Bowling Lanes
144	Pro Shop (Bowling)
145	Martinis Lounge
Along Oak from Palm to Stockdale	
146	Panda Palace (Restaurant) *
147	California Keyboards Music Center (Shopping)
148	Barnet Tire (Auto Repair)
149	Mobil Mart (Gas Station)
150	The Belvedere (Bar)
151	Ideal Cleaners
152	Brundage Lane Florist (Shopping)
Adjacent and North of SR 58	
153	Kentucky Fried Chicken (Restaurant)
154	Carroll's Tire Warehouse (Auto Repair)
155	Enterprise Rent a Car (Auto)
156	Kern Transmission (Auto)
157	Southwest Veterinary Hospital
158	SAE Auto electric (Auto Repair)
159	Havoline Express Lube (Auto Repair)
160	Brooks Brothers Interiors (Furniture)
161	Dollar Outlet Plus (Shopping) *
162	Kleenerz (Dry Cleaning)
163	Brundage Nails (Salon)
164	Studio 555
165	Oden Beauty World (Salon) *
166	J's Laundromat *
167	Society for Disabled Children

Table G.6 Business Inventory List for Alternative C

168	Eliseo's Transmission Service (Auto Repair) *
169	Unknown Business (Building and fence covered with on sale blankets and bean sacks) Was formerly known as Confetti Pinata Party. This may be what Bryan Apper referred to in his email. *
Adjacent and South of SR 58	
170	California Foot and Ankle Doctors (shown as residential)
Adjacent and East of Wible between Ming and SR 58	
171	Larsens Food & Gas
172	Jolly Cone (Burgers & shakes)
173	Mr. Mattress Furniture Depot
West of SR 99 and south of Stockdale	
174	Hugie Offices / Sun Trail, Inc. (Law Firm)
175	Payless Mini Storage
176	Addis Automotive
177	Ricks Frame & Auto Body
178	Conway's Auto and Diesel & Mobile Service
* Minority Oriented Business	

G.7 Preliminary Parking Impact Assessment for Build Alternatives

Assessor's Parcel Number	Location	Current Use	Owner	Current Number of Parking Spaces	Parking Spaces Affected or Lost	Remaining Spaces	Potential Impacts
ALTERNATIVE A							
020-010-43	4800 Stockdale Highway, Bakersfield, CA 93309-2636	Office Building	4800 Stockdale Partnership	190	14	176	Access driveway aisle must be reconfigured.
149-020-18	4709 Stockdale Highway, Bakersfield, CA 93309-2639	Retail Center	Goldman Enterprises Ltd. Partnership	162+	48	114+	Assumes removal of building space within acquisition area (13,504 sq. ft.), plus parking. Several shops to be relocated. Loss of one of two access points to rear of lot.
149-200-21	3501 Stockdale Highway, Bakersfield, CA 93309-2150	Hospital (2-story)	Kaiser Foundation Health Plan	315	69 (temporary)	315	Temporary impact to the western driveway and parking spaces.
149-221-26	--	Parking	Fillerup Inv. Company	18	12	6	Assumes partial take in order to save parking spaces for large office building.
149-330-07	5401 Business Park South, Bakersfield, CA	Office Building	Ch & M Family, L.P.	315	12	303	Take area includes loss of access around rear of first building.
149-352-04	200 S. Montclair Street, Bakersfield, CA 93309-3110	Office Building	Kaiser Prop. LLC	17	3	14	
331-032-28	--	Office Building	Moss	64	6	58	Partial acquisition includes parking, dumpster area, and concrete paving.

G.7 Preliminary Parking Impact Assessment for Build Alternatives

Assessor's Parcel Number	Location	Current Use	Owner	Current Number of Parking Spaces	Parking Spaces Affected or Lost	Remaining Spaces	Potential Impacts
331-032-33	5531 Business Park South, Bakersfield, CA 93309-1668	Office Building	DVD Properties LLC	~60	4 (temporary)	~60	Assumes building not affected and driveway access on south side of building can be maintained. Possible fire access issue. Loss of 4 parking spaces can be mitigated by using excess land from adjacent full acquisition parcel.
331-350-21	--	Retail Strip	LLC DDM	~200	27	~173	Corner building of retail strip center (8,475 sq. ft.) and other stand-alone buildings (4,785 sq. ft.) are assumed to be lost. Several tenant relocations required.
332-152-31	3520 Rosedale Highway, Bakersfield, CA 93308-6229	Carl's Jr Restaurant	Frank J. Andrews	~75	2 (temporary)	~75	Requires Carl's Jr. permanent easement and temporary construction easement impact along easterly edge of parcel.
332-152-32	3540 Rosedale Highway, Bakersfield, CA 93308-6229	Hotel	Chang Family Trust	~160	34 (temporary)	~160	Requires Clarion Hotel permanent easement and temporary construction easement impact easterly edge of parcel.
147-112-01	700 Wible Road, Bakersfield, CA 93304	Fleet Auto Brokers/ Estradas Car Wash	Eldon & Boydean Fussel	~10	5 (temporary)	~10	Parking required for temporary construction easement. Assumes access to property will be maintained during construction.
149-180-25	P.O. Box 12616, Fresno, CA 93778-2616	Public Land	State of California	49	49	49	Paved parking lot used for Park & Ride. Replacement Park & Ride facilities would be provided off Mohawk Street, between California Avenue and Truxtun Avenue using residual property acquired for the project.
Totals (the number of impacted space does not include on-street parking impact):				~1,635	~285	~1,513	---

G.7 Preliminary Parking Impact Assessment for Build Alternatives

Assessor's Parcel Number	Location	Current Use	Owner	Current Number of Parking Spaces	Parking Spaces Affected or Lost	Remaining Spaces	Potential Impacts
ALTERNATIVE B							
020-600-08	Commerce Drive, Bakersfield, CA 93309	Hospital	Bakersfield Regional Rehab. Hospital, Inc.	~230	27	205	Parking lot servicing adjacent hospital parcel. Assumes hospital parking lot (parcel 331-330-28) can be reconfigured to maintain sufficient parking.
149-200-21	3501 Stockdale Highway, Bakersfield, CA 93309-2150	Hospital (2-story)	Kaiser Foundation Health Plan	315	66 (temporary)	315	Temporary impact to the western driveway and parking spaces..
149-222-19	3703 Stockdale Highway, Bakersfield, CA 93309-2154	Carwash	Bonifas B I & Waheed B	~15	2	~13	Simple partial acquisition of southwest parcel corner.
331-330-28	5001 Commerce Drive, Bakersfield, CA 93309-0648	Hospital	HealthSouth Bakersfield Rehabilitation	(see parcel no. 020-600-08 above)			Larger parcel with 020-600-08. Assumes parking lot can be reconfigured and restriped to save parking loss from adjoining parcel.
331-330-41	5000 Commerce Drive, Bakersfield, CA 93309	Medical Office	Santosh Gupta	128	6	122	Loss of dumpster area in addition to parking spaces.
332-332-13	4700 Easton Drive, Bakersfield, CA 93309-9426	Offices	Independent Mercedes Service	~121	~100	~21	Several (37) relocations required with loss of three southernmost buildings combined.
332-152-31	3520 Rosedale Highway, Bakersfield, CA 93308-6229	Carl's Jr. Restaurant	Frank J. Andrews	~75	2 (temporary)	~75	Requires Carl's Jr. permanent easement and temporary construction easement impact along easterly edge of parcel.
332-152-32	3540 Rosedale Highway, Bakersfield, CA 93308-6229	Hotel	Chang Family Trust	~160	34 (temporary)	~160	Requires Clarion Hotel permanent easement and temporary construction easement impact easterly edge of parcel.
332-256-49	4900 Commerce Drive, Bakersfield, CA 93309-0418	Offices	Gregg A. German	~42	10	~32	Parking, and carport impacts due to both permanent and temporary construction easements.

G.7 Preliminary Parking Impact Assessment for Build Alternatives

Assessor's Parcel Number	Location	Current Use	Owner	Current Number of Parking Spaces	Parking Spaces Affected or Lost	Remaining Spaces	Potential Impacts
332-256-50	4850 Commerce Drive, Bakersfield, CA 93309-0415	Offices	Ganesh Investment Group LLC	75	4	71	Parking impacts due to both permanent and temporary construction easements.
149-180-25	P.O. Box 12616, Fresno, CA 93778-2616	Public Land	State of California	49	49	50	Paved parking lot used for Park & Ride. Replacement Park & Ride facilities would be provided north of California Avenue, adjacent to the Centennial Corridor using residual property acquired for the project.
Totals (the number of affected space does not include on-street parking impact):				~1,210	~300	~1,064	---
ALTERNATIVE C							
020-100-28	East of SR 99 off-ramp to California Avenue	Parking lot	Bailey James G	79	17	62	Loss of both parking and asphalt paving.
008-062-10	3030 Brundage Lane, Bakersfield, CA 93304	Youngs Market	C & C Acquisition Group LLC	124	4	120	Loss of one driveway and a few parking spaces on the west end of parking lot. Assume business could reconfigure warehouse, move baling machine to east end of warehouse, with truck access at east end driveway.
020-100-16	1011 Oak Street, Bakersfield, CA 93304	Commercial	Cal Oak Hospitality LLC	89	30	59	Loss of freeway sign near exit ramp, several guest parking spaces and asphalt paving.
332-440-07	1801 Westwind Drive, Bakersfield, CA 93301	Office Building	Cardinal Group LLC	242	53	189	Partial acquisition of rear parking lot and asphalt paving.
020-150-09	Saunders Park & Fire Station No 3	City Park	City of Bakersfield	67	67 (temporary)	125	Assume partial acquisition to retain fire station and keep a portion of the park open. Partial acquisition would result in loss of parking lot. Conceptual park design proposes two parking lots with 125 spaces.

G.7 Preliminary Parking Impact Assessment for Build Alternatives

Assessor's Parcel Number	Location	Current Use	Owner	Current Number of Parking Spaces	Parking Spaces Affected or Lost	Remaining Spaces	Potential Impacts
332-321-07	1300 Easton Drive, Bakersfield, CA 93309	Carrows Restaurant	Easton Investments	61	2	59	Loss of asphalt paving and parking for restaurant use.
020-110-22	900 Real Road, Bakersfield, CA 93309	Restaurant	Fay R Page	74	24	50	State right-of-way takes high percentage of parking; assume business relocation to allow different commercial use.
020-100-03	1017 Oak Street, Bakersfield, CA 93304	Hotel	James G Bailey	54	12	42	Loss of guest parking spaces, asphalt paving and parking lot lights.
149-190-16	200 S. Real Road, Bakersfield, CA 03309	Storage	John A & Terry M Thomsen	~140+	~30	~110+	Loss of one storage building (eastern most building; 46 individual units) at public storage facility.
149-200-21	3501 Stockdale Highway, Bakersfield, CA 93309	Hospital (2-story)	Kaiser Foundation Health Plan	315	31 (temporary)	315	The loss of 15 parking spaces can be mitigated by using excess land from an adjacent parcel being acquired for the project.
332-453-01	1701 Westwind Drive, Bakersfield, CA 93301	Office Building	Riverlakes Professional Plaza	~125	1	~124	Minor loss of parking and concrete paving anticipated.
332-430-09	2025 Westwind Drive #5, Bakersfield, CA 93301	Parking lot	Westwind Retail Plaza Parking	~83	~17	~66	Partial acquisition of rear parking lot required.
147-440-23	2129 Brundage Lane, Bakersfield, CA 93304	Mariscos Birrieria	Yaovaluck & Rachen Iamlaor	34	10	24	Partial acquisition of rear parking lot required.
332-152-32	3540 Rosedale Highway, Bakersfield, CA 93308-6229	Hotel	Chang Family Trust	~160	34 (temp.)	~160	Requires Clarion Hotel permanent easement and temporary construction easement impact easterly edge of parcel.
332-152-31	3520 Rosedale Highway, Bakersfield, CA 93308-6229	Carl's Jr	Frank J Andrews	~75	2 (temp.)	~75	Requires Carl's Jr. permanent easement and temporary construction easement impact along easterly edge of parcel.

G.7 Preliminary Parking Impact Assessment for Build Alternatives

Assessor's Parcel Number	Location	Current Use	Owner	Current Number of Parking Spaces	Parking Spaces Affected or Lost	Remaining Spaces	Potential Impacts
149-200-20	P.O. Box 12616, Fresno, CA 93778-2616	Public Land	State of California	49	49	49	Paved parking lot used for Park & Ride. Replacement Park & Ride facilities would be provided at Real Road and Chester Lane using residual property acquired for the project.
Totals (the number of impacted space does not include on-street parking impact):				1,771	383	1,629	---

Appendix H Hazardous Materials Ranked Parcels

Table H-1 Hazardous Materials Ranked Parcels

Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
COMMON TO ALL ALTERNATIVES					
A, B, C	Public Land	No Address/ APN 331-021-02	This is a vacant parcel adjacent to the Cross Valley Canal and north of the Kern River. No wells or underground storage tanks have been reported. A partial acquisition is needed from this parcel for Alternative A. This parcel will be a full acquisition for Alternative B and Alternative C.	1	Adjacent to Big West Refinery. Oil cake sand was found at this site. There is also potential for contamination from adjacent refinery activities.
A, B, C	Vacant	No Street Number Langley Road/ APN 332-280-28	This is a vacant parcel adjacent to a refinery. Ten wells have been reported. A partial acquisition is needed from this parcel for Alternative A. This parcel will be a full acquisition for Alternative B and Alternative C.	1	Oil cake sand was found at the eastern and southwestern portions of the parcel. California oil, gas, and geothermal resources maps indicate that there are five active oil wells, one active injector well, and one plugged well on site. There is suspected contamination from oil pumping activities.
A, B, C	Vacant	No Address/ APN 368-040-26	This is a vacant parcel adjacent to the Cross Valley Canal. No wells or underground storage tanks have been reported. The parcel will be a full acquisition.	1	Oil cake sand was found on the site.
A, B, C	Vacant	No Address/ APN 368-040-32	This is a vacant parcel with storage of containers adjacent to the Texaco/ Bakersfield Refinery. One well has been reported. A partial acquisition is needed from this parcel.	1	An encapsulated area of fill was found on site, most likely related to oil cake sand found in the vicinity of this parcel.

Table H-1 Hazardous Materials Ranked Parcels

Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
A, B, C	Public Land	No Address/ APN 502-010-12	This is an oil refinery. One well has been reported. A partial acquisition is needed from this parcel.	1	Three sheet metal barns were demolished on site in 2003. Oil cake sand was found on this site and there is potential contamination from refinery activities. California oil, gas, and geothermal resources maps indicate that there is one inactive oil well on site. There is also suspected contamination from oil pumping activities.
A, B, C	Agricultural	No Address/ APN 160-010-42	This is farmland in Segment 3. Six wells have been reported. A partial acquisition is needed from this parcel.	2	California oil, gas, and geothermal resources maps indicate that there are five active oil wells, one dry hole, and one active injector well on site. There is also suspected contamination from oil pumping activities.
A, B, C	Vacant	No Address/ APN 332-280-31	This is a vacant parcel north of the Kern River. Two wells have been reported. The parcel will be a full acquisition.	2	California oil, gas, and geothermal resources maps indicate that there are two active water disposal/ injection wells on site. There is also suspected contamination from oil pumping activities.
A, B, C	Vacant	No Street Number Truxtun Avenue/ APN 332-280-32	This is a vacant parcel with oil wells that is part of the Kern River. Nine wells have been reported. The parcel will be a full acquisition.	2	California oil, gas, and geothermal resources maps indicate that there are five active oil and gas production wells, one active water disposal/injection well, one plugged water-flood/injection well, one plugged water disposal/injection well, and one plugged oil and gas well on site. There is also suspected contamination from oil pumping activities.
A, B, C	Public Land	No Address/ APN 502-010-45	This is an oil refinery. No wells or underground storage tanks have been reported. The parcel will be a full acquisition.	2	There is suspected contamination from refinery activities.
A, B, C	Public Land	No Address/ APN 502-010-47	This is an oil refinery. One well has been reported. The parcel will be a full acquisition.	2	There is suspected contamination from refinery activities. California oil, gas, and geothermal resources maps indicate that there is one plugged oil well on site. There is also suspected contamination from oil pumping activities.

Table H-1 Hazardous Materials Ranked Parcels

Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
A, B, C	Commercial	201 Stephens Drive/ APN 147-032-25	This is an automotive-related commercial property. No wells or underground storage tanks have been reported. A permanent easement is required from this parcel.	3	Potential for contamination exists due to use as auto shop.
A, B, C	Commercial	612 Wible Road/ APN 147-111-09	This parcel is an auto repair/garage. One underground storage tank was reported. A temporary construction easement is required from this parcel.	3	The Lube & Brake Shop is listed as a Small Quantity Generator of hazardous waste and as having manifested and disposed of hazardous wastes. No violations were reported for this site. The Lube & Brake Shop is listed on the Underground Storage Tank database as having one 1,000-gallon waste oil tank. No releases were reported for the site.
A, B, C	Commercial	720 Wible Road/ APN 147-112-07	This is a commercial property (grocery store). Four underground storage tanks have been reported. Full acquisition of this parcel is required.	3	Larson's Food Store is listed on the Underground Storage Tank database as having four underground storage tanks: two 10,000-gallon gasoline tanks and two 6,000-gallon gasoline tanks. No releases were reported for the site.
A, B, C	Public Land	3333 Stockdale Highway/ APN 149-180-03	This is a commercial property (offices). One underground storage tank was reported. This parcel will be a full acquisition.	3	The site is listed in the database report as "California Water Service Co" and had one 285-gallon diesel underground storage tank installed in 1967. No releases were reported for the site.
A, B, C	Commercial	1117 Wible Road/ APN 164-040-30	This is an auto body/paint shop and auto repair garage. No wells or underground storage tanks have been reported. Partial acquisition of this parcel is needed.	3	Potential for contamination exists due to use as auto repair and paint shop.
COMMON TO ALTERNATIVE A AND ALTERNATIVE B					
A, B	Commercial	606 Wible Road/ APN 147-111-07	This is an auto repair/garage. No wells or underground storage tanks have been reported. A temporary construction easement is required of this parcel.	3	Potential for contamination exists due to use as auto shop.

Table H-1 Hazardous Materials Ranked Parcels

Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
A, B	Commercial	608 Wible Road/ APN 147-111-11	This is an auto repair/garage. No wells or underground storage tanks have been reported. A temporary construction easement of this parcel is needed.	3	Potential for contamination exists due to use as auto shop.
A, B	Commercial	520 Wible Road/ APN 147-111-13	This is a multi-use/ commercial property. No wells or underground storage tanks have been reported. A temporary construction easement of this parcel space is needed.	3	Computer Smog Specialist is listed as having manifested and disposed of hazardous wastes.
A, B	Commercial	201 South Garnsey Avenue/ APN 149-221-15	This is a commercial property. One underground storage tank has been reported. This parcel will be a full acquisition.	3	The site is listed on the Underground Storage Tank database as having one 550-gallon gasoline tank. No releases were reported for the site.
A, B	Residential	3321 Belle Terrace/ APN 164-010-08	This Is a single-family residential parcel. Two underground storage tanks have been reported. A temporary construction easement of this parcel is needed.	3	Bakersfield Fire Department records indicate the presence of two 500-gallon underground storage tanks at this site. This site also has one 1,000-gallon diesel aboveground tank, one 330-gallon oil aboveground tank, and one 55-gallon waste oil aboveground tank. No releases from the underground or aboveground tanks were reported.
ALTERNATIVE A					
A	Commercial	4709 Stockdale Highway/ APN 149-020-18	This is a commercial property. One well has been reported. A partial acquisition of this parcel is needed.	2	California oil, gas, and geothermal resources maps indicate that there is one inactive oil well on site. There is also suspected contamination from former oil pumping activities.
A	Public Land	No Address/ APN 331-021-12	This is a vacant parcel south of the Kern River (Lake Truxtun). Two wells have been reported. A partial acquisition of this parcel is needed.	2	California oil, gas, and geothermal resources maps indicate that there are two active oil wells on site. There is also suspected contamination from oil pumping activities.

Table H-1 Hazardous Materials Ranked Parcels

Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
A	Commercial	5329 Office Center Court/ APN 331-032-29	This is a commercial property (offices). One well has been reported. Full acquisition of this parcel is needed.	2	California oil, gas, and geothermal resources maps indicate that there is one active oil well on site. There is also suspected contamination from oil pumping activities.
A	Commercial	5555 Business Park Drive/ APN 331-032-32	This is a commercial property (offices). One well has been reported. Full acquisition of this parcel is needed.	2	California oil, gas, and geothermal resources maps indicate that there is one active oil well on site. There is also suspected contamination from oil pumping activities.
A	Residential	5500 Lennox Avenue/ APN 331-262-35	This is a residential (condominium) property. One well has been reported. This parcel will be a full acquisition.	2	California oil, gas, and geothermal resources maps indicate that there is one plugged, inactive oil well on site. There is also suspected contamination from former oil pumping activities.
A	Commercial	5474 California Avenue/ APN 331-350-21	This is a commercial property (retail). One well has been reported. A partial acquisition of this parcel is needed.	2	California oil, gas, and geothermal resources maps indicate that there is one active oil well on site. There is also suspected contamination from oil pumping activities. A dry cleaning facility is located on site. There is one 100-gallon perchloroethylene aboveground tank located on site. No releases of hazardous substances were reported.
A	Commercial	5200 Stockdale Highway/ APN 331-440-29	This is a commercial property (retail). One well has been reported. This parcel will be a full acquisition.	2	California oil, gas, and geothermal resources maps indicate that there is one plugged oil well on site. There is also suspected contamination from former oil pumping activities.
A	Vacant	No Address/ APN 332-280-17	This is a vacant parcel adjacent to a refinery.	2	There is suspected contamination from refinery activities. Kern County Assessor-Recorder Online indicates that a permit has been issued for this parcel for the installation of pipe supports and equipment foundations.
A	Vacant	No Address/ APN 502-010-46	This is an oil refinery. No wells or underground storage tanks have been reported. A partial acquisition of this parcel is needed.	2	There is suspected contamination from refinery activities.

Table H-1 Hazardous Materials Ranked Parcels

Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
A	Vacant	No Address/ APN 502-010-48	This is an oil refinery. One well has been reported. This parcel will be a full acquisition.	2	There is suspected contamination from refinery activities. California oil, gas, and geothermal resources maps indicate that there is one plugged oil well on site. There is also suspected contamination from oil pumping activities.
A	Commercial	4800 Stockdale Highway/ APN 020-010-43	This is a commercial property (offices). One underground storage tank has been reported. A partial acquisition of this parcel is needed.	3	Weatherford Enterra US_LP is listed as having manifested and disposed of hazardous wastes. Weatherford Enterra US_LP is listed on the Underground Storage Tank database as having one 4,200-gallon waste oil tank. No releases were reported for the site.
A	Commercial	4545 Stockdale Highway/ 149-020-10	This is a commercial property. No wells or underground storage tanks have been reported. Partial acquisition of this parcel is needed.	3	As In-Line Chiropractic, this site is known to be a generator of latex hazardous waste. A fallen utility pole also caused transformer leaks on the property in 2001.
A	Commercial	5601 Truxtun Avenue/ APN 331-340-05	This is a commercial property (offices). One well has been reported. Full acquisition of this parcel is needed.	3	California oil, gas, and geothermal resources maps indicate that there is one completed water disposal well on site. There is also potential contamination from water disposal well on site.
A	Commercial	5000 Stockdale Highway/ APN 331-440-24	This is a commercial property (retail). One underground storage tank has been reported. This parcel will be a full acquisition.	3	The site had one 10,000-gallon gasoline underground storage tank installed in 1974 and one waste oil underground storage tank installed in 1970. The 10,000-gallon gasoline tank was removed in November 1989 and received no further action approval in October 1989. No releases were reported. The site was abated for asbestos-containing materials. American Real Estate Partner is listed as having manifested and disposed of hazardous wastes.
ALTERNATIVE B					
B	Residential	4201 La Mirada Drive/ APN 020-474-04	This is a single-family residence. One well has been reported. A partial acquisition of this parcel is needed.	2	California oil, gas, and geothermal resources maps indicate that there is one inactive oil well on site. There is also suspected contamination from oil pumping activities.

Table H-1 Hazardous Materials Ranked Parcels

Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
B	Commercial	4600 California Avenue/ APN 020-600-02	This is a commercial property (retail). One well has been reported. This parcel will be a full acquisition.	2	California oil, gas, and geothermal resources maps indicate that there is one active oil well on site. There is also suspected contamination from oil pumping activities.
B	Commercial	3601 Stockdale Highway/ APN 149-222-29	This is a gasoline service station. Three underground storage tanks have been reported. A temporary construction easement of this parcel is needed.	2	7-11 Number 17721 is listed on the Underground Storage Tank database as having three 10,000-gallon gasoline tanks. 7-11 Number 17721 is listed on the Leaking Underground Storage Tank database as having a release of gasoline to soil. The site achieved regulatory case closure for the release in 2002.
B	Commercial	5001 Commerce Road/ APN 331-330-28	This is a commercial property. One underground storage tank and two wells have been reported. Partial acquisition of this parcel is needed.	2	The site is listed in the database report under the business names Bakersfield Rehabilitation System, Bakersfield Regional Rehab Hosp, and Bakersfield Rehab Hospital as generators of photochemicals/photo processing waste. One 1,000-gallon diesel underground storage tank and one 1,000-gallon diesel aboveground storage tank has been identified on site. The site is reported as having emitted hazardous air pollutants. California oil, gas, and geothermal resources maps indicate that there are two plugged and abandoned oil wells on site. There is also suspected contamination from oil pumping activities. Bakersfield Rehab Hospital is listed as having manifested and disposed of hazardous wastes.
B	Industrial	No Street Number Commerce Drive/ APN 332-256-05	This is an oil pumping station. One well has been reported. A partial acquisition of this parcel is needed.	2	California oil, gas, and geothermal resources maps indicate that there is one active oil well on site. There is also suspected contamination from oil pumping activities.

Table H-1 Hazardous Materials Ranked Parcels

Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
B	Commercial	4800 Easton Drive/ APN 332-332-20	This is a commercial property (parking lot). One well has been reported. This parcel will be a full acquisition.	2	The site reported three releases of oil and water from pipes leading to three off-site oil wells in 2007. The leaks were of oil and water. In 2000, crude oil leaked from an underground pipeline at this address. The site is listed in the database report as Titan Transportation, Inc. and was a handler of hazardous waste. California oil, gas, and geothermal resources maps indicate that there is one active oil well on site. There is also suspected contamination from oil pumping activities.
B	Commercial	4700 Easton Drive/ APN 332-332-13	This is a commercial property. No wells or underground storage tanks have been reported. A partial acquisition of this parcel is needed.	3	The site is listed on the Clandestine Drug Labs database with law enforcement agencies reporting chemicals or other items found on site indicating the presence of either a clandestine drug laboratory or dumpsite.
B	Commercial	4800 Easton Drive/ APN 332-332-14	This is a commercial property. No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	Cal Easton Association is listed as having manifested and disposed of hazardous wastes.
ALTERNATIVE C					
C	Commercial	2 Oak Street/ APN 008-062-15	This is a gasoline service station/market. Eight underground storage tanks have been reported. This parcel will be a full acquisition.	2	Mobile S/S Number 10-GAZ is listed on the Leaking Underground Storage Tank database as having a release of gasoline to soil. The site achieved regulatory case closure for the release in 2002. Mobile S/S Number 10-GAZ is also listed as having manifested and disposed of hazardous wastes. The site is also listed on the Underground Storage Tank database as having had eight underground storage tanks: one 550-gallon waste oil tank; one 6,000-gallon gasoline tank; one 8,000-gallon gasoline tank; four 10,000-gallon gasoline tanks; and one 1,000-gallon waste oil tank.

Table H-1 Hazardous Materials Ranked Parcels

Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
C	Commercial	90 Oak Street/ APN 008-062-16	This is a gasoline service station; the northern portion of the gasoline service station has an address of 2 Oak Street. The underground storage tanks are included in the count for Assessor Parcel Number 008-062-15. This parcel will be a full acquisition.	2	Mobile S/S Number 10-GAZ is listed on the Leaking Underground Storage Tank database as having a release of gasoline to soil. The site achieved regulatory case closure for the release in 2002. Mobile S/S Number 10-GAZ is also listed as having manifested and disposed of hazardous wastes. The site is also listed on the Underground Storage Tank database as having had eight underground storage tanks: one 550-gallon waste oil tank; one 6,000-gallon gasoline tank; one 8,000-gallon gasoline tank; four 10,000-gallon gasoline tanks; and one 10,000-gallon waste oil tank.
C	Commercial	92 Oak Street/ APN 008-062-17	This is a commercial property. One well has been reported. This parcel will be a full acquisition.	2	California oil, gas, and geothermal resources maps indicate that there is one inactive oil well on site. There is also suspected contamination from oil pumping activities.
C	Commercial	1131 Oak Street/ APN 020-100-26	This is a gasoline service station. Four underground storage tanks have been reported. A partial acquisition of this parcel is needed.	2	Chevron - Oak Street is listed on the Leaking Underground Storage Tank database as having a release of other solvent or non-petroleum hydrocarbon to soil. The site achieved regulatory case closure for the release in 1995. Chevron-Oak Street is listed on the Underground Storage Tank database as having three 10,000-gallon gasoline and one 10,000-gallon diesel underground storage tanks on site.

Table H-1 Hazardous Materials Ranked Parcels

Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
C	Commercial	3621 California Avenue/ APN 020-110-06	This is a commercial property. Four underground storage tanks have been reported. This parcel will be a full acquisition.	2	Texaco Service Station Number 121164 is listed as a Small Quantity Generator of hazardous waste and having manifested and disposed of hazardous wastes. No violations were reported for this site. The Shell Service Station is listed on the Underground Storage Tank database as having four underground storage tanks: two 12,000-gallon unleaded gasoline tanks; one 12,000-gallon regular gasoline tank; and one 8,000-gallon diesel tank. No releases were reported for the site.
C	Commercial	911 Oak Street/ APN 020-130-06	This is a commercial property. One underground storage tank has been reported. This parcel will be a full acquisition.	2	Bill Wright Toyota is listed on the Leaking Underground Storage Tank database as having a release of waste oil to soil. The site has one 500-gallon waste oil underground storage tank on site. The site achieved regulatory case closure for the release in 1995.
C	Industrial	1901 Westwind Drive/ APN 332-222-16	This is a commercial property. One well has been reported. A partial acquisition of this parcel is needed.	2	California oil, gas, and geothermal resources maps indicate that there is one inactive oil well on site. There is also suspected contamination from oil pumping activities.
C	Commercial	4801 Truxtun Avenue/ APN 332-256-53	This is a commercial property (offices). One well has been reported. Full acquisition of this parcel is needed.	2	California oil, gas, and geothermal resources maps indicate that there is one plugged and abandoned oil well on site. There is also suspected contamination from oil pumping activities.
C	Commercial	4865 Truxtun Avenue/ APN 332-256-54	This is a commercial property (retail). One well has been reported. Full acquisition of this parcel is needed.	2	California oil, gas, and geothermal resources maps indicate that there is one plugged oil well on site. There is also suspected contamination from oil pumping activities.
C	Commercial	100 Oak Street/ APN 008-062-18	This is a commercial property (retail). No wells or underground storage tanks have been reported. A partial acquisition of this parcel is needed.	3	The site is listed on the Underground Storage Tank database as having one 550-gallon gasoline tank. The tank was removed in May 1990. No releases were reported for the site. The site received no further action in June 1990.

Table H-1 Hazardous Materials Ranked Parcels

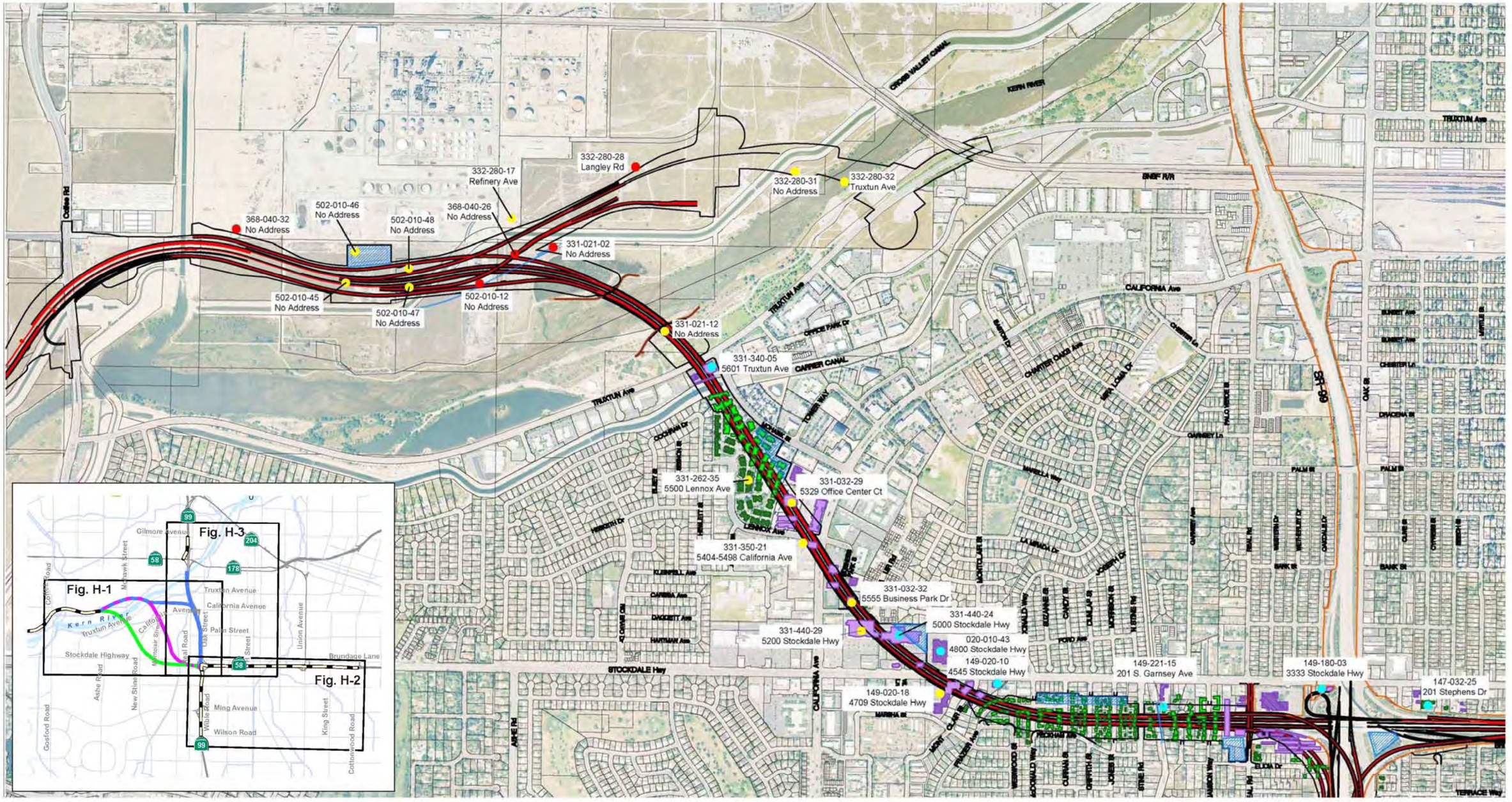
Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
C	Residential	348 Oakdale Drive/ APN 020-081-04	This is a residential property. No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	Brian Healey is listed as having manifested and disposed of hazardous wastes.
C	Residential	321 Oakdale Drive/ APN 020-084-11	This is a single-family residential property. No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	The site is listed on the Clandestine Drug Labs database with law enforcement agencies reporting chemicals or other items found on site indicating the presence of either a clandestine drug laboratory or dumpsite.
C	Commercial	711 Oak Street/ APN 020-140-42	This Is a commercial property. One underground storage tank has been reported. This parcel will be a full acquisition.	3	Van Wyks of Bakersfield is listed as a Small Quantity Generator of hazardous waste and as having manifested and disposed of hazardous wastes. No violations were reported for this site. Van Wyks of Bakersfield is listed on the Underground Storage Tank database as having one 550-gallon waste oil tank. No releases were reported for the site.
C	Commercial	2911 Brundage Lane/ APN 147-021-01	This is a commercial property (automotive related). No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	Potential for contamination exists due to use as auto shop.
C	Commercial	16 Olive Street/ APN 147-021-27	This is a commercial property (automotive related). No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	Potential for contamination exists due to use as auto shop. The site is identified as having one 550-gallon waste oil underground storage tank. The tank was removed in November 1995. No releases were reported.
C	Commercial	17 Olive Street/ APN 147-022-13	This is an automotive repair/garage. No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	The potential for contamination exists due to use as auto shop.
C	Commercial	4300 Easton Drive/ APN 332-256-15	This is a commercial property. No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	Kern Animal Emergency Clinic is listed as having manifested and disposed of hazardous wastes.

Table H-1 Hazardous Materials Ranked Parcels

Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
C	Commercial	4100 Easton Drive/ APN 332-256-17	This is a commercial property. No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	Watsons Strip Shop is listed as having manifested and disposed of hazardous wastes.
C	Railroad	No Address/ APN 332-256-26	This parcel is railroad tracks. No wells or underground storage tanks have been reported. A partial acquisition of this parcel is needed.	3	There is the potential for contamination from railroad activities.
C	Railroad	No Address/ APN 332-256-27	This parcel is railroad tracks. No wells or underground storage tanks have been reported. A partial acquisition of this parcel is needed.	3	There is the potential for contamination from railroad activities.
C	Commercial	3700 Easton Drive/ APN 332-321-15	This is a commercial property. No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	Trek Imagining is listed as having manifested and disposed of hazardous wastes.
C	Industrial	4040 Easton Drive/ APN 332-321-18	This is an industrial manufacturing property. No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	Grainger Inc is listed as having manifested and disposed of hazardous wastes.
C	Vacant	3800 California Avenue/ APN 332-322-04	This is a commercial property. No wells or underground storage tanks have been reported. A partial acquisition of this parcel will be needed.	3	Potential for contamination exists due to use as an auto shop. The site is identified as formerly having one 10,000-gallon gasoline underground storage tank on site. The tank was removed in March 2010. No releases were reported.
C	Commercial	1400 Easton Drive/ APN 332-380-01	This is Suite 101 of a commercial property with multiple occupants. No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	Tenants on site generated hazardous wastes, such as liquids with halogenated organic compounds and photochemical or photo processing waste, oil-containing wastes, and liquids with organic residues.

Table H-1 Hazardous Materials Ranked Parcels

Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
C	Commercial	1400 Easton Drive/ APN 332-380-13	This is Suite 113 of a commercial property with multiple occupants. No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	Tenants on site generated hazardous wastes, such as liquids with halogenated organic compounds and photochemical or photo processing waste, oil-containing wastes, and liquids with organic residues.
C	Commercial	1400 Easton Drive/ APN 332-380-14	This is Suite 114 of a commercial property with multiple occupants. No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	Tenants on site generated hazardous wastes, such as liquids with halogenated organic compounds and photochemical or photo processing waste, oil-containing wastes, and liquids with organic residues.
C	Commercial	1400 Easton Drive/ APN 332-380-16	This is Suite 116 of a commercial property with multiple occupants. No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	Tenants on site generated hazardous wastes, such as liquids with halogenated organic compounds and photochemical or photo processing waste, oil-containing wastes, and liquids with organic residues.
APN: Assessor's Parcel Number					



LEGEND

- Proposed Alignment
- Existing State Right of Way
- Rank 1 - Known Contamination
- Rank 2 - Suspected Contamination
- Rank 3 - Potential Contamination
- Retention Basin
- Temporary Construction Eastment
- Full Take Parcel (Residential)
- Full Take Parcel (Commercial)
- Partial Take Parcel (Residential)
- Partial Take Parcel (Commercial)

0 1200
FEET

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Source: Initial Site Assessment 2012

Alternative A
Parcels of Potential Concern

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure H-1

149-180-03
3333 Stockdale Hwy

147-032-25
201 Stephens Dr

147-111-13
520 Wible Rd

147-111-07
606 Wible Rd

147-111-11
608 Wible Rd

147-111-09
612 Wible Rd

164-010-08
3231 Belle Terrace

147-112-07
720 Wible Rd

164-040-30
1117 Wible Rd

SR-58

Fig. H-1

Fig. H-2

Fig. H-3

LEGEND

- Proposed Alignment
- Existing State Right of Way
- Rank 1 - Known Contamination
- Rank 2 - Suspected Contamination
- Rank 3 - Potential Contamination
- Retention Basin
- Temporary Construction Eastment
- Full Take Parcel (Residential)
- Full Take Parcel (Commercial)
- Partial Take Parcel (Residential)
- Partial Take Parcel (Commercial)

0 1200
FEET

N

Source: Initial Site Assessment 2012

Alternative A
Parcels of Potential Concern

Centennial Corridor, Kern County, California

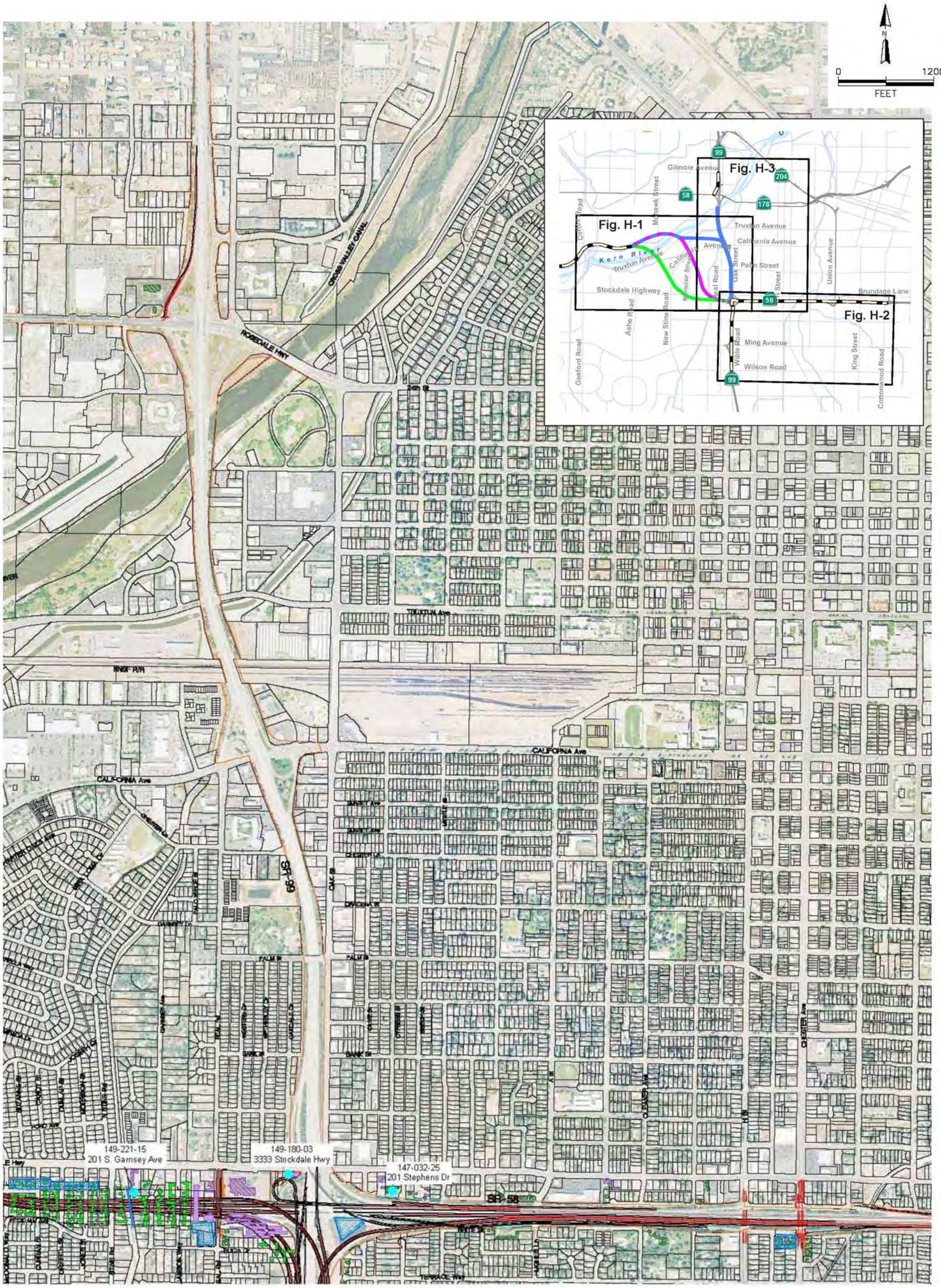
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure H-2



LEGEND

- Proposed Alignment
- Existing State Right of Way
- Rank 1 - Known Contamination
- Rank 2 - Suspected Contamination
- Rank 3 - Potential Contamination
- Retention Basin
- Temporary Construction Eastment
- Full Take Parcel (Residential)
- Full Take Parcel (Commercial)
- Partial Take Parcel (Residential)
- Partial Take Parcel (Commercial)

Alternative A
Parcels of Potential Concern

Centennial Corridor, Kern County, California

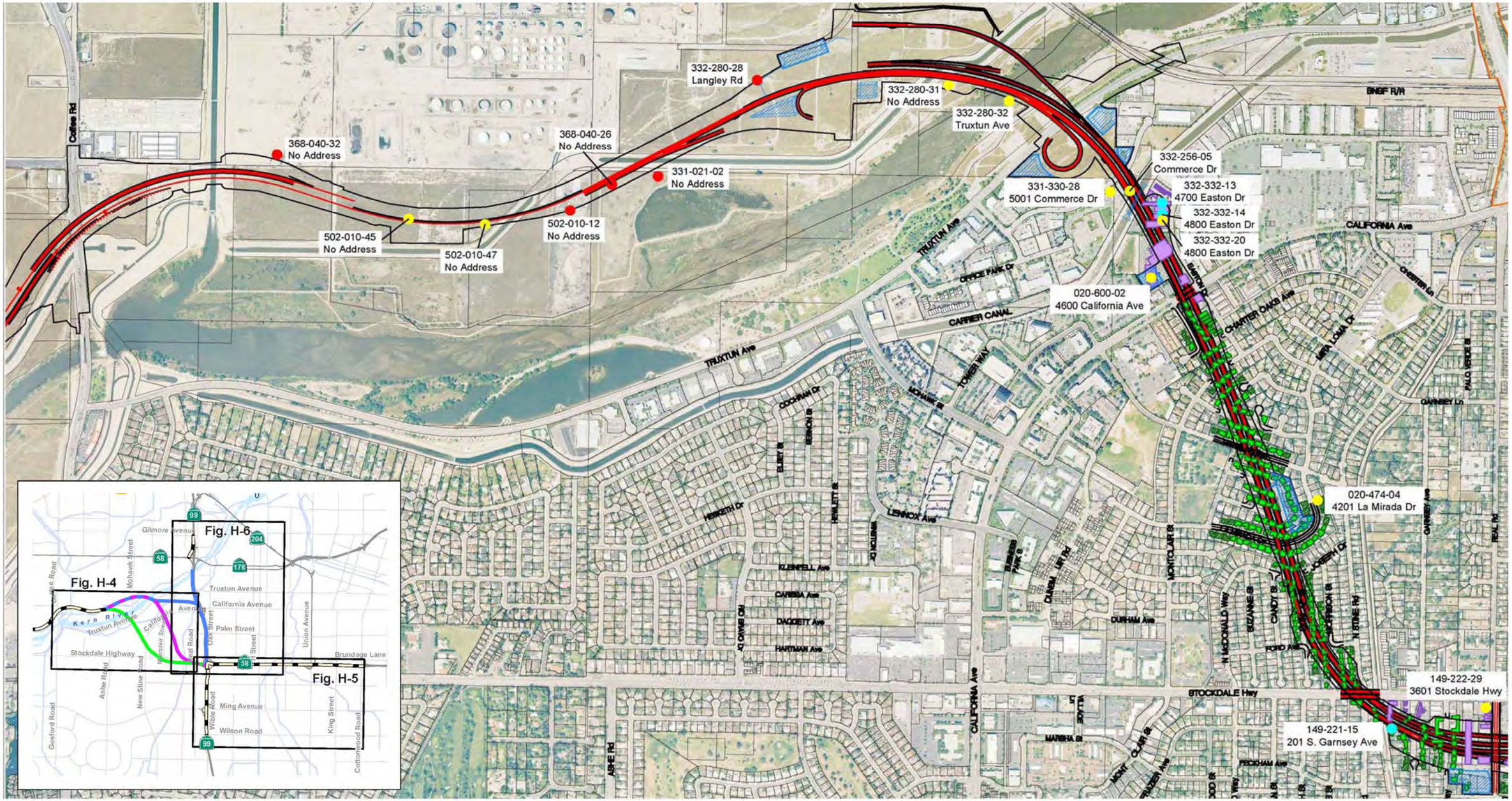
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure H-3



LEGEND

- Proposed Alignment
- Existing State Right of Way
- Rank 1 - Known Contamination
- Rank 2 - Suspected Contamination
- Rank 3 - Potential Contamination
- Retention Basin
- Temporary Construction Eastment
- Full Take Parcel (Residential)
- Full Take Parcel (Commercial)
- Partial Take Parcel (Residential)
- Partial Take Parcel (Commercial)

0 1200
FEET

N

Source: Initial Site Assessment 2012

Alternative B
Parcels of Potential Concern

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure H-4

149-222-29
3601 Stockdale Hwy

149-180-03
3333 Stockdale Hwy

147-032-25
201 Stephens Dr

147-111-13
520 Wible Rd

147-111-07
606 Wible Rd

147-111-11
608 Wible Rd

147-111-09
612 Wible Rd

164-010-08
3231 Belle Terrace

147-112-07
720 Wible Rd

164-040-30
1117 Wible Rd

SR-58

Fig. H-4

Fig. H-5

Fig. H-6

LEGEND

- Proposed Alignment
- Existing State Right of Way
- Rank 1 - Known Contamination
- Rank 2 - Suspected Contamination
- Rank 3 - Potential Contamination
- Retention Basin
- Temporary Construction Eastment
- Full Take Parcel (Residential)
- Full Take Parcel (Commercial)
- Partial Take Parcel (Residential)
- Partial Take Parcel (Commercial)

0 1200
FEET

N

Source: Initial Site Assessment 2012

Alternative B
Parcels of Potential Concern

Centennial Corridor, Kern County, California

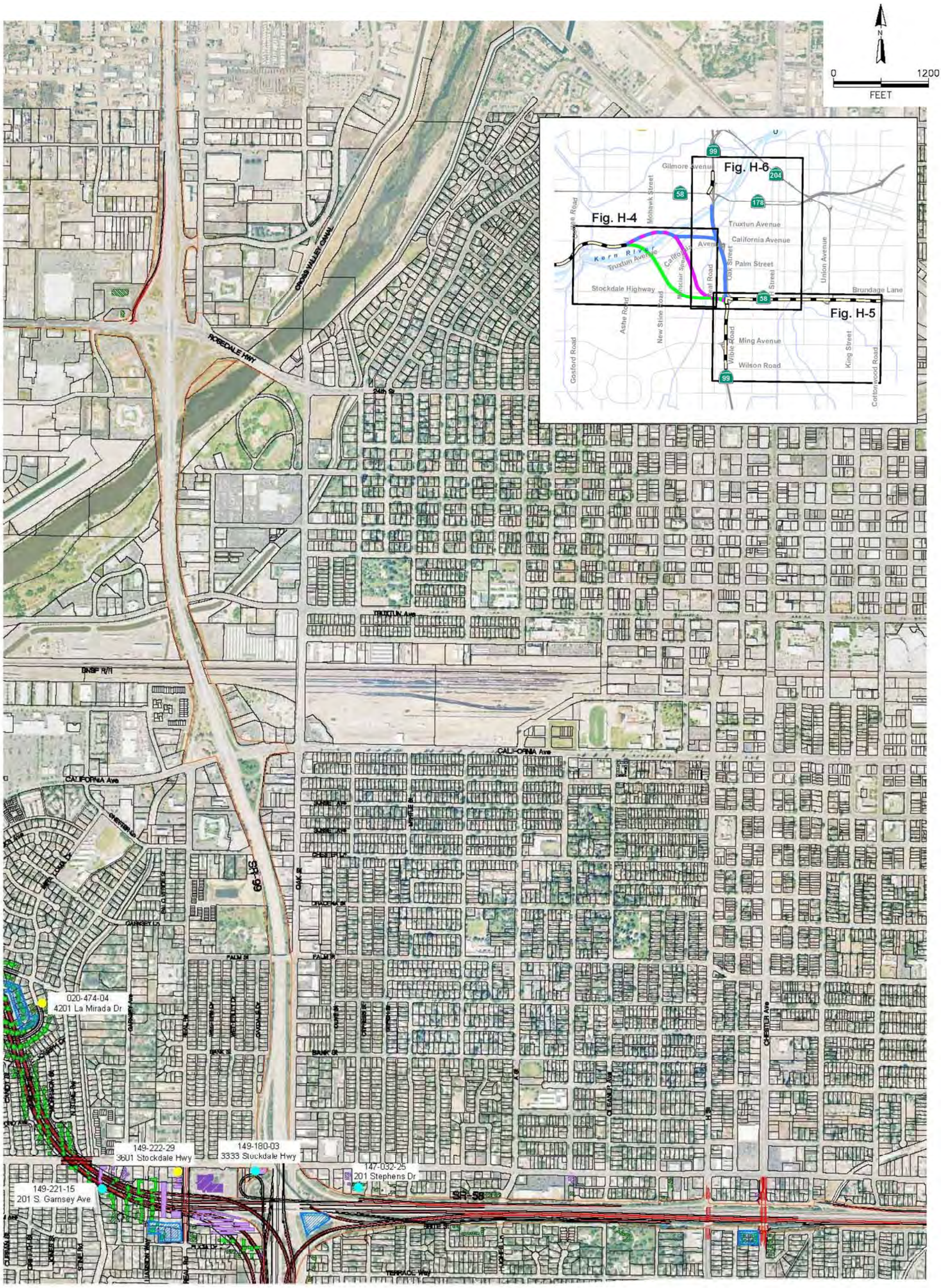
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure H-5



Alternative B
Parcels of Potential Concern

Centennial Corridor, Kern County, California

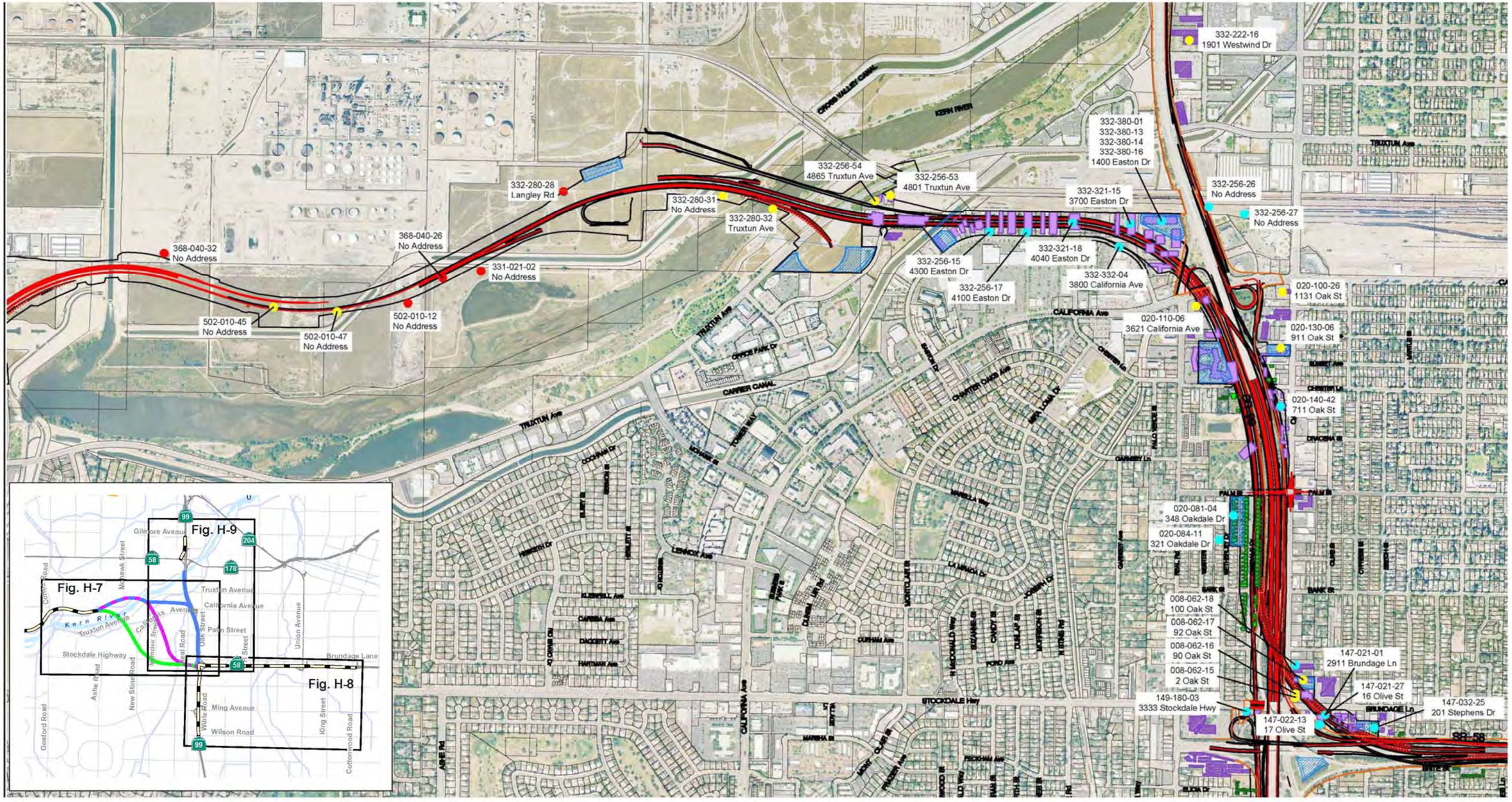
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure H-6



LEGEND

- Proposed Alignment
- Existing State Right of Way
- Rank 1 - Known Contamination
- Rank 2 - Suspected Contamination
- Rank 3 - Potential Contamination
- Retention Basin
- Temporary Construction Eastment
- Full Take Parcel (Residential)
- Full Take Parcel (Commercial)
- Partial Take Parcel (Residential)
- Partial Take Parcel (Commercial)

0 1200
FEET

N

Source: Initial Site Assessment 2012

Alternative C
Parcels of Potential Concern

Centennial Corridor, Kern County, California

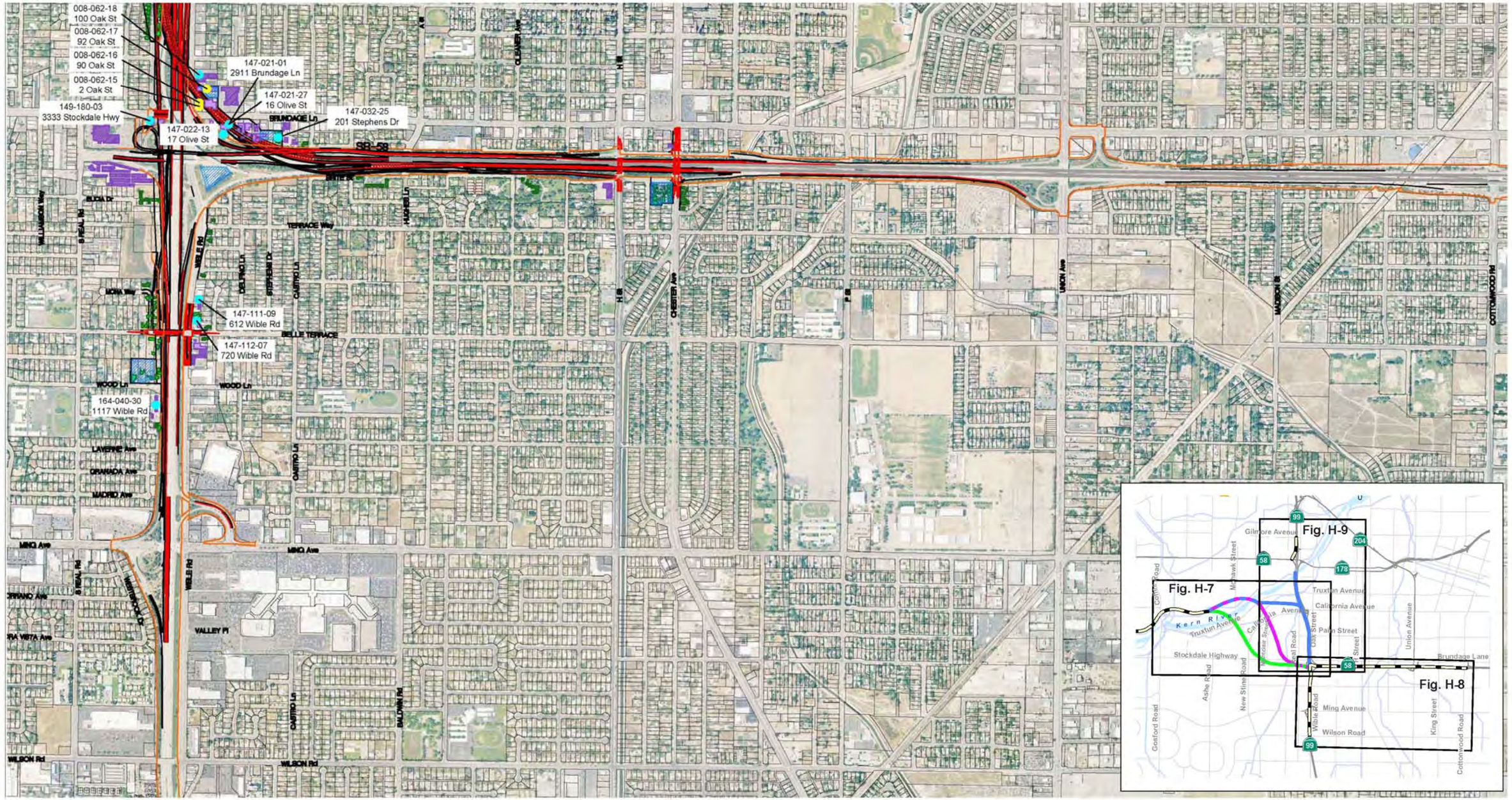
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure H-7



LEGEND

- Proposed Alignment
- Existing State Right of Way
- Rank 1 - Known Contamination
- Rank 2 - Suspected Contamination
- Rank 3 - Potential Contamination
- Retention Basin
- Temporary Construction Eastment
- Full Take Parcel (Residential)
- Full Take Parcel (Commercial)
- Partial Take Parcel (Residential)
- Partial Take Parcel (Commercial)

0 1200 FEET

N

Source: Initial Site Assessment 2012

Alternative C
Parcels of Potential Concern

Centennial Corridor, Kern County, California

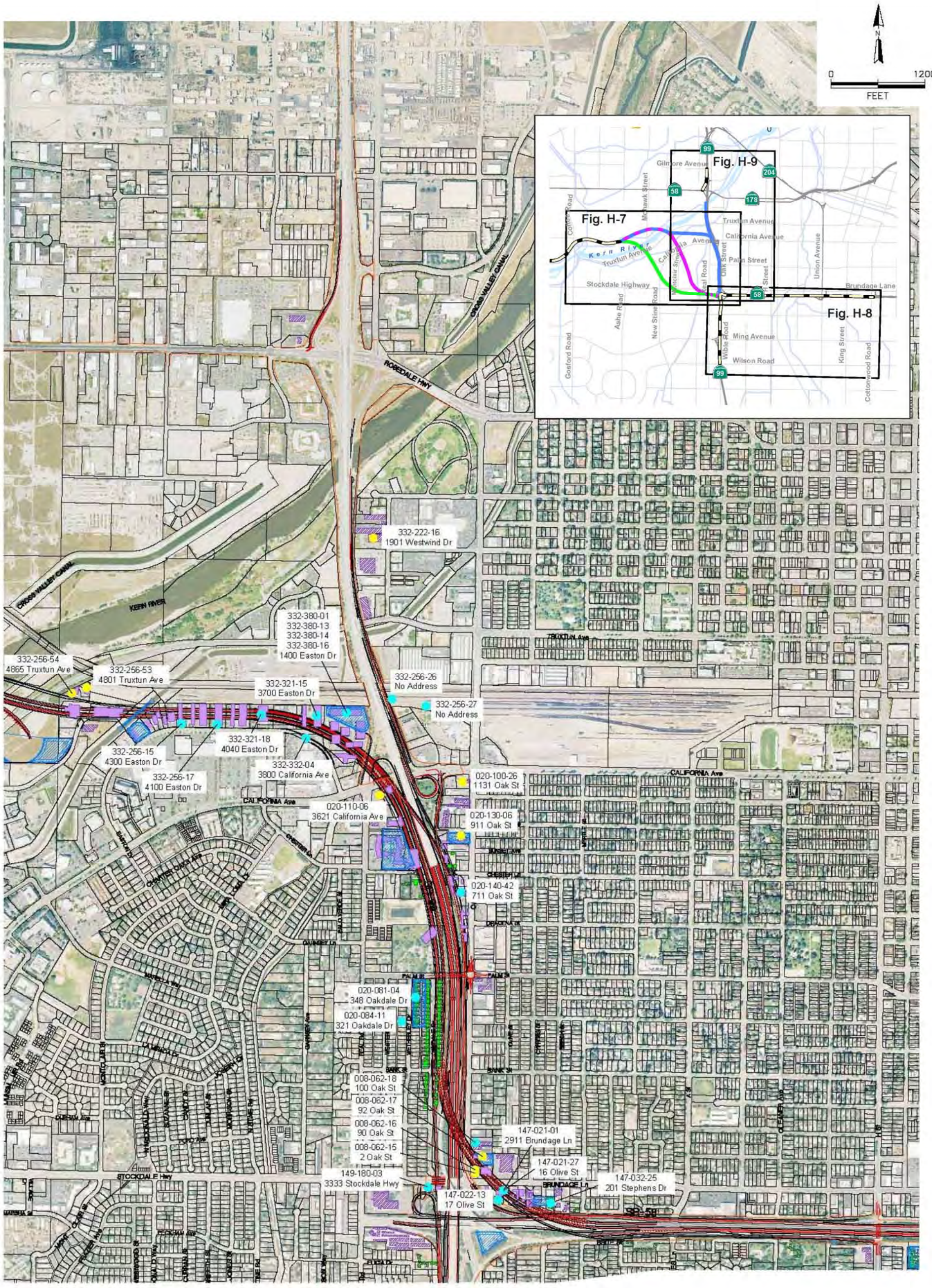
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure H-8



LEGEND

- Proposed Alignment
- Existing State Right of Way
- Rank 1 - Known Contamination
- Rank 2 - Suspected Contamination
- Rank 3 - Potential Contamination
- Retention Basin
- Temporary Construction Eastment
- Full Take Parcel (Residential)
- Full Take Parcel (Commercial)
- Partial Take Parcel (Residential)
- Partial Take Parcel (Commercial)

Alternative C
Parcels of Potential Concern

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure H-9

LEGEND

Proposed Alignment

Rank 2 – Suspected Contamination

0 1200

FEET

N

Source: Initial Site Assessment 2012

State Route 43/Stockdale Highway Intersection

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure H-10

Appendix I Special Status Species and Biological Opinion

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

September 18, 2013

Document Number: 130918032707

Subject: Species List for Centennial Corridor

Dear: Interested party

We are sending this official species list in response to your September 18, 2013 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be December 17, 2013.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found here.

Endangered Species Division

TAKE PRIDE IN AMERICA

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested
Document Number: 130918032707
Database Last Updated: September 18, 2011

Quad Lists

Listed Species

Invertebrates
- *Branchinecta lynchi*
  vernal pool fairy shrimp (T)
- *Desmocerus californicus dimorphus*
  valley elderberry longhorn beetle (T)

Fish
- *Hypomesus transpacificus*
  delta smelt (T)

Amphibians
- *Rana draytonii*
  California red-legged frog (T)

Reptiles
- *Gambelia (=Crotaphytus) sila*
  blunt-nosed leopard lizard (E)
- *Thamnophis gigas*
  giant garter snake (T)

Birds
- *Charadrius alexandrinus nivosus*
  western snowy plover (T)
- *Empidonax traillii extimus*
  southwestern willow flycatcher (E)
- *Gymnogyps californianus*
  California condor (E)

Mammals
- *Dipodomys ingens*
  giant kangaroo rat (E)
- *Dipodomys nitratoides nitratoides*
  Tipton kangaroo rat (E)
- *Sorex ornatus relictus*
  Buena Vista Lake shrew (E)
  Critical habitat, Buena Vista Lake shrew (X)
- *Vulpes macrotis mutica*
  San Joaquin kit fox (E)

Plants
- *Caulanthus californicus*
  California jewelflower (E)
- *Eremalche kernensis*
  Kern mallow (E)
- *Monolopia congdonii (=Lembertia congdonii)*

San Joaquin woolly-threads (E)

Opuntia treleasei
Bakersfield cactus (E)

Quads Containing Listed, Proposed or Candidate Species:

WEED PATCH (214B)
CONNER (215A)
MILLUX (215B)
MOUTH OF KERN (216A)
TAFT (216B)
OIL CENTER (239B)
LAMONT (239C)
EDISON (239D)
OILDALE (240A)
ROSEDALE (240B)
STEVENS (240C)
GOSFORD (240D)
RIO BRAVO (241A)
BUTTONWILLOW (241B)
EAST ELK HILLS (241C)
TUPMAN (241D)
NORTH OF OILDALE (263D)

Key:

(E) Endangered - Listed as being in danger of extinction.
(T) Threatened - Listed as likely to become endangered within the foreseeable future.
(P) Proposed - Officially proposed in the Federal Register for listing as endangered or threatened.
(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service.
Consult with them directly about these species.
Critical Habitat - Area essential to the conservation of a species.
(PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
(C) Candidate - Candidate to become a proposed species.
(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
(X) Critical Habitat designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.

- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.
- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be December 17, 2013.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In Reply Refer To:
08ESMF00-2013-F-0373

DEC 20 2013

Mr. Javier Almaguer
Chief, Central Region Biology South Branch
California Department of Transportation, District 6
855 M Street, Suite 200
Fresno, California 93721

Subject: Formal Consultation for the Centennial Corridor Project (part of the Thomas Roads Improvement Program [TRIP]), City of Bakersfield, Kern County, California (California Department of Transportation EA 06-48460; 06-KERN-58-PM T31.7 to PM 55.6; 06-KERN-99-PM 21.2 to PM 26.2)

Dear Mr. Almaguer:

This is the U.S. Fish and Wildlife Service's (Service) response to the California Department of Transportation's (Caltrans) request for initiation of formal consultation on the proposed Centennial Corridor Project (project) in Kern County, California.

The Moving Ahead for Progress in the 21st Century Act (MAP-21) was signed into law on July 16, 2012. Caltrans was approved to participate in the MAP-21 Surface Transportation Project Delivery Program through the National Environmental Policy Act (NEPA) assignment Memorandum of Understanding (MOU) between the Federal Highway Administration (FHWA) and Caltrans (effective October 1, 2012), as codified in 23 U.S.C. 327. The MOU allows Caltrans to assume the FHWA's responsibilities under NEPA as well as FHWA's consultation and coordination responsibilities under Federal environmental laws for the majority of transportation projects in California.

This project is part of the larger Thomas Roads Improvement Program (TRIP), a collection of six road improvement projects designed to meet the long-term transportation needs of the greater City of Bakersfield (City) area; four projects have already completed consultation and one other is beginning consultation. TRIP is a cooperative effort between the City, County of Kern, Caltrans, and the Kern Council of Governments. Your letter, dated July 16, 2013, providing additional information and requesting the initiation of formal consultation, was received in this office on July 22, 2013. At issue are potential effects to the federally-listed as endangered San Joaquin kit fox (*Vulpes macrotis mutica*). This document represents the Service's biological opinion on the effects of the proposed project on the listed species. This document has been

prepared in accordance with section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 *et seq.*) (Act).

The findings and recommendations of this biological opinion are based on: (1) the consultation between Caltrans and the Service; (2) the biological opinions for the first four TRIP projects for which consultation has been completed: the *Morning Drive/State Route 178 Interchange Project*, issued to Caltrans on August 18, 2011, the *State Route 58 Rosedale Highway Widening Project*, issued to Caltrans on April 24, 2012, the *SR 178 Widening Project*, issued to Caltrans on August 10, 2012, and the *24th Street Improvement Project*, issued to Caltrans on September 21, 2012; and (3) other information available to the Service.

Caltrans has determined that the project is likely to adversely affect the San Joaquin kit fox. The Service has reviewed the proposed project and concurs with Caltrans' determination.

Caltrans has determined that the proposed project will have no effect on the California jewelflower (*Caulanthus californicus*), the Kern mallow (*Eremalche kernensis*), the San Joaquin woolly-threads (*Monolopia congdonii*), and the Bakersfield cactus (*Opuntiabasilaris* var. *treleasei*) based on the results of botanical surveys and the distance of recorded occurrences from the project footprint. Focused botanical surveys were conducted for the corridor portion of the project first in 2008 on March 24, 27, and 28, and on May 15, 21, and 22; and then in 2009 from March 24-27 and from May 5-7. Additional, more recent focused botanical surveys were conducted at the Stockdale Highway/State Route 43 (Enos Lane) intersection portion of the project on March 27 and June 4, 2012. No detections of the species were made at either location. Surveys were conducted in the appropriate blooming periods and followed standard methods in accordance with the California Department of Fish and Wildlife's (CDFW; formerly the California Department of Fish and Game [CDFG]) revised 2009 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*, and the California Native Plant Society's 2001 *Botanical Survey Guidelines*.

According to the California Natural Diversity Database (CNDDB; CDFW, 2013), the closest recorded historic occurrence of the California jewelflower to the project footprint is approximately 4.5 miles (mi) away. Additionally, the closest two recorded occurrences of the Kern mallow (dating from 1994 and 2008) are approximately 1.4 mi and 1.6 mi from the project footprint, respectively; the closest recorded occurrence of the San Joaquin woolly-threads (dating from 2009) is approximately 1.4 mi from the footprint; and the closest recorded occurrence of the Bakersfield cactus (dating from 1989) is approximately 4.2 mi from the project footprint.

Because habitat in the project area is still considered to be marginally suitable and provides the potential for these species to establish in the future, Caltrans has incorporated an additional minimization measure specifically addressing these plants. The measure is further described under the *Proposed Avoidance and Minimization Measures* section.

If changes are made to the proposed project or if new information becomes available such that adverse effects to the California jewelflower, the Kern mallow, the San Joaquin woolly-threads, and the Bakersfield cactus have occurred, or are likely to occur, then Caltrans must initiate

formal consultation for these listed plant species. The remainder of this biological opinion will address the effects of the proposed project on the San Joaquin kit fox.

Consultation History

TRIP background and coordination

November 20, 2007. The Service, Caltrans, AECOM, Parsons/TRIP, the CDFW, and the City (participating agencies) met. Parsons/TRIP requested that AECOM develop a strategy memo addressing compliance with the Act; Caltrans and the Service agreed that TRIP should take a project-specific approach. All participants agreed that a San Joaquin kit fox technical study for all TRIP projects should be conducted by AECOM, in conjunction with support from the Endangered Species Recovery Program (ESRP); such a study would be useful for supporting conclusions in future TRIP project BAs.

August 26, 2008. AECOM presented preliminary results of the San Joaquin kit fox surveys to the participating agencies. This included a presentation of the methodologies, data, and effects analysis strategy and mitigation options. The Service identified habitat connectivity and the maintenance of corridors connecting San Joaquin kit fox populations as a major issue facing the species in Bakersfield. Participants discussed potential compensatory mitigation options, including culverts, refugia, and artificial kit fox dens.

September 10, 2009. The participating agencies met. Discussion focused on the early July 2009, *Draft Thomas Roads Improvement Program San Joaquin Kit Fox Life History, Effects Analysis, and Conceptual Mitigation Strategy* (2009 Draft Strategy Plan).

October 7, 2009. The Service issued a concurrence letter approving the conceptual framework for the San Joaquin kit fox compensation strategy plan outlined in the 2009 Draft Strategy Plan.

February 26, 2010. The Service received two hard copies of the comprehensive February 2010 *Draft Thomas Roads Improvement Program San Joaquin Kit Fox Effects Analysis, Mitigation Strategy, and Implementation Plan* (2010 Draft Implementation Plan).

March 11, 2010. The participating agencies met at the CDFW office in Fresno to discuss the 2010 Draft Implementation Plan; topics included an overview of the 2010 Draft Implementation Plan, potential issues with the Metro-Bakersfield Habitat Conservation Plan (MBHCP) expiration date, and funding for the proposed Sump Habitat Program (SHP).

April 12-13, 2010. AECOM sent an electronic-mail (e-mail) to the Service and the CDFW to request guidance on what AECOM could use as a template for developing a long term management plan for the SHP. AECOM suggested using the U.S. Army Corps of Engineers' (Corps) template. The Service replied on April 13 to confirm that this was acceptable, and provided a management plan outline illustrating what the Service would expect to see in a potential management plan.

May 5, 2010. An informal conference call was held between AECOM and the Service to discuss recent developments that would be covered in the upcoming meeting that the Service would be unable to attend: Parsons/TRIP had successfully presented the six projects to the MBHCP Trust Group; the real estate meeting between AECOM and the City resulted in the discovery that easements on four of the 19 sumps were owned outright by the City, four were owned by the City but had deed restrictions; and 11 were not owned by the City. AECOM also had specific questions regarding what the Service would look for in the upcoming BA.

May 11, 2010. The participating agencies met at the CDFW office in Fresno to discuss the SHP.

July 14, 2010. A meeting was held at the SFWO amongst all the participating agencies. Parties agreed on the content of the project BA regarding avoidance and minimization measures and a general description of the SHP, compensation, eventual inclusion of a third chapter in the 2010 Draft Implementation Plan describing the finalized SHP in detail, endowment/easement updates, and schedules.

August 18, 2010. The participating agencies met at the CDFW's Fresno office to discuss the latest developments in compliance, BA preparation, and the SHP. Major topics included TRIP eligibility for participation in the MBHCP, BA content, and further details concerning the SHP (e.g. easement and program management, endowments, and sump selection).

September 15, 2010. The CDFW contacted the Service with information concerning language in accordance with the California Endangered Species Act (CESA) that the CDFW would like to see included in the project biological opinion so that it would be able to issue a Consistency Determination (CD) and avoid undertaking a lengthier 2081 Incidental Take Permit process. The Service responded to discuss this information with the CDFW.

September 30, 2010. The Service, AECOM, Parsons/TRIP, and Caltrans held a conference call to discuss paying MBHCP compensation fees for the six TRIP projects in advance of the 2014 MBHCP expiration. Although the construction schedule for at least one project is not anticipated to begin until after 2014, it still could be compensated for prior to the expiration date. In a revised September 1, 2010, letter which included details of all six projects and compensation ratios, a blanket concurrence from the MBHCP Trust Group to use the MBHCP was given to the City and Caltrans. The Service suggested that an MOU with all parties involved could be implemented for paying fees in advance and provided an MOU template to AECOM.

October 22, 2010. The Service met internally to discuss the need for an MOU/memorandum of agreement (MOA) between the Service, Caltrans and the City regarding MBHCP compensation. It decided that it would be more appropriate to have an agreement between the City and Caltrans and the MBHCP Trust Group to avoid pre-decisional commitments by the Service.

December 8, 2010. The Service e-mailed Caltrans to request a copy of the *Draft Thomas Roads Improvement Program Mitigation for Cumulative Effects to the San Joaquin Kit Fox* (Draft SHP Plan), dated September 2, 2010, which outlines the basic conceptual framework for the proposed SHP. Caltrans e-mailed a copy and stated this would later be incorporated into a third chapter in the 2010 Draft Implementation Plan.

January 20, 2011. The Service e-mailed Caltrans and AECOM to provide them with an update on what the SFWO had concluded regarding the concerns with CDs, CESA language, and BOs: the Service stated it would not include the CDFW's conditions in the Terms and Conditions of its biological opinions; however, the CDFW's conditions could be included in the project description and conservation measures. The Service does not have the authority to use the type of language the CDFW is looking for (e.g. financial assurances, letters of credit) as terms and conditions to minimize incidental take.

January 25, 2011. E-mails were exchanged between AECOM, the CDFW, and the ESRP concerning fence design for the SHP. The CDFW was concerned that the proposed 8x8 inch gaps were too big and would allow predator species in the sump locations. The CDFW suggested that 4x6 inch or 5x5 inch gaps would be more appropriate. The ESRP responded that 4x6 inch openings would be fine, but 6x6 inch openings would be better for the San Joaquin kit fox and would still exclude predators. AECOM noted that the gap design objective for the sumps was different from that for the road design modifications (keeping predators out versus maintaining movement and permeability).

March 21, 2011. Caltrans informed the Service that following a meeting with the CDFW to discuss the project, Caltrans had decided not to pursue a 2081 Incidental Take Permit or a CD under CESA with the CDFW, as it had determined that take of the San Joaquin kit fox, as defined under CESA, could be avoided.

June 22, 2011. A meeting was held at the SFWO and attended by the Service, AECOM, Parsons/TRIP, the City, and Caltrans. Participants discussed updates regarding the status of the TRIP projects, the SHP, conservation easements and endowments, future work products, and possible additional funding support for the TRIP projects.

July 1, 2011. AECOM e-mailed draft notes from the June 22 meeting for circulation and comment.

January 30, 2012. A meeting was held at the SFWO and attended by the Service, AECOM, Parsons/TRIP, the City, and Caltrans. Participants discussed updates regarding the status of all the TRIP projects, the resolution of encumbrances, options for providing long-term conservation assurances, potential funding mechanisms, the proposed schedule for continued development and eventual implementation of the SHP, and preparation of the Long-Term Management Plan.

February 20, 2012. AECOM e-mailed draft notes and action items from the January 30 meeting for circulation and comment.

Project-specific coordination

April 16, 2013. The Service received a letter from Caltrans requesting initiation of formal consultation for the current project. The request included a biological assessment (BA) titled *Centennial Corridor Project, State Route 99 to Interstate 5 Biological Assessment,* dated March 2013, and prepared by the consultant, BonTerra Consulting.

May 16, 2013. The Service emailed Caltrans to inquire why three different alternatives were presented in the BA. The Service emphasized that it could not consult on multiple alternatives and therefore consultation could not proceed until an alternative was selected and a specific project defined.

May 20 - June 3, 2013. The Service and Caltrans continued to discuss the issue of the alternatives.

June 5, 2013. Caltrans informed the Service that it had selected Alternative B.

June 18, 2013. The Service emailed Caltrans with a request for additional information and clarifications regarding the BA.

July 22, 2013. The Service received a letter from Caltrans responding to the Service's June 18 request for additional information and inquiring if the project was now deemed complete such that Caltrans could initiate formal consultation. Included with the letter were a comment resolution form and a revised copy of the BA.

July 24, 2013. The Service confirmed with Caltrans that the project initiation package was considered complete and that formal consultation was initiated on July 22.

November 21, 2013. The Service emailed Caltrans to follow-up with several project clarification questions.

December 6, 2013. Caltrans emailed the Service the consultant's responses to the Service's November 21 request.

BIOLOGICAL OPINION

Proposed Project

The City, in coordination with Caltrans, proposes to construct a new freeway corridor connecting the eastern end of a local freeway, known as the Westside Parkway, to the existing State Route (SR) 58 (East) freeway. In conjunction with this, the project also proposes to improve the intersection at Stockdale Highway and SR 43 (known locally as Enos Lane) in order to accommodate additional traffic. The purpose of the project is to improve route continuity along SR 58 between SR 99 and Interstate (I)-5 within Metropolitan Bakersfield and wider Kern County. SR 58 is a critical highway in the State transportation network used by interstate travelers, commuters, and truckers, but it currently lacks continuity in central Bakersfield, which results in severe traffic congestion and reduced levels of service on adjoining highways and local streets.

Centennial Corridor (Segment 1)

Caltrans has selected the approximately 8.6 mi long Alternative B as the build alternative for the corridor construction. This will involve building a six-lane freeway heading west from the

Centennial Corridor (Segment 1)

Caltrans has selected the approximately 8.6 mi long Alternative B as the build alternative for the corridor construction. This will involve building a six-lane freeway heading west from the existing SR 58/SR 99 interchange for approximately 1,000 feet (ft.) along an alignment situated south of Stockdale Highway, then heading northwest and spanning Stockdale Highway/Stine Road, California Avenue, Commerce Drive, Truxtun Avenue, and the Kern River, and finally joining the east end of the Westside Parkway between the Mohawk Street and Coffee Road interchanges. The segment of SR 58 between California Avenue and Ford Avenue will be depressed (the roadway will be below grade) in order to minimize the visual effects of the corridor on the surrounding neighborhood. Overcrossings are proposed at Marella Way and La Mirada Drive to facilitate improved traffic circulation.

Alternative B also includes adding connections to SR 99 and improvements to SR 99 and the existing segment of SR 58. Linkages will be provided from northbound SR 99 to westbound SR 58 and from eastbound SR 58 to southbound SR 99 via high-speed connectors. Southbound SR 99 will be widened to accommodate additional traffic heading from eastbound SR 58 to the southbound SR 99 connector. The limits of widening on SR 99 will extend to the Wilson Road overcrossing. Ramps will need to be realigned to accommodate the additional constructed lanes. Several on- and off-ramps (e.g. Wible Road, south of the SR 58/SR 99 interchange; Stockdale Highway, on southbound SR 99 to eastbound SR 58 connector) are presently in conflict with Caltrans' standards of interchange spacing, and so will be removed.

Excavation associated with Alternative B will reach a maximum depth of 25 ft. near SR 58 between Stephens Drive and H Street in order to accommodate the widened ramps, as well as between California Avenue and Ford Avenue where the freeway will be constructed below the existing grade. On SR 99, the maximum depth of excavation will be approximately 18.5 ft. between Belle Terrace and Ming Avenue.

Stockdale Highway/SR 43(Enos Lane) Interchange

Improvements will include widening the intersection and adding signals to control traffic. This intersection currently operates at a deficient level of service due to its existing configuration. When the corridor segment of the project connects to the Westside Parkway, traffic volumes will increase on Stockdale Highway, so the improvements at this intersection are needed to accommodate the anticipated additional traffic demand. SR 43 will be expanded to add a dedicated left-turn lane in both directions, while Stockdale Highway will be widened to add a dedicated left-turn lane and a shared through/right-turn lane in both directions.

Other Project Elements

Detours, utilities, and drainage: Traffic detours will be implemented on existing streets; further details regarding these routes will be developed during later project design phases. The relocation and reconstruction of utilities and drainage facilities within the project right-of-way (ROW) will include power poles, underground utilities, and storm drains. Utility relocations are expected to be done without interruption to services and drainage improvements will involve

operational Best Management Practices (BMPs). Eight new drainage basins will be installed throughout the project area to retain stormwater while six existing basins will be modified.

Borrow, Staging and Access: All borrow, disposal, vehicle access, staging, storage, utility relocations, and other construction activities will occur within the defined limits of disturbance, i.e. the project footprint.

Scheduling: According to Caltrans' anticipated project schedule, design was expected to begin in mid-2013 and be completed by mid-2015. Construction is then anticipated to start in 2016 and continue year-round through 2018.

Proposed Avoidance and Minimization Measures

According to the BA, the Draft SHP Plan, the 2010 Draft Implementation Plan, and measures previously established in the Morning Drive/SR 178 Interchange Project, SR 58 Rosedale Highway Widening Project, SR 178 Widening Project, and 24th Street Improvement Project biological opinions, in addition to further discussion with Caltrans, the City and Caltrans propose to implement protection provisions in order to minimize adverse effects to the San Joaquin kit fox. Several of these are developed, in part, from the Service's most recent guidelines; currently, this is the January 2011 *U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (Recommendations). Additional measures are developed to be project- or program-specific:

1. Caltrans will include Special Provisions that include the avoidance and minimization measures of this biological opinion when soliciting contractor bid packages.

2. Prior to project groundbreaking, a Service-approved biologist(s) will conduct updated protocol-level botanical surveys within the project footprint during the appropriate blooming periods for the following four species: the California jewelflower, the Kern mallow, the San Joaquin woolly-threads, and the Bakersfield cactus. Surveys will be conducted in accordance with the most current protocols accepted by the Service. The intention will be to discover any changes in, or new additions to, the floristic composition of federally-listed plant species at the project site.

3. Caltrans and the City will follow the construction and on-going operational requirements described in the Service's Recommendations.

4. No less than 30 days but no more than 60 days prior to road construction, a Service-approved biologist(s) will conduct preconstruction surveys for San Joaquin kit fox dens both in the project footprint and within 200 ft. of the footprint, inclusive of any utilities relocations. A letter report and map of known and potential San Joaquin kit fox dens will be submitted to the Service prior to the start of ground disturbance and/or construction activities. Repeat clearance surveys will be conducted no more than 14 days before construction or after any delays in construction of over two weeks. Any new known or potential San Joaquin kit fox dens identified in the interim will be reported to the Service in a letter report and map. If no new known or potential San Joaquin kit fox dens are

approved biologist(s), and general survey findings. Records will be submitted to the Service upon request.

5. Disturbance to all San Joaquin kit fox dens will be avoided to the maximum extent possible. If known or potential dens are identified within the footprint during the 60-day and/or 14-day preconstruction surveys, Caltrans will request to monitor and excavate those dens that are expected to be affected directly by the project and cannot be avoided. Active dens will not be excavated during the natal season (approximately January 1 - June 30). The Service-approved biologist(s) will monitor potential dens for three consecutive nights using tracking medium and/or a remote sensor camera, will submit monitoring results in a letter report to the Service, and also will oversee the hand excavation of dens that have been determined vacant following approval by the Service. The Service-approved biologist(s) also will submit results of den excavation and exclusion activities in a letter report to the agencies. The following measures will be applied to dens that are not excavated:

    a. Dens that are identified during preconstruction surveys of the project footprint boundary and a 200 ft. area outside of the project footprint will be monitored and protected by an exclusion zone around dens, as measured outward from the entrance or cluster of entrances of each den.

        i. Potential and atypical dens within 50 ft. of the project footprint will be protected with a 50 ft. zone delineated by flagged stakes;

        ii. Known dens within 100 ft. of the project footprint will be protected with a 100 ft. zone. To ensure protection, the exclusion zone will be demarcated by fencing/flagging that does not prevent access to the den by the San Joaquin kit fox. Acceptable designs will have openings for San Joaquin kit fox ingress/egress but will keep humans and equipment out, e.g. wooden posts connected with caution tape; orange construction cones; orange construction fencing with a mesh size less than 2 inches in diameter (to prevent the San Joaquin kit fox from becoming entangled in the fencing) with gaps every 50 ft. Fencing/flagging will be maintained until all construction-related disturbances have been terminated. At that time, all fencing/flagging will be removed to avoid attracting subsequent attention to the dens.

    b. If natal/pupping dens are discovered either within the project footprint or within 200 ft. of the project footprint, Caltrans will immediately notify the Service.

6. The Service-approved biologist(s) will conduct a worker environmental awareness program for all construction crews prior to ground-disturbing activities, with the purpose of informing all crew members of the potential for the San Joaquin kit fox to occur on-site, the effects on the species from construction activities, how to minimize effects to the species, and the penalties for non-exempted take. The training will be repeated to all new

crew members and annually to all crew members working in San Joaquin kit fox habitat. Crew members will sign an attendance sheet and confirm that they understand the protection measures and construction restrictions. Training materials and records of attendees will be submitted to the Service.

7. The Service-approved biologist(s) will monitor road construction on a daily basis and will verify that construction complies with the measures laid out in this biological opinion. The Service-approved biologist(s) will maintain a log of daily monitoring notes that can be summarized and transmitted to the Service by request.

8. Permeable fencing will be installed along the proposed ROW in all areas where there is known San Joaquin kit fox activity and lower traffic speeds/volumes. Permanent exclusionary fencing will be installed along the proposed ROW in high-density residential areas and/or in areas with higher traffic speeds/volumes. In all areas in need of new permeable fencing, at least one design option featured below will be adopted to provide the San Joaquin kit fox with passage and movement opportunities, and to minimize the potential to disrupt species movement and habitat fragmentation of the project area:

    a. Elevate the bottom of the fence 5 inches above ground to allow unobstructed movement by the San Joaquin kit fox under the fence.

    b. Install ground-level 8 x 8 inch wide gaps no more than 100 ft. apart along the length of the fence to allow for San Joaquin kit fox movement at regular intervals along the ROW.

    c. Install fencing with a minimum mesh size of 3.5 x 7 inches, preferably 5 x 12 inches, to allow unlimited movement through the fence.

9. Curbed medians will be used as part of the project design and their height will be no greater than 10 inches. Either 6-inch high curbed medians with low vegetation or 10-inch high un-vegetated curbed medians will be constructed so as not to obstruct the visual field of the San Joaquin kit fox near the roadway. Curbed medians less than 10 inches in height and which require landscaping will be planted with low-level vegetation (i.e. less than 6 inches tall at maturity), or be mowed frequently to prevent overgrowth and provide an unobstructed line of sight for the species, or will have gaps installed measuring no less than 4 ft. wide every 12 ft. in areas landscaped with trees and shrubs.

    a. If required, landscaping will be designed in conjunction with the curbed median design in order to allow unobstructed visibility to the San Joaquin kit fox and to maintain and/or enhance opportunities for movement across the roadway.

10. Median barriers will be required in some areas of the project for the purpose of public safety. The Caltrans-designed modified median barrier type 60/S will be used. Caltrans' type 60/S design previously has been utilized in other projects (e.g. reinitiated Biological

Opinion for the State Route 99 Goshen to Kingsburg 6-Lane Project, in Tulare and Fresno Counties; Service File number 81420-2009-F-0752) and includes 9-inch radius openings (semicircular openings 9 inches high x 18 inches wide) spaced every 150 ft. to allow passage by the San Joaquin kit fox. Maintaining permeability in this manner will also reduce the potential to disrupt species movement and connectivity in the project area.

11. In areas of known San Joaquin kit fox activity and high traffic volumes and/or speeds, existing San Joaquin kit fox movement corridors like the canal channels and the Kern River, as well as railroad ROWs (e.g. BNSF), will be preserved through the use of bridges and/or culverts to facilitate crossings. Some segments of the canals under the new roadways will be converted from trapezoidal channels to box culverts; other segments of the canals with existing box culverts will be extended. Toe-of-road fill and bridge support walls will be maintained and new walls will be designed no less than 20 ft. from the centerlines of canal access roads and railroads.

    a. An elevated bridge currently exists at the location where the Westside Parkway crosses the trapezoidal channel of the Friant-Kern Canal. Species access will continue to be provided along an elevated access road located parallel to the canal.

    b. An above-grade bridge will be constructed over the trapezoidal channel of the Stine Canal. This will allow the species to move freely below the roadway.

    c. An above-grade bridge (westbound Mohawk St. off-ramp) will be constructed over the Cross Valley Canal, which exists as a double box culvert. The Kern River corridor is located proximate to the canal and so it provides existing access for the species in the area; no additional crossing features are proposed at this canal site.

    d. Two design options are proposed for the location where the new roadway will cross the Carrier Canal: 1) box culvert → if this design is chosen, a crossing structure (with proposed 5 x 5 inch mesh size and 10 inch diameter escape pipes within a 60 inch diameter crossing culvert) will be installed to connect the access roads on the north side of the canal; 2) bridge → if this design is chosen, no additional crossing features will be necessary since the elevated bridge above the trapezoidal canal will allow the species to move freely below the roadway.

The MBHCP Trust Group provided a letter to the City, dated December 3, 2010, in which it approved the ongoing use of the MBHCP for proposed compensation obligations for all TRIP projects; it also permitted payment to occur on an individual project basis after the approval of the final environmental document (FED) for each project. The City will pay the appropriate fee amount to the Trust Group and the Trust Group will acquire the required acreage amounts to be protected in perpetuity.

12. Caltrans will verify that the City compensates for the permanent loss of 11.28 ac and temporary disturbance to 65.55 ac of habitat consisting of non-native grassland, riparian woodland/Great Valley cottonwood riparian forest, ruderal/disturbed areas, desiccated waterways, detention basins, and agricultural land suitable for the San Joaquin kit fox by purchasing 105.95 ac (using a 3:1 compensation ratio for permanent effects and 1.1:1 compensation ratio for temporary effects) through the MBHCP.

    a. Prior to construction, the limits of affected habitat acreage by vegetation type will be verified and delineated on a map, and submitted for approval to the Service. This will be done prior to its submittal to the City Planning Department for fee payment.

13. Upon completion of project construction, all areas subject to temporary ground disturbance, including storage and staging areas, will be restored to original grade and contour. Appropriate methods and plant species used to re-vegetate will be determined on a site-specific basis in consultation with re-vegetation experts.

14. To minimize opportunistic predatory effects to the San Joaquin kit fox, the City and Caltrans will condition contracts with contractors to require that trash be removed at least once daily from project areas and disposed of off-site so as not to attract predator species like coyotes (*Canis latrans*) and bobcats (*Lynx rufus*) to the project area.

15. The City and Caltrans will condition contracts with contractors to require that contained water sources, which are inaccessible to the San Joaquin kit fox (e.g. elevated water trucks), be used for dust control and other construction water activities.

The SHP will provide long-term habitat conservation for the urban San Joaquin kit fox population in the metro-Bakersfield area by focusing on sumps (i.e. stormwater drainage basins); sumps in Bakersfield are a functional habitat type for the species and many sumps are either currently known to support San Joaquin kit fox dens or offer potential denning opportunities. The City, in coordination with Caltrans, proposes to utilize the SHP to minimize collective effects to the San Joaquin kit fox engendered by all six TRIP road improvement projects. Conservation measures of the SHP include the installation of artificial dens in selected sumps, the enhancement of San Joaquin kit fox habitat by controlling vegetation in and around dens, the increase of San Joaquin kit fox accessibility to sumps through installation of fence/gate openings (with proposed dimensions of 6 x 6 inches to exclude predators like coyotes and medium- to large-sized dogs), and the reduction in the potential for effects to the species associated with regular maintenance activities and predation. The City provided a letter of commitment to the Service, dated August 10, 2010, fully supporting and providing assurance of the implementation and management of the SHP and its conservation efforts.

16. The basic conceptual framework for the SHP is described in the September 2010 Draft SHP Plan, which addresses five core conservation goals in detail that are integral to the implementation and success of the SHP: 1) the selection of sumps that maintain San Joaquin kit fox accessibility and/or habitat (i.e. those of high/medium conservation

priority based on the relative potential for minimizing program-level effects); 2) the installation and maintenance of San Joaquin kit fox enhancement features (i.e. fence/gate gaps, artificial dens, conservation zones, signs, and enhancement maintenance and repair); 3) the management of sump vegetation compatible with San Joaquin kit fox presence and/or use (i.e. performance of routine maintenance outside the San Joaquin kit fox natal season and the use of hand tools in conservation zones and new active dens); 4) the biological monitoring and reporting of results (i.e. pre-maintenance surveys; den monitoring and supervised den excavation; environmental awareness training; maintenance monitoring; annual enhancement inspection; annual San Joaquin kit fox sump use monitoring; and annual reporting); and 5) the provision of long-term conservation assurances (i.e. individual conservation easements for each sump; a perpetual non-wasting endowment for management, maintenance, and monitoring costs associated with ongoing implementation; and a Service-approved Long-Term Management Plan. The proposed easement and endowment holder(s) will be Service-approved third-party organizations). Further details in regards to these five core measures can be found in the Draft SHP Plan.

a. The SHP will continue to be updated, refined, and ultimately finalized through an ongoing collaborative consultation process involving Caltrans, the City, Parsons/TRIP, and the Service over the course of the final remaining TRIP project.

b. The finalized SHP will be established and implemented within one year of the approval of the FED for the last of the six TRIP projects; the City will fully fund the SHP within one year of this approval. Caltrans and the City will share responsibility for the SHP; Caltrans will adhere to the proposed avoidance and minimization measures and terms and conditions of this biological opinion and will be responsible for the overall implementation of the SHP, while the City will be responsible for enhancing sumps and conducting long term management of the SHP. A Service-approved third-party will be responsible for administering endowment funds and providing compliance oversight with the terms of the conservation easements for each sump in the SHP.

Action Area

The action area is defined in 50 CFR § 402.02, as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." The action area for this project is composed of the project footprint, which includes the limits of construction for the proposed freeway corridor (alternative B) and the Stockdale Highway/SR 43 intersection within the existing and proposed Caltrans ROW, plus a temporary construction area extending 25 ft. out from the edge of the construction boundaries to allow for equipment maneuvering. Habitat types within the footprint include non-native grassland, riparian woodland/Great Valley Cottonwood riparian forest, disturbed/ruderal land, agricultural areas, developed/ornamental areas, waterways (e.g. segments of the Kern River and canals), and detention basins. The action area also includes portions of these lands that extend approximately 200 ft. from the project

footprint which will experience further-reaching effects of new road construction and intersection improvements such as noise and visual disturbance.

Analytical Framework for the Jeopardy/No Jeopardy Determination

In accordance with policy and regulation, the following analysis relies on four components to support the jeopardy/no jeopardy determination for the San Joaquin kit fox: (1) the *Status of the Species*, which evaluates the species' range-wide conditions, the factors responsible for those conditions, and its survival and recovery needs; (2) the *Environmental Baseline*, which evaluates the condition of the species in the action area, the factors responsible for that condition, and the role of the action area in the species' survival and recovery; (3) the *Effects of the Action*, which determines the direct and indirect effects of the proposed Federal action and the effects of any interrelated or interdependent activities on the species; and (4) *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the species.

In accordance with policy and regulation, the jeopardy/no jeopardy determination is made by evaluating the effects of the proposed Federal action in the context of the species' current status, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of the San Joaquin kit fox in the wild.

The following analysis places an emphasis on consideration of the range-wide survival and recovery needs of the species and the role of the action area in meeting those needs as the context for evaluating the significance of the effects of the proposed Federal action, combined with cumulative effects, for purposes of making the jeopardy/no jeopardy determination. In short, a non-jeopardy determination is warranted if the proposed action is consistent with maintaining the role of habitat for the species' populations in the action area for the survival and recovery of the species.

Status of the Species

Refer to the *San Joaquin Kit Fox (Vulpes macrotis mutica) 5-Year Review: Summary and Evaluation* (Service, 2010) for the current Status of the Species. The 5-Year Review provides a description of the species, including its distribution, habitat requirements and other life history information, current threats, an analysis of progress made in recovering the species, and recommendations for recovery actions over a future five year period.

The urban Bakersfield San Joaquin kit fox population is the only substantial population of the species known to occur outside the core areas of western Kern, Carrizo Plain Natural Area, and Ciervo-Panoche (Cypher and Warrick, 1993; Cypher *et al.*, 2000), which contain significantly greater areas of less disturbed natural habitat. The Bakersfield population therefore comprises a important satellite population also identified as significant for recovery of the species.

According to the CNDDB (2013) there are 48 recorded occurrences of the San Joaquin kit fox within the Gosford, Lamont, Tupman. and Stevens United States Geological Survey (USGS) 7.5 minute quadrangles, in which the action area is located; these numerous species observations are

located all around the project site. The closest record is from 2006 and is located approximately 0.7 mi from the project footprint. Within the vicinity of the action area, one potential den, four presumed active dens, and six incidences of San Joaquin kit fox sign were identified during a survey conducted in September 2008 by AECOM; these were all found in open spaces along the Kern River between approximately Mohawk Street and 24th Street. Data adapted from Bjurlin *et al.* (2005) in the 2010 Draft Implementation Plan also identified three nearby instances of San Joaquin kit fox vehicle-related mortalities on the south side of the Kern River near Mohawk Street and Truxtun Avenue.

As an area where the San Joaquin kit fox has adapted to the urban environment, traffic-related incidents have been and will continue to be the primary source of mortality in Bakersfield (Cypher, 2000; Bjurlin *et al.*, 2005). Other dangers posed by the urban environment of the metro-Bakersfield area include predation from domestic dogs and entanglement in playing field and schoolyard equipment like soccer nets. We are aware of eight separate Federal actions concerning effects to the San Joaquin kit fox, located in the immediate vicinity of the action area, that have previously completed consultation with the Service: the Westside Parkway Project (Service file number 1-1-98-F-0139; as reinitiated and amended 1-1-00-F-0185, 1-1-04-F-0194, 81420-2008-F-0368-27, 81420-2008-F-0368-28); the reinitiation of Phase 4 of the Westside Parkway Project (Service file number 81420-2008-F-0368-R001-1); the California Avenue On-Ramp Project (Service file number 81420-2011-I-0527-1); the SR 58 Rosedale Highway Widening Project (Service file number 08ESMF00-2012-F-0049); the 24th Street Improvement Project (Service file number 08ESMF00-2012-F-0290); the Cawelo Water District Calloway Canal Lining Project (Service file number 08ESMF00-2013-I-0135); the Big West-Flying J Clean Fuels Refinery Upgrade Project (Service file number 81420-2008-F-0616); and the Bakersfield Emergency Bridge and Utility Repair Project (Service file number 08ESMF00-2012-IE-0601).

Environmental Baseline

Contiguous tracts of undisturbed habitat suitable for the San Joaquin kit fox existed in the action area to a greater extent prior to the origination and expansion of urban development in central Bakersfield. It is reasonably likely that the conversion of natural lands to residential, industrial, commercial, and agricultural areas and the introduction of transportation infrastructure such as the initial construction of SR 99 and SR 58, in addition to networks of arterial roads, have affected the species. Ongoing urbanization has continued to result in habitat loss and fragmentation while roadway- and vehicle-related risks pose threats of injury and mortality to the species. Of the habitat types that will be affected directly by the project, non-native grassland comprises approximately 66 percent of the total action area acreage still considered to be suitable for use by the San Joaquin kit fox; ruderal/disturbed areas comprise approximately 23 percent of the total acreage; and segments of waterways (e.g. the Kern River channel and canal beds), riparian woodland/Great Valley Cottonwood riparian forest, three detention basins, and agricultural lands make up the remaining total habitat.

Despite the continuation of these effects, the action area nevertheless provides suitable denning and foraging habitat for the San Joaquin kit fox; furthermore, San Joaquin kit fox sign has been

identified in the action area. Although the CNDDB (2013) has no records of the species or its sign within the action area, information from the MBHCP database, as illustrated in the 2010 Draft Implementation Plan, shows that there are multiple San Joaquin kit fox records documented within the proposed corridor footprint. The corridor portion of the project was surveyed on September 17, 2008, and the Stockdale Highway/SR 43 intersection portion was surveyed more recently on April 4, 2012 since this additional component of the project was added after the initial surveys were conducted. Surveys followed a methodology established for all of the TRIP projects and approved by the Service and the CDFW as described in the 2010 Draft Implementation Plan. These surveys identified three potential dens in the corridor portion of the project along the Kern River near Mohawk Street and adjacent grasslands and in City Basin 143, as well as two incidences of San Joaquin kit fox sign.

San Joaquin kit foxes in Bakersfield have been found to move along linear habitat features. The Kern River corridor is an established natural movement corridor that the San Joaquin kit fox utilizes in the action area. The river channel consists of an open, sandy wash, with segments either sparsely vegetated or else devoid of vegetation. Segments of five constructed, unlined canals and one concrete-lined canal run through the action area; according to the 2010 Draft Implementation Plan, these canals (Cross Valley, Carrier, Stine, Kern Island, Central Branch Kern Island, and Friant-Kern) also serve as recognized movement corridors for the San Joaquin kit fox. At the time of vegetation mapping surveys in the spring of 2008 and 2009, four of these canals, with the exceptions of the Cross Valley and Friant-Kern Canals, did not contain water, but signs indicated that they do so intermittently. They also appeared to be regularly maintained by disking or mowing.

The Service anticipates that the San Joaquin kit fox is reasonably certain to occur in the action area based on the biology and ecology of the species; the presence of suitable habitat for denning and foraging, and known corridors for movement; and the documentation of San Joaquin kit fox sign in the action area.

Effects of the Proposed Action

Habitat Loss and Disturbance

The proposed project is likely to result in a number of adverse effects to the San Joaquin kit fox. Construction work, such as the excavation, filling, and paving activities associated with constructing the new freeway corridor, adding connections to SR 99, improving existing segments of SR 99 and SR 58, and improving the Stockdale Highway/SR 43 intersection will result in the permanent loss of 11.28 ac of suitable habitat for the San Joaquin kit fox; there also will be temporary disturbance to 65.55 ac of suitable habitat due to activities such as grading, staging, and access. Temporary disturbance is defined here as a short-term event in which effects do not degrade the habitat beyond its ability to recover after completion of project construction. Because the project is anticipated to last for significantly longer than one year, the disturbance to habitat areas will be ongoing and therefore the habitat will likely take longer to recover. Therefore, it is reasonable to expect this disturbance to result in harm to the San Joaquin kit fox.

Based on currently available information, there are three potential dens within the project footprint that are likely to be permanently eliminated during construction. If a large number of known or potential dens are identified in the project footprint during preconstruction surveys and require excavation (following appropriate monitoring), their destruction would remove shelter and cover for the species. This would be reasonably likely to adversely affect local San Joaquin kit fox survival by reducing the number and distribution of escape refuges from predators.

To offset the loss of habitat, the City, through participation in the MBHCP, will purchase conservation land that is of commensurate or higher quality to the habitat lost due to project construction, ensuring that the species can continue to breed, feed, shelter, and meet all its life cycle functions. The MBHCP's goal is to acquire, preserve, and enhance large, contiguous native habitats that support listed and sensitive species like the San Joaquin kit fox. The City, in coordination with Caltrans, is also developing the SHP, a comprehensive and extensive conservation plan specifically designed to address habitat loss and effects to the San Joaquin kit fox. The SHP will reduce and minimize the collective construction effects deriving from the six TRIP projects in the metro-Bakersfield area by protecting and enhancing sumps (identified as a crucial habitat type for the urban Bakersfield San Joaquin kit fox population) located throughout the City through easement holdings. Participation in the MBHCP and implementation of the SHP will preserve and enhance suitable San Joaquin kit fox habitat and will contribute to protecting and managing the habitat for the conservation of the species in perpetuity. These lands also will help maintain the geographic distribution of the species and will contribute to the recovery of the species.

Entombment and Strikes

Since suitable denning habitat and potential San Joaquin kit fox dens exist in the action area, it is important that effects are reduced to the greatest extent possible. With the implementation of proposed conservation measures such as preconstruction surveys, den monitoring, exclusion zones, and hand excavation of vacant dens, the risk of crushing or entombing the San Joaquin kit fox in dens (natural and man-made) during groundbreaking activities and construction is not reasonably likely to occur.

The proposed conservation measures are designed to minimize the risk of construction vehicle strikes. Therefore, it is not reasonably likely that the species will be hit by project equipment or vehicles while occupying or moving through the action area.

Road Mortality

Injury and mortality are likely to occur to the San Joaquin kit fox when individuals attempt to cross roads. Each highway and roadway associated with the construction of the new corridor and the accompanying improvements (e.g. SR 99, SR 58, Westside Parkway) is already an existing hazard for this widely ranging, dispersing species, and each highway/roadway will continue to be a hazard for the San Joaquin kit fox. With the creation of the Centennial Corridor, this too will introduce hazards to the species and it is reasonably likely that the species will be struck by vehicles on the new roadway.

However, to reduce the risk of injury and mortality to the San Joaquin kit fox that will stem specifically from vehicle strikes on the new roadway, Caltrans has developed the best available information to incorporate into the project through discussions with the ESRP, the Service, the CDFW, the City, and a previous consultant, AECOM. Using various methods of on-site project design modifications relating to permeability and connectivity, Caltrans has integrated measures believed to present the greatest value to the species in the context of the project. Because the action area is known to be used by the San Joaquin kit fox, and a portion of the new corridor alignment is within a known San Joaquin kit fox concentration area (Cypher, pers. comm., 2009a), the primary objectives of these modifications are to provide opportunities for the San Joaquin kit fox to cross the roadway in spite of construction effects; to minimize the potential for an increase in vehicular injury and mortality (although it is not possible to quantify the extent to which these will be minimized); and to maintain San Joaquin kit fox movement through preserving existing physical corridors such as the Kern River and canals that the species can safely continue to utilize.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

The Service is not aware of any future non-Federal actions currently planned specifically in the action area that will further directly affect the San Joaquin kit fox or remove or disturb its habitat.

Conclusion

Conservation measures set forth for implementation before, during, and following project work; project design modifications; and the SHP, which is intended to address the collective effects resulting from this and five other TRIP projects in the metro-Bakersfield area, will all serve to minimize both program- and project-level effects and the extent of take associated with the San Joaquin kit fox. After reviewing the current status of the San Joaquin kit fox, the environmental baseline for the action area for the species, the effects of the proposed project on the species, and the cumulative effects, it is the Service's biological opinion that the project, as proposed, is not likely to jeopardize the continued existence of the San Joaquin kit fox.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by FWS regulations at 50 CFR 17.3 as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the same regulations

as an act which actually kills or injures wildlife. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described are nondiscretionary, and must be undertaken by Caltrans for the exemption in section 7(o)(2) to apply. Caltrans has a continuing duty to regulate the activity covered by this incidental take statement. If Caltrans (1) fails to assume and implement the terms and conditions, or (2) fails to require any of its contractors to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, Caltrans must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement. [50 CFR §402.14(i)(3)].

Amount or Extent of Take

It is infeasible for the Service to quantify the exact number of San Joaquin kit foxes that will be taken as a result of the proposed action because the number of individuals in the action area is unknown and estimates of population density in the action area are unavailable. In instances in which the number of individuals that may be taken cannot be determined, the Service may quantify take in the amount of lost or disturbed habitat as a result of the project action; since take is expected to result from these effects to habitat, the quantification of habitat becomes a direct surrogate for the species that will be taken. Therefore, the Service anticipates take incidental to the project as the 76.83 ac of suitable San Joaquin kit fox habitat that will be lost and disturbed. Dens may be destroyed as a result of project construction and a small number of dens could also be disturbed by activities associated with the SHP. Upon implementation of the *Reasonable and Prudent Measures*, *Terms and Conditions*, and the *Proposed Avoidance and Minimization Measures* considered herein, incidental take within this acreage in the form of harm due to new freeway construction, freeway and intersection improvements, sump activities, and other associated construction work leading to habitat loss and disturbance, as well as den excavation and destruction; and in the form of injury and mortality due to vehicle strikes on the new freeway, will become exempt from the prohibitions described under section 9 of the Act.

Effect of the Take

The Service has determined that the level of anticipated take is not likely to jeopardize the continued existence of the San Joaquin kit fox.

Reasonable and Prudent Measures

The following reasonable and prudent measure is necessary and appropriate to minimize the effects of the proposed action on the San Joaquin kit fox.

1. All of the conservation measures proposed in the BA, the Draft SHP Plan, the *Project Description*, and as supplemented and modified in the Terms and Conditions below, must be fully implemented.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, Caltrans, the City, as well as any contractor acting on the City's behalf, must comply with the following Terms and Conditions, which implement the reasonable and prudent measure described above. These Terms and Conditions are nondiscretionary.

The following Terms and Conditions implement Reasonable and Prudent Measure one:

1. Caltrans shall be responsible for implementing all measures described in this biological opinion. Term and Condition 3.b., which applies to contractor activities, shall be conditioned in contracts for the work.

2. In order to promote both effective communication and implementation of the terms and conditions, the lead Service-approved biologist shall meet weekly with the Resident Engineer and contractor to review the week's upcoming ground-disturbing activities - including any possible changes from the project as analyzed in this biological opinion - as well as the measures that will be implemented to minimize effects to listed species. These meetings shall be documented and reported every two weeks to Caltrans; Caltrans in turn will report this information to the Service, as described in Term and Condition 3a.

3. In order to monitor whether the amount or extent of incidental take anticipated from implementation of the project is approached or exceeded, Caltrans shall adhere to the following reporting requirements. Should this anticipated amount or extent of incidental take be exceeded, Caltrans must immediately reinitiate formal consultation as per 50 CFR 402.16.

    a. For those components of the action that will result in habitat loss or degradation whereby incidental take in the form of harm is anticipated, Caltrans shall provide updates every two weeks to the Service with a precise accounting of the total acreage of habitat affected and the number of dens lost. Updates also shall include any information about changes in project implementation that result in habitat disturbance or other effects to the species not described in the *Project Description* and not analyzed in this biological opinion.

    b. For those components of the action that result in direct encounters between listed species and project workers and their equipment whereby incidental take in the

form of harassment, harm, injury, or death is likely, Caltrans shall immediately contact the Service's SFWO at (916) 414-6600 to report the encounter. If an encounter occurs after normal working hours, Caltrans shall contact the SFWO at the earliest possible opportunity the next working day. When injured or killed individuals of the listed species are found, Caltrans shall follow the steps outlined in the *Salvage and Disposition of Individuals* section.

c. Before construction starts on this project, the Service shall be provided with the final documents related to protection of conservation acres, including MBHCP fee payment of habitat conservation acreage. Easement and endowment documentation for each sump included in the SHP will be established following the approval of the FED for the last of the six TRIP projects. The City will fully fund the SHP within one year of that approval.

d. A post-construction report detailing compliance with the project design criteria and proposed conservation measures described under the *Project Description* section of this biological opinion shall be provided to the Service within 60 calendar days of completion of the project. The report shall include: (1) dates of project groundbreaking and completion; (2) pertinent information concerning the success of the project in meeting the conservation measures; (3) an explanation of failure to meet such measures, if any; (4) known project effects on the San Joaquin kit fox, if any; (5) observed incidences of injury to or mortality of the San Joaquin kit fox, if any; (6) the number of dens lost, if any; and, (7) any other pertinent information.

Salvage and Disposition of Individuals

In the case of an injured and/or dead San Joaquin kit fox, the Service shall be notified of events within one day and the animal shall be handled only by a Service-approved biologist. Injured animals shall be cared for by a licensed veterinarian or other Service-approved person. In the case of a dead San Joaquin kit fox, the animal shall be preserved, as appropriate, and shall be bagged and labeled (i.e. species type; who found or reported the incident; when the report was made; when and where the incident occurred; and if possible, cause of death). Carcasses shall be held in a secure location, such as a freezer or cooler, until instructions are received from the Service regarding the disposition of the specimen or until the Service, or another appropriate agency or Service-approved person, takes custody of the specimen. Caltrans must report to the Service within one calendar day any information about take or suspected take of federally-listed species not exempted in this opinion. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal. The Service contacts are Daniel Russell, Deputy Assistant Field Supervisor, Endangered Species Program, Sacramento, at (916) 414-6600 and the Service's Law Enforcement Division at (916) 569-8444.

Any contractor or employee who, during routine operations and maintenance activities inadvertently kills or injures a listed wildlife species must immediately report the incident to his

representative at his contracting/employment firm and to Caltrans. This representative must contact the Service within one calendar day.

CONSERVATION RECOMMENDATIONS

Conservation recommendations are suggestions of the Service regarding discretionary measures to minimize or avoid further adverse effects of a proposed action on listed, proposed, or candidate species or on designated critical habitat, or regarding the development of new information. They may also serve as suggestions on how action agencies can assist species conservation in furtherance of their responsibilities under section 7(a)(1) of the Act, or recommend studies improving an understanding of a species' biology or ecology. Wherever possible, conservation recommendations should be tied to tasks identified in recovery plans. The Service is providing you with the following conservation recommendations:

1. Caltrans should continue to include culverts, tunnels, or other structures along roads and highways, particularly in core and satellite population areas to allow for the safe passage of the San Joaquin kit fox. Crossing structures contribute to creating safe dispersal corridors for multiple wildlife species, and will help reduce wildlife road mortalities and enhance public safety. Caltrans is encouraged to explore designs and include photos, plans, and other information in its BAs concerning the incorporation of wildlife passageway designs into its projects.

2. Caltrans should report new sightings of the San Joaquin kit fox or its dens to the CNDDB. A copy of the reporting form and a topographic map clearly marked with the location in which the animals were observed also should be provided to the Service.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION—CLOSING STATEMENT

This concludes the Service's review of the proposed Centennial Corridor Project, as outlined in your letter. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained or is authorized by law and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or an extent not considered in this biological opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this biological opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action.

Please contact Jen Schofield, Fish and Wildlife Biologist, or Thomas Leeman, Chief, San Joaquin Valley Division, at the letterhead address or at (916) 414-6600 if you have any questions regarding this letter.

Sincerely,

Jennifer Norris
Field Supervisor

cc:
Annee Ferranti, California Department of Fish and Wildlife, Fresno, California

Literature Cited

Bjurlin, C.D., B.L. Cypher, C.M. Wingert, and C.L. Van Horn Job. 2005. *Urban Roads and the Endangered San Joaquin Kit Fox.* California State University-Stanislaus, Endangered Species Recovery Program, Fresno, California.

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(CNDDB) California Natural Diversity Database. 2013. Natural Heritage Division, California Department of Fish and Wildlife. RareFind 5. Accessed November 15, 18-19, 2013. Sacramento, California

Cypher, B.L. 2000. *Effects of Roads on San Joaquin Kit Foxes: A Review and Synthesis of Existing Data.* Endangered Species Recovery Program, California State University, Fresno, California.

Cypher, B.L., and G.D. Warrick. 1993. *Use of Human-derived Food Items by Urban Kit Foxes.* 1993 Transactions of the Western Section of The Wildlife Society 29:34-37.

Cypher, B.L., G.D. Warrick, M.R.M. Otten, T.P. O'Farrell, W.H. Berry, E.C. Harris, T.T. Kato, P.M. McCue, J.H. Scrivner, and B.W. Zoellick. 2000. *Population Dynamics of San Joaquin Kit Foxes at the Naval Petroleum Reserve in California.* Wildlife Monographs 145. 43 pp.

(Service) U.S. Fish and Wildlife Service. 2010. San Joaquin Kit Fox (*Vulpes macrotis mutica*) 5-Year Review: Summary and Evaluation. Sacramento Fish and Wildlife Office, Sacramento, California. 122 pp.

Personal Communications

Cypher, B.L. 2009a. Research ecologist. Endangered Species Recovery Program, California State Universities, Stanislaus and Bakersfield, California. June 2, 2009 – meeting with Stephanie Coppeto of AECOM to discuss San Joaquin kit fox concentration areas, movement corridors, and potential mitigation for the conceptual strategy.

Appendix J Key Correspondence

Throughout the coordination process, Caltrans has received correspondence from several agencies regarding the project. The information in this correspondence is reflected in the environmental document. The correspondence is listed below and provided in Appendix J:

- Faxed letter from California Department of Fish and Game, Central Region (September 1, 2009). The letter is a response to Caltrans' invitation to the Centennial Corridor Project Agency Coordination Meeting held on August 26, 2009. The letter provides a written summary of California Department of Fish and Game outstanding concerns related to the project.

- Letter from Metropolitan Bakersfield Habitat Conservation Plan (December 3, 2010). The letter states that the Trust Group concurs with the use of the Metropolitan Bakersfield Habitat Conservation Plan for compensatory mitigation required by the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife.

- Letter to Office of Historic Preservation, Department of Parks and Recreation, State Historic Preservation Officer (February 15, 2013). The letter initiates consultation with the State Historic Preservation Officer.

- Email from Santa Rosa Rancheria Tachi Yokut Tribe (March 6, 2013). The email was sent to consult with Caltrans on the Project.

- Letter from Office of Historic Preservation, Department of Parks and Recreation, State Historic Preservation Officer (April 15, 2013). This is the letter of concurrence from the State Historic Preservation Officer.

- Letter to United States Fish and Wildlife Service (April 15, 2013). The letter is requesting formal project-specific Section 7 consultation for the San Joaquin kit fox.

- Letter from Office of Historic Preservation, Department of Parks and Recreation, State Historic Preservation Officer (April 10, 2014). The letter provides the following two comments to the finding of No Adverse Effect: (1) it appears that Caltrans has not completed their archaeological resources identification and is extending further archaeological studies until a preferred alternative is selected;

and (2) a proposed soundwall results in a visual intrusion to the Rancho Vista Historic District that would be out of character with the neighborhood.

- Letter from State of California, Department of Transportation, Division of Environmental Analysis (April 18, 2014). The letter is a response to the two comments provided in the letter from the Office of Historic Preservation, Department of Parks and Recreation, State Historic Preservation Officer, dated April 10, 2014.

  In response to the first comment that Caltrans has not completed their archaeology identification and is extending further archaeological studies until a preferred alternative is selected, Caltrans understands that the State Historic Preservation Officer (SHPO) could not concur with the finding of no adverse effect on archaeological resources until the identification phase of the Section 106 process has been completed. While the pedestrian survey did not identify any archaeological resources to be within the archaeological APE, Caltrans has proposed that it carry out a two-stage Extended Phase I archaeological survey. The first stage was completed and submitted to SHPO as part of the Historic Property Survey Report (HPSR) in February 2013. As presented to SHPO, the second stage would be undertaken for the Preferred Alternative and would focus on the presence of archaeological resources in sensitive soils and sediments. A Supplemental HPSR will be prepared by Caltrans and submitted to the SHPO and other consulting parties if the geoarchaeology identification efforts identify archaeological resources for the Centennial Corridor Project.

  In response to the second comment that a proposed structure results in a visual intrusion to the Rancho Vista Historic District and would result in an adverse effect to the historic district, Caltrans has concluded that the elevated structure, though located outside of the Rancho Vista Historic District boundaries, would constitute a visual intrusion and diminish the historic property's setting. This would create an adverse effect as defined by 36 CFR 800.5. As a result, Caltrans will be working with SHPO and other consulting parties to explore possible measures to resolve adverse effects by minimizing or eliminating the adverse visual effects on the historic property. A separate draft Memorandum of Agreement (MOA) will be submitted following the circulation of the Draft EIR/EIS and receipt of public comment.

09-01-09 12:31 FROM-DFG 559 2433004 T-697 P.001/007 F-627

FACSIMILIE LEADER PAGE

California Department of Fish and Game
Central Region
Region 4
1234 East Shaw Avenue
Fresno, California 93710
INFO (559) 243-4017 **FAX (559) 243-3004**

DATE: 9/1/09 **PAGE 1 OF** 7

TO: Kristen Helton
Caltrans, District 6

FAX: (559) 243-8215 **PHONE:**

FROM: Laura Peterson-Diaz

INSTRUCTIONS: Original to follow by mail.

09-01-09 12:31 FROM-DFG 559 2433004 T-697 P.002/007 F-627

DEPARTMENT OF FISH AND GAME
Central Region
1234 East Shaw Avenue
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***DONALD KOCH**, Director*

September 1, 2009

Kirsten Helton
California Department of Transportation, District 6
2015 East Shields Avenue, Suite100
Fresno, California 93726

Subject: Invitation to the Centennial Corridor Project Agency Coordination Meeting
06-KER 58 Alignment EA 06-48460

Dear Ms. Gassner:

This letter is in response to your invitation to the Centennial Corridor Project Agency Coordination Meeting on August 26, 2009, at 10:00 AM via webinar hosted by Caltrans. As discussed during that meeting, the following provides a written summary of our outstanding concerns related to this Project.

It appears that the major focus is on the segment to the east of the Westside Parkway Segment. However, the Department of Fish and Game (DFG) remains significantly concerned that the Western Segment at the junction with Interstate 5 (I5) continues to show the alignment through Kern Water Bank Authority's Kern Water Bank. The Biological Services Study Plan sent with the invitation to the webinar states that the Western Segment and the Westside Parkway portions of the Project have been addressed in previous environmental documents, pursuant to the California Environmental Quality Act (CEQA) and National Environmental Protection Act (NEPA), and that the Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) will incorporate by reference these previous two documents:

- Final Route 58 Adoption Project, a Tier 1 EIS/EIR, 2002 (SR 58 EIR)
- Westside Parkway Environmental Assessment/ Final EIR, 2006 (Westside Parkway EIR)

Further, for these two segments of the Project, the analysis in the Centennial Corridor EIR/EIS will serve as a **revalidation of the previous documents**. New information will be provided to the extent necessary to ensure the environmental record is reflective of the current conditions.

Given the information provided in our previous comment letter, it is not appropriate to simply "revalidate the previous documents"; the State Route (SR) 58 EIR failed to accurately present the conditions that were present in 2002 and as a result, the associated potential Project-related impacts were not adequately characterized nor disclosed. Impacts to the Kern Water Bank are erroneously described as Agricultural lands in Table 4-5 of the SR 58 EIR, which includes the potential impacts with "Terrestrial Vegetation" and does not include wetlands. Figure 3-7 of the SR 58 EIR is a map of "Terrestrial Vegetation Types" and despite the notation on the Map,

which says "Land cultivated prior to 1987, but converted to recharge basins; managed by Kern Water Bank Authority" the area is still given dots which the Legend identifies as "Agricultural Land (indicates land **currently** in cultivation)". (Emphasis added.) This is incorrect and does not reflect the conditions that were present in 2002 or the existing conditions.

On October 20, 2008, DFG commented on the Notice of Preparation (NOP) for the Centennial Corridor Project in a letter also addressed to Sarah Gassner, representing the City of Bakersfield. Some of DFG's comments provided in the October 2008 letter are reiterated in this comment letter. DFG has significant concerns with the single alternative identified for the western portion of the alignment, which traverses through the Kern Water Bank. The lands and wetlands within the Kern Water Bank are critically important in a regional conservation and recovery context for many threatened and endangered species and other wildlife. As a result, we feel that implementation of the western portion of this Project in the currently proposed location is ill advised and should not proceed as proposed. We recommend reconsideration of one or more alternate Project locations that would not impact the Kern Water Bank.

The Kern River alignment is no longer even shown as an alternative. The only route shown on the map at the western end of the Project is the Cross Valley Canal Option, which cuts through the Kern Water Bank. While the Kern River Alternative could result in impacts to a small isolated piece of Valley Saltbush Scrub/Valley Sink Scrub (Scrub), these impacts would be minor in comparison to the significant impacts that would occur to Kern Water Bank with the currently identified preferred alternative. In addition, the impacts to the Scrub habitat associated with the Kern River Alternative could be minimized by making slight alterations to the design shown in Figure 3-8. For example, the northbound I5 off-ramp could be moved just a bit farther east, outside the Scrub habitat. In addition, much of the disturbed Scrub identified in Figure 3-8 west of I5 has already been converted to irrigated agriculture since the Alternatives analysis was conducted. Another Alternative which does not seem to have been given full consideration is connecting to the current Stockdale Highway just west of SR 43, which would only require a single-lane overpass.

DFG has concerns regarding the potential discharge of storm water runoff from the proposed Cross Valley Canal Option. A highway through the wetlands present on Kern Water Bank could result in hazardous substances such as oil, other petroleum products, antifreeze, coolant, and heavy metals entering the wetlands from the roadway. Further, a letter from the Kern Water Bank Authority to Caltrans on July 9, 2008, indicated that not only would the proposed Project impact sensitive and threatened plant and animal species protected by the Kern Water Bank Authority Habitat Conservation Plan (HCP)/Natural Communities Conservation Plan (NCCP), but also that this alternative would also impact ground water recharge, recovery, and water quality. The permeable nature of the soils in this area, which make the area particularly suitable for ground water recharge, also means that the area would be extremely susceptible to contaminants associated with vehicles and roadways. The EIR/EIS prepared for this Project should address this potential significant threat to water quality.

Wetlands and Water Quality: On page 4-28, the Westside Parkway EIR states that the United States Army Corps of Engineers (ACOE) was informed that the preferred Alternative for SR 58, the Kern River alignment, did not cross any jurisdictional wetlands. The ACOE responded that

a Nationwide Permit 14 would likely be required and 404 coordination would not be applicable. However, Figure 3-8 of the SR 58 EIR, which is entitled "Impacts to Potential Jurisdictional Wetlands", indicates that the southbound I5 off-ramp would impact potential jurisdictional wetlands. It is unclear whether this was considered when the ACOE was told that the Kern River alignment did not cross any jurisdictional wetlands, or whether the term Kern River alignment was erroneously used when referring to the Cross Valley Canal Option. Prior to the 1997 letter saying the NEPA 404 process would not be applicable, a letter from the ACOE dated October 30, 1995, states "since the project would affect wetlands, a special aquatic site, your assessment that the NEPA/404 MOU would not apply is incorrect. The procedures described in that MOU would have to be followed."

Regardless of the conflicting wetland and associated permitting issues described above, it appears that the portion of the Project alignment west of SR 43 would cross approximately 1.5 miles of recharge ponds within the Kern Water Bank, which are functional wetlands.

Riparian Habitat and Wetlands: Riparian habitat is of extreme importance to a wide variety of plant and wildlife species. Riparian habitat and wetlands are present along the Kern River as well as throughout the Kern Water Bank. DFG considers projects that impact these resources as significant if they result in a net loss of acreage or habitat value. DFG has a no-net-loss policy regarding impacts to wetlands. Potential impacts to special status resources posed by wetland creation should also be considered. Wetlands that have been inadvertently created by leaks, dams or other structures, or failures in man-made water systems are not exempt from this policy. Wetlands should be designated on a site map and included in the final environmental documents, and the size of the buffers should be clearly delineated both on the map and in the text of the mitigation measures.

Portions of Kern Water Bank, once farmed, have been returned to seasonal wetlands and upland habitat that were present in that area historically. Water from the Kern River, the State Water Project, and other sources are used to periodically flood portions of Kern Water Bank. Prior to agricultural development in the area encompassed by the Kern Water Bank, much of the land was regularly flooded by Kern River flood flows. The area is unique in California in its ability to absorb water at an extremely high rate and to retain it in aquifers. Approximately 4,700 acres of Kern Water Bank are used for recharge basins, which are managed in a way that provides high quality wetland habitat, a rare resource in the southern San Joaquin Valley. It is these wetlands that would not only be directly impacted by the highway footprint, but would also be severed and made disjunct by the placement of the preferred alternative through Kern Water Bank. Under the HCP/NCCP, the remainder of the Kern Water Bank is managed as habitat for threatened and endangered species, and a portion of this habitat is operated as a conservation bank, which sells credits to third parties to mitigate the impacts of their projects to threatened and endangered species, such as San Joaquin kit fox and Tipton kangaroo rat. Caltrans has utilized this conservation bank to compensate for impacts to threatened and endangered species associated with other projects. Conservation Easements are recorded in favor of DFG on the Conservation Bank portion of Kern Water Bank. Implementation of the Cross Valley Canal Option, would require condemnation of parcels with State Conservation Easements on them.

Conflicts with HCPs and NCCPs: As noted above, the Kern Water Bank is covered by an HCP and NCCP. We do not believe that the proposed Project is compatible with these plans, and that the Project as proposed would result in conflicts with these plans.

In addition, the Cheng parcel (T30S, R24E, NW ¼ S4 and N ½ S5) was acquired with both Valley Floor Habitat Conservation Plan (VFHCP) implementation funding as well as with mitigation funding from the California Department of Water Resources to offset impacts to threatened and endangered species associated with construction of Coastal Aqueduct Phase II. This parcel supports good quality saltbush scrub habitat. The VFHCP is not yet finalized, but the initial habitat acquisitions associated with the VFHCP are important for finalization. It is unclear from the figure included in the NOP whether or not the Cheng parcel is within the Project footprint. If it is not within the Project footprint it is likely immediately adjacent to the new highway alignment, and this mitigation parcel, which is to be managed in perpetuity for the purposes of threatened and endangered species conservation, will be impacted.

Section 4(f) Consideration: Section 4(f) of the Department of Transportation Act of 1966, codified in Federal law at 49 U.S.C.A. Section 303, declares that "It is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites." The SR 58 EIR, by describing the Kern Water Bank lands which would potentially be impacted by this Project as agricultural lands, incorrectly dismisses the potential for these lands to be considered under Section 4(f) as wetlands and/or as a wildlife and waterfowl refuge. However, both of these designations are quite applicable to the Kern Water Bank lands which would be impacted by the only identified alternative on this portion of the alignment, the Cross Valley Canal Option.

Section 4(f) specifies that "The Secretary [of Transportation] may approve a transportation program or project...requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if: (emphasis added)

(1) There is no prudent and feasible alternative to using that land; and

(2) The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use."

Section 4(f) further requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Departments of Agriculture and Housing and Urban Development in developing transportation projects and programs which use lands protected by section 4(f).

There are prudent and feasible alternatives to going through the Kern Water Bank, so to comply with Section 4(f) of the Department of Transportation Act, the Cross Valley Canal Option should not move forward as the route adopted for the "established alignment".

cc: Tim Kuhn
United States Fish and Wildlife Service
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

Kate Dadey
San Joaquin Valley Office
United States Army Corps of Engineers
1325 J Street
Sacramento, California 95814-2922

Regional Water Quality Control Board
Central Valley Region
1685 E Street
Fresno, California 93706-2020

Zachary Parker
California Department of Transportation, District 6
2015 East Shields Avenue, Suite100
Fresno, California 93726

Kern Water Bank Authority
1620 Mill Rock Way, Suite 500
Bakersfield, California 93311

Ted James, AICP, Director
Kern County Planning Department
Public Services Building
2700 "M" Street, Suite 100
Bakersfield, California 93301-2370

Stanley C. Grady, Development Services Director
City of Bakersfield
1715 Chester Avenue
Bakersfield, California 93301

ec: Laura Peterson-Diaz
Department of Fish and Game

METROPOLITAN BAKERSFIELD HABITAT CONSERVATION PLAN

December 3, 2010

Mr. Raul Rojas, Director of Public Works Department
City of Bakersfield
1600 Truxtun Avenue
Bakersfield, CA 93301

Re: MBHCP as Mitigation for Thomas Roads Improvement Program (TRIP) Projects

Dear Mr. Rojas:

We understand from our discussions with you that the City of Bakersfield (City) in cooperation with Caltrans is consulting with the US Fish and Wildlife Service (USWS) and the California Department of Fish and Game (CDFG) for potential impacts to the San Joaquin kit fox and other sensitive species by TRIP projects and improvements to the circulation system, which occur within the boundaries of the MBHCP. We also understand from our conversation that City desires to continue to use the MBHCP for the TRIP projects that includes: 24th Street Improvements, Rosedale Highway Widening, Hageman Road Flyover, SR 178 Widening, Centennial Corridor/SR 58 Connector, and SR 178/Morning Drive Interchange.

We agree that the City will continue to use the MBHCP for compensatory mitigation required by USWS and CDFG for the TRIP projects and payment could occur after approval of the final environmental document for each project. The City will pay the appropriate fee amount to the Trust Group for the acreage disturbed and the Trust Group will acquire the required acreage amounts.

We welcome the opportunity to assist the City and Caltrans in completing TRIP projects and fulfilling your mitigation requirements. Please feel free to contact me if you have further questions.

Sincerely,

Martin Ortiz, MBHCP Trust Administrator

CC: Ted Wright, Civil Engineer IV – TRIP Manager
David Clark, Environmental Coordinator

\letter to PW Dir re.TRIP - Dec 2010.doc

1715 Chester Avenue, Bakersfield CA 93301

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
50 HIGUERA STREET
SAN LUIS OBISPO, CA 93401-5415
PHONE (805) 549-3101
FAX (805) 549-3329
TTY 711
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Flex your power!
Be energy efficient!

February 15, 2013

Dr. Carol Roland-Nawi
State Historic Preservation Officer
Office of Historic Preservation
P.O. Box 942896
Sacramento, CA 94296-0001

06-KER-58-PM T31.7/R55.6;
06-KER-99-PM 21.2/26.2
EA 05-48460

RE: Determinations of Eligibility for the Centennial Corridor Project, City of Bakersfield and Kern County, California

Dear Dr. Roland-Nawi:

The California Department of Transportation (Caltrans) is initiating consultation with you regarding the Centennial Corridor Project. This consultation is being undertaken in accordance with the January 1, 2004 Section 106 Programmatic Agreement and as part of federal responsibilities delegated to Caltrans by the Federal Highway Administration (FHWA), pursuant to 23 USC 327 and effective October 1, 2012.

Enclosed you will find an Historic Property Survey Report (HPSR) for the proposed undertaking. The HPSR fulfills three responsibilities under Section 106 of the National Historic Preservation Act: (1) determination of the Area of Potential Effects (APE); (2) documentation of the identification efforts for cultural resources located within the APE completed to date; and (3) evaluation of historic-period resources to determine their eligibility to the National Register of Historic Places (NRHP). Under the PA, Caltrans is responsible for ensuring the appropriateness of the APE (Stipulation VIII.A) and the adequacy of historic property identification efforts (Stipulation VIII.B). At this time, under PA Stipulation VIII.C.5, we seek your concurrence on Caltrans' determinations of eligibility for potential historic properties.

Project Description
Caltrans proposes to establish a new alignment for State Route 58, which would provide a continuous route along State Route 58 from Cottonwood Road on existing State Route 58, east of State Route 99, to Interstate 5. Improvements to State Route 99 and Westside Parkway would also be made to accommodate the connection with State Route 58. A complete project description can be found on page 4 of the enclosed HPSR.

Resources Identified
To date, identification efforts for the Centennial Corridor Project have resulted in the identification and documentation of 639 buildings or groups of buildings within the

APE of the undertaking. The resources were documented on 169 DPR 523 forms (see HPSR Exhibit 3, sheets A-O).

- Twenty-seven of these resources were **previously determined not eligible** for the National Register.

Properties Previously Determined Not Eligible for the National Register

APN	Address / Name	Community	Year Built	OHP Status Code	Map Reference No.	Exhibit
N/A	Kern Island Canal	Bakersfield	1874	6Z, 7N1	04-01	3C
149-101-03	17 Stine Rd	Bakersfield	1951	6Y	09-21	3J
149-120-13	3816 Peckham Ave	Bakersfield	1951	6Y	09-21	3J
020-091-07	337 Wetherley Dr	Bakersfield	1952	6Y	10-01	3F
147-031-08	28 Stephens Dr	Bakersfield	1945, 1948	6Y	N/A	3E
147-031-12	314 Stephens Dr	Bakersfield	1941	6Y	N/A	3E
147-031-37	2821 Brundage Ln	Bakersfield	1924–1972	6Y	N/A	3E
147-060-03	311 Dixon Ave	Bakersfield	1947	6Z	N/A	3E
147-071-02	116 Dixon Ave	Bakersfield	1941	6Y	N/A	3E
147-071-03	118 Dixon Ave	Bakersfield	1941	6Y	N/A	3E
147-071-04	120 Dixon Ave	Bakersfield	1941	6Z	N/A	3E
147-072-03	221-223 Hughes Ln	Bakersfield	1912–1952	6Y	N/A	3E
147-072-14	304 Dixon Ave	Bakersfield	1941	6Y	N/A	3E
147-072-15	300 Dixon Ave	Bakersfield	1940	6Y	N/A	3E
147-210-10	2329 Brite St	Bakersfield	1949	6Y	N/A	3E
149-222-12	96 Williamson Way	Bakersfield	1915–1989	6Y	N/A	3E
149-233-05	3618 Elcia Dr	Bakersfield	1941	6Y	N/A	3E
149-233-07	3624 Elcia Dr	Bakersfield	1924	6Y	N/A	3E
149-233-08	218 Williamson Way	Bakersfield	1918	6Y	N/A	3E
N/A	Arvin-Edison Canal	Bakersfield	1960s	6Y	N/A	3L
N/A	Calloway Canal	Bakersfield	1870s	6Z, 6Y	N/A	NA
N/A	Carrier (Gates) Canal	Bakersfield	1872–1873, 1960s	6Y	N/A	3L
N/A	Stine Canal	Bakersfield	1873, 1879, 1884	6Y	N/A	3F
N/A	Red Ribbon Lease 1, No. 3	Bakersfield	1949	6Z	N/A	N/A
N/A	Red Ribbon Ranch No. 14	Bakersfield	1942	6Z	N/A	N/A
N/A	Red Ribbon Ranch No. 17	Bakersfield	1944	6Z	N/A	N/A
N/A	Red Ribbon Ranch No. 23	Bakersfield	1944	6Z	N/A	N/A

- Three of these were **determined to be eligible** for the National Register: 307 S. Oleander Ave., Rancho Vista (Tract 1522) and 3904 Marsha Street.
- One was **previously determined eligible** for the National Register (The Friant-Kern Canal).

All other resources identified within the APE are **exempt from formal evaluation** pursuant to Programmatic Agreement Stipulation VIII.C.1 and Attachment 4 ("Properties Exempt from Evaluation").

Geoarchaeological Study
The pedestrian archaeological survey did not identify any archaeological resources within the APE. However, because the vast majority of the surface of the archaeological APE is covered by modern development, it is possible that buried sites are still present. For this reason, a two-staged Extended Phase I was initiated. The first stage was a Geoarchaeological Study (See Attachment 3 of the HPSR). This paper study addressed the vertical APE by conducting a geomorphic evaluation. Specific areas along the planned and alternate routes were evaluated. Stage II will test the sensitivity model and identify resources in any of the sensitive area. This stage of the Extended Phase I will be completed after the selection of the preferred alternative.

Findings
Caltrans is requesting your concurrence on the following determinations of eligibility pursuant to Stipulation VIII.C.5 of the Programmatic Agreement.

1. As assigned by the Federal Highway Administration pursuant to 23 USC 327, Caltrans has determined that the following three built-environment resources are eligible for listing in the NRHP.

Properties Appearing Eligible for the NRHP as a Result of the Current Study

APN	Address / Name	Community	Year Built	OHP Status Code	Map Reference No.	HPSR Exhibit
147-240-14	307 S Oleander Ave	Bakersfield	1939	3S	05-04	3E
Various (See HRER)	Rancho Vista (Tract 1522)	Bakersfield	1950–1957	3S	09-21	3J
149-131-03	3904 Marsha Street	Bakersfield	1956	3B	09-21A	3J

OHP Status Code: Office of Historic Preservation historical resources classification code for resources identified through a regulatory process or local government survey; HRER: Historic Resources Evaluation Report.

2. As assigned by the Federal Highway Administration pursuant to 23 USC 327, Caltrans has determined that the following 165 built-environment resources are not eligible for listing in the NRHP (see table on next five pages).

Properties Determined not Eligible for the National Register as a Result of the Current Study

APN	Address / Name	Community	Year Built	OHP Status Code	Map Reference No.	HPSR Exhibit
168-141-06	929- 931 E Brundage Ln	Bakersfield	ca. 1940–1951	6Z	02-01	3B
Various; See HPSR Appendix E	Tract 1492	Bakersfield	1950–1951	6Z	02-02	3B
169-031-06	122 Madison St	Bakersfield	1953	6Z	02-03	3B
169-031-25	121 S Milham Dr	Bakersfield	1946	6Z	02-04	3B

Properties Determined not Eligible for the National Register as a Result of the Current Study

APN	Address / Name	Community	Year Built	OHP Status Code	Map Reference No.	HPSR Exhibit
169-050-10	107 S Milham Dr	Bakersfield	1948	6Z	02-05	3B
169-032-22	122 S Milham Dr	Bakersfield	1952	6Z	02-06	3B
169-032-26	108 S Milham Dr	Bakersfield	1946	6Z	02-07	3B
169-062-06	132 Ohio Dr	Bakersfield	1929, 1959, 1984	6Z	03-01	3B
Various; See HPSR Appendix E	Tract 1503	Bakersfield	1949–1951	6Z	03-02	3B
011-043-05	501 Orchard St	Bakersfield	1940	6Z	03-03	3C
011-041-08	506 Fig St	Bakersfield	1920	6Z	03-04	3C
011-041-09	510 Fig St	Bakersfield	1924	6Z	03-05	3C
011-048-10	616 Fig St	Bakersfield	ca. 1920s	6Z	03-06	3C
011-046-02	621 Orchard St	Bakersfield	1963	6Z	03-07	3C
169-092-01	201 E Brundage Ln	Bakersfield	1954	6Z	03-08	3C
N/A	Kern Island Canal	Bakersfield	1874	6Z	04-01	3C
011-084-04	901 Snyder Ln	Bakersfield	1955	6Z	04-02	3C
011-060-17	123 S P St	Bakersfield	1955	6Z	04-03	3C
011-084-03	909 Snyder Ln	Bakersfield	1955	6Z	04-04	3C
011-060-15	912 Dobrusky Dr	Bakersfield	1957	6Z	04-05	3C
011-060-08	916 Dobrusky Dr	Bakersfield	1957	6Z	04-06	3C
011-060-14	920 Dobrusky Dr	Bakersfield	1957	6Z	04-07	3C
011-060-13	1000 Dobrusky Dr	Bakersfield	1948	6Z	04-08	3C
011-083-12	1001 Snyder Ln	Bakersfield	1955	6Z	04-09	3C
011-083-02	1005 Snyder Ln	Bakersfield	1943	6Z	04-10	3C
Various; See HPSR Appendix E	Tract 1061	Bakersfield	1938–1941	6Z	04-11	3C
011-083-01	1011 Snyder Ln	Bakersfield	1950	6Z	04-12	3C
011-082-05	301 S N St	Bakersfield	1946, 1947	6Z	04-13	3C
011-082-03	1119 Snyder Ln	Bakersfield	1954	6Z	04-14	3C
011-082-01	1129 Snyder Ln	Bakersfield	1950, 1960	6Z	04-15	3C
011-081-01	1200 Dobrusky Dr	Bakersfield	1951	6Z	04-16	3C
011-130-07	212 Vernal Pl	Bakersfield	1948	6Z	04-17	3C
011-102-11	1304 Richland St	Bakersfield	1926	6Z	04-18	3C
011-121-31	208-214 Brink Dr	Bakersfield	1946	6Z	04-19	3C
011-102-12	1324 Richland St	Bakersfield	1925	6Z	04-20	3C
011-102-13	1330 Richland St	Bakersfield	1924	6Z	04-21	3C
011-102-14	1416 Richland St	Bakersfield	1930	6Z	04-22	3C
011-122-09	209 Brink Dr	Bakersfield	1939	6Z	04-23	3C
011-122-14	308-314 S Chester Ave	Bakersfield	1939	6Z	04-24	3C
011-122-15	304 S Chester Ave	Bakersfield	1926	6Z	04-25	3C
011-122-16	234 S Chester Ave	Bakersfield	1925	6Z	04-26	3C
011-111-13	313-317 S Chester Ave	Bakersfield	1927	6Z	04-27	3C
011-111-12	305-309 S Chester Ave	Bakersfield	1935–1936, 1969	6Z	04-28	3C
011-111-11	301 S Chester Ave	Bakersfield	1932	6Z	04-29	3C
011-111-10	233 S Chester Ave	Bakersfield	1932	6Z	04-30	3C

Properties Determined not Eligible for the National Register as a Result of the Current Study

APN	Address / Name	Community	Year Built	OHP Status Code	Map Reference No.	HPSR Exhibit
011-111-09	229 S Chester Ave	Bakersfield	1936	6Z	04-31	3C
011-111-24	230 Haybert Ct	Bakersfield	1926	6Z	04-32	3C
011-111-25	228 Haybert Ct	Bakersfield	1926	6Z	04-33	3C
011-111-27	206 Haybert Ct	Bakersfield	1925	6Z	04-34	3C
011-111-28	204 Haybert Ct	Bakersfield	1927	6Z	04-35	3C
011-112-14	301 Haybert Ct	Bakersfield	1947	6Z	04-36	3C
011-112-13	231 Haybert Ct	Bakersfield	1945	6Z	04-37	3C
011-112-12	225 Haybert Ct	Bakersfield	1945	6Z	04-38	3C
011-112-11	219 Haybert Ct	Bakersfield	1927	6Z	04-39	3C
011-112-10	215 Haybert Ct	Bakersfield	1926	6Z	04-40	3C
011-112-09	207 Haybert Ct	Bakersfield	1939	6Z	04-41	3C
147-310-18	310 Houchin Rd	Bakersfield	1937	6Z	04-42	3C
147-290-03	1819 Brundage Ln	Bakersfield	1953	6Z	04-43	3C
147-290-02	1825 Brundage Ln	Bakersfield	1926	6Z	04-44	3C
147-290-11	124 Houchin Rd	Bakersfield	1937	6Z	04-45	3C
147-290-12	120 Houchin Rd	Bakersfield	1938	6Z	04-46	3C and 3E
147-280-01	309 Houchin Rd	Bakersfield	1939	6Z	05-01	3C and 3E
Various; See HPSR Appendix E	Tract 1010	Bakersfield	1936–1952	6Z	05-02	3C and 3E
Various; See HPSR Appendix E	Tract 1235	Bakersfield	1946–1950	6Z	05-03	3E
147-440-05	2200 Roosevelt St	Bakersfield	1956	6Z	05-05	3E
147-240-03	2293 Brite St	Bakersfield	1951	6Z	05-06	3E
147-240-02	2207 Brite St	Bakersfield	1956	6Z	05-07	3E
147-240-01	2291 Brite St	Bakersfield	1953, 1965	6Z	05-08	3E
147-210-06	2300 Brite St	Bakersfield	1951	6Z	05-09	3E
147-210-05	2324 Brite St	Bakersfield	1951	6Z	05-10	3E
147-210-04	2394 Brite St	Bakersfield	1950	6Z	05-11	3E
147-210-11	2331 Brite St	Bakersfield	1949	6Z	05-12	3E
147-210-03	2396 Brite St	Bakersfield	1949	6Z	05-13	3E
147-210-12	300 Hughes Ln	Bakersfield	1945, 1979	6Z	05-14	3E
147-091-03	2402 Robbin Rd	Bakersfield	1951	6Z	05-15	3E
147-091-04	2404 Robbin Rd	Bakersfield	1951	6Z	05-16	3E
147-091-05	2406 Robbin Rd	Bakersfield	1948	6Z	05-17	3E
147-080-03	2408 Robbin Rd	Bakersfield	1951	6Z	05-18	3E
147-080-04	203 Judan St	Bakersfield	1950	6Z	05-19	3E
147-080-14	205 Judan St	Bakersfield	1953	6Z	05-20	3E
147-072-13	2530 Colton St	Bakersfield	1941	6Z	05-21	3E
Various; See HPSR Appendix E	Tract 1402	Bakersfield	1949–1954	6Z	05-22	3E
147-060-04	313 Dixon Ave	Bakersfield	1940	6Z	05-23	3E
147-060-02	305 Dixon Ave	Bakersfield	1957	6Z	05-24	3E
147-053-03	209 Myrtle	Bakersfield	1949	6Z	05-25	3E
147-053-02	205 S Myrtle St	Bakersfield	1949	6Z	05-26	3E
147-031-07	24 Stephens Dr	Bakersfield	1963	6Z	05-27	3E

Properties Determined not Eligible for the National Register as a Result of the Current Study

APN	Address / Name	Community	Year Built	OHP Status Code	Map Reference No.	HPSR Exhibit
Various; See HPSR Appendix E	Tract 1527	Bakersfield	1950	6Z	05-28	3E
Various; See HPSR Appendix E	Olive Street Tract	Bakersfield	1950	6Z	05-29	3E
Various; See HPSR Appendix E	Tract 1549	Bakersfield	1950	6Z	05-30	3E
164-101-13	3400 Madrid Ave	Bakersfield	1961	6Z	07-01	3D
Various; See HPSR Appendix E	Tract 1915	Bakersfield	1957–1959	6Z	07-02	3D and 3E
164-040-30	1117 Wible Rd	Bakersfield	1961, 1967	6Z	07-03	3E
164-040-20	3309 Wood Ln	Bakersfield	ca. 1950s	6Z	07-04	3E
164-040-01	3311 Wood Ln	Bakersfield	1959	6Z	07-05	3E
164-091-08	3407 Wood Ln	Bakersfield	1959	6Z	07-06	3E
164-010-38	3308 Wood Ln	Bakersfield	1957	6Z	08-01	3E
164-010-18	3310 Wood Ln	Bakersfield	1946	6Z	08-02	3E
164-010-19	3320 Wood Ln	Bakersfield	1948	6Z	08-03	3E
164-010-09	3229 Belle Terrace	Bakersfield	1948	6Z	08-04	3E
Various; See HPSR Appendix E	Tract 1562	Bakersfield	1951–1955	6Z	08-05	3E
149-250-50	3234 Belle Terrace	Bakersfield	1952	6Z	08-06	3E
149-250-15	3209 Mona Way	Bakersfield	1959	6Z	08-07	3E
149-250-16	3213 Mona Way	Bakersfield	1959	6Z	08-08	3E
149-250-09	3232 Mona Wy	Bakersfield	1947	6Z	08-09	3E
149-250-08	3326 Mona Way	Bakersfield	1952	6Z	08-10	3E
Various; See HPSR Appendix E	Tract 1579	Bakersfield	1951	6Z	08-11	3E
149-190-08 149-190-11	3330 Elcia Dr 3320 Elcia Dr	Bakersfield Bakersfield	1956, 1963 1963	6Z	08-12	3E
149-190-17	3324 Elcia Dr	Bakersfield	1961	6Z	08-13	3E
149-211-10	3400 Elcia Dr	Bakersfield	1953	6Z	08-14	3E
149-212-10	3401 Elcia Dr	Bakersfield	1953	6Z	08-15	3E
149-211-09	3404 Elcia Dr	Bakersfield	1953	6Z	08-16	3E
149-212-09	3405 Elcia Dr	Bakersfield	1953	6Z	08-17	3E
149-211-08	3408 Elcia Dr	Bakersfield	1953	6Z	08-18	3E
149-212-08	3409 Elcia Dr	Bakersfield	1953	6Z	08-19	3E
149-211-07	3412 Elcia Dr	Bakersfield	1953	6Z	08-20	3E
149-212-07	3413 Elcia Dr	Bakersfield	1953	6Z	08-21	3E
149-211-06	3416 Elcia Dr	Bakersfield	1953	6Z	08-22	3E
149-211-05	3500 Elcia Dr	Bakersfield	1949	6Z	08-23	3E
149-200-05	210 S Real Rd	Bakersfield	1929	6Z	08-24	3E
149-211-04	3502 Elcia Dr	Bakersfield	1953	6Z	08-25	3E
149-211-01	236 S Real Rd	Bakersfield	1953, 1968	6Z	08-26	3E
149-231-18	301 S Real Rd	Bakersfield	1940	6Z	08-27	3E
149-232-04	225 Williamson Way	Bakersfield	1954	6Z	08-28	3E
149-232-03	217 Williamson Way	Bakersfield	1954	6Z	08-29	3E
149-232-02	215 Williamson Way	Bakersfield	1955	6Z	08-30	3E

Properties Determined not Eligible for the National Register as a Result of the Current Study

APN	Address / Name	Community	Year Built	OHP Status Code	Map Reference No.	HPSR Exhibit
149-232-14	320 S Garnsey Ave	Bakersfield	1943	6Z	08-31	3E
149-232-08	306 S Garnsey Ave	Bakersfield	1959	6Z	08-32	3E
149-232-01	300 S Garnsey Ave	Bakersfield	1959	6Z	08-33	3E
149-340-10	100 Stine Rd	Bakersfield	1950, 1965	6Z	08-34	3E
149-211-03	3504 Elcia Dr	Bakersfield	1949	6Z	08-35	3E
008-062-17	92 Oak St	Bakersfield	1962–1963	6Z	09-01	3E
008-062-13	3050-3090 Brundage Ln	Bakersfield	1956	6Z	09-02	3E
008-061-22	3116-3118 Verde St	Bakersfield	1954	6Z	09-03	3E
Various; See HPSR Appendix E	Tract 1397	Bakersfield	1948–1950	6Z	09-04	3E
149-222-01	20 Williamson Way	Bakersfield	1964	6Z	09-05	3E
149-222-21	3621 Stockdale Hwy	Bakersfield	1962	6Z	09-06	3E
149-222-14	209 Williamson Way	Bakersfield	1957	6Z	09-07	3E
149-222-15	205 Williamson Way	Bakersfield	1957	6Z	09-08	3E
149-222-16	201 Williamson Way	Bakersfield	1957	6Z	09-09	3E
149-222-17	125 Williamson Way	Bakersfield	1957	6Z	09-10	3E
Various; See HPSR Appendix E	Tract 1938	Bakersfield	1957–1960	6Z	09-11	3J
149-221-21	195 S Garnsey Ave	Bakersfield	ca. 1930, 1950	6Z	09-12	3J
149-221-03	3847-3849 Stockdale Hwy	Bakersfield	1961	6Z	09-13	3J
020-200-12	3808 Stockdale Hwy	Bakersfield	1960	6Z	09-14	3J
149-221-24	30 Stine Rd	Bakersfield	1935	6Z	09-15	3J
149-221-11	22 Stine Rd	Bakersfield	1940	6Z	09-16	3J
149-221-12	16 Stine Rd	Bakersfield	1935	6Z	09-17	3J
149-221-13	20 Stine Rd	Bakersfield	1956	6Z	09-18	3J
149-221-17	3899 Stockdale Hwy	Bakersfield	1932, 1977	6Z	09-19	3J
Various; See HPSR Appendix E	Stockdale Manor (Tracts 1750, 1753)	Bakersfield	1955	6Z	09-20	3J
Various; See HPSR Appendix E	Tract 1530	Bakersfield	1950–1954	6Z	10-01	3F
020-150-09	3300 Palm St	Bakersfield	1956-58c	6Z	10-02	3F
020-140-25 020-140-35 020-140-42	3231 Chester Ln	Bakersfield	1962, 1964, ca. 1968–1975, 1993	6Z	10-03	3F
020-140-06	3311 Chester Ln	Bakersfield	1950	6Z	10-04	3F
020-130-23	3232 Chester Ln	Bakersfield	1963–1964	6Z	10-05	3F
Various; See HPSR Appendix E	Tract 1005	Bakersfield	1957–1959	6Z	15-01	3J

Properties Determined not Eligible for the National Register as a Result of the Current Study

APN	Address / Name	Community	Year Built	OHP Status Code	Map Reference No.	HPSR Exhibit
149-142-08	3990 Peckham Ave	Bakersfield	1935	6Z	15-02	3J
149-142-19	40 McDonald Way	Bakersfield	1938	6Z	15-03	3J
Various; See HPSR Appendix E	Tract 1610	Bakersfield	1952–1954	6Z	15-04	3J
149-330-03	4400 Frazier Ave	Bakersfield	1955	6Z	15-05	3J
149-330-04	4404 Frazier Ave	Bakersfield	1955	6Z	15-06	3J
N/A	K.C.L._Wells No. A53, D65, D66, D67, D77	Bakersfield	ca. 1950–1953	6Z	16-01	3J and 3K
N/A	Kernland Wells No 5 & 10	Bakersfield	1949, 1953, ca. 1965	6Z	17-01	3J and 3K
N/A	Red Ribbon Ranch Wells No. 22, 31, 42	Bakersfield	1945, 1948, 1952	6Z	19-01	3K
OHP Status Code: Office of Historic Preservation historical resources classification code for resources identified through a regulatory process or local government survey						

Summary
We look forward to receiving your response within 30 days of your receipt of this HPSR submittal, in accordance with Programmatic Agreement Stipulation VIII.C.5a. A Supplemental HPSR will be submitted after an alternative is selected and further identification efforts for archaeological resources have been completed.

This letter and the enclosed HPSR are concurrently being distributed to the Caltrans Cultural Communities Studies Office and three Native American tribes.

Thank you for your assistance with this undertaking. If you need any additional information, please feel free to contact Caltrans architectural historian Philip Vallejo at (559) 445-5997; Fax (559) 445-6236; or e-mail: philip_vallejo@dot.ca.gov.

Sincerely,

Jeanne Day Binning, Ph.D.
Branch Chief, Central California Cultural Resource Branch

Enc: Historic Property Survey Report, Centennial Corridor Project

cc: Todd Jaffke, Caltrans Section 106 Coordinator, Cultural and Community Studies Office
Clarence Atwell, Chairperson, Santa Rosa Rancheria (attention Lalo Franco)
Neil Peyron, Chairperson, Tule River Indian Tribe
Kathryn Montes Morgan, Chairwoman, Tejon Indian Tribe

Shana Brum <SBrum@tachi-yokut-nsn.gov> 03/06/2013 09:48 AM
To: "philip_vallejo@dot.ca.gov" <philip_vallejo@dot.ca.gov>
CC: "mandy.marine@dot.ca.gov" <mandy.marine@dot.ca.gov>
Subject: Centennial Corridor Project

Dear Philip Vallejo,

I am writing to you on behalf of Santa Rosa Rancheria Tachi Yokut Tribe's Cultural Department to consult on the Centennial Corridor Project. Due to the likelihood of buried archaeological deposits, we are recommending the creation of a Native American Monitoring Program for segment 2 and the river crossing of the preferred route during the construction phase of this project. If alternative C is the preferred route, we recommend monitoring the entire construction phase of this segment. Santa Rosa Rancheria's Cultural Department, is willing to assist you in this process. Also, we would like to request a site visit to survey the project area of Segment 2. We look forward to working with you. Thank you for your time.

Sincerely,

Shana Brum
Santa Rosa Rancheria Tachi Yokut Tribe
Cultural and Historic Preservation Department
Cultural Specialist/Archaeological Technician
Office: (559)924-1278 Ext 4013
Wk. Cell: (559)997-9919
Email: SBrum@tachi-yokut-nsn.gov

STATE OF CALIFORNIA – THE NATURAL RESOURCES AGENCY EDMUND G. BROWN, JR., *Governor*

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
1725 23rd Street, Suite 100
SACRAMENTO, CA 95816-7100
(916) 445-7000 Fax: (916) 445-7053
calshpo@parks.ca.gov
www.ohp.parks.ca.gov

April 15, 2013 Reply To: FHWA_2013_0319_002

Jeanne Day Binning, Ph.D.
Branch Chief, Central California Cultural Resource Branch
Caltrans
50 Higuera Street
San Luis Obispo, CA 93401-5415

Re: Determinations of Eligibility for the Proposed Centennial Corridor Project, City of Bakersfield and Kern County, CA

Dear Ms. Binning:

Thank you for consulting with me about the subject undertaking in accordance with the *Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (PA).

Caltrans has determined that the 165 properties listed under Findings number 2 from your letter of February 15, 2013 (attached) are not eligible for the National Register of Historic Places (NRHP).

Caltrans has also found that the following properties are eligible for the NRHP for the following reasons:

- 307 S Oleander Avenue – Caltrans found this property eligible under Criterion C at the local level of significance as a finely executed local example of Colonial Revival architecture. The period of significance is 1939, the year the house and garage were built.

- Rancho Vista (Tract 22) – Caltrans found this district eligible under Criteria A and C at the local level of significance. Under Criterion A the tract is eligible for its incorporation of innovative mass-production techniques during the postwar period. It is also eligible under Criterion C as a local example of a postwar subdivision comprised entirely of houses that were built using a whole-house prefabrication method. The period of significance for the Rancho Vista tract extends from 1950 through 1957. These reflect the years that the houses were delivered to the tract.

- 3904 Marsha Street – Caltrans found this property eligible as both a contributor to the Rancho Vista tract as well as individually eligible. On an individual basis the property is eligible under Criterion A at the local level of significance for its association with Cold War tension between the United States and the Soviet Union, and the fear of nuclear war between the two countries. The fallout shelter conveys the mindset of the time and the lengths people were willing to go to survive a nuclear holocaust.

Based on review of the submitted documentation, I concur with the foregoing determinations.

Thank you for considering historic properties during project planning. If you have any questions, please contact Natalie Lindquist of my staff at (916) 445-7014 or email at natalie.lindquist@parks.ca.gov .

Sincerely,

Susan K Stratton for

Carol Roland-Nawi, Ph.D.
State Historic Preservation Officer

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
50 HIGUERA STREET
SAN LUIS OBISPO, CA 93401-5415
PHONE (805) 549-3101
FAX (805) 549-3329
TTY 711
http://www.dot.ca.gov/dist05/

Flex your power!
Be energy efficient!

April 15, 2013

Mr. Thomas Leeman
Division Chief, San Joaquin Valley
Sacramento Field Office
U.S. Fish and Wildlife Service
2800 Cottage Way, Room W-2605
Sacramento , CA 95825

Dear Mr. Leeman::

Caltrans is initiating consultation as part of its NEPA assignment of federal responsibilities by the Federal Highway Administration (FHWA), effective October 1, 2012 and pursuant to 23 USC 327. The enclosed biological assessment details the anticipated effects upon federally listed species resulting from the proposed realignment and widening of Highway 58 through Bakersfield, in Kern County. The "Centennial Corridor" project is a part of the Thomas Roads Improvement Program (TRIP).

Our assessment concludes that the proposed project may affect, and is likely to adversely affect the San Joaquin kit fox population in the City of Bakersfield but would is not likely to affect any other species listed under the Federal Endangered Species Act.

If you have questions or wish to discuss the project, please contact me at (805) 549-3622 or at chuck.cesena@dot.ca.gov.

Sincerely,

Chuck Cesena
Senior Environmental Planner

Enclosure: Centennial Corridor Biological Assessment

STATE OF CALIFORNIA – THE NATURAL RESOURCES AGENCY EDMUND G. BROWN, JR., *Governor*

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
1725 23rd Street, Suite 100
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calshpo@parks.ca.gov
www.ohp.parks.ca.gov

April 10, 2014 Reply To: FHWA_2013_0319_002

Anmarie Medin
Chief, Cultural Studies Office
Caltrans Division of Environmental Analysis, MS 27
PO Box 942874
Sacramento, CA 94274-0001

Re: Finding of Effect for the Proposed Centennial Corridor Project, Bakersfield, Kern County, CA

Dear Ms. Medin:

Thank you for consulting with me about the subject undertaking in accordance with the *Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (PA).

Caltrans has found that the proposed project will have no adverse effect to the following properties that have been previously determined eligible for the National Register of Historic Places (NRHP):

- Friant-Kern Canal
- Lester H. Houchin residence
- 3904 Marsha Street
- Rancho Vista Historic District

It is Caltrans' opinion that a finding of No Adverse Effect without Standard Conditions is appropriate because the effects to the Rancho Vista Historic District property will not result in the loss or impairment of character-defining features, essential physical features, or aspects of integrity that make the Tract eligible for inclusion in the NRHP.

Based on my review of the submitted documentation I object to the finding of No Adverse Effect for the following reasons:

1. At this point in time it does not appear that Caltrans has completed their identification effort with regards to archeology. It appears as though Caltrans is planning to defer extended archeological studies until a preferred alternative has been selected.

2. The sound wall proposed for the project results in a visual intrusion to the Rancho Vista Historic District that is out of scale with the neighborhood and greatly affects the residential feel of the neighborhood. While incompatible changes may have

affected the setting of the neighborhood in the past the elevated nature of the sound wall being proposed is very imposing and in my opinion would result in an adverse effect to the historic district.

Thank you for considering historic properties during project planning. If you have any questions, please contact Natalie Lindquist of my staff at (916) 445-7014 or email at natalie.lindquist@parks.ca.gov.

Sincerely,

Carol Roland-Nawi, Ph.D.

Carol Roland-Nawi, Ph.D.
State Historic Preservation Officer

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr. Governor

DEPARTMENT OF TRANSPORTATION
DIVISION OF ENVIRONMENTAL ANALYSIS
P.O. BOX 942873, MS-27
SACRAMENTO, CA 94273-0001
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Serious Drought!
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April 18, 2014

Dr. Carol Roland-Nawi
California State Historic Preservation Officer
Office of Historic Preservation
California Department of Parks and Recreation
1725 23rd Street, Suite 100
Sacramento, CA 95816

OHP File: FHWA 2013 0319 002

Centennial Corridor Project

Subject: Section 106 Consultation on Finding of Effect for the Proposed Centennial Corridor Project, Bakersfield, Kern County, CA.

Attention: Ms. Natalie Lindquist

Dear Dr. Roland-Nawi:

The California Department of Transportation (Caltrans), *in coordination with the City of Bakersfield*, is continuing consultation with the California State Historic Preservation Officer (SHPO) for the undertaking titled Centennial Corridor Project. This consultation is undertaken in accordance with the 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act as it Pertains to the Administration of the Federal-Aid Highway Program in California* (Section 106 PA).

Thank you for your letter of April 10, 2014 providing your comments concerning the Finding of Effect documentation submitted to your office by Caltrans. You objected to a finding of No Adverse Effect without Standard Conditions based on the following reasons:

1. At the point in time it does not appear that Caltrans has completed their identification effort with regards to archaeology. It appears as though Caltrans is planning to defer extended archaeological studies until a preferred alternative has been selected.

2. The sound wall proposed for the project results in a visual intrusion to the Rancho Vista Historic District that is out of scale with the neighborhood and greatly affects the residential feel of the neighborhood. While incompatible changes may have affected the setting of the neighborhood in the past the elevated nature of the sound wall being proposed is very imposing and in my opinion would result in an adverse effect to the historic district.

Accordingly, as a result of the preceding SHPO comments, Caltrans has reassessed the undertaking and its anticipated effects on historic properties under Section 106 PA Section X, and 36 CFR 800.5. Caltrans has revised the finding to be a finding of Adverse Effect for the Centennial Corridor Project based on the consideration of your two comments, addressed further below in reverse order.

Regarding the second comment, Caltrans has concluded that the elevated sound wall, though located outside of the Rancho Vista Historic District boundaries, would constitute a visual intrusion and diminish the historic property's setting. Thus, this would create an adverse effect as defined at 36 CFR 800.5. As a result, Caltrans will be working with SHPO and other consulting parties to explore possible measures to resolve adverse effects by minimizing or eliminating the adverse visual effects on the historic property. A separate draft Memorandum of Agreement (MOA) will be submitted to you following circulation of the Draft Environmental Impact Statement and receipt of public comment.

Regarding the first comment, we understand the SHPO could not concur with the Caltrans finding of no adverse effect on archaeological resources until the identification phase of the Section 106 process had been completed.

As Caltrans detailed in the Historic Property Survey Report (HPSR), the records search indicated four archaeological resources were recorded within 0.5-mile of the archaeological APE (CA-KER-167, CA-KER-3072, CA-KER-7232, and CA-KER-7233). None of the sites are within the archaeological Area of Potential Effects (APE) itself; therefore, they would not be impacted by the undertaking. While the pedestrian survey did not identify any archaeological resources to be within the archaeological APE, due to the archaeological sensitivity of the area, the dearth of previous archaeological surveys, and the extent of urban development, Caltrans recognizes that archaeological resources may lie buried within the area of direct impact for the project and further identification efforts would be needed.

Caltrans has proposed that it carry out a two-stage Extended Phase I. The first stage (already completed and submitted to SHPO as part of the HPSR in February 2013) consisted primarily of a background paper study assessing the vertical APE and evaluating the potential for buried archaeological deposits. The focus of the second stage is to test for the presence of archaeological resources in sensitive soils and sediments. As presented to the SHPO, the Stage II portion of the Extended Phase I Geoarchaeological Report would be undertaken for the preferred alternative. A Supplemental HPSR will be prepared by Caltrans and will be submitted to the SHPO and other consulting parties if the geoarchaeology identification efforts identify any archaeological resources for the Centennial Corridor Project.

If archaeological deposits or sites are discovered as a result of the Stage II fieldwork, and such sites or deposits are not otherwise included in the list of archaeological property types and features exempt from evaluation as provided in the Section 106 PA Attachment 4, then a Phase II investigation (Archaeological Evaluation Report) would be prepared to determine site boundaries and the potential National Register of Historic Places (NRHP) eligibility of any newly identified

site(s). Should archaeological resources be determined to be historic properties and they will be adversely affected by the project, mitigation of these properties will be addressed in the MOA to be developed for this undertaking (Phase III excavations, public outreach, etc.). Moreover, the MOA will outline a protocol to address the inadvertent discovery of previously undocumented archaeological resources in accordance with 36 CFR 800. 6(c) (6). It will include the communication protocol between your office and Caltrans. The MOA will also stipulate that destructive mitigation of archaeological historic properties will take place only after design plans are sufficiently developed and it has been determined that the historic property could not be avoided.

Upon reevaluation of your concerns and the project, we have determined that the Centennial Corridor project will have an adverse effect on historic properties, and request your expedited concurrence with this finding by providing your signature on the concurrence line below. Caltrans will continue consulting with you on the two concerns as we develop the MOA. If you have any questions or concerns, please do not hesitate to contact me at (916) 653-6187.

Sincerely,

ANMARIE MEDIN
Chief
Cultural Studies Office

Concur: Carol Roland-Nawi, Ph.D.

Carol Roland-Nawi
State Historic Preservation Officer

April 24, 2014
Date

c: Natalie Lindquist –OHP

cc: Kelly Hobbs, Section 106 Coordinator (via electronic transmission)
Jennifer Taylor, D6 Office Chief (via electronic transmission)

Jeanne Binning, D6 Branch Chief (via electronic transmission)
Phillip Vallejo, D6 Architectural Historian (via electronic transmission)
Bob Pavlik, Central Region Environmental Coordinator (via electronic transmission)

Appendix K Notice of Preparation

NOTICE OF PREPARATION

To: (Recipient)

From: California Dept. of Transportation
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726
Attention: Sarah Gassner
Senior Environmental Planner

Subject: **Notice of Preparation of a Draft Environmental Impact Report**
Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

Project Title: Centennial Corridor

Project Location: City of Bakersfield and the County of Kern

Project Description: The proposed project is a route adoption study to establish an alignment for the extension of Route 58 as a limited access facility from its current terminus at Route 99 in the City of Bakersfield westerly to Interstate 5 (I-5) in unincorporated Kern County. In addition, this Environmental Impact Report/Environmental Impact Statement (EIR/EIS) would provide environmental compliance documentation for construction of the project from State Route 58 to Heath Road. The project would incorporate the Westside Parkway, a proposed limited access facility approved by the City of Bakersfield and the Federal Highway Administration in 2006 as a component of the project. Construction of the Westside Parkway is projected to be initiated in 2009 and will extend from Mohawk Street to Heath Road.

This is to inform you that the California Department of Transportation will be the lead agency and will prepare an environmental impact report for the project described below. Your participation as a responsible agency is requested in the preparation and review of this document.

We need to know the views of your agency as to the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

A more detailed project description, location map, and the potential environmental effects are contained in the attached materials.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please direct your response to Sarah Gassner, Senior Environmental Planner, Southern Sierra Environmental Analysis Branch at the address shown above. Please provide us with the name of a contact person in your agency.

Date 9/16/08

Signature Carrie L. Bowen
CARRIE L. BOWEN,
Chief, Central Region
Environmental

Notice of Preparation of a Draft Environmental Impact Report for the Centennial Corridor Project

The California Department of Transportation (the Department), the Lead Agency, is preparing environmental documentation to address impacts associated with a route adoption study for State Route 58 as a limited access facility from its current terminus at State Route 99 to Interstate 5. In addition, this Environmental Impact Report/Environmental Impact Statement (EIR/EIS) would provide environmental compliance documentation for construction of the project from State Route 58 to Heath Road. The document will be prepared as a joint document pursuant to the California Environmental Quality Act and the National Environmental Policy Act. The Department will be preparing an Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the project, which is known as the Centennial Corridor Project. As required by CEQA, the Department is distributing this Notice of Preparation requesting comments from responsible and trustee agencies regarding the significant environmental issues, reasonable alternatives, and reasonable mitigation measures that need to be discussed in the Draft EIR/EIS to address each agency's concern. An Initial Study has not been prepared for this project and is therefore, not attached to this Notice of Preparation.

Project Location
The project would traverse the Metropolitan Bakersfield area and is located between existing State Route 58 – East in the vicinity of Union Avenue (State Route 204) (about 2.0 miles east of State Route 99), and Interstate 5 in Kern County, California. The project would be located in both the City of Bakersfield and unincorporated portions of Kern County. Figure 1 provides a Regional Location Map and Figure 2 is the Local Vicinity Map.

Project Description
The project would establish an alignment for a new limited access facility that would connect State Route 58 to Interstate 5. In addition, construction level analysis would be provided for the portion of the project east of Heath Road. The portion of the project from Heath Road to Interstate 5 would remain at the route location level of detail.

For purposes of this EIR/EIS, the project has been divided into three segments:
(1) Eastern Connection, which would connect the Westside Parkway to the existing Route 58 Freeway;
(2) Westside Parkway, which extends from Heath Road to Mohawk Street; and,
(3) Western Segment, which extends from I-5 to Heath Road.

The Western Segment and the Westside Parkway portions of the project have been addressed in previous environmental documents prepared pursuant to CEQA and NEPA. This EIR/ EIS will incorporate by reference these previous two documents:

- *Final Route 58 Route Adoption Project, A Tier 1 Environmental Impact Statement/Environmental Impact Report* (Tier 1 EIS/EIR) (2002), which addresses the Western Segment of the project, and
- *Westside Parkway Environmental Assessment/Final Environmental Impact Report* (EA/FEIR) (2006), which addresses the Westside Parkway segment of the project.

For these two segments of the project, the analysis in the Centennial Corridor EIR/EIS will serve as a revalidation of the previous documents. New information will be provided to the extent necessary to ensure the environmental record is reflective of the current conditions.

Construction of the facility would be phased. The timeframe for construction of the Western Segment is unknown and is not anticipated in the near future. Therefore, the level of analysis for this segment will remain at the route location level of detail, not construction level. The focus of the analysis for the Westside Parkway segment will be on improvements necessary to upgrade

the facility to state highway standards for adoption into the State Highway System. Consistent with the *Westside Parkway EA/FEIR*, the updated analysis for the Westside Parkway segment will be at a construction level of detail. Construction of the Westside Parkway is anticipated to start in 2009 utilizing the previous EA/FEIR.

The Eastern Connection has not been subject to previous environmental studies. Various alternatives to connect State Route 58 to the Westside Parkway are under consideration, including options west of State Route 99, east of State Route 99, and parallel to State Route 99 as well as a "No Build" alternative, a transit alternative, and a transportation systems management alternative. The Department will continue to screen the alternatives identified through the scoping process and only carry forward those alternatives that are considered viable for evaluation in the EIR/EIS. The following alternatives are currently under consideration:

- Alternative A proposes to construct a new freeway west of the State Route 58/99 interchange. The alignment would travel in a westerly direction for approximately one mile on the south side of Stockdale Highway, at which point it would turn in a northwesterly direction and span the Carrier Canal, Truxtun Avenue, and the Kern River. The proposed route would then connect to the Westside Parkway alignment between Mohawk Street and Coffee Road. The total length of the project from the existing State Route 99/State Route 58 interchange to Interstate 5 utilizing Alternative A would be approximately 16.31 miles.

- Alternative B proposes to construct a new freeway west of the State Route 58/99 interchange. The alignment would travel in a westerly direction for approximately one-half mile on the south side of Stockdale Highway, at which point it would turn to the northwest, span the Carrier Canal, Truxtun Avenue, and the Kern River. Alternative B would connect to the Westside Parkway alignment at the Mohawk Street interchange. The total length of the project from the existing State Route 99/State Route 58 interchange to Interstate 5 utilizing Alternative B is approximately 16.61 miles.

- Alternative C proposes to connect existing State Route 58 to the Westside Parkway by means of routing new lanes adjacent and parallel to existing State Route 99. These additional lanes would run parallel to and independent of State Route 99. Movements between State Route 58, State Route 99 and the Westside Parkway would likely be facilitated by braided ramps and freeway-to-freeway connector ramps. The total length of the project from State Route 99 to Interstate 5 utilizing Alternative C is approximately 18.51 miles.

- Alternative D proposes to construct a new freeway in the vicinity of Union Avenue (State Route 204). The roadway would extend north from State Route 58 for approximately one mile, where it would turn to the west and run parallel to the Burlington Northern Santa Fe railroad tracks. Alternative D would connect to the Westside Parkway alignment at the new interchange at Mohawk Street. The total length of the project from State Route 58 at Union Avenue to Interstate 5 is approximately 18.98 miles.

- The "No Build" alternative, would not construct any improvements. State Route 58 - East would continue to end at State Route 99 where it would jog to the north to tie into State Route 58 – West (Rosedale Highway). The Westside Parkway would be constructed as a local facility, but would not connect to State Route 58, State Route 99, or Interstate 5.

- Alternative M would evaluate Transit and Transportation Systems Management (TSM) improvements. TSM focuses on low capital, environmentally-responsive improvements that maximize efficiency of existing facilities. An example of TSM improvements would be providing signal interconnects to facilitate the flow of traffic or providing bus turn-out bays to minimize the interruption of buses along a specific route. Specific transit and TSM

measures have not been developed at this point. Preliminary traffic data is required to determine the most effective transit and TSM measures. Once the traffic data is available it would be determined if transit and TSM improvements would be separate alternatives or if it is more effective to evaluate a single alternative that includes both transit and TSM improvements.

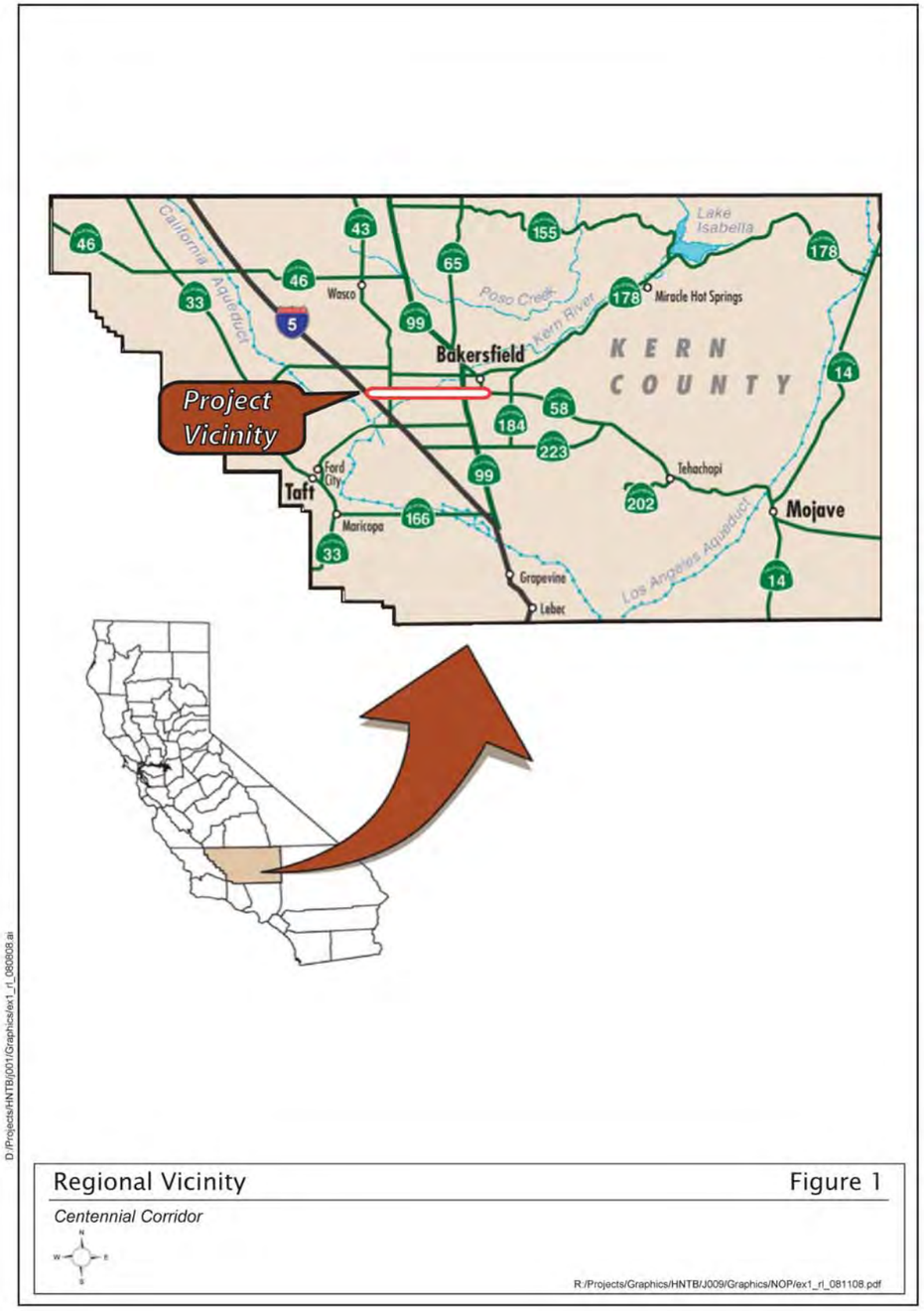
Environmental Effects

Probable effects of the project include impacts to farmland, residences, businesses and industrial uses; visual resources; cultural resources; water quality; air quality; noise standards; and biological resources. The following technical studies will be prepared as part of the EIR/EIS:

- Community Impact Assessment
- Relocation Impact Studies
- Natural Environment Study
- Visual Impact Assessment
- Air Quality Study
- Noise Report and Noise Abatement Decision Report
- Historic Property Survey Report (historical architecture, historic resources, and archaeological resources)
- Initial Site Assessment (hazardous materials)
- Floodplain Study
- Water Quality Report
- Paleontological Studies

Scoping Process

In addition to this Notice of Preparation, the Department will conduct a public scoping meeting. The meeting will be held on October 2, 2008 from 4:30 PM to 7:30 PM at the Kern County Administrative Offices, in the Building Rotunda located at 1115 Truxtun Avenue, in Bakersfield, California. Information on the project will be available at the meeting. There will also be opportunities for agencies and members of the public to provide input on the proposed project.


California Aqueduct
46
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Poso Creek
Kern River
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Miracle Hot Springs
Bakersfield
KERN COUNTY
14
Project Vicinity
58
184
223
Ford City
Taft
99
Tehachapi
202
Mojave
Maricopa
166
33
Grapevine
Los Angeles Aqueduct
14
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D:/Projects/HNTB/j001/Graphics/ex1_rl_080808.ai
Regional Vicinity
Figure 1
Centennial Corridor
R:/Projects/Graphics/HNTB/J009/Graphics/NOP/ex1_rl_081108.pdf

List of Technical Studies that are Bound Separately

Draft Relocation Impact Report ..... November 2012
Air Quality Study Report ..... November 2013
Noise Study Report ..... January 2013
Noise Abatement Decision Report ..... May 2013
Water Quality Assessment Report ..... November 2012
Natural Environment Study ..... March 2013
Biological Assessment ..... March 2013
Location Hydraulic Study ..... November 2012
Historical Property Survey Report ..... January 2013

- Historic Resource Evaluation Report ..... January 2013
- California Historic Bridge Inventory Sheet ..... October 2011
- Archaeological Survey Report ..... January 2013
- Extended Phase I (Geoarchaeological Study) ..... November 2012

Finding of Effect ..... April 2014
Initial Site Assessment ..... November 2012
Focused Initial Site Assessment ..... October 2013
Visual Impact Assessment ..... September 2013
Paleontological Evaluation Report ..... November 2012
Community Impact Assessment ..... September 2013
Traffic Study Report for the Centennial Corridor Project ..... November 2012
Preliminary Geotechnical Report ..... Revised May 2012

General Information About This Document

What's in this document?

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration, has prepared this Environmental Impact Report/Environmental Impact Statement, which examines the potential environmental impacts of the alternatives being considered for the project in Kern County, California. Caltrans is the lead agency under the National Environmental Policy Act and the California Environmental Quality Act. This two volume document tells you why the project is being proposed, alternatives for the project, the existing environment that could be affected by the project, potential impacts from each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures. This document will explain the rationale for the selection of Alternative B of Segment 1 as the Preferred Alternative. This first volume provides the primary analysis. The second volume contains the oversized (11 inch by 17 inch) figures, the Section 4(f) Evaluation, mapping of the alternatives, and various appendices.

What should you do?

- Please read this document. Additional copies of this document and the related technical studies are available for review at the Caltrans district office at 1352 West Olive Avenue, Fresno, California 93728 and at the locations listed below. The document can also be accessed electronically at the following websites: http://www.dot.ca.gov/dist6/environmental/envdocs/d6/ and http://www.bakersfieldfreeways.us

Thomas Roads Improvement Program Office
900 Truxtun Avenue, Suite 200
Bakersfield, CA 93301

County of Kern Planning Department
2700 M Street, Suite 100
Bakersfield, CA 93301-2370

City of Bakersfield Planning Division
1715 Chester Avenue
Bakersfield, CA 93301

Kern Council of Governments
1401 19th Street, Suite 300
Bakersfield, CA 93301

Beale Memorial Library
701 Truxtun Avenue
Bakersfield, CA 93301

Eleanor Wilson Branch Library
1901 Wilson Road
Bakersfield, CA 93304

Bryce C. Rathbun Branch Library
200 West China Grade Loop
Bakersfield, CA 93308

Southwest Branch Library
8301 Ming Avenue
Bakersfield, CA 93311

Baker Branch Library
1400 Baker Street
Bakersfield, CA 93305

Holloway-Gonzales Branch Library
506 E. Brundage Lane
Bakersfield, CA 93307

- Attend the public hearing on June 11, 2014 located at: Kern County Administrative Center – Rotunda, 115 Truxtun Avenue, Bakersfield, California 93301 from 4:00 PM to 7:00 PM.
- We welcome your comments. If you have any concerns about the project, please attend the public hearing, or send your written comments to Caltrans by the deadline. Submit comments via U.S. mail to Caltrans at the following address:

  Jennifer H. Taylor
  Office Chief, Central Region
  Environmental Southern San Joaquin Valley
  California Department of Transportation, District 6
  855 M Street, Suite 200, Fresno, CA 93721

- Submit comments via email to: Centennial@dot.ca.gov
- Submit comments by the deadline: July 8, 2014.

What happens next?

After comments are received from the public and reviewing agencies Caltrans, as assigned by the Federal Highway Administration, may 1) give environmental approval to the project, 2) do additional environmental studies, or 3) abandon the project. If the project is given environmental approval and funding is disbursed, Caltrans could design and build all or part of the project.

Printing this document: To save paper, this document has been set up for two-sided printing (to print the front and back of a page). Blank pages occur where needed throughout the document to maintain proper layout of the chapters and appendices.

For individuals with sensory disabilities, this document is available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to: Department of Transportation, Attn: Ms. Jennifer H. Taylor, Office Chief, Central Region, Environmental Southern San Joaquin Valley, 855 M Street, Suite 200, Fresno, CA 93721; (888) 404-6375. Telecommunication Devices for the Deaf (TDD) users or individuals with a hearing or speech disability may contact the California Relay Services (TRS) to use a telephone system through a text phone (TTY) by dialing 711 from any telephone.

FHWA Highway ID No. NCIIP 5109(106)

SCH #2008091102
06 - KERN – 58 - PM T31.7 to PM R55.6
06 - KERN – 99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484

Construct a new alignment for State Route 58 to provide a continuous route along State Route 58 from Cottonwood Road (post mile R55.6) on existing State Route 58 (East), east of State Route 99 to Interstate 5 (post mile T31.7). Improve State Route 99 from Wilson Road (post mile 21.2) to Gilmore Avenue (post mile 26.2).

DRAFT ENVIRONMENTAL IMPACT REPORT /ENVIRONMENTAL IMPACT STATEMENT and Section 4(f) Evaluation

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 U.S. Code 4332(2)(C), 23 U.S. Code 327, and 49 U.S. Code 303

THE STATE OF CALIFORNIA
Department of Transportation

4/28/2014
Date of Approval

Sharri Bender Ehlert
District Director
California Department of Transportation
National Environmental Policy Act Lead Agency
California Environmental Quality Act Lead Agency

The following person may be contacted for additional information about this document:

Jennifer H. Taylor
Office Chief, Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation, District 6
855 M Street, Suite 200
Fresno, CA 93721
(888) 404-6375

Abstract: The purpose of the project is to provide continuity for traffic using State Route 58 in Kern County. Substantial environmental effects anticipated from the project include: biological resources; displacement of residences/businesses; potentially archaeological resources; historic resources/4(f) for alternative A; parkland/4(f) for alternatives A and C; potential hazardous waste/materials, potential to uncover/encounter significant fossils. Unavoidable adverse impacts anticipated, regardless of alternatives selected, include: aesthetics, community disruption, and noise

Comments on the Draft Environmental Impact Report/Environmental Impact Statement are due no later than July 8, 2014. Comments should be submitted to Ms. Jennifer H. Taylor at the address listed above or emailed to: Centennial@dot.ca.gov.

Summary

The California Department of Transportation (Caltrans), in cooperation with the City of Bakersfield, proposes to construct a new alignment for State Route 58 to provide a continuous route along State Route 58 from Cottonwood Road (post mile R55.6) on existing State Route 58 (East), east of State Route 99 to Interstate 5 (post mile T31.7). Improvements to State Route 99 from Wilson Road (post mile 21.2) to Gilmore Avenue (post mile 26.2) would also be required for the connection with State Route 58. The project is known as the Centennial Corridor. Caltrans is the lead agency for the project pursuant to both the California Environmental Quality Act and the National Environmental Policy Act.

Overview of Project Area

The project sits at the southern end of the San Joaquin Valley in the City of Bakersfield in Kern County, California. The project area is bound on the east by Cottonwood Road, on the west by Interstate 5, on the north by Gilmore Avenue, and on the south by Wilson Road.

Land uses in the project vicinity include residential, commercial, industrial, recreation, resource/utility, agriculture, undeveloped/vacant, and government. The eastern and central portions of the project area are more urban; the western portion is generally undeveloped or in agricultural production.

Purpose and Need

The purpose of the Centennial Corridor project is to provide route continuity and associated traffic congestion relief along State Route 58 within metropolitan Bakersfield and Kern County from the existing State Route 58 (East) (at Cottonwood Road) to Interstate 5.

State Route 58 is a critical link in the state transportation network and is used by interstate travelers, commuters, and a large number of trucks. State Route 58 lacks continuity in central Bakersfield, resulting in severe traffic congestion and reduced levels of service on adjoining highways and local streets. (The effectiveness of traffic operations on a transportation facility is measured in terms of “level of service”, an A through F scale with A being best and F being worst. This is further explained in Chapter 1.) This route is offset by about 2 miles at State Route 99 and by about 1 mile at State Route 43. The merging of two major state routes (58 and 99) into one alignment between the eastern and western legs of State Route 58 makes traffic worse on this segment of freeway. Also, State Route 99’s close spacing for its two interchanges with State Route 58 (east and west), in addition to an interchange at California Avenue, results in motorist lane changes that add to congestion.

Proposed Action

The proposed Centennial Corridor has been divided into three segments (see Figure S-1). The actions for the proposed project would be (1) route adoption/transfer

for a continuous route from the existing freeway portion of Route 58 east of State Route 99 to Interstate 5 with the western portion on existing Stockdale Highway from Heath Road to Interstate 5; and (2) approval for construction of Segment 1, improvements within Segment 2, and intersection improvements at the Stockdale Highway and State Route 43 (known locally as Enos Lane) intersection. The alternatives for Segment 1 are discussed below.

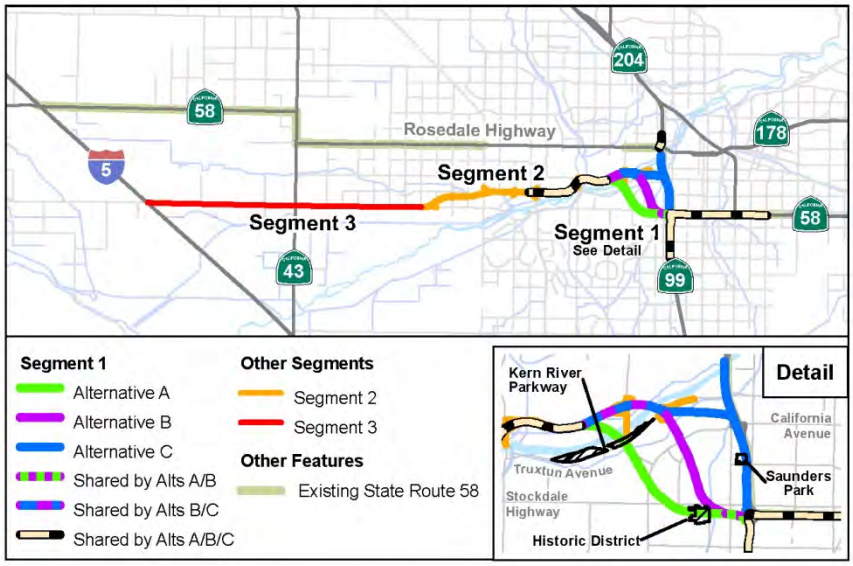

Figure S-1: Project Alternatives

Segment 1 is the easternmost segment that would connect a local roadway known as the Westside Parkway to the existing State Route 58 (East) freeway. This segment would construct a new section of freeway (which would be part of State Route 58) to provide the direct connection to Segment 2 (the Westside Parkway). In addition, the project would involve modifications to the existing State Route 58 (East) and State Route 99 to accommodate the new connection ramps. Three build alternatives and a No-Build Alternative are being evaluated for this segment. The three build alternatives are each proposed to be built as a four- to six-lane freeway; they are identified as Alternatives A through C. The alternatives are briefly described below:

- Alternative A runs westerly from the existing State Route 58 (East)/State Route 99 interchange for about 0.5 mile south of Stockdale Highway. Then it turns northwesterly and spans Stockdale Highway/Montclair Street, California Avenue/Lennox Avenue, Truxtun Avenue, and the Kern River before joining the east end of the Westside Parkway near the Mohawk Street interchange. Alternative A is about 8.2 miles long.
- Alternative B, which emerged as the preferred alternative, runs westerly from the existing State Route 58 (East)/State Route 99 interchange for about 1,200 feet, south of Stockdale Highway. Then it turns northwesterly and spans Stockdale Highway/Stine Road, California Avenue, Commerce Drive, Truxtun Avenue, and the Kern River before joining the east end of the Westside Parkway near the

Mohawk Street interchange. This alignment depresses the Centennial Corridor (the roadway would be lower than the existing ground level) between California Avenue and Ford Avenue. Overcrossings are proposed at Marella Way and La Mirada Drive to help traffic circulation. The option of removing the La Mirada Drive overcrossing and adding a Ford Avenue undercrossing with Alternative B is also under consideration. Alternative B is about 8.6 miles long.

- Alternative C turns north near the existing State Route 58 (East)/State Route 99 interchange, and runs parallel to the west of State Route 99 for about 1 mile. The freeway then turns west and spans the BNSF Railway rail yard, Truxtun Avenue, and the Kern River. This alternative proposes undercrossings at Brundage Lane, Oak Street, State Route 99, Palm Avenue, and California Avenue. Alternative C is about 8.7 miles long.
- The No-Build Alternative would not provide the connection from State Route 58 (East) to the Westside Parkway. None of the improvements in the State Route 58 corridor would be provided. Additionally, the minor intersection improvements in Segment 3 at Stockdale Highway and State Route 43 would not be constructed.

Segment 2 of the Centennial Corridor is composed of the Westside Parkway, which will ultimately extend from about Truxtun Avenue to Stockdale Highway near Heath Road. The final segment of the parkway from Allen Road to Stockdale Highway is currently under construction. The Westside Parkway would be incorporated into the State Highway System with each of the alternatives. Additionally, the current portion of State Route 58 (West) (Rosedale Highway) from Allen Road to Interstate 5 would be relinquished (made a local road, no longer a State highway) to the local jurisdictions (the City of Bakersfield and the County of Kern).

Each of the build alternatives in Segment 1 would require improvements to the Westside Parkway. The changes would be to several ramps and the medians to allow for auxiliary lanes. This would mostly be done within the existing right-of-way. Though technically these improvements are within Segment 2, they are required to accommodate Segment 1 to facilitate traffic operations between the Westside Parkway and the Centennial Corridor. The impacts associated with these improvements in Segment 2 are very minor since the area has already been disturbed for the construction of the Westside Parkway. Rather than split the impact analysis and have a separate impact discussion for Segment 2, any impacts associated with Segment 2 have been included in the impact discussion for Segment 1. However, because the connection with Segment 1 of the Centennial Corridor project would substantially increase traffic on the Westside Parkway (Segment 2), the traffic study prepared for this project analyzed the impacts across the proposed Centennial Corridor from Interstate 5 to Cottonwood Road. Similarly, the noise and air quality analyses were performed using the projected traffic volume for the Centennial Corridor and the analysis extended to cover the Westside Parkway (Segment 2).

Segment 3 traffic would use Stockdale Highway, a two-lane conventional roadway, to link to Interstate 5. To accommodate the additional traffic, improvements to the Stockdale Highway/State Route 43 intersection, such as a new signal and turn lanes, would be made. (State Route 43 is known locally as Enos Lane.) These improvements would be constructed at the same time as the Segment 1 improvements.

Freeway agreements approved by the County of Kern and the City of Bakersfield would also be required.

Preferred Alternative. Caltrans has preliminarily identified Alternative B as the preferred alternative. Alternative B is a feasible and prudent alternative that avoids impacts to Section 4(f) properties, such as parkland and historic properties. Therefore, after comparing and weighing the benefits and impacts of all of the feasible alternatives (Alternatives A through C), Caltrans has identified Alternative B as the preferred alternative, subject to public review. Final identification of a preferred alternative will occur after the public review and comment period. This is discussed in more detail in Section 2.1.4.

Joint California Environmental Quality Act/National Environmental Policy Act Document

The project is a joint project by Caltrans and the Federal Highway Administration, and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act and the National Environmental Policy Act. Caltrans is the lead agency for the project pursuant to both the California Environmental Quality Act and the National Environmental Policy Act. In addition, the Federal Highway Administration's responsibility for environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S. Code 327.

Some impacts determined to be significant under the California Environmental Quality Act may not lead to a determination of significance under the National Environmental Policy Act because the National Environmental Policy Act is concerned with the significance of the project as a whole.

Following receipt of comments from the public and reviewing agencies, a Final Environmental Impact Report/Environmental Impact Statement will be prepared. Caltrans may do additional environmental and/or engineering studies to address comments. The Final Environmental Impact Report/Environmental Impact Statement will include responses to comments received on the Draft Environmental Impact Report/Environmental Impact Statement and will identify the preferred alternative.

Following circulation of the final environmental document, if the decision is made to approve the project, Caltrans will certify that the project complies with the California Environmental Quality Act, prepare findings for all significant impacts identified, prepare a Statement of Overriding Considerations for impacts that will not be

mitigated below a level of significance, and certify that the findings and Statement of Overriding Considerations have been considered prior to project approval. Caltrans will then file a Notice of Determination with the State Clearinghouse that will state that the project will have significant impacts, whether mitigation measures were included as conditions of project approval, that findings were made, and that a Statement of Overriding Considerations was adopted. A Record of Decision will be published for compliance with the National Environmental Policy Act.

Project Impacts

For Segment 1, Alternatives A and C impact properties protected by Section 4(f) of the Department of Transportation Act of 1966 (49 U.S. Code 303). The full *Section 4(f) Evaluation* is contained in Volume 2, Appendix B. This requires the selection of a prudent and feasible alternative that avoids Section 4(f) properties, which is Alternative B. In addition Alternative C has Environmental Justice impacts (discussed later in this document).

Table S.1 provides a brief comparison of the impacts associated with the each of the three build alternatives and the No-Build (also called No-Action) Alternative.

Table S.1 Summary of Major Potential Impacts from Alternatives

Environmental Resource	Potential Impact			
	Segment 1 Alternative A	**Segment 1 Alternative B**	**Segment 1 Alternative C**	**No-Build Alternative**
Parks and Recreation	Displacement of 6.28 acres of the Kern River Parkway. This resource is protected by Section 4(f) of the Department of Transportation Act of 1966.	No impacts.	Displacement of 1.95 acres of developed and 1.32 acres of undeveloped portions of Saunders Park, totaling 3.27 acres. Replacement parkland and facilities would be provided. This resource is protected by Section 4(f) of the Department of Transportation Act of 1966.	No impacts.

Table S.1 Summary of Major Potential Impacts from Alternatives

Environmental Resource	Potential Impact			
	Segment 1 Alternative A	**Segment 1 Alternative B**	**Segment 1 Alternative C**	**No-Build Alternative**
Cultural Resources	Rancho Vista Historic District would be bisected requiring full take of 41 out of 81 of district contributing properties. This property is protected by Section 4(f) of the Department of Transportation Act of 1966. Possible uncover of archaeological materials during the construction period. Archaeological resources may be identified when subsurface testing of sensitive areas is conducted for the preferred alternative.	Rancho Vista Historic District would have an elevated structure and soundwalls to the north and east, and would cause an adverse effect (under Section 106 of the National Historic Preservation Act of 1966) due to it's impact on the historic setting. This property is also protected by Section 4(f) of the Department of Transportation Act of 1966 and implementation of this alternative would not result in a constructive use. Possible uncover of archaeological materials during the construction period. Archaeological resources may be identified when subsurface testing of sensitive areas is conducted for the preferred alternative.	No impacts to known historic properties. Possible uncover of archaeological materials during the construction period. Archaeological resources may be identified when subsurface testing of sensitive areas is conducted for the preferred alternative.	No impacts to architectural or archaeological resources.
Community Character and Cohesion	Substantial neighborhood disruption, including business and residential displacements; permanent street closures; and higher exposure to vehicle noise.	Substantial neighborhood disruption, including business and residential displacements; permanent street closures; and higher exposure to vehicle noise. Would divide an	Neighborhood disruption, including business and residential displacements; permanent street closures; and higher exposure to vehicle noise. Most residential displacements	No impacts.

Table S.1 Summary of Major Potential Impacts from Alternatives

Environmental Resource		Potential Impact			
		Segment 1 Alternative A	**Segment 1 Alternative B**	**Segment 1 Alternative C**	**No-Build Alternative**
			existing neighborhood.	would be in low income and minority neighborhoods (environmental justice communities).	
Relocation	Business displacements	127 businesses.	121 businesses.	198 businesses; including, 1 non-profit organization.	No impacts.
	Housing displacements	356 units	310 units	133 units	No impacts.
Traffic and Transportation/ Pedestrian and Bicycle Facilities		Would provide route continuity. **Deficient freeway segments** 0 in 2018 4 in 2038 **Deficient intersections** 26 in 2018 32 in 2038 122 parking spaces removed. **Pedestrian and Bicycle Facilities** Local roadways would be closed, but no Master Plan bike routes would be affected.	Would provide route continuity. **Deficient freeway segments** 0 in 2018 4 in 2038 **Deficient intersections** 26 in 2018 33 in 2038 146 parking spaces removed. **Pedestrian and Bicycle Facilities** This will require a realignment of a planned Class 3 bike route. Alternative routing would be available.	Would provide route continuity. **Deficient freeway segments** 0 in 2018 5 in 2038 **Deficient intersections** 24 in 2018 30 in 2038 142 parking spaces removed. **Pedestrian and Bicycle Facilities** Local roadways would be closed, but no Master Plan bike routes would be affected.	Discontinuity of east-west freeway in Bakersfield continued. **Deficient freeway segments** 4 in 2018 16 in 2038 **Deficient intersections** 25 in 2018 34 in 2038 No parking removed. **Pedestrian and Bicycle Facilities** No Master Plan bike routes would be affected.
Visual/Aesthetics		Long-term visual impacts on key viewpoints range from moderately low to moderately high. The presence of the elevated structure and soundwalls would, for some, result in obstructed views	Long-term visual impacts on key viewpoints range from moderately low to moderately high. The presence of the elevated structure and soundwalls would, for some, result in obstructed views	Long-term visual impacts on key viewpoints range from average to moderately high. The presence of the elevated structure and soundwalls would, for some, result in obstructed views that would	No impacts.

Table S.1 Summary of Major Potential Impacts from Alternatives

Environmental Resource	Potential Impact			
	Segment 1 Alternative A	**Segment 1 Alternative B**	**Segment 1 Alternative C**	**No-Build Alternative**
	that would adversely affect the visual character of the suburban neighborhoods. The freeway that runs through the neighborhood would change the visual character of the area.	that would adversely affect the visual character of the suburban neighborhoods. The freeway that runs through the neighborhood would change the visual character of the area.	adversely affect the visual character of the suburban neighborhoods.	
Air Quality	The project would not cause a new violation or contribute to a violation of standards, and project-level carbon monoxide conformity would be satisfied. Predicted concentrations of carbon monoxide are estimated to be less than 50 percent of the applicable standards. Predicted concentrations of 24-hour average particulate matter (PM_{10}) and annual average fine particulate matter ($PM_{2.5}$) would be within applicable federal standards and conformity would be satisfied. Predicted concentrations of 24-hour average fine particulate matter ($PM_{2.5}$) would not exceed no-build concentrations and conformity	The project would not cause a new violation or contribute to a violation of standards, and project-level carbon monoxide conformity would be satisfied. Predicted concentrations of carbon monoxide are estimated to be less than 50 percent of the applicable standards. Predicted concentrations of 24-hour average particulate matter (PM_{10}) and annual average fine particulate matter ($PM_{2.5}$) would be within applicable federal standards and conformity would be satisfied. Predicted concentrations of 24-hour average fine particulate matter ($PM_{2.5}$) would not exceed no-build concentrations and conformity	The project would not cause a new violation or contribute to a violation of standards, and project-level carbon monoxide conformity would be satisfied. Predicted concentrations of carbon monoxide are estimated to be less than 50 percent of the applicable standards. Predicted concentrations of 24-hour average particulate matter (PM_{10}) and annual average fine particulate matter ($PM_{2.5}$) would be within applicable federal standards and conformity would be satisfied. Predicted concentrations of 24-hour average fine particulate matter ($PM_{2.5}$) would not exceed no-build concentrations and conformity	Inconsistent with the long-term air quality plans (Regional Transportation Plan). No construction impacts.

Table S.1 Summary of Major Potential Impacts from Alternatives

Environmental Resource	Potential Impact			
	Segment 1 Alternative A	**Segment 1 Alternative B**	**Segment 1 Alternative C**	**No-Build Alternative**
	would be satisfied. There would be a decrease in 2018 and 2038 Mobile Source Air Toxics emissions compared to 2008 levels. The decrease is primarily due to the improved pollutant emission performance resulting from federal and state rules for cleaner fuel and cleaner engines and fleet turnover. For the study area as a whole, the Mobile Source Air Toxics emissions in 2018 and 2038 would be higher than with the No-Build Alternative, except for diesel particulate matter in 2018, which would be less than with the No-Build Alternative.	would be satisfied. There would be a decrease in 2018 and 2038 Mobile Source Air Toxics emissions compared to 2008 levels. The decrease is primarily due to the improved pollutant emission performance resulting from federal and state rules for cleaner fuel and cleaner engines and fleet turnover. For the study area as a whole, the Mobile Source Air Toxics emissions in 2018 and 2038 would be higher than with the No-Build Alternative.	would be satisfied. There would be a decrease in 2018 and 2038 Mobile Source Air Toxics emissions compared to 2008 levels. The decrease is primarily due to the improved pollutant emission performance resulting from federal and state rules for cleaner fuel and cleaner engines and fleet turnover. For the study area as a whole, the Mobile Source Air Toxics emissions in 2018 and 2038 would be higher than with the No-Build Alternative.	With the No-Build Alternative, the Mobile Source Air Toxics emissions in 2018 and 2038 would be lower for the study area as a whole, when compared to the build alternatives.
Noise	There are 532 frequent outdoor use areas affected; 19 recommended feasible and reasonable soundwalls would provide feasible abatement for 461 frequent outdoor use areas.	There are 484 frequent outdoor use areas affected; 24 feasible and reasonable recommended soundwalls as well as one feasible but not reasonable recommended soundwall would provide feasible abatement for 408 frequent outdoor use areas.	There are 401 frequent outdoor use areas affected; 17 recommended feasible and reasonable soundwalls would provide feasible abatement for 325 frequent outdoor use areas.	There would be 336 frequent outdoor use areas that would approach the Noise Abatement Criteria with no abatement provided in 2038.

Table S.1 Summary of Major Potential Impacts from Alternatives

Environmental Resource	Potential Impact			
	Segment 1 Alternative A	**Segment 1 Alternative B**	**Segment 1 Alternative C**	**No-Build Alternative**
		One soundwall is feasible but not reasonable; however, since this soundwall would close a gap in soundwalls, it is recommended to minimize noise impacts to 4 frequent outdoor use areas.		
Natural Communities	Removal of 95.38 acres (24.44 permanent; 70.94 temporary) of vegetation.	Removal of 76.83 acres (11.28 permanent; 65.55 temporary) of vegetation.	Removal of 72.49 acres (10.24 permanent; 62.25 temporary) of vegetation.	No impacts.
Threatened and Endangered Species	Affects 95.38 acres of foraging habitat for the Swainson's hawk. Affects 95.38 acres of habitat and 1 active den for the San Joaquin kit fox.	Affects 76.83 acres of foraging habitat for the Swainson's hawk. Affects 76.83 acres of habitat and 3 potential dens for the San Joaquin kit fox.	Affects 72.49 acres of foraging habitat for the Swainson's hawk. Affects 72.49 acres of habitat and 1 potential den for the San Joaquin kit fox.	No Impacts.
Wetlands and Other Waters	3.54 acres (0.35 acre permanent, 3.19 acres temporary) of riparian habitat affected.7.23 acres (1.20 acres permanent, 6.03 acres temporary) of U.S. Army Corps of Engineers jurisdiction affected.17.60 acres (4.67 acres permanent, 12.93 acres temporary) of California Department of Fish and Wildlife jurisdiction affected.	1.06 acres temporary of riparian habitat affected. 5.54 acres (1.00 acre permanent, 4.54 acres temporary) of U.S. Army Corps of Engineers jurisdiction affected. 7.74 acres (1.42 acres permanent, 6.32 acres temporary) of California Department of Fish and Wildlife jurisdiction affected.	1.42 acres temporary of riparian habitat affected. 7.42 acres (0.74 acre permanent, 6.68 acres temporary) of U.S. Army Corps of Engineers jurisdiction affected. 10.26 acres (0.95 acre permanent, 9.31 acres temporary) of California Department of Fish and Wildlife jurisdiction affected.	No impacts.

Coordination with the Public and Other Agencies

Caltrans, in cooperation with the City of Bakersfield, has coordinated with numerous public agencies throughout the environmental process. A Notice of Intent/Notice of Preparation was prepared to announce the start of the Environmental Impact Report/Environmental Impact Statement.

On September 18, 2008, a Notice of Intent/Notice of Preparation was sent to federal, state, regional, and local government agencies, Native American groups, business groups, and other interested parties. These groups were also invited to the scoping meeting on October 2, 2008. A separate agency scoping meeting was held the afternoon of October 2, 2008, prior to the public scoping meeting held that evening.

Caltrans prepared a coordination plan that identifies the various efforts for public and agency involvement during the environmental review process.

Permits Required for the Project

A number of permits and approvals would be required for project construction. Table S.2, below, provides a list of the agencies for which permits or approvals may be required depending on the Segment 1 alternative ultimately identified to move forward.

Table S.2 Project Permits and Approvals

Agency	Permit/Approval	Status
U.S. Fish and Wildlife Service	Section 7 Consultation, as required by the Endangered Species Act for the San Joaquin kit fox	Caltrans was able to initiate the process because the U.S. Fish and Wildlife Service agreed to accept a Biological Assessment that evaluated all three alternatives. The Biological Assessment was submitted to the U.S. Fish and Wildlife Service on April 16, 2013 and formal consultation was initiated on July 22, 2013. A Biological Opinion from the Service on the effects on the San Joaquin kit fox was issued on December 20, 2013.
Federal Emergency Management Agency	Conditional Letter of Map Revision and Letter of Map Revision	During the design phase of the project, coordination with the Federal Emergency Management Agency would be required to ensure there are no improvements that are incompatible with the floodplain.
U.S. Army Corps of Engineers	Section 404 Permit pursuant to the Clean Water Act for filling or dredging “Waters of the United States”	Concurrence on the type of permit or change to the existing permit issued for construction of the Westside Parkway would be required before construction of Centennial Corridor begins.
Federal Highway Administration	Air Quality Conformity Determination	Before approval of the final environmental document, the Federal Highway Administration must make a finding that the project is consistent with the requirements of the Clean Air Act.
California Department of Fish and Wildlife	Section 1602 Agreement for Streambed Alteration pursuant to Section 1600 of the *California Fish and Game Code*	Caltrans will need to finalize a 1602 Agreement before construction begins.

Table S.2 Project Permits and Approvals

Agency	Permit/Approval	Status
California Transportation Commission	Route Adoption	After approval of the final environmental document, the California Transportation Commission would be required to approve the route adoption for State Route 58. If a new alignment is selected, the current alignment from Allen Road to Interstate 5 would be relinquished to the local jurisdictions.
State Historic Preservation Officer	Memorandum of Agreement	Caltrans initiated consultation with the State Historic Preservation Officer on February 15, 2013, regarding determinations of National Register eligibility, with their concurrence on April 15, 2013. A Finding of Effect on historic properties for the preferred alternative was submitted to the State Historic Preservation Officer for review on March 13, 2014, with comments received on April 10, and 18, 2014. Consultation with the State Historic Preservation Officer focused on planned identification efforts for potential buried archaeological sites, and an adverse effect determination to the Rancho Vista Historic District from introduction of an elevated structure and soundwalls on the north and east edge of the district. A Memorandum of Agreement will be completed during the public comment period on the Draft EIR/EIS.
California Transportation Commission, Caltrans and the City of Bakersfield	Transfer Agreement	The City of Bakersfield and Caltrans would enter into an agreement to transfer the Westside Parkway to the state to be designated as State Route 58. This would require the City Council and the California Transportation Commission to adopt the agreement. Coordination with the commission would occur once the project has been approved.
	Freeway Agreement	A freeway agreement which specifies the planned traffic circulation features of the proposed facility will be developed once the project is approved.
Caltrans and the City of Bakersfield	Cooperative Agreement (construction phase)	A cooperative agreement between Caltrans and the City of Bakersfield outlining their respective responsibilities for project implementation would be executed before construction begins.
	Agreement for Park Use and Modification	Caltrans and the City have coordinated on improvements required to the local park facilities to offset any effects from the project. An agreement would be drafted once the project has been approved. The details of the agreement would be included in the final environmental document.
	Maintenance Agreement	An agreement between Caltrans and the City of Bakersfield would identify responsibility for maintenance of enhanced aesthetic features, including graffiti removal.
Caltrans and the County of Kern	Maintenance Agreement	An agreement between Caltrans and the County of Kern would identify responsibility for maintenance of the intersection improvements at Stockdale Highway and State Route 43.

Table S.2 Project Permits and Approvals

Agency	Permit/Approval	Status
City of Bakersfield	Encroachment Permits Relinquishment of street right-of-way Update General Plan	The City of Bakersfield would need to issue encroachment permits to allow the contractor to change local streets within the City jurisdiction. For those roadways that are being realigned, closed, or made into cul-de-sacs, the City would need to relinquish the roadway right-of-way. Once the State Highway System is changed, the updated plan should be reflected in the local General Plan and, a change to the Master Plan of Bikeways would be required for Alternative B.
County of Kern	Encroachment Permit Update General Plan	The County of Kern would need to issue encroachment permits to allow the contractor to change local streets within the County of Kern jurisdiction. Once the State Highway System is changed, the updated plan should be reflected in the local General Plan.
State Water Resources Control Board and the Central Valley Regional Water Quality Control Board, Region 5	Storm Water Discharge Permit National Pollutant Discharge Elimination System Coordination	Compliance with (1) the Statewide National Pollutant Discharge Elimination System Permit for Storm Water Discharge from the State of California, Department of Transportation Properties, Facilities, and Activities (Order Number 2012-0011-DWQ, NPDES No. CAS000003) and (2) the National Pollutant Discharge Elimination System General Permit for Storm Water Discharge Requirements for Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002, as amended by 2010-0014-DWQ).
	Section 401 Certification pursuant to the Clean Water Act	Certification of compliance would be obtained before construction.
	Discharge of Construction Water (Dewatering)	If dewatering is expected for the preferred alternative, the contractor must fully conform to the requirements specified in Order No. R5-00-175, General Waste Discharge Requirements for Discharges to Surface Water which Pose an Insignificant (*De Minimus*) Threat to Water Quality, from the Central Valley Regional Water Quality Control Board.
	Municipal Separate Storm Sewer System Permit	The Central Valley Regional Water Quality Control Board has issued waste discharge requirements for the County of Kern and the City of Bakersfield for urban storm water discharges (Order No. 5-01-130, National Pollutant Discharge Elimination System No. CA00883399). During subsequent design phases, the latest version of the Storm Water Management Plan/Standard Urban Storm Water Mitigation Plan developed and implemented by the County of Kern and the City of Bakersfield must be evaluated to determine which requirements apply to a road and highway project such as the Centennial Corridor.

Table S.2 Project Permits and Approvals

Agency	Permit/Approval	Status
San Joaquin Valley Air Pollution Control District	Dust Control Permit and Approved Air Impact Assessment per Rule 9510, Indirect Source Review Rule 8210, Limits to fugitive particulate matter emissions during construction activities	Coordination at a staff level has occurred as part of preparation of the Air Quality Study Report. The permit would be acquired after project approval and before construction.
Public Utilities Commission	Relocation of the electrical transmission towers would require Public Utilities Commission authorization	Coordination with Public Utilities Commission staff would be required as part of the design effort for the relocation of the electrical transmission towers. No coordination with the commission or the utility company has occurred to date. Coordination would begin during the design phase of the project.
	Approval for the construction of new or modification of existing, highway-rail crossings (General Order 88B and 26D) (Alternative C)	Coordination has not begun with the Public Utilities Commission. This coordination would occur if Alternative C is selected as the preferred alternative.
California Department of Conservation, Department of Oil, Gas, and Geothermal Resources	Abandonment of oil wells would need to be done in compliance with Department of Conservation requirements	Coordination has not begun. Before construction, a Notice of Intent would be filed with the Department of Conservation, Division of Oil, Gas and Geothermal Resources, and an abandonment plan would be prepared for all oil wells that would be abandoned.
BNSF Railway, Union Pacific Railroad, and San Joaquin Valley Railroad	Acquisition of right-of-way or easement and changes to existing agreements for work in the rail corridor	Coordination with the railroad would occur prior to construction.
Central Valley Flood Protection Board	Approval of flood control improvements and floodplain encroachment	Coordination would begin during the design phase of the project.

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List of Abbreviated Terms

ADA	Americans with Disabilities Act
Alt.	Alternative
AT&T	American Telephone and Telegraph
Caltrans	California Department of Transportation
CFR	Code of Federal Regulations
CH_4	Methane
CO	Carbon monoxide
CO_2	Carbon dioxide
dB	Decibels
dBA	A-weighted decibels
DPM	Diesel Particulate Matter
et seq.	and the following
H_2S	Hydrogen sulfide
HFCs	Hydrofluorocarbons
HFC-23	Fluoroform
HFC-134a	s, s, s, 2-tetrafluoroethane
HFC-152a	Difluoroethane
LED	Light-emitting diode
L_{eq}	Sound Energy Equivalent Noise Level
MAP-21	Moving Ahead for Progress in the 21st Century Act
MFR	Multi-family residence
MH	Mobile home
N_2O	Nitrous oxide
NO_2	Nitrogen dioxide
NOx	Oxides of nitrogen
O_3	Ozone

Pavley	Assembly Bill 1493
Pb	Lead
Perm	Permanent
PG&E	Pacific Gas and Electric
PM2.5	Particulate matter equal to or less than 2.5 microns in diameter
PM10	Particulate matter equal to or less than 10 microns in diameter
Ppm	Parts per million
SAFETEA-LU	Safe Accountable, Flexible Efficient Transportation Equity Act: A Legacy for Users
SCH	State Clearinghouse
SF_6	Sulfur hexafluoride
SFR	Single-family residence
SO_2	Sulfur dioxide
TRIP	Thomas Roads Improvement Program
U.S.	United States
U.S. Code	United States Code
USFWS	U.S. Fish and Wildlife Service
VRP	Visibility-reducing particles
$\mu g/m^3$	Micrograms per cubic meter

Chapter 1 Purpose and Need for the Project

1.1 Introduction

The California Department of Transportation (Caltrans), in cooperation with the City of Bakersfield, proposes the construction of the Centennial Corridor as a new east-west transportation corridor for State Route 58. Centennial Corridor would provide route continuity for State Route 58 by building a new freeway segment linking State Route 58 (East) with Interstate 5. To accommodate the new freeway segment, improvements on State Route 99 would also be constructed.

A route adoption (formal alignment selection) by the California Transportation Commission would be needed once the alignment is identified for a continuous route for State Route 58 from east of State Route 99 to Interstate 5. This could also involve the "transfer" of an existing roadway (the Westside Parkway) into the State Highway System. The current portion of State Route 58 (West) from Allen Road to Interstate 5 would be relinquished (made a local road, no longer a State highway) to the local jurisdictions (the City of Bakersfield and the County of Kern). Freeway agreements approved by the County of Kern and the City of Bakersfield would also be required.

The project is subject to both state and federal environmental review requirements because it involves the use of federal funds from the Federal Highway Administration. Project documentation has been prepared in compliance with both the California Environmental Quality Act and the National Environmental Policy Act. Caltrans is the lead agency under both the California Environmental Quality Act and the National Environmental Policy Act.

Project Location and Setting

The project sits at the southern end of the San Joaquin Valley in the city of Bakersfield in Kern County, California. The project area is bound on the east by Cottonwood Road, on the west by Interstate 5, on the north by Gilmore Avenue, and on the south by Wilson Road (see Figures 1-1 and 1-2).

The city of Bakersfield is a major urban area, with the ninth highest population in the state. Land uses in the project vicinity include residential, commercial, industrial, recreation, resource/utility, agriculture, undeveloped/vacant, and government. The eastern and central portions of the project area are more urbanized; the western portion is generally undeveloped or in agricultural production.

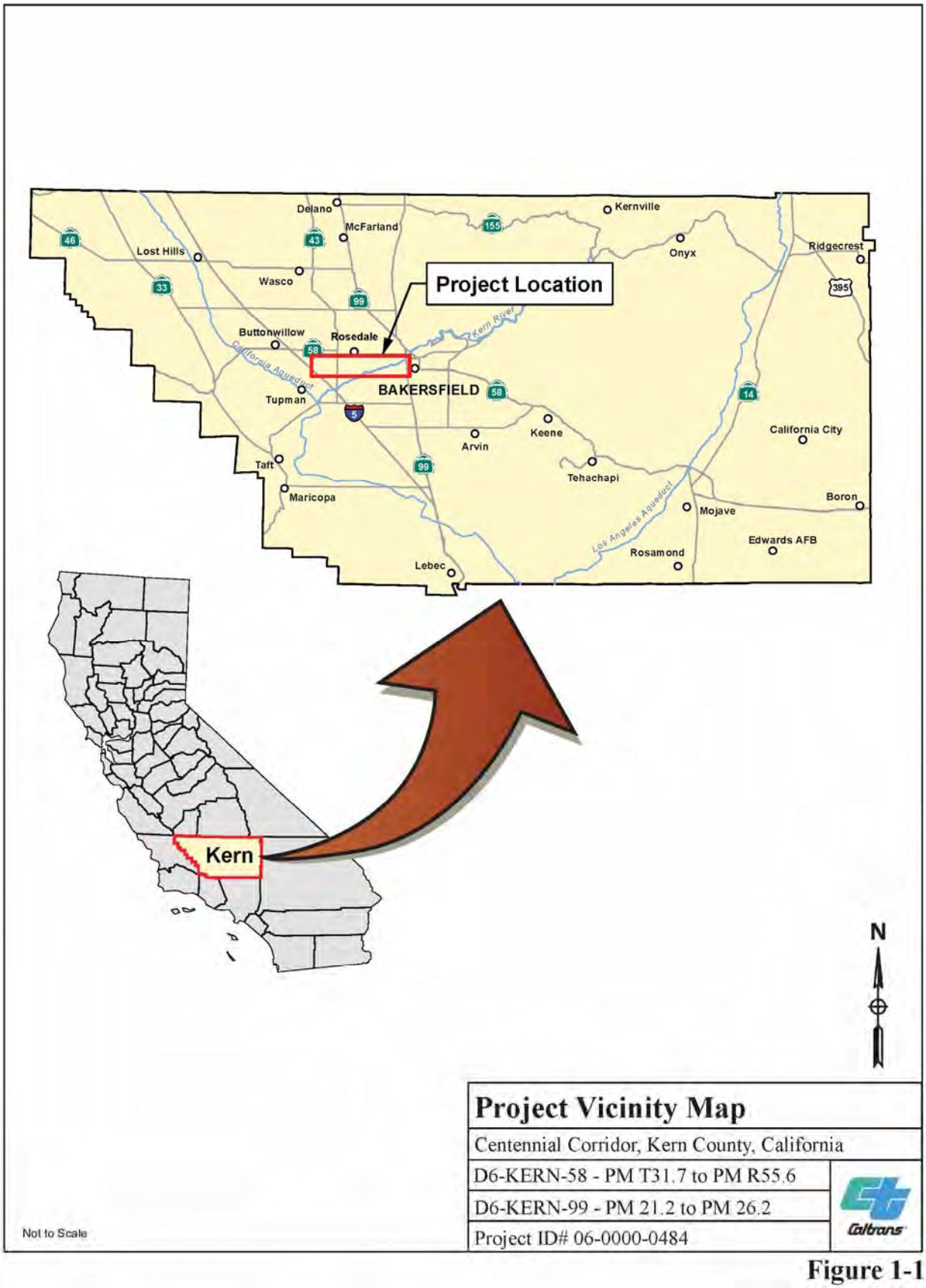
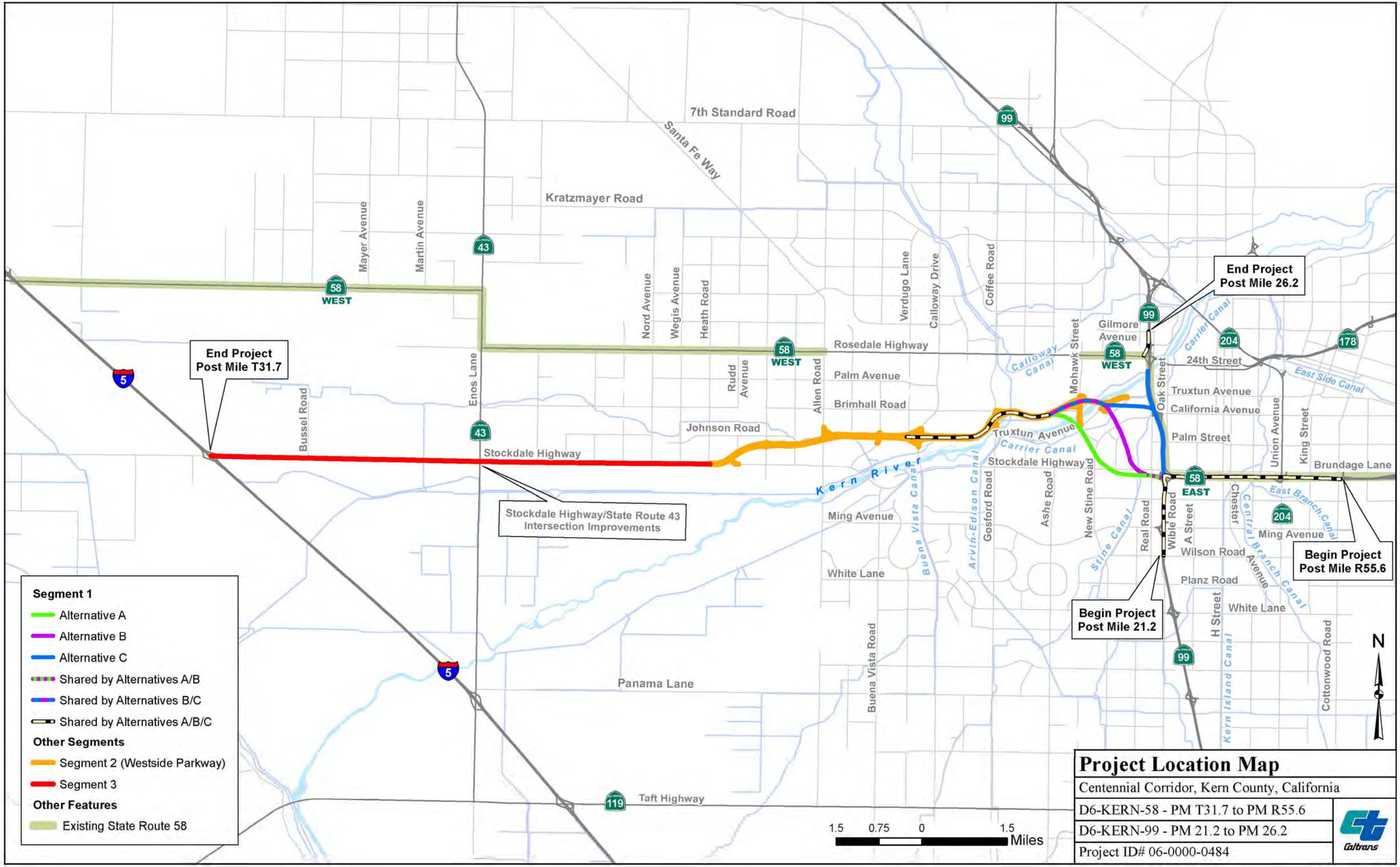

Project Location
Delano
McFarland
Kernville
Lost Hills
Wasco
Onyx
Ridgecrest
Buttonwillow
Rosedale
Kern River
California Aqueduct
BAKERSFIELD
Tupman
Arvin
Keene
California City
Taft
Tehachapi
Maricopa
Boron
Mojave
Los Angeles Aqueduct
Edwards AFB
Rosamond
Lebec
Kern
N
Not to Scale
Project Vicinity Map
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 1-1



Project Location Map

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 1-2

Planning Background

The need for a high-capacity transportation corridor in western Kern County has been recognized by local and regional planners for decades. The 2001 *Route 58 Route Adoption Project Tier 1 Environmental Impact Statement/Environmental Impact Report* focused on the location of a transportation corridor to replace existing State Route 58 in the future. The Tier 1 study documented previous transportation planning studies and analyzed many different alternatives from State Route 58 (East) to Interstate 5. A major result of the Tier 1 effort was the selection of the Cross Valley Canal alignment as the preferred alternative at that time. However, between 2001 and 2013 an action to consider a Route Adoption by the California Transportation Commission has not yet occurred, but may occur upon completion of the final environmental document.

The 2007 *Tier 2 Westside Parkway Environmental Assessment/Final Environmental Impact Report* was prepared to evaluate the construction-level impacts of the first phase of the transportation project identified along the Tier 1 Cross Valley Canal alignment preferred alternative. Westside Parkway, which extends west from Truxtun Avenue near Mohawk Street to Stockdale Highway at Heath Road, builds on the previously identified Tier 1 alignment by providing a major link toward route continuity for State Route 58. Construction of Segment 1 of the Centennial Corridor would provide the next logical step in implementing the ongoing plan for improving route continuity and connectivity for State Route 58. This environmental document is not a tiered document of the 2001 *Route 58 Route Adoption Project Tier 1 Environmental Impact Statement/Environmental Impact Report.*

The Centennial Corridor project is included in the 2011 Regional Transportation Plan Amendment 3 (Project Identification Number KER08RTP020). The Kern Council of Governments adopted the 2011 plan on July 19, 2012. The Federal Highway Administration and Federal Transit Administration made a conformity finding for the 2011 plan on December 13, 2012. Segments 1 and 2 are in the Kern Council of Governments' 2013 Federal Transportation Improvement Program, which was federally approved on December 13, 2012 (Project Identification Numbers KER050109, KER080110, KER020102, KER080103, KER080105, KER080107, KER990112 and KER050104).

Funding for the project comes from multiple sources, including SAFETEA-LU, which is federal legislation that was signed into law on August 10, 2005. The following funding sources have been identified:

- SAFETEA-LU Section 1301 = $90.44 million
- SAFETEA-LU Section 1302 = $289.2 million
- Other federal sources = $12.97 million
- State = $53 million
- Kern County bond = $57.5 million
- City of Bakersfield = $206.89 million

1.2 Purpose and Need

The purpose and need provide the reasons the project is being considered. They also form the basis for comparing the alternatives so that, when an alternative is selected for construction, not only are the environmental impacts considered but so is the alternative's ability to meet the project's intended objectives.

1.2.1 Purpose

The purpose of the Centennial Corridor project is to provide route continuity and associated traffic congestion relief along State Route 58 within metropolitan Bakersfield and Kern County from State Route 58 (East) (at Cottonwood Road) to Interstate 5.

The American Association of State Highway and Transportation Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets* (2004) defines route continuity as a roadway throughout the length of a designated route. The goal of route continuity is to ease the driving task by reducing the need to change lanes and search for directional signing. Route continuity is evaluated in terms of consistent levels of service by providing an appropriate number of lanes to ease movement.

1.2.2 Need

State Route 58 is a critical link in the state transportation network and is used by interstate travelers, local commuters within metropolitan Bakersfield, and a great number of regional and inter-regional trucks. However, the efficient movement of traffic, goods, and materials through the metropolitan Bakersfield and incorporated areas is limited by the existing transportation network.

Route Continuity

State Route 58 is not continuous; it lacks route continuity from the State Route 58 (East)/State Route 99 interchange west to Interstate 5. From the State Route 58 (East)/99 interchange, State Route 58 is offset by about 2 miles where State Routes 58 and 99 merge and share a common north-south alignment. Along this shared portion, State Route 58/99 is an eight-lane, access-controlled (access is limited to interchanges) freeway. This section of State Route 99 between State Route 58 (East) and Airport Drive is the third most congested segment of the highway in California. Regional and inter-regional traffic, including heavy trucks, merge with local traffic using this segment to access metropolitan Bakersfield.

Traffic continuing west from the shared portion of State Route 58/State Route 99 must exit at the State Route 178/24th Street off-ramp to access State Route 58 (West) where the route resumes as an east-west local road known as Rosedale Highway. State Route 58 (West) extends west for about 12 miles from State Route 99 to State Route 43. From State Route 99 west to Allen Road, State Route 58 (West) is a four-lane, divided local road with a posted 45 mile-per-hour speed limit and traffic signals at all major intersections. In June 2012, Caltrans relinquished the portion of State Route 58 (West) between Allen Road to Mohawk Street (post miles 45.96 to 50.61) to the City of Bakersfield and the County of Kern.

At State Route 43 (locally known as Enos Lane), State Route 58 (West) is again offset to the north for about 1 mile and shares the alignment with State Route 43. From this point, State Route 58 (West) again assumes an east-west alignment as a two-lane, rural conventional roadway for about 8 miles, to the interchange with Interstate 5.

The lack of route continuity contributes to traffic congestion and reduced levels of service on adjoining highways and local streets. As stated in the 2001 *Route 58 Route Adoption Project Tier 1 Environmental Impact Statement/Environmental Impact Report* (page 1-1), "The lack of continuity at State Route 99 contributes to traffic congestion on that freeway. State Route 99 has large volumes of traffic because it is the major Central Valley connector in California and is the only major north-south freeway in Bakersfield, and it also functions as a major commuter route for the metropolitan area. State, regional and local east-west traffic using State Route 58 contributes to the already substantial volume of traffic using State Route 99 where both state routes share a common roadway." Under existing conditions, State Route 58 does not meet the capacity needs of the area, and this is expected to get worse as the population grows. The existing capacity of State Route 58, both eastbound and westbound, is constrained by the system interchange ramps at State Route 99 and Real Road. Currently these ramps are operating at level of service E/F during peak hours. These conditions will worsen (or deteriorate) with the widening of State Route 99 from Taft Highway to Wilson Road and several future projects which include widening Rosedale Highway from four lanes to six lanes and the widening 24th Street from four to six lanes (see the Traffic Study Report for the Centennial Corridor Project). The widening of State Route 58 east of State Route 99 and construction of the Centennial Corridor connection is needed to meet future population and employment growth in the Bakersfield metropolitan area and to accommodate forecasted growth in interregional traffic movements in the State Route 58, State Route 99 and I-5 travel corridors.

The metropolitan Bakersfield forecast annual growth rate (2010-2035) is 1.8 percent. In the area east of State Route 99, three highways (State Route 204, State Route 178, and State Route 58) provide a well-developed road system to handle the large volume of local traffic movement. There are no access-controlled thoroughfares in the metropolitan area west of State Route 99 to support growth. The stop- and signal-controlled local road network west of State Route 99 adds to commute times and provides lower levels of service.

Another factor limiting route continuity is the Kern River, which creates a barrier for traffic movement. The Kern River splits the metropolitan Bakersfield area and creates a barrier for traffic movement. Only a few routes—such as Olive Drive, Stockdale Highway, and Rosedale Highway/24th Street—span the river and carry traffic in an east-west direction. This results in high traffic volumes: traffic is funneled across the Kern River using those few routes that span the river. State Route 99 contributes to this because it also attracts some local north-south traffic crossing the river.

A more technical analysis of the issues identified above is provided below. The next two sections provide details on existing and future east-west traffic congestion and traffic conditions on the shared portion of State Route 58 and State Route 99.

Existing East-West Traffic Congestion and Projected Demand

The Interregional Transportation Strategic Plan was developed by Caltrans to guide development of the interregional transportation system. The Interregional Transportation Strategic Plan identifies State Route 58 as a high-capacity, high level of service, east-west facility that provides significant goods and freight movement connections between Interstate 5 and State Route 99 in the San Joaquin Valley.

Sitting at the southern end of the San Joaquin Valley, Kern County has convenient access to both the Los Angeles Basin and the San Francisco Bay area. As a result, Kern County is developing as an important regional center for distribution of goods and materials through the state. In addition, the manufacturing and employment base of the San Joaquin Valley is increasing. These factors contribute to increasing demand for freight transportation in the greater Bakersfield region.

Truck traffic accounts for 27 percent of the total traffic in Kern County. This is three times the statewide average of 9 percent. Surveys identified that even the existing State Route 58 West (Rosedale Highway), which is built as a local roadway, has truck traffic percentages of up to 16 percent of total traffic. The Caltrans *State Route 58 Corridor System Management Plan* (2011) projects that goods movement is expected to continue to increase over the next several years, creating a need to develop State Route 58 as a primary east-west route. At a regional scale, the project would promote economic growth and interregional/intraregional trade by improving linkages between existing segments of the State Highway System through Bakersfield.

Users of State Route 58 (West)/Rosedale Highway currently experience travel delays from stop- and signal-controlled local streets. This is especially true on the 12-mile segment between State Route 43 (Enos Lane) and State Route 99, which has 18 signal or four-way stop intersections. The projected level of service indicates that delay will get worse in the future conditions. With ongoing and future access, congestion, and continuity issues along State Route 58, there is a well-recognized need for highway improvements. This statement is supported by the information described under "Traffic Congestion on the Shared Portion of State Route 58 and State Route 99" subsection provided later in this Chapter.

The effectiveness of traffic operations on a transportation facility is measured in terms of "level of service," in a range from A to F, with level of service A representing the best traffic conditions (free-flowing traffic) and level of service F representing the worst (congestion and stop-and-go traffic). Level of service descriptions are shown in Figures 1-3a through 1-3d. Figure 1-3a shows operating speeds for each of the level of service for freeways, which applies to State Route 99, State Route 58 (East), and the proposed new construction in Segment 1. Figure 1-3b shows operating speeds for each of the level of service for multi-lane highways, which applies to the remaining roadways (such as Rosedale Highway and Stockdale

LEVELS OF SERVICE
for Freeways

Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptions
A		70	Highest quality of service. Traffic flows freely with little or no restrictions on speed or maneuverability. **No delays**
B		70	Traffic is stable and flows freely. The ability to maneuver in traffic is only slightly restricted. **No delays**
C		67	Few restrictions on speed. Freedom to maneuver is restricted. Drivers must be more careful making lane changes. **Minimal delays**
D		62	Speeds decline slightly and density increases. Freedom to maneuver is noticeably limited. **Minimal delays**
E		53	Vehicles are closely spaced, with little room to maneuver. Driver comfort is poor. **Significant delays**
F		<53	Very congested traffic with traffic jams, especially in areas where vehicles have to merge. **Considerable delays**

Source: Caltrans 2012

Level of Service Descriptions for Freeways

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 1-3a

LEVELS OF SERVICE
for Multi-Lane Highways

Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptions
A		60	Highest level of service. Traffic flows freely with little or no restrictions on maneuverability. **No delays**
B		60	Traffic flows freely, but drivers have slightly less freedom to maneuver. **No delays**
C		60	Density becomes noticeable with ability to maneuver limited by other vehicles. **Minimal delays**
D		57	Speed and ability to maneuver is severely restricted by increasing density of vehicles. **Minimal delays**
E		55	Unstable traffic flow. Speeds vary greatly and are unpredictable. **Minimal delays**
F		<55	Traffic flow is unstable, with brief periods of movement followed by forced stops. **Significant delays**

Source: Caltrans 2012

Level of Service Descriptions for Multi-Lane Highways

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 1-3b

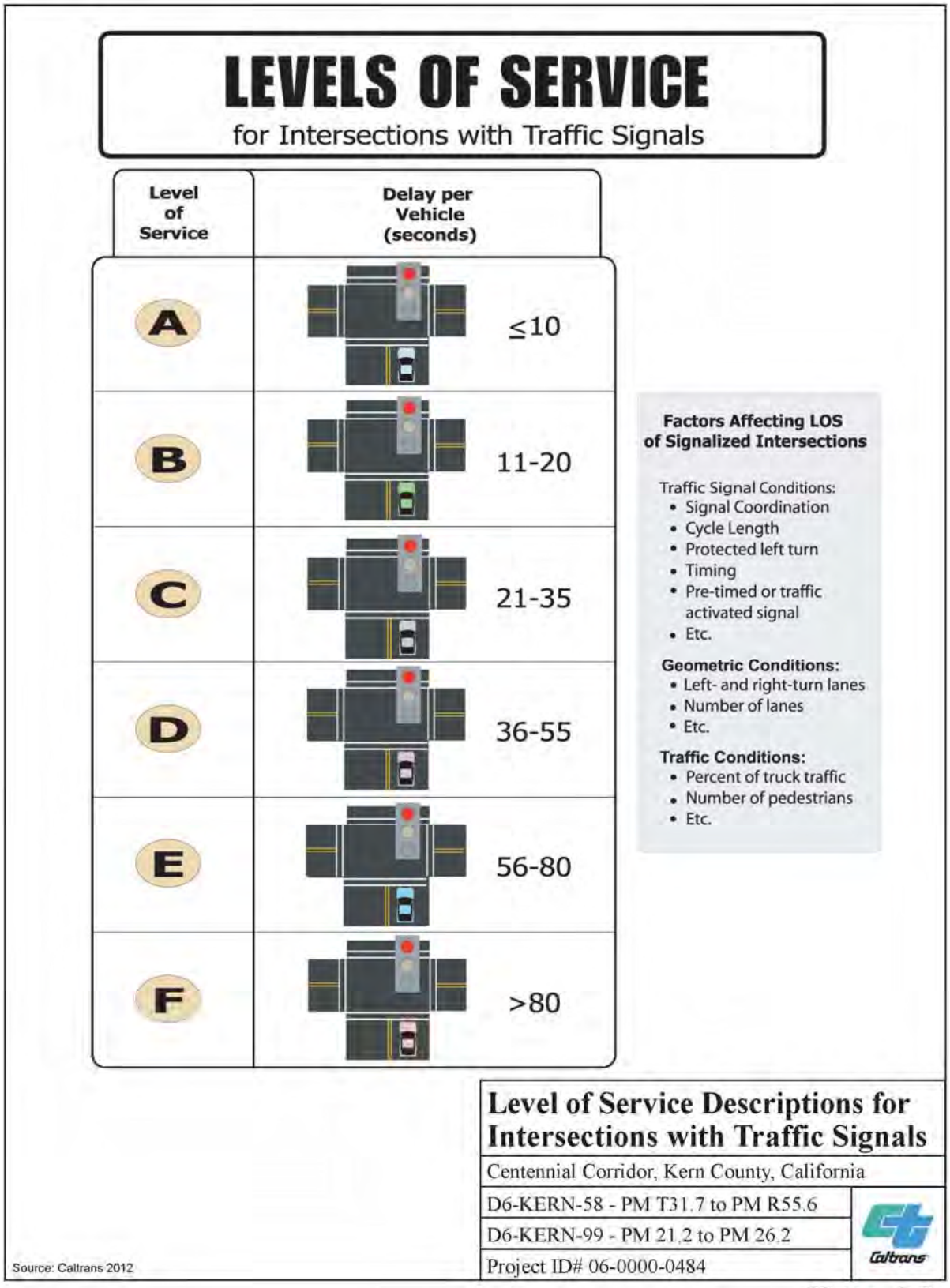

LEVELS OF SERVICE
for Intersections with Traffic Signals
Level of Service
Delay per Vehicle (seconds)
A
≤10
B
11-20
C
21-35
D
36-55
E
56-80
F
>80
Factors Affecting LOS of Signalized Intersections
Traffic Signal Conditions:
• Signal Coordination
• Cycle Length
• Protected left turn
• Timing
• Pre-timed or traffic activated signal
• Etc.
Geometric Conditions:
• Left- and right-turn lanes
• Number of lanes
• Etc.
Traffic Conditions:
• Percent of truck traffic
• Number of pedestrians
• Etc.
Source: Caltrans 2012
Level of Service Descriptions for Intersections with Traffic Signals
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 1-3c

LEVELS OF SERVICE

for Unsignalized Intersections

Level of Service	Flow Conditions	Delay per Vehicle (seconds)	Technical Descriptions
A		<10	Highest quality of service. Free traffic flow with few restrictions on maneuverability or speed. **Very short delay**
B		10-15	Stable traffic flow. Speed becoming slightly restricted. Low restriction on maneuverability. **No delays**
C		15-25	Stable traffic flow, but less freedom to select speed, change lanes or pass. **Minimal delays**
D		25-35	Traffic flow becoming unstable. Speeds subject to sudden change. Passing is difficult. **Minimal delays**
E		35-50	Unstable traffic flow. Speeds change quickly and maneuverability is low. **Significant delays**
F		>50	Heavily congested traffic. Demand exceeds capacity and speeds vary greatly. **Considerable delays**

Source: Caltrans 2012

Level of Service Descriptions for Unsignalized Intersections

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 1-3d

Highway) in the study area. Figure 1-3c is for intersections with signals and Figure 1-3d is for intersections without signals. For the intersections, the figures show the number of seconds of delay for each of the levels of service is provided.

The California Department of Finance estimated that the population of Kern County increased at a rate of 2.5 percent between July 2000 and July 2009, nearly double the rate for California as a whole. By 2035, the population of Bakersfield is expected to reach 848,487 persons or about 60 percent of the expected population in all of Kern County. In 20 to 30 years, as the population continues to grow, traffic congestion will increase on many local roadways during peak commute hours unless roadway improvements are made. See Table 1.1 (Existing and Future Levels of Service for Key Intersections Without Project) for more information.

A *Traffic Study Report for the Centennial Corridor Project* (November 2012) was prepared to evaluate the operation of existing roadways, project those conditions 20 years into the future, and compare operations of both the no-build and build alternatives. The traffic projections for future years were generated from the Kern Council of Governments' 2006 Regional Travel Model (Update 1, which is based in part on regional growth forecasts).

Table 1.1 summarizes existing and forecasted average daily traffic counts predicted for selected key intersections within the project study area in 2008 (existing or baseline conditions), 2018 (opening year of the project), and 2038 (design year of the project). This comparison uses the level of service during the busiest times of the day (peak hours). The morning peak period is from 7:00 to 9:00 a.m. and the afternoon peak period is from 3:00 pm to 6:00 p.m. The peak 60 minutes of traffic volume varies by location.

Under baseline conditions (2008), within the project area limits, 15 key intersections with signals operated at worse than level of service D (25 to 35 seconds of delay) during one or both peak hour periods. In addition, one key intersection without a signal operated at an unacceptable level of service (worse than level of service D). Figures 1-3a through 1-3d provide the delay time for intersection and the estimated speeds for the freeways for each level of service category.

Under 2018 No-Build Alternative conditions, 12 intersections (11 with signals and 1 without signals) in the project area are projected to operate at worse than level of service D during one or both peak hour periods. Under 2038 No-Build Alternative conditions, 22 intersections (18 with signals and 4 without signals) in the project area are projected to operate at worse than level of service D during one or both peak hours. For details, see Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities.

Traffic Congestion on the Shared Portion of State Routes 58 and 99

State Route 99, which is the major Central Valley north-south highway in California, provides a connection between the two legs of State Route 58 (Rosedale Highway and State Route 58 East) for drivers traveling in the east-west direction. The merging

of two major State Routes (58 and 99) into one alignment between the eastern and western legs of State Route 58 (a distance of about two miles) has made the traffic level of service deteriorate on this segment of freeway. Conditions are projected to worsen in the coming years.

Also, State Route 99's close spacing for its two connections with State Route 58 (East and West), as well as an interchange at California Avenue, has resulted in conflicting merging conditions (cars coming onto the freeway are trying to move to the left and the cars on the freeway are trying to move to the right to use the off-ramp) that add to traffic congestion. The Caltrans standard for spacing between freeway-to-freeway connections is 2 miles, and the standard for spacing between interchanges is 1 mile. In this location, the two connectors from State Route 58 to State Route 99 and the California Avenue interchange are all located in slightly over 2 miles.

Other highway projects in the area, such as the Rosedale Highway Widening Project, which will widen Rosedale Highway to six lanes from State Route 99 to Allen Road, do not provide enough traffic capacity to satisfy the projected need. The *Traffic Study Report for the Centennial Corridor Project* assumes the implementation of street improvements that are funded by the Regional Transportation Improvement Program and the Metropolitan Bakersfield Transportation Impact Fee Program that are expected to be built between 2013 and 2038. These programs include a wide range of transportation improvements, including the Rosedale Widening Project, 24th Street Widening, and the North Beltway project. Even with these projects, given the projected population and employment growth trends, traffic congestion would occur along Rosedale Highway, 24th Street, the Truxtun Avenue extension west of Oak Street, portions of Stockdale Highway, State Route 99, portions of State Route 178, Coffee Road, Mohawk Street, and Union Avenue.

Figure 3-11, provided in Volume 2, and Table 1.1 shows future congestion at various roadway intersections, represented by levels of service without the project in 2018 and 2038. Table 1.2 shows the level of service of various freeway segments on State Routes 58 and 99 in the project area without the project for the same years. For some freeway mainline segments, heavy congestion (levels of service E and F) is predicted for both morning and afternoon peak hours by 2038 under no-build conditions. With improvements on State Route 58, traffic is expected to shift from parallel arterial streets to the Centennial Corridor. This would relieve congestion on the larger roadway network, which would result in systemwide benefits. Systemwide benefits extend beyond just improving traffic conditions to include time, costs, and environmental improvements. The Federal Highway Administration has developed the Surface Transportation Efficiency Analysis Model (STEAM) version 2.0 to quantify the benefits and costs of the project. Factors considered in this model include travel time savings, fuel costs, expected accident costs, and environmental benefits/ costs (such as reduction in air pollution and changes to noise levels). The benefits are balanced against the costs of building the project. A 20-year life cycle is used for estimating the costs. The build alternatives all would provide benefits that exceed the cost of construction of the project. The STEAM analysis is discussed in greater detail in Section 3.1.6, Traffic and Transportation/ Pedestrian and Bicycle Facilities.

Table 1.1 Existing and Future Levels of Service for Key Intersections Without Project

Intersection[a]	Existing (Baseline) Conditions (2008)			Forecasted Conditions (2018)			Forecasted Conditions (2038)		
	Traffic Control	Peak Hour	LOS[b] Average Delay	Traffic Control	Peak Hour	No-Build Alternative LOS[b] Average Delay	Traffic Control	Peak Hour	No-Build Alternative LOS[b] Average Delay
Interstate 5/Stockdale Highway ramps	Unsignalized	AM	B	Unsignalized	AM	A	Unsignalized	AM	A
		PM	C		PM	A		PM	F (southbound)
Stockdale Highway/Enos Lane	Unsignalized	AM	B	Unsignalized	AM	F	Unsignalized	AM	F
		PM	D		PM	F		PM	F
Rosedale Highway/Enos Lane	Unsignalized	AM	B	Unsignalized	AM	B	Unsignalized	AM	D
		PM	B		PM	D		PM	F
Stockdale Highway/Wegis Avenue	Unsignalized	AM	unavailable	Unsignalized	AM	A	Unsignalized	AM	F
		PM	unavailable		PM	B		PM	F
Stockdale Highway/Heath Road	Unsignalized	AM	C	Signalized	AM	C	Signalized	AM	C
		PM	C		PM	C		PM	C
Allen Road/Rosedale Highway	Signalized	AM	D	Signalized	AM	C	Signalized	AM	D
		PM	E		PM	D		PM	D
Calloway Drive/Rosedale Highway	Signalized	AM	E	Signalized	AM	D	Signalized	AM	D
		PM	F		PM	D		PM	D
Calloway Drive/Stockdale Highway	Signalized	AM	D	Signalized	AM	D	Signalized	AM	D
		PM	D		PM	C		PM	D
Coffee Road/Rosedale Highway	Signalized	AM	E	Signalized	AM	E	Signalized	AM	F
		PM	E		PM	F		PM	F
Coffee Road/Stockdale Highway	Signalized	AM	F	Signalized	AM	D	Signalized	AM	E
		PM	F		PM	D		PM	F
Mohawk Street/Rosedale Highway	Unsignalized	AM	F	Signalized	AM	E	Signalized	AM	F
		PM	F		PM	F		PM	F
Mohawk Street/Truxtun Avenue	Signalized	AM	C	Signalized	AM	C	Signalized	AM	C
		PM	D		PM	C		PM	E
Mohawk Street/California Avenue	Signalized	AM	C	Signalized	AM	C	Signalized	AM	F
		PM	C		PM	F		PM	F

Table 1.1 Existing and Future Levels of Service for Key Intersections Without Project

Intersection[a]	Existing (Baseline) Conditions (2008)			Forecasted Conditions (2018)			Forecasted Conditions (2038)		
	Traffic Control	Peak Hour	LOS[b] Average Delay	Traffic Control	Peak Hour	No-Build Alternative LOS[b] Average Delay	Traffic Control	Peak Hour	No-Build Alternative LOS[b] Average Delay
Stockdale Highway/California Ave	Signalized	AM	E	Signalized	AM	E	Signalized	AM	F
		PM	F		PM	D		PM	F
Rosedale Highway/State Route 99 southbound ramps	Signalized	AM	D	Signalized	AM	B	Signalized	AM	C
		PM	D		PM	C		PM	D
Rosedale Highway/State Route 99 northbound ramps	Signalized	AM	D	Signalized	AM	C	Signalized	AM	C
		PM	F		PM	C		PM	C
Truxtun Avenue/Oak Street	Signalized	AM	D	Signalized	AM	D	Signalized	AM	E
		PM	E		PM	D		PM	E
California Avenue/State Route 99 southbound ramps	Signalized	AM	D	Signalized	AM	D	Signalized	AM	D
		PM	D		PM	E		PM	E
California Avenue/State Route 99 northbound ramps	Signalized	AM	E	Signalized	AM	C	Signalized	AM	C
		PM	C		PM	C		PM	D
California Avenue/Oak Street	Signalized	AM	D	Signalized	AM	C	Signalized	AM	C
		PM	E		PM	E		PM	E
Stockdale Highway/Stine Road	Unsignalized	AM	unavailable	Signalized	AM	D	Signalized	AM	F
		PM	unavailable		PM	E		PM	F
Stockdale Highway/Real Road	Signalized	AM	F	Signalized	AM	E	Signalized	AM	D
		PM	F		PM	E		PM	F
Stockdale Highway/State Route 99 southbound ramp	Signalized	AM	B	Signalized	AM	B	Signalized	AM	B
		PM	B		PM	B		PM	B
Real Road/State Route 58 (East)	Signalized	AM	C	Signalized	AM	C	Signalized	AM	C
		PM	C		PM	C		PM	D
Ming Avenue/New Stine Road	Signalized	AM	E	Signalized	AM	D	Signalized	AM	D
		PM	E		PM	D		PM	E
Ming Avenue/Real Road	Signalized	AM	C	Signalized	AM	C	Signalized	AM	C
		PM	E		PM	C		PM	E

Table 1.1 Existing and Future Levels of Service for Key Intersections Without Project

Intersection[a]	Existing (Baseline) Conditions (2008)			Forecasted Conditions (2018)			Forecasted Conditions (2038)		
	Traffic Control	Peak Hour	LOS[b] Average Delay	Traffic Control	Peak Hour	No-Build Alternative LOS[b] Average Delay	Traffic Control	Peak Hour	No-Build Alternative LOS[b] Average Delay
White Lane/Wible Road	Signalized	AM	D	Signalized	AM	**E**	Signalized	AM	**F**
		PM	**F**		PM	**E**		PM	**F**
White Lane/State Route 99 southbound ramps	Signalized	AM	C	Signalized	AM	C	Signalized	AM	C
		PM	**F**		PM	**F**		PM	**F**
White Lane/State Route 99 northbound ramps	Signalized	AM	A	Signalized	AM	A	Signalized	AM	B
		PM	A		PM	A		PM	**B**
H Street/Brundage Lane	Signalized	AM	C	Signalized	AM	C	Signalized	AM	C
		PM	D		PM	D		PM	**E**
H Street/State Route 58 (East) westbound ramp	Signalized	AM	B	Signalized	AM	B	Signalized	AM	C
		PM	**E**		PM	**E**		PM	**E**
H Street/State Route 58 (East) eastbound ramp	Signalized	AM	D	Signalized	AM	D	Signalized	AM	D
		PM	C		PM	C		PM	C
Chester Avenue/Brundage Lane	Signalized	AM	C	Signalized	AM	C	Signalized	AM	C
		PM	C		PM	C		PM	**E**

Note: **Bold** font and shading indicates intersection operations worse than Level of Service D.
LOS: level of service; AM: morning; PM: afternoon.
[a] For location of each intersection, refer to Figure 3-11.
[b] Level of service calculations completed using the CORSIM microsimulation and Synchro 6 analysis software packages.

Signalized = with traffic signals
Unsignalized = without traffic signals

Source: Developed from the *Traffic Study Report for the Centennial Corridor Project* 2012.

Table 1.2 Existing and Future Levels of Service for State Route 99 Mainline Without Project

Location	Existing (Baseline) Conditions (2008)[a]		Forecasted Conditions (2018)[b]		Forecasted Conditions (2038)	
	AM	PM	AM	PM	AM	PM
State Route 99 Northbound						
State Route 99 northbound south end of the network to White Lane off-ramp	C	B	C	C	**E**	D
White Lane off-ramp to White Lane loop on-ramp	C	B	B	B	D	C
White Lane loop on-ramp to White Lane direct on-ramp	N/A	N/A	C	C	**F**	D
White Lane direct on-ramp to Ming Avenue off-ramp	D	C	C	C	**F**	**F**
Ming Avenue off-ramp to Ming Avenue on-ramp	C	B	D	C	**F**	**F**
Ming Avenue on-ramp to State Route 58 eastbound/Wible off-ramp	N/A	N/A	**F**	**E**	**F**	**F**
State Route 58 eastbound/Wible Road off-ramp to Wible Road on-ramp	C	B	C	C	C	C
Wible on-ramp to State Route 58 westbound on-ramp	N/A	N/A	C	C	C	C
State Route 58 westbound on-ramp to California Avenue off-ramp	D	C	D	D	D	D
California Avenue off-ramp to California Avenue loop on-ramp	C	B	C	C	C	D
California Avenue loop on-ramp to California Avenue direct on-ramp	N/A	N/A	C	D	D	D
California Avenue direct on-ramp to Rosedale Highway off-ramp	D	C	C	C	C	D
Rosedale Highway off-ramp to Buck Owens Boulevard/Sillect off-ramp	N/A	N/A	B	C	C	C
Buck Owens Boulevard/Sillect Avenue off-ramp to Buck Owens Boulevard/Sillect Avenue on-ramp	B	B	B	B	B	C
Buck Owens Boulevard/Sillect Avenue on-ramp to Airport Drive Off-Ramp	N/A	N/A	B	C	C	C
Airport Drive off-ramp to Golden State Avenue	B	B	A	B	B	B
State Route 99 Southbound						
Golden State Avenue to Airport Drive on-ramp	C	C	B	B	B	C
Airport Drive on-ramp to Rosedale Highway off-ramp	C	C	C	C	C	**E**
Rosedale Highway off-ramp to Rosedale Highway loop on-ramp	B	C	B	C	B	C
Rosedale Highway loop on-ramp to Rosedale Highway direct on-ramp	N/A	N/A	B	D	C	D
Rosedale Highway direct on-ramp to California Avenue off-ramp	C	D	C	D	D	**E**
California Avenue off-ramp to California Avenue on-ramp	C	C	C	D	C	**E**
California Avenue on-ramp to State Route 58 eastbound/Stockdale Highway off-ramp	C	D	C	**E**	D	**E**
State Route 58 eastbound/Stockdale Highway off-ramp to State Route 58 westbound on-ramp	B	C	B	C	B	D
State Route 58 westbound on-ramp to Real Road on-ramp	N/A	N/A	C	**E**	D	**F**
Real Road on-ramp to Ming Avenue off-ramp	N/A	N/A	C	D	D	**F**

Table 1.2 Existing and Future Levels of Service for State Route 99 Mainline Without Project

Location	Existing (Baseline) Conditions (2008)[a]		Forecasted Conditions (2018)[b]		Forecasted Conditions (2038)	
	AM	PM	AM	PM	AM	PM
Ming Avenue off-ramp to Ming Avenue on-ramp	B	C	B	C	C	D
Ming Avenue on-ramp to White Lane off-ramp	C	D	B	C	C	D
White Lane off-ramp to White Lane loop on-ramp	B	B	B	B	C	C
White Lane loop on-ramp to White Lane direct on-ramp	N/A	N/A	B	B	C	C
White Lane direct on-ramp to Panama Lane	B	C	B	C	C	D
State Route 58 Eastbound						
State Route 58 west end of the network to State Route 99 on-ramp	N/A	N/A	B	A	B	A
State Route 99 on-ramp to H Street off-ramp	N/A	N/A	C	C	C	C
H Street off-ramp to Chester Avenue on-ramp	D	D	C	C	C	C
Chester Avenue on-ramp to Union Avenue off-ramp	D	D	C	C	C	C
Union Avenue off-ramp to Union Avenue loop on-ramp	C	D	B	C	C	C
Union Avenue loop on-ramp to Union Avenue diagonal on-ramp	N/A	N/A	C	C	C	C
Union Avenue diagonal on-ramp to Cottonwood Road off-ramp	D	D	C	C	C	D
Cottonwood Road off-ramp to Cottonwood Road on-ramp	N/A	N/A	B	C	C	C
Cottonwood Road on-ramp to State Route 58 east end of the network	N/A	N/A	C	C	C	D
State Route 58 Westbound						
State Route 58 east end of the network to Cottonwood Road off-ramp	N/A	N/A	C	C	D	C
Cottonwood Road off-ramp to Cottonwood Road on-ramp	N/A	N/A	B	B	C	C
Cottonwood Road on-ramp to Brundage Lane off-ramp	D	D	C	C	D	C
Brundage Lane off-ramp to Brundage Lane on-ramp	C	C	B	B	C	C
Brundage Lane on-ramp to Union Avenue on-ramp	N/A	N/A	B	C	C	C
Union Avenue on-ramp to Chester Avenue off-ramp	N/A	N/A	C	C	C	C
Chester Avenue off-ramp to H Street on-ramp	C	C	B	B	C	D
H Street on-ramp to State Route 99 northbound off-ramp	D	D	C	C	C	**E**
State Route 99 northbound off-ramp to State Route 99 southbound off-ramp	B	C	B	B	B	**E**

Note: **Bold** font and shading indicates intersection operations worse than Level of Service D.

AM: Morning; PM: Afternoon; N/A: Not Available.

[a] Results based on HCS Analysis

[b] Based on simulation results

Source: Developed from the *Traffic Study Report for the Centennial Corridor Project* 2012.

1.2.3 Independent Utility and Logical Termini

Federal Highway Administration regulations (23 Code of Federal Regulations [CFR] 771.111[f]) require that (1) projects have logical limits and be long enough that the environmental analysis has a broad scope; (2) projects are usable and a reasonable use of funds even if no additional transportation improvements in the area are made (this is known as independent utility); and (3) approval of a project does not restrict consideration of alternatives for other reasonably foreseeable transportation improvements. As discussed below, the Centennial Corridor Project complies with these requirements.

The Segment 1 project would close a gap by connecting State Route 58 (East) with the new Westside Parkway (Segment 2). Segments 1 and 2 and Stockdale Highway would serve the developed portion of metropolitan Bakersfield by moving traffic, goods, and freight through the area, plus provide access to Interstate 5 for improved regional access. Stockdale Highway would satisfy the travel demand through the 2038 planning horizon by providing a direct access to Interstate 5 (since 2038 is the planning design year, the needs beyond 2038 have not been evaluated as part of this study).

Another important consideration is whether the project is of sufficient length to address potential environmental impacts on a broad scope. At 17.4 to 18.5 miles long (depending on the alternative), the study corridor extends well beyond the proposed construction limits, and allows for evaluation of environmental impacts on a sufficiently broad scope.

The project's phased implementation would provide an effective and efficient roadway even if no additional transportation improvements are made. As discussed in Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, the connection of Segment 1 with Segment 2 would provide an improved and adequate traffic level of service through 2038 (the project's design year). Finally, no other projects would be needed to meet the project's objectives or would depend on construction of the Centennial Corridor project.

Approval of the project does not restrict consideration of alternatives for other reasonably foreseeable transportation improvements. The Regional Transportation Plan identifies a number of other transportation improvements that are expected by 2035. Each of these is being developed independently of the Centennial Corridor, and none would be made impossible by the corridor. The Centennial Corridor project would not conflict with or constrain the design of any of these projects.

Segment 3 traffic would use Stockdale Highway to access Interstate 5 and would not constrain the design of Segment 3 in the future (year 2038 and beyond).

Chapter 2 Project Alternatives

2.1 Alternatives

The Centennial Corridor project is divided into three segments (see Figure 1-2). Segment 1 alternatives are bound on the east by Cottonwood Road, on the west by Calloway Drive, on the north by Gilmore Avenue, and on the south by Wilson Road. Construction of Segment 1 is proposed to begin in 2016 and be completed in 2018.

Three build alternatives—Alternatives A, B, and C—and a No-Build Alternative are being considered for Segment 1 of the project as shown in Figure 2-1. Selection of a preferred alternative will be based on how well each project alternative is able to meet the project purpose and need (discussed in Chapter 1), address impacts to the community and environment, and be cost-effective.

No alternative alignments are proposed for Segment 2 because the project would use the Westside Parkway. Only minor changes to Segment 2 are required and these would be done within the existing right-of-way.

Stockdale Highway would be used as the State Route 58 connection to Interstate 5. The existing Stockdale Highway and interchange at Interstate 5 would satisfy travel demand through the planning horizon of 2038. However, to accommodate the additional traffic volumes, intersection improvements at Stockdale Highway and State Route 43 are being proposed.

2.1.1 Build Alternatives

The actions for Centennial Corridor project would be (1) route adoption for a continuous route for State Route 58 from the existing freeway portion of State Route 58 east of State Route 99 to Interstate 5 with the western portion on existing Stockdale Highway from Heath Road to Interstate 5; and (2) approval for construction of Segment 1, improvements within Segment 2, and intersection improvements at the Stockdale Highway and State Route 43 (known locally as Enos Lane) intersection. Common and unique design features of each build alternative are described below.

Common Design Features of the Build Alternatives

Preliminary design plans for Alternatives A, B and C, showing the right-of-way requirements are provided in Appendix E, in Volume 2 of this document. The build alternatives propose to connect State Route 58 (East) to the east end of the Westside Parkway by means of a six-lane freeway. Though the alignment and design characteristics vary by alternative, there are common design features to each of the three build alternatives, as noted below.

Segment 1 (Eastern Connection)

All three build alternatives would provide the following connections between existing State Route 58 (East) and State Route 99 using high-speed connection ramps:

- Northbound State Route 99 to westbound Centennial Corridor
- Northbound State Route 99 to eastbound State Route 58 (East)
- Southbound State Route 99 to eastbound State Route 58 (East)
- Eastbound Centennial Corridor to southbound State Route 99
- Westbound State Route 58 (East) to southbound and northbound State Route 99

Build alternatives A, B, and C would not include direct connectors from southbound State Route 99 to westbound State Route 58 and from eastbound State Route 58 to northbound State Route 99. The traffic demand forecast for 2038 (the planning horizon year) identifies that the direct connectors would primarily service regional traffic while interregional traffic passing through the triangle area formed by State Route 99, Interstate 5 and State Route 58 would use shorter and more direct routes instead of the connectors. For example, the traffic from the south would directly access State Route 99 at the State Route 99/Interstate 5 Interchange located 24 miles south of State Route 58 East. Also, traffic going between Interstate 5 and State Route 99, north of Bakersfield, would continue to use State Route 46 (approximately 17 miles north of Stockdale Highway) due to more efficient travel times as compared to using the Westside Parkway and Centennial Corridor.

In addition, the traffic modeling for Alternatives A and B, projects that traffic traveling on southbound State Route 99 to westbound State Route 58, would opt for the shorter 2-mile alternate route, by exiting at Rosedale Highway, traveling west to Mohawk Street and then going south on Mohawk Street to join Westside Parkway, versus traveling 4.5 miles on State Route 58 and State Route 99. Traffic traveling east on Westside Parkway would use the same route in the reverse direction.

The cost for the Alternative A and B future connectors is estimated at $183 million, and the cost for the Alternative C future connectors is estimated at $240 million. The project would not preclude the construction of the connectors in the future when it is demonstrated that the traffic volumes would justify the cost.

The project proposes to rebuild the southbound State Route 99 Rosedale Highway off-ramp from an existing one-lane off-ramp with two lanes at the ramp end to a two-lane off-ramp with four lanes at the end, including an auxiliary lane, which begins south of Gilmore. A separate project (the Rosedale Highway Widening Project), scheduled to open June 2015, would widen Rosedale Highway from four lanes to six lanes, provide two left-turn lanes from westbound Rosedale Highway to southbound Mohawk Street, and two right-turn lanes from northbound Mohawk Street to eastbound Rosedale Highway.

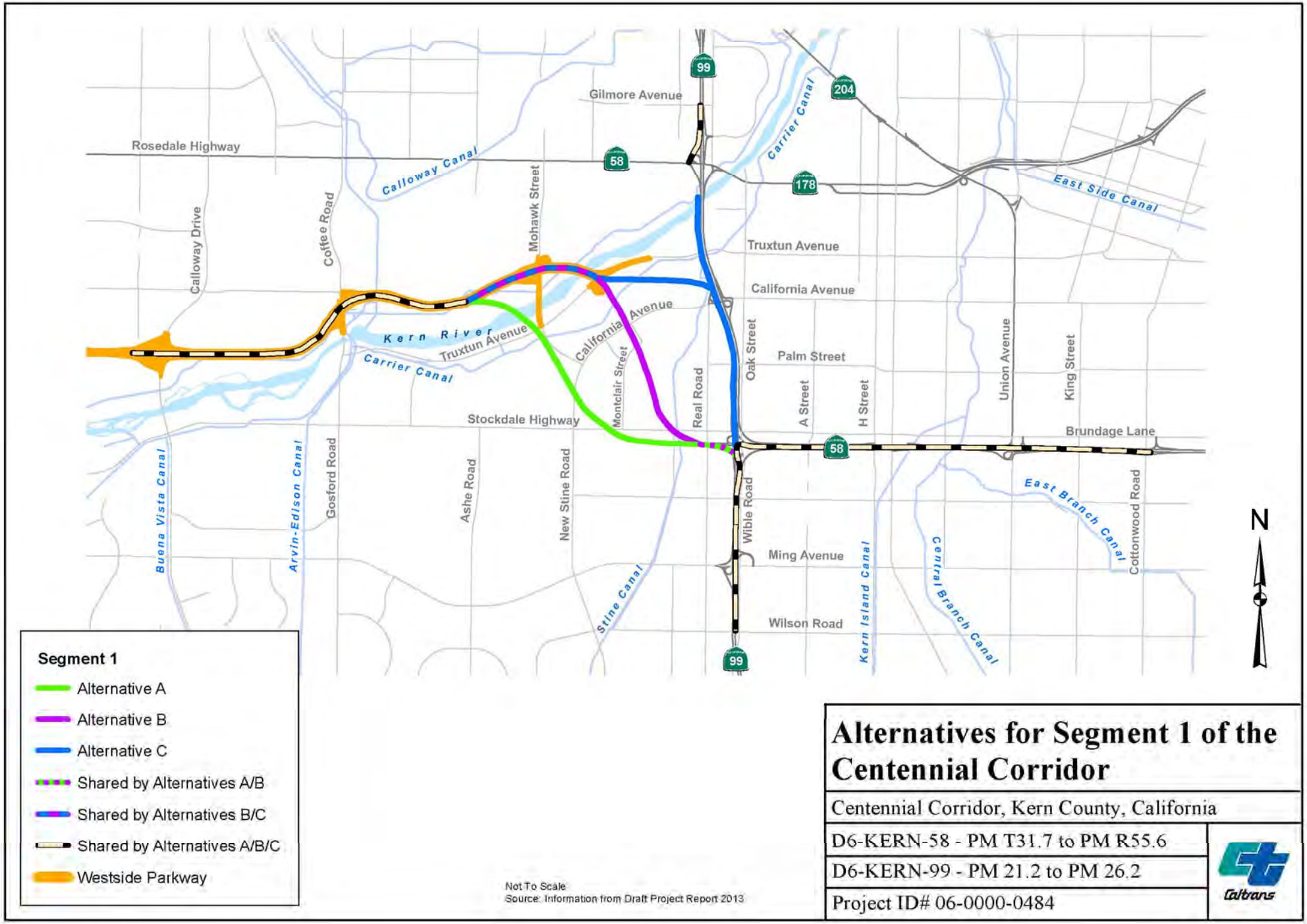

Gilmore Avenue
Rosedale Highway
Calloway Canal
Carrier Canal
East Side Canal
Calloway Drive
Coffee Road
Mohawk Street
Truxtun Avenue
California Avenue
Kern River
Truxtun Avenue
Carrier Canal
California Avenue
Montclair Street
Real Road
Oak Street
Palm Street
A Street
H Street
Union Avenue
King Street
Stockdale Highway
Brundage Lane
Buena Vista Canal
Arvin-Edison Canal
Gosford Road
Ashe Road
New Stine Road
Wible Road
East Branch Canal
Cottonwood Road
Ming Avenue
Stine Canal
Kern Island Canal
Central Branch Canal
Wilson Road
99
204
58
178
58
99
N
Segment 1
Alternative A
Alternative B
Alternative C
Shared by Alternatives A/B
Shared by Alternatives B/C
Shared by Alternatives A/B/C
Westside Parkway
Not To Scale
Source: Information from Draft Project Report 2013
Alternatives for Segment 1 of the Centennial Corridor
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 2-1

Changes to existing roadways common to all three build alternatives include widening the South P Street undercrossing and the westbound State Route 58 (East)/State Route 99 grade separation, and removing from State Route 99 the southbound Stockdale Highway off-ramp and the Wible Road on- and off-ramps.

"Typical" cross-sections are used to show the number of lanes and lane width for the average section of the roadway. For a project as complex as the Centennial Corridor, the width of the roadway would vary because of ramps and the need for auxiliary lanes. A typical cross-section helps explain what an average section of roadway would look like. Figure 2-2 shows the typical cross-section for Segment 1 and the existing portion of State Route 58 (East) of State Route 99. Figure 2-3, a typical cross-section for the portion of State Route 99 where improvements are proposed, shows that little would change under Alternatives A and B. But, under Alternative C, the Centennial Corridor would lie right next to State Route 99, resulting in a wider freeway typical cross-section.

Locations of auxiliary lanes vary by alternative and are discussed later in the Unique Features of the Build Alternatives section.

All the build alternatives provide sufficient right-of-way in the median for future high occupancy vehicle lanes (not proposed as part of the Centennial Corridor project), as demand warrants.

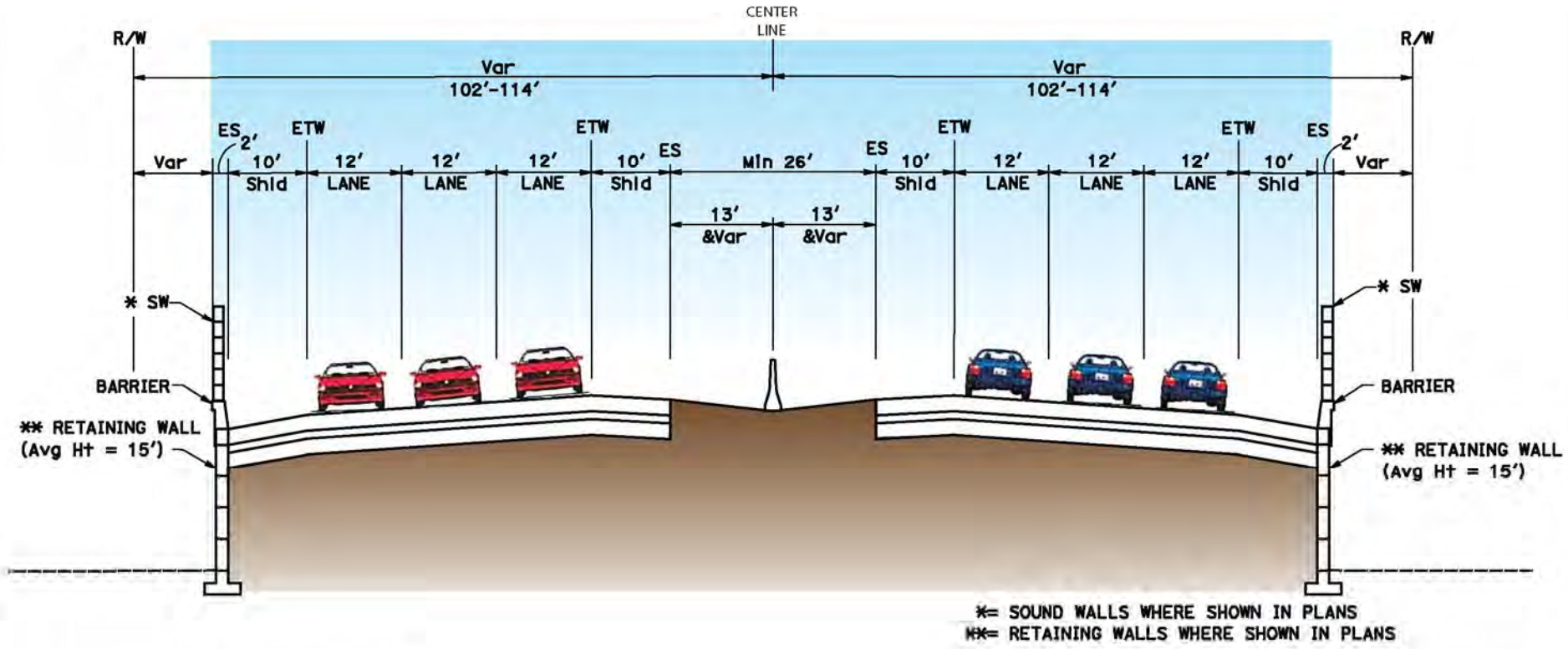
Other Common Design Features of Segment 1

Park and Ride Facilities

The Park and Ride facility west of State Route 99 and south of Stockdale Highway (at the intersection of Stockdale Highway and Nello Street) would be displaced by the proposed changes to the southbound connector to State Route 99 from westbound State Route 58. A new facility would be constructed to replace the lost park and ride lot. The design of the new facility will be determined during the final design phase of the project. This existing lot currently provides 49 parking spaces and is generally about half utilized. The location of the existing facility can be seen on the preliminary design plans provided in Appendix E, Volume 2 (Sheet 11 for Alternative A, Sheet 12 for Alternatives B and C).

Alternative A

A replacement Park and Ride facility with about 50 parking spaces would be provided off Mohawk Street, between California Avenue and Truxtun Avenue using residual property acquired for the project. This location would provide easy access to both eastbound and westbound State Route 58 via Mohawk Street and to State Route 99 via California Avenue. The location of the proposed replacement park and ride lot for Alternative A is shown on Figure 2-4a in Volume 2.



Abbreviations Used:

Avg Ht = Average Height
ES = Edge of Shoulder
ETW = Edge of Traveled Way
Min = Minimum
R/W = Right-of-Way
Shld = Shoulder
Sw = Soundwall
Var = Varies

Not to Scale
Source: Developed from Draft Project Report 2013

Segment 1 Typical Cross-Section

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

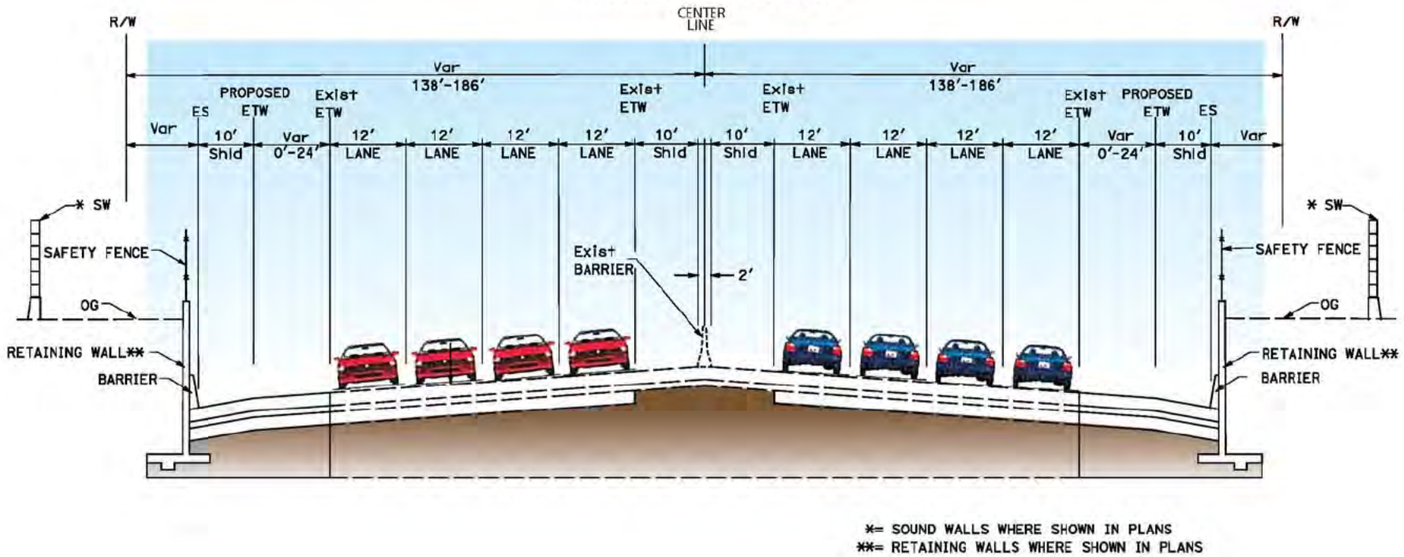
D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 2-2

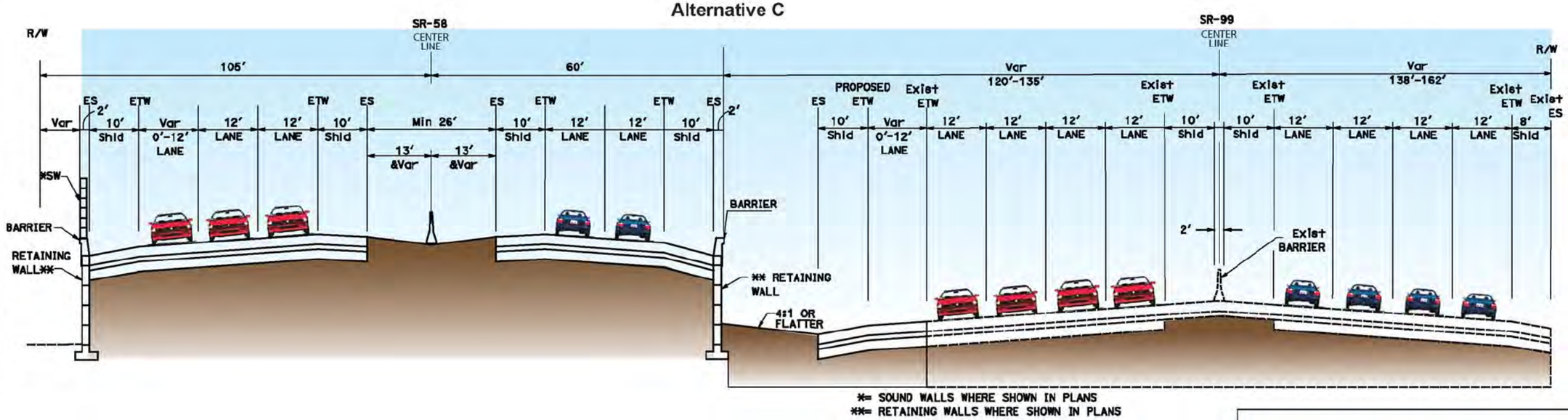
Alternatives A and B



*= SOUND WALLS WHERE SHOWN IN PLANS
**= RETAINING WALLS WHERE SHOWN IN PLANS

Abbreviations Used:
Avg Ht = Average Height
ES = Edge of Shoulder
ETW = Edge of Traveled Way
Min = Minimum
OG = Original Ground
R/W = Right-of-Way
Shld = Shoulder
Sw = Soundwall
Var = Varies

Alternative C



*= SOUND WALLS WHERE SHOWN IN PLANS
**= RETAINING WALLS WHERE SHOWN IN PLANS

Not to Scale
Source: Traffic Study Report for the Centennial Corridor Project 2012

Typical Cross-Sections for State Route 99

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 2-3

Alternative B

A new Park and Ride facility with about 50 parking spaces would be provided north of California Avenue, next to the Centennial Corridor, using residual property acquired for the project. This location would provide easy access to eastbound and westbound State Route 58 at the Mohawk Street/Truxtun Avenue interchange and to State Route 99 via the California Avenue interchange. The location of the proposed replacement park and ride lot for Alternative B is shown on Figure 2-5a in Volume 2.

Alternative C

A replacement Park and Ride facility with about 50 parking spaces would be provided at Real Road and Chester Lane using residual property acquired for the project. This location would provide easy access to State Route 99 at the California Avenue interchange and to the westbound State Route 58 via the Mohawk/Truxtun Avenue interchange. The location of the proposed replacement park and ride lot for Alternative C is shown on Figure 2-6a in Volume 2.

Retaining Walls, Soundwalls and Landscaping

Aesthetic treatments for retaining walls and soundwalls would be consistent with the design used for the Westside Parkway (discussed in detail in Section 3.1.7, Visual/Aesthetics). Landscaping would be implemented upon completion of construction.

Alternative A

Forty-seven retaining walls, ranging from 5 feet to 35 feet high, would be built at various locations along Alternative A to reduce right-of-way impacts, as shown in Figure 2-4a (provided in Volume 2). Based on the *Noise Abatement Decision Report* (May 2013), 19 soundwalls, ranging from 8 to 16 feet high, have been identified as reasonable and feasible for Alternative A (see more discussion on soundwalls in Section 3.2.7, Noise). Locations of the soundwalls are shown in Figure 2-4a (provided in Volume 2) and in Section 3.2.7, Noise.

Alternative B

Thirty-seven retaining walls, ranging from 3 feet to 45 feet high, would be built at various locations along Alternative B to reduce right-of-way impacts, as shown in Figure 2-5a (provided in Volume 2). Based on the *Noise Abatement Decision Report* (May 2013), 24 soundwalls, ranging from 8 to 16 feet high, have been identified as reasonable and feasible for Alternative B (see more discussion on soundwalls in Section 3.2.7, Noise). Locations of these soundwalls are shown in Figure 2-5a (provided in Volume 2) and in Section 3.2.7, Noise.

Alternative C

Forty-six retaining walls, ranging from 2 feet to 45 feet high, would be built at various locations along Alternative C to reduce right-of-way impacts, as shown in Figure 2-6a (provided in Volume 2). Based on the *Noise Abatement Decision Report* (May 2013), 17 soundwalls, ranging from 10 to 16 feet high, have been identified as reasonable and feasible for Alternative C (see discussion on soundwalls in

Section 3.2.7, Noise). Locations of these soundwalls are shown in Figure 2-6a (provided in Volume 2) and in Section 3.2.7, Noise.

Infiltration Basins

Infiltration basins are proposed along the Centennial Corridor alignment to retain storm water runoff and improve water quality. In addition, existing basins along the alignment of State Route 58 and State Route 99 would need to be modified. The modification could include either deepening, resizing, or reshaping of the existing basins within their existing footprints.

Alternative A

Seven infiltration basins are proposed along the Alternative A alignment with two existing infiltration basins to be changed along the State Route 58 and 99 alignments. Locations of infiltration basins are shown in Figure 2-4a (provided in Volume 2).

Alternative B

Eight infiltration basins are proposed along the Alternative B alignment with six existing infiltration basins to be changed along the State Route 58 and 99 alignments. Locations of infiltration basins are shown in Figure 2-5a (provided in Volume 2).

Alternative C

Eleven infiltration basins are proposed along the Alternative C alignment with five existing infiltration basins to be changed along State Route 58 and 99. Locations of infiltration basins are shown in Figure 2-6a (provided in Volume 2).

Right-of-Way Acquisition

Temporary construction easements would be needed from many properties sitting at the edge of the new right-of-way where retaining walls and soundwalls are proposed. Also, minor amounts of right-of-way would be required for the intersection improvements at Stockdale Highway and State Route 43. Right-of-way impacts are discussed in more detail in Section 3.1.4.2, Relocation and Property Acquisition.

Alternative A

Alternative A would fully acquire 295 properties and partially acquire 109 properties. Of these properties, 211 of the full acquisitions would be residential parcels and 18 of the partial acquisitions would be residential parcels.

Alternative B

Alternative B would fully acquire 293 properties and partially acquire 129 properties. Of these properties, 215 of the full acquisitions would be residential parcels and 34 of the partial acquisitions would be residential parcels.

Alternative C

Alternative C would fully acquire 254 properties and partially acquire 86 properties. Of these properties, 98 of the full acquisitions would be residential parcels and 9 of the partial acquisitions would be residential parcels.

Utilities and Electrical

A number of utility lines, such as water lines, sewer lines, telecommunication lines, electrical lines/poles, including relocation of high-voltage electrical towers, natural gas lines, streetlights, fire hydrants, cable television lines, utility boxes, and oil wells would need to be abandoned, removed, relocated, or replaced as part of project construction. Lighting would be consistent with Caltrans standards and would be installed at interchanges and bridges.

Bicycles and Pedestrians

Pedestrian and bicycle crossings would be limited to the proposed undercrossings and overcrossings. The discussion of the bicycle and pedestrian crossings is provided in Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities.

Cost Estimate

The escalated 2016/17 fiscal year cost of Alternative A is estimated at $691 million, with $437.1 million for construction costs and $253.9 million for right-of-way costs. The escalated 2016/17 fiscal year cost of Alternative B is estimated at $570 million, with $390 million for construction costs and $180 million for right-of-way costs. The escalated 2016/17 fiscal year cost to build Alternative C is estimated at $665.5 million, with $452.2 million for construction costs and $213.3 million for right-of-way costs.

Unique Features of the Build Alternatives (Segment 1)

Alternative A

With Alternative A, State Route 58 (Centennial Corridor) would run parallel to Stockdale Highway for about half a mile west of the State Route 58 (East)/State Route 99 Interchange. It would then go northwesterly and follow an above-grade alignment over Montclair Street, Stockdale Highway, California Avenue/Lennox Avenue, Truxtun Avenue, and the Kern River before joining the east end of the Westside Parkway west of the Mohawk Street interchange. Figure 2-4a (provided in Volume 2) shows the general alignment of this alternative with the key features identified. Figure 2-4b (provided in Volume 2) shows the roadway alignments for both the Westside Parkway and the Centennial Corridor. As shown in this figure, Alternative A would provide a separate crossing of the Kern River. The conceptual plans for Alternative A are provided in Appendix E located in Volume 2.

Alternative A would require changes to State Route 99. State Route 58 would not intersect with Real Road, instead an undercrossing would be provided. This alternative proposes a number of structures, auxiliary lanes and permanently closed or realigned local streets. The specific street closures are discussed in more detail in Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities.

Alternative B

With Alternative B, State Route 58 (Centennial Corridor) would run parallel to Stockdale Highway for about 1,200 feet west of the State Route 58 (East)/State Route 99 interchange; there, it would go northwesterly and proceed as an above-grade

alignment, crossing over Stockdale Highway/Stine Road. Between Ford Avenue and California Avenue, the alignment would be depressed with overcrossings proposed at Marella Way and La Mirada Drive to help with local traffic circulation. The option of removing the La Mirada Drive overcrossing and adding a Ford Avenue undercrossing with Alternative B is also under consideration. The roadway would then be elevated and have above-grade crossings at California Avenue, Commerce Drive, Truxtun Avenue, and the Kern River before joining the east end of the Westside Parkway, east of the Mohawk Street interchange. Figure 2-5a (provided in Volume 2) shows the general alignment of this alternative with key features identified. Figure 2-5b (provided in Volume 2) shows the roadway alignments for both the Westside Parkway and the Centennial Corridor. As shown in this figure, Alternative B would incorporate a substantial amount of the improvements from the Westside Parkway in the area surrounding the Kern River. The conceptual plans for Alternative B are provided in Appendix E located in Volume 2.

Alternative B proposes the same connections to State Route 99 as Alternative A and would require similar improvements on State Route 99 and the existing State Route 58 (East). This alternative proposes a number of structures, changes to existing structures, auxiliary lanes and permanently closed or realigned local streets. The specific street closures are discussed in more detail in Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities.

Alternative C

With Alternative C, State Route 58 (East) would turn north from the existing State Route 58 (East)/State Route 99 interchange, running parallel to and west of State Route 99 for about 1 mile. The freeway would then turn west and cross the BNSF Railway rail yard, Truxtun Avenue, and the Kern River. Undercrossings are proposed at Brundage Lane, Oak Street, State Route 99, Palm Avenue, Truxtun Avenue, and California Avenue. Figure 2-6a (provided in Volume 2) shows the general alignment of this alternative with key features identified. Figure 2-6b (provided in Volume 2) shows the roadway alignments for both the Westside Parkway and the Centennial Corridor. As shown in this figure, Alternative C would incorporate a substantial amount of the improvements from the Westside Parkway in the area surrounding the Kern River. The conceptual plans for Alternative C are provided in Appendix E located in Volume 2.

Alternative C proposes to make changes to existing State Route 58 (East) and State Route 99. This alternative proposes a number of structures, auxiliary lanes and permanently closed or realigned local streets. The specific street closures are discussed in more detail in Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities.

Segment 2 (Westside Parkway)

The build alternatives would all connect to the Westside Parkway, which the final segment from Allen Road to Stockdale Highway near Heath Road is currently under construction. Impacts from constructing the Westside Parkway were evaluated in the *Westside Parkway Environmental Assessment/Final Environmental Impact Report*

and subsequent revalidation reports prepared by Caltrans and the City of Bakersfield in July 2008 and July 2010.

In its entirety, the 7.3-mile Westside Parkway alignment begins at Truxtun Avenue, about 1 mile west of State Route 99, and goes westward, crossing the Kern River near the existing BNSF Railway Bridge. About 0.25 to 0.50 mile to the north of the Kern River, the roadway then parallels the Kern River, to Allen Road. West of Allen Road, the alignment turns southwesterly and connects to Stockdale Highway at Heath Road.

The Westside Parkway would be incorporated into the State Highway System with each of the alternatives. Improvements to connect Centennial Corridor to the Westside Parkway would extend from where each build alternative connects at the eastern end of Westside Parkway toward the west, ending at the Calloway Drive interchange. The proposed improvements would widen the Westside Parkway by constructing one additional lane in the median to provide auxiliary lanes. In the westbound direction, the median widening would extend from east of the Friant-Kern Canal through the Calloway Drive interchange. The limits of the added lane in the eastbound direction would differ between each alternative as described in the unique design features of the build alternative section below. With each build alternative, changes to the westbound diamond off-ramp to Calloway Drive and the eastbound loop on-ramp from Coffee Drive would be required.

Segment 3 (Western Connection)

Segment 3 traffic would use Stockdale Highway as the link to Interstate 5. Improvements would be required at the Stockdale Highway and State Route 43 (Enos Lane) intersection for each build alternative. Proposed improvements there would widen the intersection and add traffic signals to control traffic movement. State Route 43 would be widened to add a dedicated left-turn lane in both directions. Stockdale Highway would be widened to add a dedicated left-turn lane and a shared through/right-turn lane in both directions, necessitating the acquisition of a small amount of right-of-way. In addition, utilities would be relocated in this location. These improvements would be built at the same time as the Segment 1 improvements to ensure adequate traffic operations at this intersection. Stockdale Highway would be designated as State Route 58 to provide access to Interstate 5. The existing portion of State Route 58 (West) (Rosedale Highway) from Allen Road to Interstate 5 would be relinquished (become a local road, no longer a state highway) to the local jurisdictions (City of Bakersfield and the County of Kern). The portion of State Route 58 (West) (Rosedale Highway) from Allen Road to Mohawk Street was relinquished in June 2012.

2.1.2 No-Build Alternative

No construction of Segment 1 or improvements to Westside Parkway and the Stockdale Highway/State Route 43 intersection would occur under the No-Build Alternative. The portion of Mohawk Street from the Westside Parkway to Rosedale Highway would be designated as part of State Route 58, which would provide a connection to State Route 99. Even if the No-Build Alternative is selected, other roadway improvements would be implemented that are unrelated to the Centennial

Corridor Project. These roadway improvements are to other local roadways and are identified in the Regional Transportation Plan and the Metropolitan Bakersfield Transportation Impact Fee Program. These improvements have been assumed in the analyses of the No-Build Alternative. Though these improvements would result in some improvement in the level of service they would not provide the route continuity, which is identified as part of the project's purpose.

2.1.3 Comparison of Alternatives

Each of the build alternatives requires a commitment of resources and would result in environmental impacts. This commitment is balanced with the ability to meet the project purpose and need and the effects of not implementing the project (the No-Build Alternative). Table S.1 provides a summary of key issues where impacts have been identified, whereas Table 2.1 provides an overview of key issues that differentiate the alternatives.

Table 2.1 Comparison of Alternatives

Criteria		Alternative A	Alternative B	Alternative C	No-Build Alternative
Meets the project purpose and need Improve route continuity and associated traffic congestion relief along State Route 58 within Metropolitan Bakersfield and Kern County from the existing State Route 58 east (from Cottonwood Road) to Interstate 5.		Yes—Provides route continuity between Interstate 5 and State Route 58.	Yes—Provides route continuity between Interstate 5 and State Route 58.	Yes—Provides route continuity between Interstate 5 and State Route 58.	No—Does not provide route continuity. Continued use of Rosedale Highway would be required.
Traffic and Transportation		Traffic delays experienced during construction. **Deficient freeway segments** 0 in 2018 4 in 2038 **Deficient intersections** 26 in 2018 32 in 2038 Net loss of 122 parking spaces.	Traffic delays experienced during construction. **Deficient freeway segments** 0 in 2018 4 in 2038 **Deficient intersections** 26 in 2018 33 in 2038 Net loss of 146 parking spaces.	Traffic delays experienced during construction. **Deficient freeway segments** 0 in 2018 5 in 2038 **Deficient intersections** 24 in 2018 30 in 2038 Net loss of 142 parking spaces.	Gap in east-west freeway in Bakersfield continued. **Deficient freeway segments** 4 in 2018 16 in 2038 **Deficient intersections** 25 in 2018 34 in 2038 No parking removed.
Number of Displacements	**Residences**	356	310	133	0
	Businesses	127	121	198	0
Number of Parcel Acquisitions	**Full Acquisition**	295	293	254	0
	Partial Acquisition	109	129	86	0
Community Cohesion		Adverse effects to community cohesion in the Southwest Bakersfield and the Quailwood-	Adverse effects to the character of the Southwest Bakersfield and Westpark neighborhoods are	Though consequential, the overall effects on cohesiveness would be less severe than the	None.

Table 2.1 Comparison of Alternatives

Criteria	Alternative A	Alternative B	Alternative C	No-Build Alternative
	Park Stockdale neighborhoods are anticipated.	anticipated. Bisecting the Westpark neighborhood would result in impacts to community cohesion.	effects of Alternatives A or B. Most residential displacements would be in environmental justice communities.	
Section 4(f) Properties Used	2 Section 4(f) properties used.	No Section 4(f) properties used.	1 Section 4(f) property used.	None.
Parks and Recreation	Displaces 6.28 acres of publicly owned parkland, a Section 4(f) property (Kern River Parkway).	No impacts to park and recreational resources.	Displaces 3.27 acres of publicly owned parkland, a Section 4(f) property (Saunders Park).	None.
Cultural Resources	Affects the Rancho Vista Historic District, a Section 4(f) property.	Indirect adverse effects on the Rancho Vista Historic District under the National Historic Preservation Act. No use of the property under Section 4(f).	No impacts to known historic properties.	None.
Hazards and Hazardous Wastes	Number of parcels with known or potential contamination requiring partial or full acquisition: • 5 parcels with known contamination • 15 parcels with suspected contamination • 14 parcels with potential contamination	Number of parcels with known or potential contamination requiring partial or full acquisition: • 5 parcels with known contamination • 11 parcels with suspected contamination • 12 parcels with potential contamination	Number of parcels with known or potential contamination requiring partial or full acquisition: • 5 parcels with known contamination • 14 parcels with suspected contamination • 23 parcels with potential contamination	None.
Noise	There are 532 frequent outdoor use areas affected. Nineteen recommended feasible and reasonable soundwalls would provide feasible	There are 484 frequent outdoor use areas affected. Twenty-four feasible and reasonable recommended soundwalls as well as one feasible but not reasonable recommended	There are 401 frequent outdoor use areas affected. Seventeen recommended feasible and reasonable soundwalls would provide feasible abatement for	There would be 336 frequent outdoor use areas that would approach the Noise Abatement Criteria with no abatement provided in 2038.

Table 2.1 Comparison of Alternatives

Criteria		Alternative A	Alternative B	Alternative C	No-Build Alternative
		abatement for 461 frequent outdoor use areas.	soundwall would provide feasible abatement for 408 frequent outdoor use areas. One soundwall is feasible but not reasonable; however, since this soundwall would close a gap in soundwalls, it is recommended to minimize noise impacts to 4 frequent outdoor use areas.	325 frequent outdoor use areas.	
Biological Resources	Natural Communities	95.38 acres of habitat removed. Affects 2 populations of Ferris goldfields (about 3,500 individual plants).	76.83 acres of habitat removed.	72.49 acres of habitat removed.	None.
	Threatened and Endangered Species	Affects 95.38 acres of Swainson's hawk foraging habitat and San Joaquin kit fox habitat. One active den is affected.	Affects 76.83 acres of Swainson's hawk foraging habitat and San Joaquin kit fox habitat. Three potential dens are affected.	Affects 72.49 acres of Swainson's hawk foraging habitat and San Joaquin kit fox habitat. One potential den is affected.	None.
	Wetland and Other Waters	3.54 acres of riparian habitat (0.35 acre permanent, 3.19 acres temporary).	Affects 1.06 acres of riparian habitat (temporary only).	Affects 1.42 acres of riparian habitat (temporary only).	None.
		Affects 7.23 acres of U.S. Army Corps of Engineers Jurisdiction (1.20 acres permanent, 6.03 acres temporary).	Affects 5.54 acres of U.S. Army Corps of Engineers Jurisdiction (1.00 acre permanent, 4.54 acres temporary).	Affects 7.42 acres of U.S. Army Corps of Engineers Jurisdiction (0.74 acre permanent, 6.68 acres temporary).	None.
		Affects 17.60 acres of California Department of Fish and Wildlife Jurisdiction.	Affects 7.74 acres of California Department of Fish and Wildlife Jurisdiction.	Affects 10.26 acres of California Department of Fish and Wildlife Jurisdiction.	None.

Table 2.1 Comparison of Alternatives

Criteria		Alternative A	Alternative B	Alternative C	No-Build Alternative
Cost of Alternative	Right-of-way costs	$253.9 million	$180 million	$213.3 million	$0
	Construction costs	$437.1 million	$390 million	$452.2 million	$0
	Total Costs	$691 million	$570 million	$665.5 million	$0

After the public review period of the Draft Environmental Impact Report/Environmental Impact Statement, all comments will be evaluated, and Caltrans will select a preferred alternative and make the final determination of the project's effect on the environment. In accordance with the California Environmental Quality Act, Caltrans will certify that the project complies with the California Environmental Quality Act, prepare findings for all significant impacts identified, prepare a Statement of Overriding Considerations for impacts that will not be mitigated below a level of significance, and certify that the findings and Statement of Overriding Considerations have been considered before project approval. Caltrans will then file a Notice of Determination with the State Clearinghouse that will identify whether the project will have significant impacts, mention whether mitigation measures are included as conditions of project approval, and state that findings were made and that a Statement of Overriding Considerations was adopted. With respect to the National Environmental Policy Act, Caltrans, as assigned by the Federal Highway Administration, will document and explain its decision regarding the selected alternative, project impacts, and mitigation measures in a Record of Decision in accordance with National Environmental Policy Act.

2.1.4 Preliminary Identification of a Preferred Alternative

As part of the screening process, three build alternatives, A, B, and C, were identified and evaluated at an equal level of detail in the technical studies and this environmental impact report/environmental impact statement. All three alternatives meet the project purpose and need of providing route continuity for State Route 58.

Many impacts are the same or similar in magnitude for all three alternatives. When determining a preferred alternative, the comparison focuses on those areas where the impacts are different or one alternative has greater impacts than the other alternatives. For the Centennial Corridor project, the distinguishing areas are the number of displacements and parcel acquisitions; impacts to community cohesion, parks, wetlands, cultural resources, and Section 4(f) property; and cost.

As presented, Alternative A has the greatest number of displacements of the three alternatives and is the most expensive. It would have the greatest impact on wetlands. It affects a park and the Rancho Vista Historic District, both Section 4(f) properties.

In comparing Alternatives B and C, Alternative B has more displacements, which are mostly residential, whereas Alternative C displaces more businesses. Alternative C would displace more wetlands than Alternative B. Alternative C would cost over $100 million more than Alternative B. Alternative B has more community cohesion

impacts because the alignment would bisect the Westpark neighborhood (in a diagonal manner), eliminating several east-west roadways and therefore changing the development. Alternative C would concentrate most of its residential displacements in two environmental justice communities, with the largest concentration of single-family home displacements in the environmental justice community south of Saunders Park. Alternative C would be above ground level in the Saunders Park neighborhood, while Alternative B would be below ground level in the Centennial Park neighborhood. Alternative C would also have direct impacts on Saunders Park, a Section 4(f) property in an environmental justice community. Alternative B would have no impact on parklands.

The Department of Transportation Act of 1966 included a special provision, Section 4(f) that states that federal Department of Transportation agencies cannot approve the use of land from publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public or private historic sites unless the following conditions apply:

- There is no prudent and feasible alternative to using that land, and
- The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

Appendix B in Volume 2 provides a Section 4(f) Evaluation for the Centennial Corridor project. Three Section 4(f) properties were evaluated as being affected by the build alternatives—the Rancho Vista Historic District and the Kern River Parkway, which are affected by Alternative A, and Saunders Park, which is affected by Alternative C. Alternative B does not affect any properties subject to Section 4(f). As part of the Section 4(f) evaluation, variations of Alternatives A and C that would avoid Section 4(f) properties were evaluated; none were found to be feasible and prudent.

The legal requirements of the Department of Transportation Act of 1966 require that parkland be avoided unless there is no feasible and prudent alternative. Alternative B is a feasible and prudent alternative that avoids parkland and other Section 4(f) properties, such as historic properties. In addition, Alternative B has the least impact on wetlands. It is also the least expensive alternative, costing over $100 million less than the other alternatives.Therefore, after comparing and weighing the benefits and impacts of Alternatives A, B, and C, some of which are summarized in Tables S.1 and 2.1. Caltrans has identified Alternative B as the preferred alternative, subject to public review. Final identification of a preferred alternative will occur after the public review and comment period.

2.1.5 Alternatives Considered but Eliminated From Further Discussion

Table 2.2 provides the preliminary screening for the alternatives that were not carried forward for further evaluation.

Table 2.2 Alternatives Eliminated from Evaluation

Alignment	Alignment Description	Reason for Elimination from Further Evaluation
D	This alternative would begin near the existing State Route 58 /State Route 204 (Union Avenue) interchange. The alignment would run north for about 1 mile, then turn west and parallel the BNSF Railway railroad tracks for about 3 miles, then turn west and connect with the Westside Parkway near Mohawk Street.	Caltrans standards for interchange spacing could not be met; therefore existing interchanges on State Route 58 would need to be closed. This alternative would also require the permanently closure of 11th Street, Pershing Street, 10th Street, and 9th Street. It would displace parking for Mercy Hospital, City Hall, and downtown Bakersfield, which would require construction of parking structures. The fire station at State Route 58 and Union Avenue would need to be replaced. The preliminary cost estimate was about $1.1 billion, which is more than available funding.
E	The alignment would begin near the existing State Route 58/Washington Avenue interchange. The alignment would run north for about 1 mile, then turn west and parallel the BNSF Railway railroad tracks. It would connect with the Westside Parkway near Mohawk Street.	The preliminary cost estimate for this alternative was about $1.08 billion, partly due to more right-of-way acquisition required, which is more than available funding.
F	Also known as the South Beltway, the freeway would begin on State Route 58 about 4 miles east of State Route 184. The alignment would travel south, cross State Route 184, State Route 119, and State Route 99, before connecting to Interstate 5.	Alternative F is not within metropolitan Bakersfield and does not meet the project purpose and need of providing route continuity and providing traffic congestion relief. The preliminary cost estimate was about $1.29 billion, which is more than available funding.
G	The roadway would begin at the existing State Route 99/State Route 204 interchange. The alignment would follow the Friant-Kern Canal, then follow Meacham Road between Rosedale Highway and Hageman Road, and then turn southwest and run parallel to Hageman Road. The alignment would connect at Interstate 5 near Hageman Road.	Alternative G would result in severe operational and safety problems because of the close spacing of the proposed connection to State Route 99 and Olive Drive. The preliminary cost estimate for this alternative was about $1.05 billion, which is more than available funding.
H	Alternative H would build an elevated freeway near Rosedale Highway at the connection with State Route 99. East of State Route 43, this alternative would have the same alignment as Alternative G and connect at Interstate 5 near Hageman Road.	The preliminary cost estimate for this alternative was about $2.85 billion, partly due to more right-of-way acquisition required, which is more than available funding.
I	Alternative I would build a freeway along the existing alignment of State Route 58 (West), starting at its intersection with State Route 99 and go west along existing State Route 58 to Interstate 5.	The preliminary cost estimate for this alternative was about $1.09 billion, partly due to more right-of-way acquisition required, which is more than the funding available.
J	Alternative J would begin at State Route 99 and Hosking Road, about 1 mile north of State Route 119. The alignment would connect with Interstate 5 at the State Route 119 interchange.	Alternative J fails to meet the project's purpose of providing route continuity and associated traffic congestion relief because its route is not within metropolitan Bakersfield.
K	The freeway would begin near Coffee Road at the Westside Parkway. The route would run parallel to Brimhall Road; east of Heath Road, the roadway would turn northwest for about 0.5 mile, then continue west and connect with Interstate 5 about 0.5 mile north of Brimhall Road.	Alternative K does not meet the project's purpose and need of providing route continuity and associated traffic congestion relief. The preliminary cost estimate for this alternative was about $821 million, which is more than available funding.
L	The roadway would begin at State Route 99 and go west along Stockdale Highway, ending at Interstate 5.	The preliminary cost estimate for this alternative was about $1.20 billion, which is more than available funding.
M	This alternative would add grade separations along State Route 58 (Rosedale Highway) at Mohawk Street, Calloway Drive, Coffee Road, and Allen Road.	This alternative only partially meets some of the project purpose and need of providing route continuity and providing traffic congestion relief.
15	This alternative proposed a freeway that connects State Route 58 at State Route 204 (Union Avenue) to Interstate 5, passing through the downtown area parallel to State Route 204 and continuing west using the 7th Standard Road Corridor.	The preliminary cost estimate for this alternative was about $2.23 billion, partly due to more right-of-way acquisition required, which is more than the available funding.
Public Alternative 1	Public Alternative 1 was suggested by a member of the public and proposed an alignment between Alternative B and Alternative C.	This alternative would result in severe operational and safety problems because it could not meet Caltrans' geometric standards. If Caltrans standards and proper geometrics were applied, this alternative had an alignment similar to Alternative B.
Public Alternative 2	This alignment would begin on State Route 58 about 4 miles east of State Route 184. The freeway would cross State Route 184, continue west crossing State Route 99 about 1 mile north of State Route 119 and connect to Interstate 5 just north of the State Route 43 interchange.	This alternative does not meet the project's purpose and need of providing route continuity and traffic congestion relief. The preliminary cost estimate for this alternative was about $1.24 billion.
Public Alternative 3	This alternative proposed a new freeway along the existing State Route 223, connecting State Route 58 and Interstate 5, along the current State Route 223 alignment.	This alternative does not meet the project's purpose and need of providing route continuity and associated traffic congestion relief. The preliminary cost estimate for this alternative was about $1.72 billion.
Public Alternative 4	From the existing State Route 58 east of State Route 184, this alternative would parallel the Union Pacific Railroad line, then go northwest parallel to State Route 204 on the north side of the existing roadway. The alignment would cross Golden State Drive and State Route 99 south of Airport Drive, turn southwest, and connect with the Westside Parkway.	This alternative would not meet the purpose and need of the project because it does not provide route continuity and associated traffic congestion relief. It would not improve operations on the shared portion of State Route 58 and State Route 99. Instead, it would move the congestion on State Route 99 to the north in the vicinity of the Airport Drive interchange. The cost to build this alternative exceeds the available funding.

As part of the initial scoping process for the Centennial Corridor project, Caltrans considered a range of alternatives. Six build alternatives were developed by Caltrans and introduced at a public information meeting in March 2008. In addition, alternatives suggested by the public and alternatives from previous studies (the *Bakersfield Systems Study* [2002] and the *Final Route 58 Route Adoption Project, A Tier I Environmental Impact Statement/Environmental Impact Report* [2001]) were also evaluated as part of the initial screening. Even though the earlier studies rejected some of these alternatives, Caltrans determined they should be subject to the initial screening criteria as potential alternatives for the Centennial Corridor project. A total of 19 alternatives were reviewed as part of the initial screening process. Eighteen of these alternatives proposed construction of new roadway alignments (see Figure 2-7 provided in Volume 2), and one alternative proposed transportation system management and transit improvements.

The initial screening process done in 2008 determined that Alternatives A, B, C, and D, the No-Build Alternative, and the Transportation Systems Management/ Transportation Demand Management/Transit Alternative (Alternative M) warranted further study. These alternatives all received further analysis and additional screening.

If an alternative does not achieve the intended purpose established for the project, it does not make sense to continue spending resources evaluating it, so it is eliminated from further consideration. Another factor in screening alternatives was the cost. An alternative was eliminated if the cost substantially exceeded the available funding.

Since 2008, more detailed engineering design and preliminary technical studies have been done to provide more information for each alternative carried forward after the initial screening. As a result of this more-detailed evaluation, Alternatives D and M were withdrawn from further consideration (see Table 2-3). These two alternatives, which received more detailed evaluation but were not carried forward, are discussed in more detail below.

Alternative D: This alternative would have built a new freeway that would connect existing State Route 58 to the Westside Parkway along an alignment east of State Route 99. Alternative D extended north from the vicinity of the existing Union Avenue (State Route 204) interchange on State Route 58. The route would parallel Union Avenue for about 1 mile and then turn west and run parallel to the BNSF Railway railroad tracks for about 3 miles. It would connect to the Westside Parkway in the vicinity of Mohawk Street, following an alignment similar to what is shown for Alternatives B and C.

Operational problems at the State Route 58/State Route 99 interchange could not be prevented with Alternative D. Interchange spacing would not meet Caltrans' standards. There would not be enough distance for cars to change lanes between on-ramps and off-ramps. Closure of interchanges would result in longer commutes for travelers going to the nearby shopping centers, industrial facilities, neighborhoods, the Kern County Fairground, and the Bakersfield Municipal Airport because there would be no direct access to those uses. Widening Chester Avenue between Truxtun

Avenue and California Avenue would also be required. This would require replacing the existing grade separation at the BNSF Railway rail line (where the road goes under the railroad tracks). Construction of Alternative D would also require a permanently closure of 11th Street, Pershing Street, 10th Street, and 9th Street.

Alternative D would displace the parking lots for Mercy Hospital, Bakersfield City Hall, and some public use parking in downtown Bakersfield. New parking structures would be required to replace the eliminated parking spaces, for an estimated cost of $54 million. Alternative D would also relocate the Bakersfield Fire Department Fire Station, now at the northwestern corner of State Route 58 and Union Avenue.

Alternative D was estimated to cost $1.1 billion to build. This is more than the available funding. Also, the life cycle benefit (benefit that would result over the years of the project) was estimated to be only $658 million. Alternative D was found to be not reasonable or feasible.

Alternative M-Transportation Systems Management/Transportation Demand Management/Transit: Consistent with Caltrans policy, as part of the early screening, an alternative that considers the use of Transportation Systems Management techniques and Transportation Demand Management, combined with transit improvements to meet the travel demand was advanced for further evaluation. Transportation Systems Management attempts to increase the number of peak-hour person-trips by improving existing facilities without major construction. Examples of Transportation Systems Management measures include use of bus turnouts, signal coordination, or minor road widening. Transportation Demand Management attempts to reduce travel demand or redistribute traffic, such as by creating high occupancy vehicle lanes and using changeable signs to notify drivers of delays.

These types of improvements are already included in the 2011 Regional Transportation Plan (Amendment 3) and the Metropolitan Bakersfield Impact Fee Program—Proposed Phase IV Improvement list of projects. Improvements include traffic signal optimization, intersection widening, and bus turnouts to reduce delay and to increase the capacity along eight travel corridors in the vicinity of the Centennial Corridor Project.

Long-range transit planning also assumes more service along Rosedale Highway and Stockdale Highway to reduce the overall vehicular demand in these east-west corridors. The transit improvements would focus mostly on an increase in frequency of service that would result in reduced automobile demand. The 2011 Regional Transportation Plan (Amendment 3) provides for the purchase of 120 full-size buses. This would allow for the use of 100 buses during peak hours, which roughly doubles the service compared to existing transit levels. The highway improvements mentioned above and the improvements to transit service are also assumed for the No-Build Alternative and the build alternatives.

Finally, area-wide transportation demand management strategies being considered as part of the regional planning efforts to reduce travel demand include establishing

parking fees, encouraging carpool formation, and encouraging flextime for employees. In addition, the Kern Council of Governments is currently conducting the *Kern High Occupancy Vehicle/Bus Rapid Transit Study,* which is studying the feasibility of adding high occupancy vehicle lanes to State Routes 58, 99, and 178. Early indications suggest that high occupancy vehicle lanes would not be warranted within metropolitan Bakersfield until after 2040. Though this is not proposed as part of the Centennial Corridor project, all the build alternatives provide sufficient right-of-way in the median for future high occupancy vehicle lanes to be implemented when the demand warrants. This is discussed in detail in Section 4.10 of the *Traffic Study Report for the Centennial Corridor Project.*

The above-mentioned improvements would not adequately meet the project purpose and need of providing route continuity for State Route 58. It would keep the route in its current discontinuous state. In addition, these Transportation Systems Management improvements are assumed as part of the regional network so they are part of the future conditions (2038) for all the alternatives including the No-Build Alternative. So, reliance on only standard Transportation System Management improvements identified above would not function substantially better than the No-Build Alternative.

In light of this determination, an alternative was developed that recommends higher cost improvements that go beyond what is generally considered a Transportation System Management improvement; plus it is less costly than the other build alternatives. This alternative is discussed below.

Generally, Transportation Systems Management focuses on low capital, environmentally responsive improvements that maximize efficiency of existing facilities. However, since there is the need to carry the capacity of a six-lane freeway, the improvements assumed as part of Alternative M are substantially greater than those traditionally proposed for a Transportation Systems Management alternative.

Improvements unique to Alternative M include a proposal to expand State Route 58 (West) (Rosedale Highway) to meet the travel demand. A separate project proposes to widen Rosedale Highway from four lanes to six lanes from State Route 99 to Allen Road. Another future project would widen State Route 58 (West) from Allen Road to State Route 43 from a two-lane to a four-lane facility. Alternative M would expand on these planned improvements by adding grade separations along State Route 58 at the intersections with the highest traffic volumes. By reducing travel delays from cross-traffic, State Route 58 would function as a higher speed, expressway-type facility. Grade separations would be constructed at the following locations:

- State Route 58/Mohawk Street intersection
- State Route 58/San Joaquin Valley Railroad crossing
- State Route 58/Calloway Drive intersection
- State Route 58/Coffee Road intersection

- State Route 58/Allen Road intersection

The capital cost of Alternative M has been estimated as $252 million. Even with these improvements, Alternative M would not adequately meet the project purpose and need of providing route continuity and associated traffic congestion relief for State Route 58. Alternative M would keep State Route 58 in its current discontinuous state. Upgrading Rosedale Highway to a super-arterial, the backbone of Alternative M, would also not result in the level of traffic relief provided by the other build alternatives.

Alternative M would allow Rosedale Highway to attract and accommodate 24,000 additional vehicles using the upgraded route immediately west of State Route 99, 11,000 to 34,000 additional vehicles per day between State Route 99 and Allen Road, and 1,500 vehicles per day just east of State Route 43, when compared to the No-Build Alternative. This would provide some congestion relief by reducing traffic volumes on Hageman Road, Westside Parkway, Stockdale Highway and Ming Avenue.

Planned commercial land uses along Rosedale Highway would benefit from higher drive-by levels of traffic, while residential-serving roadways would benefit from reduced traffic volumes. However, Alternatives A, B, and C would attract between 113,700 to 121,400 vehicles per day in the section west of State Route 99. These alternatives would remove through traffic from east-west local arterial streets, allowing residents to access commercial establishments along these roadways under less congested conditions. Also, compared to the No-Build Alternative, Alternative M would add more than 20,000 vehicles per day to the shared section of State Route 99 and State Route 58.

Alternative M was found to not meet the project's purpose and need and, therefore, was not carried forward for further evaluation. However, as previously stated, these types of improvements are already included in the 2011 Regional Transportation Plan and the Metropolitan Bakersfield Impact Fee Program.

2.2 Permits and Approvals Needed

Table 2.3 shows the permits, reviews, and approvals required for project construction.

Table 2.3 Project Permits and Approvals

Agency	Permit/Approval	Status
U.S. Fish and Wildlife Service	Section 7 Consultation, as required by the Endangered Species Act for the San Joaquin kit fox	Caltrans was able to initiate the process because the U.S. Fish and Wildlife Service agreed to accept a Biological Assessment that evaluated all three alternatives. The Biological Assessment was submitted to the U.S. Fish and Wildlife Service on April 16, 2013 and formal consultation was initiated on July 22, 2013. A Biological Opinion from the Service on the effects on the San Joaquin kit fox was issued on December 20, 2013.
Federal Emergency Management Agency	Conditional Letter of Map Revision and Letter of Map Revision	During the design phase of the project, coordination with the Federal Emergency Management Agency would be required to ensure there are no improvements that are incompatible with the floodplain.
U.S. Army Corps of Engineers	Section 404 Permit pursuant to the Clean Water Act for filling or dredging "Waters of the United States"	Concurrence on the type of permit or change to the existing permit issued for construction of the Westside Parkway would be required before construction of Centennial Corridor begins.
Federal Highway Administration	Air Quality Conformity Determination	Before approval of the final environmental document, the Federal Highway Administration must make a finding that the project is consistent with the requirements of the Clean Air Act.
California Department of Fish and Wildlife	Section 1602 Agreement for Streambed Alteration pursuant to Section 1600 of the *California Fish and Game Code*	Caltrans will need to finalize a 1602 Agreement before construction begins.
California Transportation Commission	Route Adoption	After approval of the final environmental document, the California Transportation Commission would be required to approve the route adoption for State Route 58. If a new alignment is selected, the current alignment from Allen Road to Interstate 5 would be relinquished to the local jurisdictions.
State Historic Preservation Officer	Memorandum of Agreement	Coordination with the State Historic Preservation Officer regarding the effect on historic resources would be required before the final environmental document. Should either Alternative A or B be selected, a Memorandum of Agreement outlining measures to minimize harm to the resources would be required.
California Transportation Commission, Caltrans and the City of Bakersfield	Transfer Agreement	The City of Bakersfield and Caltrans would enter into an agreement to transfer the Westside Parkway to the state to be designated as State Route 58. This would require the City Council and the California Transportation Commission to adopt the agreement. Coordination with the commission would occur once the project has been approved.
	Freeway Agreement	A freeway agreement which specifies the planned traffic circulation features of the proposed facility will be developed once the project is approved.

Table 2.3 Project Permits and Approvals

Agency	Permit/Approval	Status
Caltrans and the City of Bakersfield	Cooperative Agreement (construction phase)	A cooperative agreement between Caltrans and the City of Bakersfield outlining their respective responsibilities for project implementation would be executed before construction begins.
	Agreement for Park Use and Modification	Caltrans and the City have coordinated on improvements required to the local park facilities to offset any effects from the project. An agreement would be drafted once the project has been approved. The details of the agreement would be included in the final environmental document.
	Maintenance Agreement	An agreement between Caltrans and the City of Bakersfield would identify responsibility for maintenance of enhanced aesthetic features, including graffiti removal.
Caltrans and the County of Kern	Maintenance Agreement	An agreement between Caltrans and the County of Kern would identify responsibility for maintenance of the intersection improvements at Stockdale Highway and State Route 43.
City of Bakersfield	Encroachment Permits Relinquishment of street right-of-way Update General Plan	The City of Bakersfield would need to issue encroachment permits to allow the contractor to change local streets within the City jurisdiction. For those roadways that are being realigned, closed, or made into cul-de-sacs, the City would need to relinquish the roadway right-of-way. Once the State Highway System is changed, the updated plan should be reflected in the local General Plan and, a change to the Master Plan of Bikeways would be required for Alternative B.
County of Kern	Encroachment Permit Update General Plan	The County of Kern would need to issue encroachment permits to allow the contractor to change local streets within the County of Kern jurisdiction. Once the State Highway System is changed, the updated plan should be reflected in the local General Plan.

Table 2.3 Project Permits and Approvals

Agency	Permit/Approval	Status
State Water Resources Control Board and the Central Valley Regional Water Quality Control Board, Region 5	Storm Water Discharge Permit National Pollutant Discharge Elimination System Coordination	Compliance with (1) the Statewide National Pollutant Discharge Elimination System Permit for Storm Water Discharge from the State of California, Department of Transportation Properties, Facilities, and Activities (Order Number 2012-0011-DWQ, NPDES No. CAS000003) and (2) the National Pollutant Discharge Elimination System General Permit for Storm Water Discharge Requirements for Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002, as amended by 2010-0014-DWQ).
	Section 401 Certification pursuant to the Clean Water Act	Certification of compliance would be obtained before construction.
	Discharge of Construction Water (Dewatering)	If dewatering is expected for the preferred alternative, the contractor must fully conform to the requirements specified in Order No. R5-00-175, General Waste Discharge Requirements for Discharges to Surface Water which Pose an Insignificant (*De Minimus*) Threat to Water Quality, from the Central Valley Regional Water Quality Control Board.
	Municipal Separate Storm Sewer System Permit	The Central Valley Regional Water Quality Control Board has issued waste discharge requirements for the County of Kern and the City of Bakersfield for urban storm water discharges (Order No. 5-01-130, National Pollutant Discharge Elimination System No. CA00883399). During subsequent design phases, the latest version of the Storm Water Management Plan/Standard Urban Storm Water Mitigation Plan developed and implemented by the County of Kern and the City of Bakersfield must be evaluated to determine which requirements apply to a road and highway project such as the Centennial Corridor.
San Joaquin Valley Air Pollution Control District	Dust Control Permit and Approved Air Impact Assessment per Rule 9510, Indirect Source Review Rule 8210, Limits to fugitive particulate matter emissions during construction activities	Coordination at a staff level has occurred as part of preparation of the Air Quality Study Report. The permit would be acquired after project approval and before construction.
Public Utilities Commission	Relocation of the electrical transmission towers would require Public Utilities Commission authorization	Coordination with Public Utilities Commission staff would be required as part of the design effort for the relocation of the electrical transmission towers. No coordination with the commission or the utility company has occurred to date. Coordination would begin during the design phase of the project.
	Approval for the construction of new or modification of existing, highway-rail crossings (General Order 88B and 26D) (Alternative C)	Coordination has not begun with the Public Utilities Commission. This coordination would occur if Alternative C is selected as the preferred alternative.

Table 2.3 Project Permits and Approvals

Agency	Permit/Approval	Status
California Department of Conservation, Department of Oil, Gas, and Geothermal Resources	Abandonment of oil wells would need to be done in compliance with Department of Conservation requirements	Coordination has not begun. Before construction, a Notice of Intent would be filed with the Department of Conservation, Division of Oil, Gas and Geothermal Resources, and an abandonment plan would be prepared for all oil wells that would be abandoned.
BNSF Railway, Union Pacific Railroad, and San Joaquin Valley Railroad	Acquisition of right-of-way or easement and changes to existing agreements for work in the rail corridor	Coordination with the railroad would occur prior to construction.
Central Valley Flood Protection Board	Approval of flood control improvements and floodplain encroachment	Coordination would begin during the design phase of the project.

Chapter 3 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

This chapter discusses project impacts on human, physical, and biological environments within the study area defined for each environmental resource.

Analysis of each environmental factor includes discussion of the affected environment (existing environmental conditions), environmental consequences (such as construction impacts, permanent impacts, cumulative impacts, and indirect impacts), and avoidance, minimization, and mitigation measures for each of the three build alternatives and the No-Build Alternative. Due to the extent of impacts expected to occur during project construction, a separate section is provided to describe potential construction related impacts and recommended mitigation measures (Section 3.6, Construction Impacts).

For the California Environmental Quality Act, the environmental conditions existing in 2008, when the Notice of Preparation was issued and when the traffic counts were conducted, served as the baseline for impact analysis evaluated in this environmental document. For the National Environmental Policy Act, the No-Build Alternative served as the baseline for determining the project's impacts.

Impacts for the build alternatives were analyzed based on the assumption that construction would begin in 2016 and would last for two and a half years (as discussed in Section 3.6, Construction Impacts). To minimize repetition, when the effects of the build alternatives are the same, they are presented at the beginning of the environmental consequences section (under "Common to All Build Alternatives"). The analysis then presents an evaluation of effects that are unique to the specific alternatives. For some topical issues, the impacts are the same for all the alternatives, and specific alternative analysis is not required. In addition, to help focus the analysis, Segment 2 analysis is presented only for those topics where there is the potential for impacts. Since the improvements in Segment 2 are limited to the addition of auxiliary lanes and other minor lane changes, there would be no affects for most topical areas. The topics where these types of changes may affect the analysis are traffic, air quality, and noise.

When project effects are found to be substantial and adverse, then mitigation measures are developed to reduce the impacts to the extent possible. The Avoidance, Minimization and/or Mitigation Measures apply to all build alternatives, unless specifically identified as only being applicable to certain alternatives.

As part of the scoping and environmental analyses done for the project, the following environmental issues were considered, but no adverse impacts were identified. Consequently, there is no further discussion of these issues in this document.

- ***Timberlands (forest resources).*** The project is in an urban area. There is no timberland in the project area (field visit March 26, 2008).
- ***Coastal Zone.*** The project is not within a coastal zone and is not within the jurisdiction of the California Coastal Commission. Kern County is an inland county and is not along the coast.
- ***Wild and Scenic Rivers.*** No designated wild and scenic rivers are in the project area (National Wild and Scenic Rivers System map, last updated on August 18, 2011).
- ***Mineral Resources.*** The project site is not within an area designated as a mineral resource zone by the California Mineral Land Classification/Designation Program, the California Geological Survey, or the State Mining and Geology Board.

3.1 Human Environment

3.1.1 Land Use

3.1.1.1 Existing and Future Land Use

This section addresses potential impacts to existing and planned land uses in the project area that could result from implementation of the project alternatives. The study focuses on Segment 1 mostly because Segments 2 and 3 have been previously evaluated in their respective environmental documents and there have been no changes to the general settings of the area since the environmental documents for Segments 2 and 3 were certified.

Affected Environment

The information in this section is from the *Community Impact Assessment* (September 2013) prepared for this project.

Recent development trends in Bakersfield have focused mostly on residential projects. Between 2000 and 2011, the City of Bakersfield Building Division issued 28,410 residential building permits. About 98 percent of these permits were for single-family residences. It is anticipated that new development would occur mostly in the southwest, northwest, and northeast edges of Bakersfield; however, there are development constraints in the northeast due to topography, seismic zone locations, inadequate accessibility, and petroleum production. Within the surroundings of the immediate study area, development trends are limited to infill residential and commercial developments and light industrial developments on the north side of the Kern River. Table 3.1 shows recently completed or planned commercial and larger residential developments in the general study area, as well as in the downtown Bakersfield area.

Table 3.1 Recent and Planned Local Development Projects

Name	Proposed Uses	Status
Bakersfield Commons	A 255-acre project east and west of Coffee Road between Brimhall Road and Rosedale Highway. Allows 1,400,000 square feet of retail commercial, 600,000 square feet of office commercial, 345 multi-family homes, and 80 single-family homes.	Approved in August 2010, but no current construction.
Stockdale Ranch	On the south side of Stockdale Highway near Heath Road. Allows 3,583 residential units and 941,700 square feet of commercial/business park uses on a 564-acre site.	Approved in June 2010, but no current construction. Two tentative subdivision maps have been submitted to the City.
Saco Ranch Commercial Center	Southeast and southwest of the Coffee Road/7th Standard Road intersection. Allows 1,459,500 square feet of retail commercial, 332,000 square feet of office uses, and 1,376,496 square feet of industrial uses. The center is a 327-acre project.	Approved in August 2010, but no current construction.
Crossroads Plaza Commercial Center	On the west side of Gosford Road between Panama Lane and Harris Road. Allows retail development (138,621 square feet) and a community retail center (605,008 square feet). The Crossroads Plaza project is a 69.84-acre project.	Approved December 2010. No current construction.
South Mill Creek Retail, Entertainment, and Housing Project	A commercial village of 5.5 acres proposed west of Mill Creek Linear Park in downtown Bakersfield. Creek View Villas (36 condos) and City Place (70-unit apartment), with Mill Creek Courtyard Apartments planned.	14 units of the Creekview Villas have been placed on the market for sale.
Maya Cinemas; Additional Commercial Businesses	16-screen movie theater; 25,000 square feet of retail and commercial space planned in downtown Bakersfield.	Theater complete; remaining commercial enterprises not yet developed.
San Joaquin Community Hospital Avenue	Community hospital to be located at 2620 Chester, downtown Bakersfield.	The medical office building at 2620 Chester Avenue has been built and is occupied. 60,000-square-foot medical facility at 2700 Chester Avenue is currently under construction.
Source: Developed from the *Community Impact Assessment* 2013.		

Segment 1 of the Centennial Corridor sits in the city of Bakersfield between the Kern River and downtown Bakersfield. The study area of Segment 1 generally extends to

Rosedale Highway on the north, Cottonwood Avenue on the east, Ming Avenue to the south, and Coffee Road to the west. Figure 3-1 (provided in Volume 2) shows existing land uses along this segment, including residential, commercial, industrial, recreational, resource/utility, agricultural, undeveloped/vacant, and government uses. (To make the document easier to read, most of the figures that are 11 inches by 17 inches are provided in Volume 2 in the section labeled "Figures.")

Future land use designations surrounding the alternatives for Segment 1 are identified in the *Metropolitan Bakersfield General Plan* (2002, as amended) and the *Kern County General Plan* (2007) as shown in Figure 3-2 (provided in Volume 2).

The existing land uses in the Centennial Corridor study area are varied and include a combination of low-density residential, commercial, industrial, transportation and utilities, and recreational. The study area contains several well-established residential neighborhoods, with commercial lands situated mostly along Stockdale Highway and California Avenue, and next to State Route 99. Stockdale Highway hosts many of the local-serving retail shops and commercial enterprises, plus small offices providing various community services. Health-related offices, houses of worship, educational facilities, and many neighborhood-serving businesses and services also sit within or next to residential areas. Utilities and transportation land uses are located throughout the study area and include existing roads and utility rights-of-way. Industrial land uses are located mostly on the north side of the Kern River. Recreational land uses are spread throughout the study area. There is little remaining open space/vacant land in the project areas of Segments 1 and 2; most open space/vacant land is west of the Kern River. Public service land uses, mainly Kern County government facilities, are largely concentrated within the downtown Bakersfield area.

Residential neighborhoods consist mostly of detached single-family units built from the 1950s through the 1970s. Newer single-family residences are farther west, closer to California State University, Bakersfield and south of Ming Avenue.

Environmental Consequences

Common to All Build Alternatives

Implementation of Segment 1 would result in a conversion of existing land uses to a transportation use. This conversion is consistent with established plans and policies and is examined in the following section. Indirect impacts to land use patterns (changes in regional development and growth-related changes) are not expected with implementation of the build alternatives. This is discussed further in Section 3.1.2, Growth.

The area subject to right-of-way acquisition is urbanized, containing few vacant parcels. It is possible that the presence of a new major transportation corridor could result in localized changes in adjacent land parcels. However, the right-of-way acquisition process would take into account this potential, and the post-project land use pattern is expected to foster continuing stability to those land uses through such methods as acquisition of unusable small remnant parcels and providing adequate

buffer space for sensitive land uses. Given these considerations, implementation of any build alternative would not result in indirect adverse effects on land use.

Alternative A

Right-of-way and construction easements required to build the project would necessitate partial and full acquisitions of a large number of parcels. According to Appendix B of the *Community Impact Assessment* (September 2013) prepared for this project, 404 parcels (about 288 acres of land) would be affected under this alternative.

Alternative B

According to Appendix B of the *Community Impact Assessment* (September 2013) prepared for this project, Alternative B would potentially affect 422 parcels (about 292 acres of land).

Alternative C

According to Appendix B of the *Community Impact Assessment* (September 2013) prepared for this project, Alternative C would potentially affect 340 parcels (about 324 acres of land).

No-Build Alternative

The No-Build Alternative would not lead to physical improvements that would convert existing land uses to transportation uses. The effects of other transportation improvement projects that are being planned within the project area would be analyzed in separate environmental documents.

Avoidance, Minimization, and Mitigation Measures

There are no available reasonable mitigation measures that would reduce impacts on land use. The project design would, however, be carried out to minimize the right-of-way impact to the extent feasible.

3.1.1.2 Consistency with State, Regional, and Local Plans

The information in this section is from the *Community Impact Assessment* (September 2013) prepared for this project.

Affected Environment

Adopted plans that guide development in the project study area include the Kern Council of Governments Regional Transportation Plan, the Kern County General Plan, the Metropolitan Bakersfield General Plan, the Metropolitan Bakersfield Habitat Conservation Plan, the Kern County Bicycle Facilities Plan, and the City of Bakersfield Consolidated Plan. The following discussion briefly describes the goals, policies, and/or objectives of these plans that are applicable to the Centennial Corridor project.

State Route 58 Corridor System Management Plan (2011)

The *State Route 58 Corridor System Management Plan* is the long-range planning document that identifies recommended strategies plan to guide transportation

decisions and investments for the State Route 58 Corridor. The plan identifies the Centennial Corridor as an integral part of the Bakersfield Beltway System. The three build alternatives evaluated in this environmental document are shown as alignment options for the Centennial Corridor.

Kern Council of Governments Regional Transportation Plan (2011)

The Kern Council of Governments is an association of city and county governments created to address primarily regional transportation issues. It is the designated Metropolitan Planning Organization and Regional Transportation Planning Agency for Kern County. The Regional Transportation Plan is a long-term (24-year) plan that focuses on all travel modes and contains a list of projects intended to carry out the objectives of the plan. In 2010, the Kern Council of Governments issued the 2011 Regional Transportation Plan, which contains programs and projects for congestion management, transit, airports, bicycles and pedestrians, roadways, and freight movement.

At the core of the 2011 Regional Transportation Plan are seven goals: mobility (most important), accessibility, reliability, efficiency, livability, sustainability, and equity.

The Regional Transportation Plan identifies the Centennial Corridor project as part of the Bakersfield Beltway System, which is included in the list of financially constrained major highway improvements for the period 2011-2015. See the *Community Impact Assessment* (September 2013) for additional information on the goals and policies of the plan.

Kern County General Plan (2004, update 2009)

The Kern County General Plan was prepared to guide future development in Kern County. The plan was originally adopted on June 15, 2004. The plan has since been updated several times with the most recent update being adopted on September 22, 2009. The plan includes seven required elements, including land use, circulation, housing, conservation, open space, noise, and safety. The land use, conservation, open space, and circulation elements of the plan include issues affecting the Centennial Corridor project. The study area of the land use, conservation, and open space elements includes unincorporated areas of Kern County. The circulation element of the plan includes locally desired transportation improvements. According to the circulation element of the plan, Kern County and the City of Bakersfield have jointly adopted the circulation element of the 2002 *Metropolitan Bakersfield General Plan.* The Kern River Plan Element is an integral part of the City of Bakersfield General Plan and the Kern County General Plan, and is addressed in the Metropolitan Bakersfield General Plan subsection (below).

Kern County Bicycle Facilities Plan (2001)

Adopted in October 2001, the Kern County Bicycle Facilities Plan is intended to guide development of bicycle transportation facilities in an orderly and timely fashion within the region. It is incorporated by reference as part of the 2011 Kern County Regional Transportation Plan, Amendment 3. The plan discusses issues that affect the

Centennial Corridor project's consistency analysis because the Kern River bridge would pass over a portion of the hiking and biking trail running next to the Kern River Parkway. The plan does not include any specific improvements other than an extension of a bicycle path to Lake Ming, which lies outside the project study area.

Metropolitan Bakersfield Habitat Conservation Plan (1994)

The City of Bakersfield and Kern County, in cooperation with the resource agencies, developed the Metropolitan Bakersfield Habitat Conservation Plan to mitigate the cumulative loss of native vegetation that has occurred or could occur in the planning area. The purpose of the Metropolitan Bakersfield Habitat Conservation Plan is to provide long-term protection of natural vegetation communities and wildlife diversity while allowing compatible land uses and appropriate development and growth. Under the plan, proposed projects within the planning area pay mitigation fees to fund the purchase and maintenance of habitat land to compensate for the effects of urban development on endangered species habitat. The plan addresses 11 plant species and 7 wildlife species.

Metropolitan Bakersfield 2010 General Plan (2002, update 2007)

Adopted in 2002 and last updated in 2007 (with no change to the Land Use Element), the *Metropolitan Bakersfield General Plan* was developed as a joint effort between the City of Bakersfield and the County of Kern. The planning document is used as the main tool through which the City makes decisions affecting growth and allocation of resources, with the goal of ensuring that individual decisions conform to long-range land use plans for the city. Between 2007 and 2010, a series of Town Hall meetings and Joint City/County Planning Commission workshops were held to discuss issues related to updating the Metropolitan General Plan. But as of December 2013, no local governmental approval action had occurred. The plan consists of 10 elements, which include land use, circulation, housing, conservation, open space, parks, noise, safety, public services and facilities, and a tenth focusing specifically on the Kern River. The land use, conservation, open space, circulation and the Kern River Plan elements of the plan discuss issues affecting the plan consistency analysis. The study area of the plan's Land Use Element included the incorporated areas of the City of Bakersfield.

The plan's Circulation Element includes local transportation improvements; it states that areas surrounding State Route 58, State Route 99, California Avenue, and Stockdale Highway are operating nearly at capacity for traffic and are causing congestion issues and delays. In the years since adoption of the plan, Bakersfield has continued to grow, which has put more vehicles on the local roads. To reduce the amount of congestion in the city, both an east-west expressway and north-south expressway are recommended, but the plan discusses these recommendations at only a conceptual level.

The plan references three planned freeways to reduce the amount of congestion in the city, including the Crosstown Freeway that extends from State Route 178 to State Route 99 south of Bakersfield; the Westside Parkway, which extends from the

Crosstown Freeway across the Kern River; and the West Beltway, which would link State Route 119 with 7th Standard Road.

Both the Metropolitan Bakersfield 2010 General Plan and the Kern County General Plan were jointly adopted in 1985 and updated in 2007. It provides overall planning guidance for the Kern River, which functions primarily as a floodway and secondarily for other purposes (including recreation). The Kern River Plan Element formed the basis for the later development of the Kern River Parkway (June 1988). The plan extended from the mouth of the Kern River, about 5.5 miles east of Ming Lake, to the crossing of Interstate 5 and the Kern River, for a length of roughly 35 miles, covering an area of 41,250 acres.

Environmental Consequences

This section describes the consistency of the project alternatives with applicable state, regional, and local plans that have been adopted for the study area. Specific policies are discussed in Tables 3.2 and 3.3.

State Route 58 Corridor System Management Plan (2011)

The build alternatives are consistent with the *State Route 58 Corridor System Management Plan*. The Centennial Corridor is identified as a component of the Bakersfield Beltway System, which is the foundation for improving the transportation network in metropolitan Bakersfield. All three build alternatives are shown as the potential options for the "new alignment" portion of State Route 58. The plan also assumes the use of Westside Parkway for the extension to Heath Road. The No-Build Alternative would not provide this required connection and would therefore, not be consistent with the long-term planning strategies for State Route 58.

Kern Council of Governments Regional Transportation Plan

According to the 2011 Regional Transportation Plan, Amendment 3 (Kern Council of Governments 2012), which includes updates from the Thomas Roads Improvement Program, the Centennial Corridor is consistent with the plan. The project is designated as a major highway improvement in the constrained program of projects and is slated for environmental review and design through 2015; however, the exhibit map showing the projects through 2015 in the plan shows only Alternative C of Segment 1 of the Centennial Corridor project. If Alternative A or Alternative B is selected as the build alternative, the plan must be updated after the California Environmental Quality Act process for the project is completed.

Kern County General Plan (2004, update 2009)

The Centennial Corridor is not shown on the Circulation Element's Major Roads and Highways Map. However, if a build alternative is selected, the route would be added to the State Highway System. If a build alternative is not selected, Segment 2 and Mohawk Avenue north to the existing State Route 58, would still be added to the State Highway System. Since the Circulation Element map reflects the State Highway System, this inconsistency would be corrected. From a policy perspective, the project is consistent with the goals of the Circulation and Land Use elements of the *Kern*

County General Plan. The Circulation element acknowledges that "[t]he County is uniquely dependent on State Highway construction and retrofits to satisfy inter-city road travel." Consistency with applicable policies of the *Kern County General Plan* is shown in Table 3.2. Consistency with applicable policies for the Kern River Plan Element is discussed under the Metropolitan Bakersfield General Plan subsection below.

Table 3.2 Consistency of the Centennial Corridor with the Kern County General Plan

Policy/Objective/Goal	Project Consistent with Plan, Goal, Objective, or Policy				Consistency Analysis
	A	B	C	No-Build	
Circulation Element					
Goal: To make certain that transportation facilities needed to support development are available. To ensure that these facilities occur in a timely manner so as to avoid traffic degradation.	Yes	Yes	Yes	No	The build alternatives would provide increased accessibility through Bakersfield and would also support planned development as allowed by the City. The project would also occur in a timely manner because funding is already secured. The No-Build Alternative would not produce needed facilities.
Goal: Kern County intends to provide plans for circulation infrastructure in support of the Land Use, Open Space, and Conservation Element.	Yes	Yes	Yes	No	The build alternatives would improve east-west connectivity and circulation on local streets and also would support other elements of the plan to improve infrastructure throughout the project area. The project alternatives would not conflict with other elements of the plan and would minimize impacts or conflicts. The No-Build Alternative would not improve circulation infrastructure beyond minor local improvements.
Goal: To plan for transportation modes available to all segments of the population, including people with restricted mobility.	Yes	Yes	Yes	No	The build alternatives would improve connectivity and accessibility through new highway facilities and would be designed to not preclude the future introduction of other transportation modes. The No-Build Alternative would not improve connectivity and would only be able to address other modes operating on the local street system.

Table 3.2 Consistency of the Centennial Corridor with the Kern County General Plan

Policy/Objective/Goal	Project Consistent with Plan, Goal, Objective, or Policy				Consistency Analysis
	A	B	C	No-Build	
Goal: Maintain a minimum Level of Service D for all roads throughout the County.	Yes	Yes	Yes	No	The build alternatives would improve local east-west circulation and improve the level of service on major roads in the city of Bakersfield. The No-Build Alternative would result in continuing deteriorating levels of service on local roads in the area. Some roads would have future service above level D. The project is considered generally consistent with the goal, as it provides for major improvements overall.
Goal: Coordinate with Caltrans regarding various transportation developments within the County.	Yes	Yes	Yes	Yes	The project is being developed in partnership between Caltrans and the City of Bakersfield. The No-Build Alternative is one option being considered.
Land Use Element					
Policy: Coordination and cooperation would be promoted among the County, the incorporated cities, military bases, and the various special districts where their planning decisions and actions affect more than a single jurisdiction.	Yes	Yes	Yes	Yes	The project's decision-making process would follow procedures that require coordination with all affected agencies including the County, the City of Bakersfield, and other agencies. The No-Build Alternative is a possible choice in that process.
Goal: Conserve prime agriculture lands from premature conversion.	Yes	Yes	Yes	Yes	Segment 1 of the Centennial Corridor would sit in an urbanized area and would not convert agriculture uses to developed uses.
Source: Developed from the *Community Impact Assessment* 2013.					

Kern County Bicycle Facilities Plan (2001)

The Kern County Bicycle Facilities Plan supports planning aimed to encourage increased levels of biking and provides for an easily accessible bicycle system within the region. As identified in the *Community Impact Assessment* (September 2013), the project therefore is not entirely consistent with the 2001 Kern County Bicycle Facilities Plan.

Metropolitan Bakersfield Habitat Conservation Plan (1994)

Because Caltrans is not a signatory to the Metropolitan Bakersfield Habitat Conservation Plan, a Section 7 Consultation pursuant to the Federal Endangered Species Act is being carried out between Caltrans and the U.S. Fish and Wildlife Service to obtain concurrence on special-status species impact determinations and avoidance, minimization, and mitigation measures proposed to offset impacts. A Biological Assessment has been submitted to the U.S. Fish and Wildlife Service on April 16, 2013 and formal consultation was initiated on July 22, 2013. A Biological Opinion from the U.S. Fish and Wildlife Service on the effects on the San Joaquin kit fox was issued on December 20, 2013.

Metropolitan Bakersfield 2010 General Plan (2002, update 2007)

The Crosstown Freeway, which would extend the Westside Parkway into downtown, is shown on the *Metropolitan Bakersfield General Plan.* As identified in Table 3.3, each of the three build alternatives has components that are consistent and inconsistent with goals and policies. From the standpoint of safety and efficiency, Alternatives A, B, and C would each be consistent; however, because these alternatives would also encroach on residential neighborhoods, they would be inconsistent, before mitigation, with several goals and policies, mainly as they relate to noise impacts to sensitive land uses (for example, residential areas), quality of life, and compatibility with existing land uses. The project has also been designed to be consistent with the relevant policies and goals of the Kern River Plan Element.

Table 3.3 Consistency of the Centennial Corridor with the Metropolitan Bakersfield General Plan

Policy/Objective/Goal	Project Consistent with Plan, Goal, Objective, or Policy				Consistency Analysis
	A	B	C	No-Build	
Circulation Element					
Goal: Provide a safe and efficient street system that links all parts of the area for movement of people and goods.	Yes	Yes	Yes	No	The build alternatives would improve local east-west circulation and increase interregional trade. The project would provide interregional and regional connectivity for east-west traffic traveling within metropolitan Bakersfield and Kern County and would reduce regional commute time through a major corridor. The No-Build Alternative would not provide such improvements.
Goal: Provide for safe and efficient motorized, non-motorized, and pedestrian traffic movement.	Yes	Yes	Yes	No	The build alternatives would improve operations and safety for all modes of traffic. Sidewalks and crosswalks would be provided at all intersections to facilitate the movement of non-motorized and pedestrian traffic. Existing

Table 3.3 Consistency of the Centennial Corridor with the Metropolitan Bakersfield General Plan

Policy/Objective/Goal	Project Consistent with Plan, Goal, Objective, or Policy				Consistency Analysis
	A	B	C	No-Build	
					non-motorized routes would be maintained. In some locations, pedestrian circulation could become more circuitous, but safe routes would be provided by each alternative. The No-Build Alternative would not provide improvements for motorized traffic other than on local streets.
Goal: Minimize the impact of truck traffic on circulation and on noise-sensitive land uses.	No	No	No	No	The build alternatives would provide additional capacity and a continuous route along State Route 58 to Interstate 5 to accommodate truck traffic passing through the city, which would channelize truck traffic to a new route. Noise increases would occur, requiring abatement. The No-Build Alternative would not provide an opportunity for addressing truck movement.
Goal: Provide a street system that creates a positive image of Bakersfield and contributes to residents' quality of life.	Yes	Yes	Yes	No	The build alternatives would improve connectivity and provide additional capacity to roadways in Bakersfield. Some existing east-west streets and roads that are now overburdened would become less so with the project. The No-Build Alternative would not provide these benefits.
Goal: Provide a system of freeways which maintains adequate travel times in and around the metropolitan area.	Yes	Yes	Yes	No	The build alternatives would improve local east-west circulation and reduce regional and commercial commute time by helping to separate local and regional traffic; the No-Build Alternative would not.
Goal: Provide a local street network that contributes to the quality and safety of residential neighborhoods and commercial districts.	Yes	Yes	Yes	No	Segment 1 of the Centennial Corridor project would increase regional mobility and reduce traffic on the local street system, which would improve operations and safety in residential neighborhoods and commercial districts. Depending on the alternative, some road closures would be required; however, the local street network would benefit

Table 3.3 Consistency of the Centennial Corridor with the Metropolitan Bakersfield General Plan

Policy/Objective/Goal	Project Consistent with Plan, Goal, Objective, or Policy				Consistency Analysis
	A	B	C	No-Build	
					through increased connectivity throughout the region. The No-Build Alternative would continue to degrade the local street system.
Goal: Develop and maintain a circulation system that supports the land use plan shown in the general plan.	Yes	Yes	Yes	No	The project would improve local east-west circulation for the overall Bakersfield area, but would require conversion of existing land uses to transportation use. Overall, the project would accommodate goals and policies of the plan by creating a circulation system that allows for orderly development over time with acceptable circulation patterns and travel times. The No-Build Alternative would not provide support to the general plan.
Goal: Provide a continuous easily-accessible bikeway system within the metro areas	Yes	Yes	Yes	Yes	Alternative A would result in closures of streets that would eliminate existing local access used by bicyclists and would result in the increase of neighborhood travel distances. Alternative B would affect a planned Class 3 bike route designated on the Bikeway Master Plan. The route would need to be modified on the City of Bakersfield Bikeway Master Plan. Alternative C and the No-Build Alternative would not directly affect the pedestrian and bicycle networks.
Land Use Element					
Goal: Accommodate new development which captures the economic demands generated by the marketplace and establishes Bakersfield's role as the capital of the southern San Joaquin Valley.	Yes	Yes	Yes	No	The project would improve local east-west circulation and reduce congestion to accommodate existing and planned land uses in accordance with adopted growth projections and land use plans. The No-Build Alternative would not address economic conditions.

Table 3.3 Consistency of the Centennial Corridor with the Metropolitan Bakersfield General Plan

Policy/Objective/Goal	Project Consistent with Plan, Goal, Objective, or Policy				Consistency Analysis
	A	B	C	No-Build	
Goal: Accommodate new development which is compatible with and complements existing land uses.	Yes	Yes	Yes	Yes	The Centennial Corridor study area is fairly built out; new developments and infill projects are directed by the adopted General Plan. Availability of the continuing east-west Centennial Corridor would not be a main factor leading to new development, but would provide support to the planned developments that are directed by the General Plan. Without the project, the planned developments would still occur, but would be constrained by the lack of continuing east-west freeway.
Policy: Retain existing residential neighborhoods as designated on the Land Use Plan and allow for the in-fill of residential land uses which are compatible with the scale and character of the surrounding neighborhood.	No	No	No	Yes	Alternatives A, B, and C would each require new right-of-way that would affect the character of residential neighborhoods by displacing residents. Alternatives A and B would bisect the West Park neighborhood. Alternative C would not bisect that neighborhood, but would require periphery displacements. Alternative A would have a higher number of displacements when compared to Alternatives B and C. The No-Build Alternative would have no effect on neighborhoods.
Kern River Plan Element					
Goal: To provide present and future generations of residents in the Bakersfield metropolitan area and surrounding regions means of access to the Kern River for public use and enjoyment and provide for preservation of native plants, wildlife, and cultural resources of the river area while, at the same time, providing for protection of private property rights.	No	Yes	Yes	Yes	The build alternative would require a crossing over the Kern River. Alternative A would require the removal of the Kern River Park. Alternatives B and C would use former private industrial property purchased by the City for the Westside Parkway.
Source: Developed from the *Community Impact Assessment* 2013.					

Avoidance, Minimization, and Mitigation Measures

The project has been designed to minimize inconsistencies with state, regional, and local plans and programs to the extent feasible. During final design, effort would be made to further minimize construction and operational impacts to existing and planned land uses. If Alternative B is selected, the Class 3 bike route map will be modified to reflect changes to the bicycle route (see Mitigation T-3 in Section 3.1.6, Traffic and Transportation/Pedestrian and bicycle Facilities, of this report). If the project would result in noise impacts on adjacent land uses, the impacts would be abated through soundwalls, when feasible and reasonable. Property acquisitions would be provided fair and just compensation under the Uniform Relocation Act of 1987, as amended. Remaining land parcels would be reconfigured to restore functional areas and neighborhoods in accordance with the planning procedures set forth by the City of Bakersfield Planning Department. No other avoidance, minimization, and mitigation measures are proposed related to land use and planning.

3.1.1.3 Parks and Recreation

Affected Environment

The information in this section is from the *Community Impact Assessment* (September 2013) and the *Section 4(f) Evaluation* (April 2014) prepared for this project.

The project area for parks and recreational facilities includes those resources within a one-half-mile radius of the project. Figure 3-3 (provided in Volume 2) shows the facilities within the project area. Based on the preliminary engineering design, the effects on park use from Segment 1 alternatives are summarized in Table 3.4.

Table 3.4 Effects on Parks by Alternatives

Site	Alternative A	Alternative B	Alternative C
Beach Park	No impact	No impact	No impact
Belle Terrace Park	No impact	No impact	No impact
Centennial Park	No impact	No impact	No impact
Kern River Parkway	Permanent impact up to 6.28 acres	No impact	No impact
Jastro Park	No impact	No impact	No impact
Saunders Park	No impact	No impact	Permanent impact up to 1.95 acres of developed park and 1.32 acres of undeveloped area
Wayside Park	No impact	No impact	No impact
Yokuts Park	No impact	No impact	No impact
Source: Developed from the *Section 4(f) Evaluation* 2014 (provided in Appendix B, Volume 2).			

Beach Park

The 31.5-acre Beach Park sits at 3400 21st Street in the area bound by the Kern River on the west, 24th Street on the north, Oak Street on the east, and 21st Street on the

south. Beach Park is owned by the City of Bakersfield and is administered by the Recreation and Parks Department.

Belle Terrace Park

The 19.8-acre park sits between Madison Street and Cottonwood Road at 1000 East Belle Terrace. The park is bordered by residential property to the north and agricultural land to the east, south, and west. Belle Terrace Park is in the city of Bakersfield, but is owned and administered by Kern County Department of Parks and Recreation.

Centennial Park

Centennial Park is in Bakersfield just north of Stockdale Highway at 400 Montclair Street. This 9.76-acre park is bordered by residential land uses on all sides. The park is owned by the City of Bakersfield and administered by the Recreation and Parks Department.

Kern River Parkway

The Kern River Parkway is within the city of Bakersfield and Kern County. Within Bakersfield, the Kern River Parkway consists of about 1,400 acres and extends along the Kern River from Manor Street on the east and the Stockdale Highway Bridge on the west. Existing and proposed recreation areas account for 220 acres. The main river channel, habitat areas (including areas for educational studies), and recharge basins account for 1,105 acres. Parking areas use 8 acres; rest areas, 2 acres; and landscaped areas, 65 acres. About 255 acres are privately owned. About 950 acres are owned by the City of Bakersfield. And, 195 acres are owned by other public agencies or utility companies. The width of the parkway varies, but it generally ranges from 300 to 2,200 feet, with most of it contained within the primary and secondary floodway (areas reserved for flood control and water conservation) of the Kern River.

Flood control is the main priority of the parkway because the river runs through a large metropolitan area where protection from flooding is critical. Within Bakersfield, the Kern River Parkway is a multi-use area and contains various park facilities and several trails, including a paved bike trail, a jogging trail, and an equestrian trail (see Figure 3-4, provided later in this section), the latter of which is undeveloped and designed to be similar to the trails Native Americans once used. The 24-acre Par Course Park area sits along the river.

The Kern River Parkway within the city is a community parkway that serves users within a 5-mile radius. It can be accessed by vehicles, pedestrians, and bicycles. The area includes three sand volleyball courts, a Frisbee golf course, a multi-use trail used by bicyclists, pedestrians, joggers, and skaters, the Hoey Trail, and three off-site surface parking areas (96 spaces). The undeveloped equestrian trail is on the north side of the river about 1,000 feet from the parkway. No motorized vehicles are allowed on the trails. More detail on the Kern River Parkway is provided in the *Section 4(f) Evaluation* in Appendix B, Attachment A, Volume 2.

Jastro Park

Jastro Park is about 9.24 acres and sits between Truxtun Avenue and 18th Street, just east of Oak Street at 2900 Truxtun Avenue. The park is bordered by residential homes on all sides. Jastro Park is owned by the City of Bakersfield and is administered by the Recreation and Parks Department.

Saunders Park

The 11.3-acre Saunders Park is just west of Oak Street at 3300 Palm Street. The park is bordered by a retention basin to the north, State Route 99 to the east, and residential homes to the south and west. Saunders Park is owned by the City of Bakersfield and is administered by the Recreation and Parks Department.

Saunders Park is a neighborhood park, used mostly by nearby residents. The park can be accessed by vehicles, pedestrians, and bicyclists. Park facilities include two lighted full basketball courts, one equipment building/room, one picnic shelter for families, one restroom building, a roller hockey facility, four horseshoe pits, a splash/water play area, and an undeveloped area along the northern portion of the park.

Wayside Park

Wayside Park is about 14.3 acres and sits at 1200 Ming Avenue at the corner of Ming Avenue and El Toro Drive. The park is bordered by residential homes to the north and west, the Kern County Fairgrounds to the east, and undeveloped land to the south. The park is owned by the City of Bakersfield and administered by the Recreation and Parks Department.

Yokuts Park

The 18.3-acre Yokuts Park sits just off Empire Drive, north of the Truxtun Avenue extension at 4200 Empire Drive. The park is bordered by the Kern River to the north and west, an industrial park to the south, and State Route 99 to the east. Yokuts Park is a neighborhood park, used mostly by nearby residents. Yokuts Park is owned by the City of Bakersfield and administered by the Recreation and Parks Department.

Section 6(f)(3) of the Land and Water Conservation Fund Act (16 U.S. Code §4601-4) contains provisions to protect federal investments in park and recreation properties and the quality of those assisted properties. The Land and Water Conservation Fund Act includes a clear mandate to protect grant-assisted areas from conversion:

> SEC. 6(f)(3) – No property acquired or developed with assistance under this section shall, without the approval of the Secretary, be converted to other than public outdoor recreation use. The Secretary shall approve such conversion only if he finds it to be in accord with the then existing comprehensive statewide outdoor recreation plan and only upon such conditions as he deems necessary to assure the substitution of other recreation properties of at least equal fair market value and of reasonably equivalent usefulness and location.

This "anti-conversion" requirement applies to all parks and other sites that have been the subject of Land and Water Conservation Fund grants of any type, whether for acquisition of parkland, development, or rehabilitation of facilities.

A review of the Land and Water Conservation Fund grants database indicated that the City of Bakersfield received one grant for $157,050, which was provided in the 1988/1989 time frame, and a second grant for $87,832, which was provided in the 1989/1990 time frame for the Kern River Parkway. Upon consultation with City of Bakersfield officials, it has been determined that these grants were used to develop group picnic areas, open turf areas with irrigation and landscaping, and support facilities. City of Bakersfield Resolutions 43-89 and 32-90 contain Section 6(f)(3) project boundary maps indicating the area subject to Section 6(f) anti-conversion requirements; that area is now known as Yokuts Park.

Environmental Consequences

This section presents the permanent impacts to parkland within the study area as a result of project implementation. Effects from construction activities are addressed in Section 3.6 of this environmental document. The information in this section is based on the *Section 4(f) Evaluation* (April 2014), which is provided in Appendix B provided in Volume 2.

Common to All Build Alternatives

Some parkland would be needed for project construction and to provide right-of-way for the freeway. Project design has avoided impacts to parkland as much as possible. Based on the preliminary engineering design, the effects on park use from Segment 1 alternatives are summarized in Table 3.4 and graphically shown in Figures 3-4 through 3-6. No parkland or recreational impacts would occur in Segments 2 and 3 of the project. A discussion of the parks where there are no impacts is provided in Section 10.1 of the *Section 4(f) Evaluation*, in Appendix B provided in Volume 2.

Alternative A

Alternative A crosses the equestrian trail on the north side of the Kern River. Alternative A would acquire an estimated 6.28 permanent acres of the Kern River Parkway corridor (see Figure 3-4). On the south side, the land subject to permanent acquisition is in use for park purposes and would have the following impacts: removal of three sand volleyball courts, removal of most of a Frisbee golf course, realignment of the Kern River Multi-Use Trail and the Hoey Trail on the south side of the Kern River. On the north side of the Kern River, a portion of the equestrian trail would be relocated at the Kern River Parkway. Mature trees and other vegetation would also be removed within the project footprint.

Parklands are protected under Section 4(f) of the Department of Transportation Act of 1966, and a Section 4(f) evaluation has been prepared to document the disposition of the impacts (see Appendix B in Volume 2).

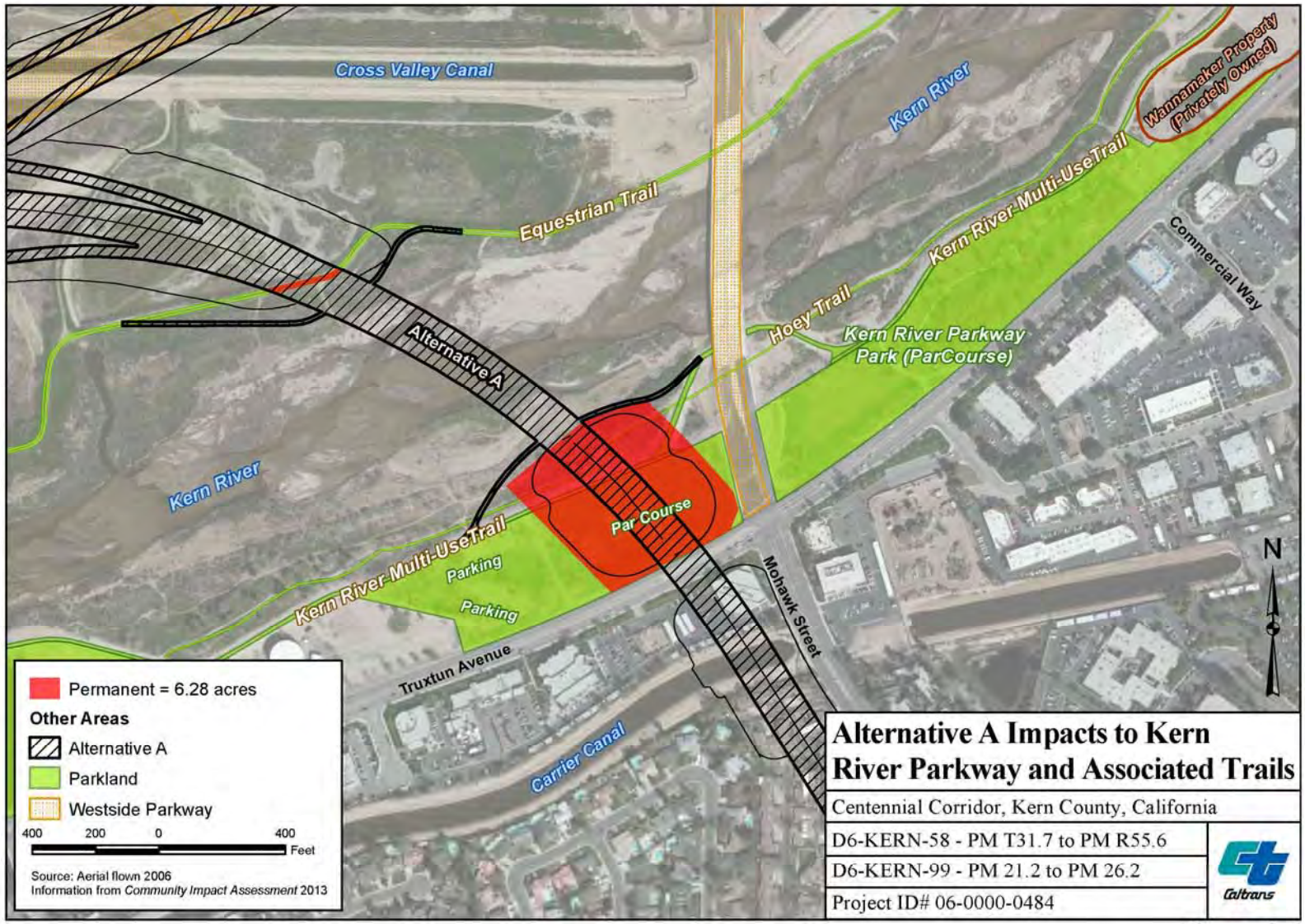

Cross Valley Canal
Kern River
Wannamaker Property (Privately Owned)
Equestrian Trail
Kern River Multi-Use Trail
Commercial Way
Hoey Trail
Kern River Parkway Park (ParCourse)
Alternative A
Kern River
Par Course
Kern River Multi-Use Trail
Parking
Parking
Mohawk Street
Truxtun Avenue
Carrier Canal
N
Permanent = 6.28 acres
Other Areas
Alternative A
Parkland
Westside Parkway
400 200 0 400
Feet
Source: Aerial flown 2006
Information from Community Impact Assessment 2013
Alternative A Impacts to Kern River Parkway and Associated Trails
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-4

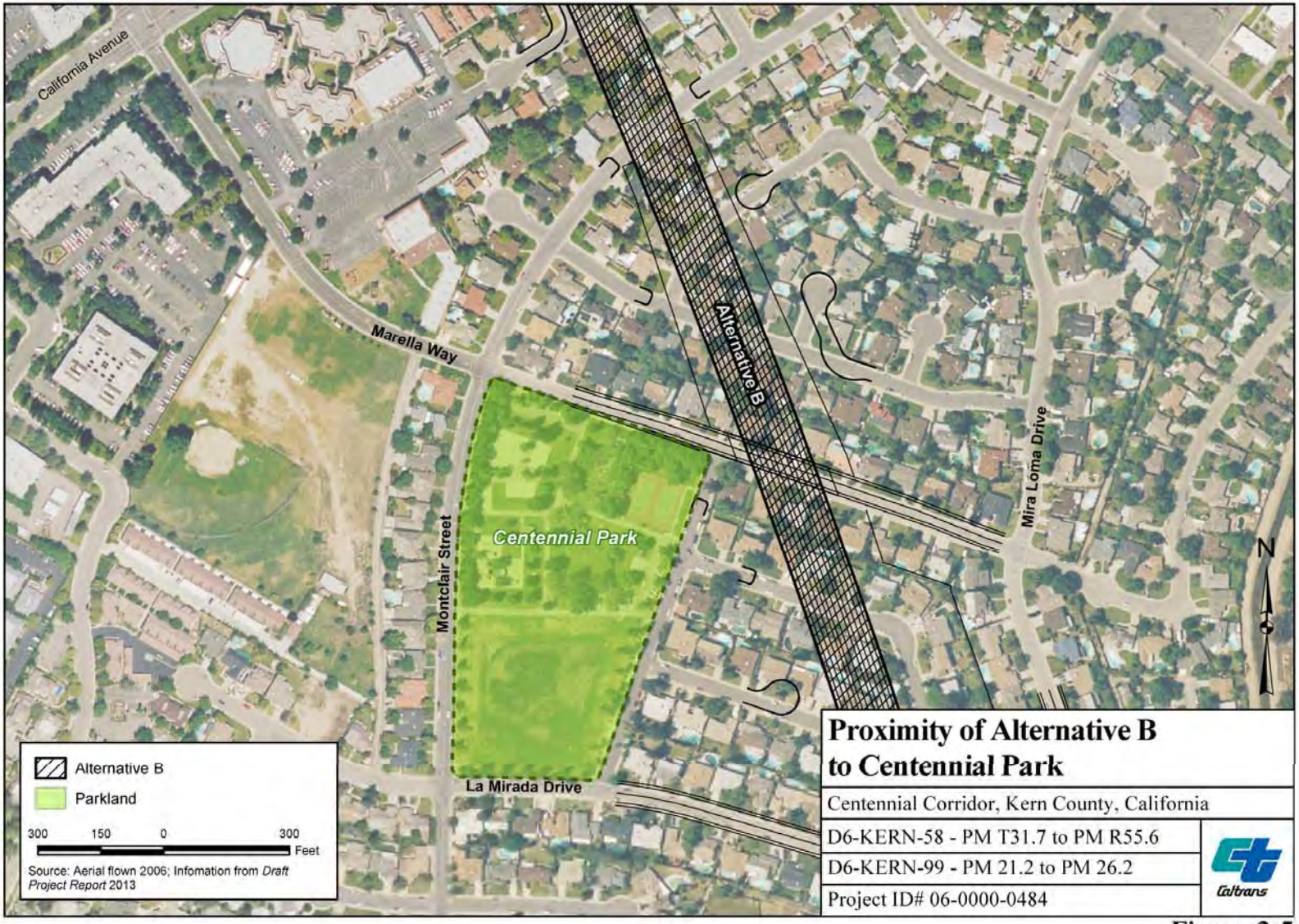

California Avenue
Marella Way
Alternative B
Mira Loma Drive
Montclair Street
Centennial Park
La Mirada Drive
N
Alternative B
Parkland
300 150 0 300
Feet
Source: Aerial flown 2006; Infomation from *Draft Project Report* 2013
Proximity of Alternative B to Centennial Park
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-5

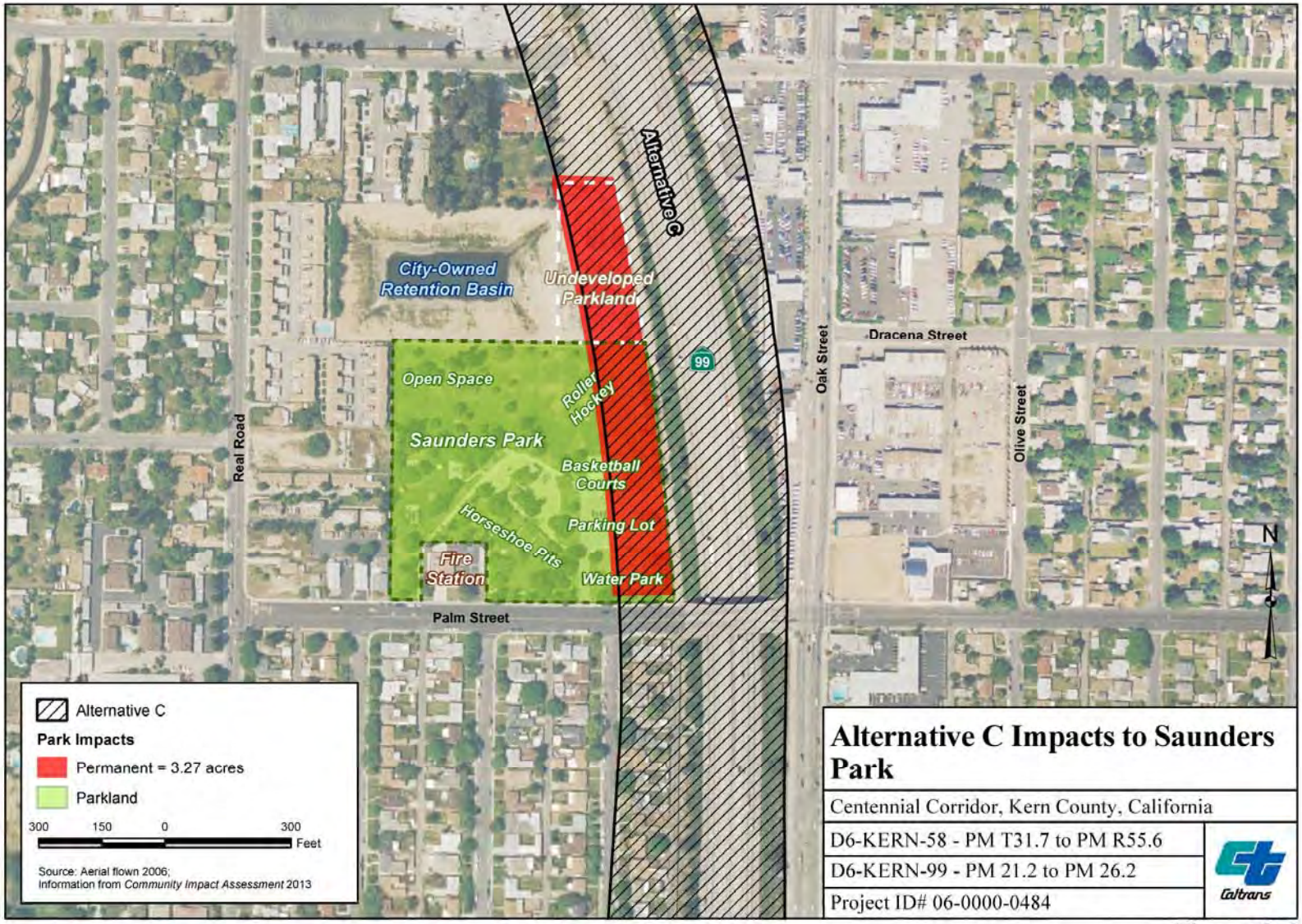

Alternative C
City-Owned Retention Basin
Undeveloped Parkland
Open Space
Roller Hockey
Saunders Park
Basketball Courts
Horseshoe Pits
Parking Lot
Fire Station
Water Park
Real Road
Palm Street
Oak Street
Olive Street
Dracena Street
99
N
Alternative C
Park Impacts
Permanent = 3.27 acres
Parkland
300 150 0 300
Feet
Source: Aerial flown 2006;
Information from Community Impact Assessment 2013
Alternative C Impacts to Saunders Park
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-6

State and local governments often obtain grants through the Land and Water Conservation Fund Act to acquire or make improvements to parks and recreational areas. Section 6(f) of Land and Water Conservation Fund Act prohibits the conversion of property acquired or developed with these grants to a non-recreational purpose without the approval of the Department of Interior's National Park Service. A review of the Land and Water Conservation Fund grants database indicates that two grants were used for the Kern River Parkway (Yokuts Park), but outside the project footprint. Therefore, the project is not in violation of Section 6(f) of the Land and Water Conservation Fund Act.

Alternative B

With implementation of Alternative B, no permanent use of parkland would occur. Construction of Alternative B would require the acquisition of right-of-way, which would eliminate several of the east-west roadway access points to the park. However, area residents would continue to have many access options to the park via the remaining roadways (such as Marella Way and Montclair Street).

Alternative B would result in a new freeway alignment that would cross Marella Way just east of Fallbrook Street near Centennial Park. The roadway would run diagonally in a depressed cross-section. Marella Way would cross over the freeway. Because of its proximity, Alternative B would increase the noise level at the park. Figure 3-5 shows the proximity of the Alternative B alignment and Centennial Park. Noise was measured in the northeast corner of Centennial Park. The ambient noise level was 53 A-weighted decibels (dBA). Results of the hourly traffic noise level analysis show that the noise levels at Centennial Park would fluctuate between 55 and 64 dBA throughout the day, with noise level increases of 2 to 11 decibels (dB) over the pre-project conditions. The analysis also shows that the noise increase of 11 dB would only occur within three hours of any given day (see detailed discussion in Section 4.2.3). Given the noise level increase is below the impact criteria of 12 dB and the urban nature of the park (surrounded by residential housing and local arterial roadways), serenity and solitude are not key attributes of Centennial Park, implementation of Alternative B would not substantially impair the activities and features at Centennial Park. No adverse impacts are anticipated.

With Alternative B, no permanent use of parkland at the Kern River Parkway would occur because the freeway would be built within the right-of-way acquired for the Westside Parkway. In addition, bridges would span the existing trails (the Hoey Trail, equestrian trail, and the Kern River Multi-Use Trail).

Alternative C

Alternative C would permanently affect 1.95 acres of the developed portion and 1.32 acres of an undeveloped portion of Saunders Park, causing the loss of basketball courts, an enclosed roller hockey arena, a retention basin, a splash/water play area, two parking areas, and an equipment storage room (see Figure 3-6). The new elevated freeway would run alongside the eastern boundary of the park, supported on a retained structure reaching about 30 feet above grade, atop of which would be a

soundwall that is another 12 feet high. Overall, a vertical wall would define the eastern boundary of the park. Both landscaping and surface texturing would be applied to soften the appearance of the new structure. Before mitigation, the usefulness of the park would be substantially diminished.

No permanent use of parkland at the Kern River Parkway would occur because Alternative C would be built within the right-of-way acquired for the Westside Parkway. In addition, bridges would span the existing trails (Hoey Trail, equestrian trail, and the Kern River Multi-Use Trail).

No-Build Alternative

Because there would be no construction or operation of the Centennial Corridor with this alternative, no impacts to parkland would occur.

Avoidance, Minimization, and/or Mitigation Measures

Since Alternative B would not permanently affect any park or recreational facilities, no mitigation is required.

The following mitigation measure would apply if Alternative A is selected:

PR-1 Caltrans, in coordination with the City of Bakersfield, shall implement the following measures to minimize impacts to the Kern River Parkway:

- Prior to construction, reconstruct the Kern River Multi-Use Trail and equestrian trail that would be affected by construction activities. Locate the new realigned trails at underpasses beneath the overhead structures.
- Access to the pedestrian, bicycle, and equestrian trails shall be maintained to the extent practicable during the construction period. Signs shall be furnished for all paths and for any paths temporarily closed for public safety and security.
- Prior to construction, replace the volleyball courts and other park uses potentially displaced by the project construction at a new location within the Kern River Parkway, to be identified by the City of Bakersfield.
- After construction, replant native vegetation that would be cleared during construction of the project using similar plant materials approved by the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife. All mature trees will be replaced at a 1:1 ratio.

The following measure would apply if Alternative C is selected:

PR-2 Caltrans, in coordination with the City of Bakersfield, shall implement the following measures to minimize impacts to Saunders Park that would result from implementing Alternative C:

- Assemble and consolidate excess land in the vicinity of the park to redefine a new park boundary that is estimated to comprise an estimated 12.95 acres, a net increase of 1.65 acres.

- The park shall be developed consistent with the concept plan provided in Section 7.2, Measures to Minimize Harm to Saunders Park of the *Section 4(f) Evaluation* provided in Appendix B, Volume 2. All affected facilities shall be replaced. As shown in the concept layout, the new Saunders Park includes the following relocated facilities: basketball courts, roller hockey facility, splash/water play area, group picnic areas, and parking areas. Security lighting shall be incorporated.

3.1.2 Growth

Regulatory Setting

The Council on Environmental Quality regulations, which established the steps necessary to comply with the National Environmental Policy Act of 1969, require evaluation of the potential environmental effects of all proposed federal activities and programs. This provision includes a requirement to examine indirect effects that may occur in areas beyond the immediate influence of a proposed action and at some time in the future. The Council on Environmental Quality regulations, 40 CFR 1508.8, refer to these consequences as indirect impacts. Indirect impacts may include changes in land use, economic vitality, and population density, which are all elements of growth.

The California Environmental Quality Act also requires the analysis of a project's potential to induce growth. California Environmental Quality Act Guidelines, Section 15126.2(d), require that environmental documents "…discuss the ways in which the project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment…"

Affected Environment

This section uses information from the *Community Impact Assessment* (September 2013) and the *Traffic Study Report for the Centennial Corridor Project* (November 2012) prepared for this project.

To determine whether project-related growth is reasonably foreseeable, factors such as project type, project location, and growth pressures in the project area are analyzed. If growth is reasonably foreseeable, then further analysis is required to determine the effect of this growth on resources of concern.

Current Recent Population and Development Patterns in the Project Area

According to the Kern Council of Governments, about one in every 50 people in California now lives in Kern County. The region grew by more than 185,000 persons from 2000 to 2011. By 2011, Kern County's population reached 849,000 persons and was ranked the 11th most populated county of the state's 58 counties.

The metropolitan Bakersfield area has also seen marked population growth over the last 30 years. Between 1980 and 2010, the population has grown from 228,000 to 533,461 persons, which is an approximate annual growth of 2.8 percent.

Growth in residential developments has followed the overall pattern of population growth in metropolitan Bakersfield, and about 80 percent of new housing has been built on the west side. More dense development has occurred closer to central Bakersfield.

Housing construction in the city has been fairly effective in meeting Regional Housing Needs Assessment goals. It is the City's goal to identify and implement programs to balance employment growth with the ability to provide housing opportunities affordable to the incomes of newly created job opportunities. A variety of housing types and economic segments have been provided for through the City's housing programs. The City is providing for housing growth far beyond the current Regional Housing Needs Assessment period.

Future Growth Potential in the Project Area

By 2035, the population of metropolitan Bakersfield is expected to reach about 848,487 persons, which would be about 60 percent of the expected population for all of Kern County. As new housing stock expands to accommodate expected population growth over the next 20 to 30 years, increased demand for access between developing areas and downtown Bakersfield would also be expected. As can be seen in Figure 3-7 (provided in Volume 2), growth within metropolitan Bakersfield is expected to be most pronounced in the northwest area, west of State Route 99, in the northeast area, east of State Route 178, and in the southwest.

The pace of growth within the project area has been particularly slowed in recent years due to the ongoing weak construction market. However, as noted in Section 3.7, Cumulative Impacts, four major private development projects on the west side of Bakersfield area have been approved, but are not currently under construction, including Bakersfield Commons, Stockdale Ranch, Saco Ranch Commercial Center, and Crossroads Plaza Commercial Center. In addition, several road and highway improvement projects associated with the Thomas Roads Improvement Program and the Regional Traffic Impact Fee Program would both accommodate growth and help support employment within the metropolitan Bakersfield area in upcoming years.

The Kern County General Plan discourages scattered urban density development, especially when it is not supported with adequate infrastructure. The plan guides new development toward existing infrastructure and encourages both mixed-use and infill developments. The plan also contains policies designed to balance the need for new

residential development with the county's actual expected growth, as well as promoting a variety of housing types, the efficient use of the land, and making sufficient housing available for each socioeconomic level.

Although general plans promote guided development throughout the city of Bakersfield, the need continues for existing transportation infrastructure to be improved in conjunction with other public infrastructure developments.

Environmental Consequences

The following analysis looks at potential Centennial Corridor growth-related impacts on a broad regional scale before focusing on city-level impacts.

First-Cut Screening Analysis

The Caltrans Standard Environmental Reference provides guidance for conducting growth-related, indirect impact analyses. A first-cut screening process is used by Caltrans to determine whether a potential for growth-related impacts is an issue that needs to be evaluated in the environmental document for a particular project. According to this guidance, the need for a growth-related study is based on the extent to which travel times, or accessibility, would be changed as a result of a project. Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, discusses the impacts on traffic circulation as a result of the proposed Segment 1 construction. Based on the first-cut screening analysis, though Segment 1 in itself would not have a noticeable impact on accessibility, as part of the larger Centennial Corridor project and as part of the extensive multi-project Thomas Roads Improvement Program, the project could affect accessibility in the region and warrants a growth-related impact analysis.

Macro-Scale Growth Inducement Analysis for the Thomas Roads Improvement Program

A macro-scale *Growth Inducement Analysis* for the Thomas Roads Improvement Program (Parsons, 2009) considered the influence of the entire program of the proposed Thomas Roads Improvement Program projects, including the Centennial Corridor. A total of 12 identified projects were included in the analysis. Most of these projects are west of the Centennial Corridor project. The construction time frames projected at the time the analysis was performed ranged from 2009 through 2017.

The analysis concluded that the Thomas Roads Improvement Program projects as a group (including the Centennial Corridor) would have the effect of moderately influencing growth pressures in the northwest and west Bakersfield metropolitan areas, and marginally influencing growth pressures in the west central and northeast areas. The Thomas Roads Improvement Program projects were not expected to substantially influence the overall amount, type, or timing of regional growth. The rate of growth has been, and will continue to be, influenced by relatively inexpensive land costs, growing labor demand, increasing demand for affordable housing, and developer activity responding to the marketplace.

Growth-Related Project Impacts (Common to All Build Alternatives)

Given the growth in Bakersfield that has occurred without the project, the Centennial Corridor is being planned to accommodate growth that has already occurred, with limited capacity to induce further growth. Future development and investment in Bakersfield are expected to occur mainly in response to underlying economic conditions, including supply and demand for housing, goods and services, and only marginally due to improved travel time and accessibility. Other factors that would influence future development along the Centennial Corridor and in the western and eastern sections of the metropolitan Bakersfield area include existing infrastructure, land prices, and physical constraints.

Although the Centennial Corridor project would predominantly accommodate previous growth that has occurred rather than induce new unplanned growth, it would change accessibility and mobility within the metropolitan Bakersfield area and, as part of the larger multi-project Thomas Roads Improvement Program, could potentially contribute to improved accessibility to and from the Los Angeles metropolitan area. By reducing traffic bottlenecks and current stop-and-go vehicular traffic, the build alternatives would facilitate the flow of traffic, leading to time savings for the traveler. The project would have the effect of providing a better connection from urbanized areas of Bakersfield near downtown to the suburban fringe and areas beyond by means of a major new multi-lane, limited access highway.

The increased accessibility created by the Centennial Corridor project may affect the location of growth because improved access to downtown could make north and northwest Bakersfield more desirable. However, on a regional scale, the rate, type, and amount of growth in the project vicinity is not expected to substantially change due to land use controls shaped by local and regional plans and policies, and a desire to approve projects that are compatible with the surrounding land uses.

Growth pressures could potentially be influenced in the western section of Bakersfield with improved access to downtown Bakersfield due to construction of any of the build alternatives. The project could facilitate growth, which has historically been occurring in the western section of Bakersfield even without the project, by reducing commute times to the downtown area. While the rate of growth has slowed in recent years, it is not expected to return mainly as a result of the project. Rather, the project would accommodate the circulation demands that have been created by past and ongoing developments in the outlying areas of west Bakersfield. This would also potentially indirectly influence development in the downtown area. Bakersfield is positioned to be the economic center of the San Joaquin Valley because of its proximity to Interstate 5 and State Route 99, the two major corridors for goods movement, as well as its location between Los Angeles and the Bay Area. The California Department of Finance projects a 25 percent increase in employment in metropolitan Bakersfield by 2035. By improving access to the downtown, new development and redevelopment of the downtown area may result.

Also, improved access throughout Bakersfield would benefit agricultural-oriented businesses that are west and east of Bakersfield, as travel time and associated costs to

and from agricultural businesses and distribution facilities in the downtown area of Bakersfield and along State Route 99 and State Route 58 would be reduced.

By reducing traffic bottlenecks and stop-and-go vehicular traffic on the existing State Route 58, the build alternatives would facilitate the flow of traffic, resulting in an overall time savings for the traveler. However, while the transportation improvements would reduce the time-cost of travel, those savings would be minimal. As discussed in Section 3.3.2, the data indicates an anticipated time savings of 8 minutes for trips between the geographic points of Bakersfield and Los Angeles. While the project would have the effect of providing a better connection from urbanized areas of Bakersfield near downtown to the suburban fringe and areas beyond by means of a major new multi-lane, limited access highway, the time savings associated with that improved accessibility is minor in terms of influencing interregional locational decisions for residences and businesses.

Apart from commercial development opportunities associated with land right next to new freeway interchanges, the Caltrans *Guidance for Preparers of Growth-related, Indirect Impact Analyses* indicates that, unless transportation projects open up new land areas that had not been previously accessible, on a regional basis, the impacts to convert land uses are generally minor. The proposed Centennial Corridor project is a transportation facility in an area that has been served by roads and highways for many decades. The build alternatives would not facilitate new development by opening up access to previously undeveloped areas. Also, the pace and amount of development in Bakersfield is projected to occur with or without the Centennial Corridor project. The absence of the Centennial Corridor has not been a major constraint to development in Bakersfield, or the immediate outlying areas.

In summary, no build alternative is expected to substantially influence the overall amount or type of regional growth or influence the redistribution of economic development and population. The pattern and rate of population and housing growth would remain consistent with the population expected in existing planning documents for the area. Growth in metropolitan Bakersfield is expected to follow the trend of the Central Valley's population growth, which is fueled by high birthrates and the in-migration of people from other parts of California. The potential for growth in the Bakersfield area is consistent with local land use plans and current trends; the project would not substantively influence growth, and no growth-related impacts are expected. Current growth trends and potential future growth are considered in local land use plans, and the project would not influence growth that is not currently planned. The project would not result in direct adverse growth-related impacts.

Indirect Impacts

Indirect or secondary growth-related impacts in the region can include additional demands for housing, employment, and goods and services associated with population increase caused by or attracted to new development.

Under the three build alternatives, no new housing units or commercial and industrial uses would be needed to support project implementation. The build alternatives

would create temporary construction jobs and would not lead to any permanent increase in the employment base within the project area; therefore, no demand for housing, goods and services, or employment would be generated by the build alternatives.

The three build alternatives would not provide new access to currently undeveloped areas in the project area. The build alternatives would build new freeway/roadway facilities along Segment 1 of the Centennial Corridor, but there would be no new on-ramps or off-ramps that would provide freeway access to undeveloped areas. Lands immediately surrounding the alignments are generally developed or approved for development. Improvements at the Stockdale Highway and State Route 43 intersection (in Segment 3) would ease operations at this intersection, but would not provide new capacity in the area because of the limited extent of the improvements.

No-Build Alternative

The No-Build Alternative would not lead to any physical improvements that may induce growth or development in the surrounding area or in Bakersfield. The existing local roadway and regional highway system would operate at its current level of efficiency, and congested conditions would remain and become worse over time. No growth-related impacts are expected.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are proposed.

3.1.3 Farmland

This section addresses potential impacts to farmland and agricultural land, including land under Williamson Act contracts that would result from construction of the Centennial Corridor project.

Regulatory Setting

The National Environmental Policy Act and the Farmland Protection Policy Act (7 U.S. Code 4201–4209 and its regulations; 7 CFR Part 658) require federal agencies, such as the Federal Highway Administration (or its designee), to coordinate with the Natural Resources Conservation Service if their activities may irreversibly convert farmland (directly or indirectly) to non-agricultural use. For purposes of the Farmland Protection Policy Act, farmland includes prime farmland, unique farmland, and land of statewide or local importance.

The California Environmental Quality Act requires the review of projects that would convert Williamson Act contract land to non-agricultural uses. The main purposes of the Williamson Act are to preserve agricultural land and to encourage open space preservation and efficient urban growth. The Williamson Act provides incentives to landowners through reduced property taxes to discourage the early conversion of agricultural and open space lands to other uses.

Affected Environment

The Kern County Agricultural Commissioner's Office estimates that 803,769 acres were harvested in Kern County in 2010 (source: 2010 Agricultural Crop Report). The top five commodities for 2010 by value—grapes, almonds, pistachios, milk, and citrus—account for about 60 percent (more than $2.8 billion) of the total value of agricultural production in the county. Other high producers include a variety of fruits, vegetables, cotton, and livestock.

The California Department of Conservation administers the Farmland Mapping and Monitoring Program, which is the only statewide land use inventory done on a regular basis. The California Department of Conservation designates land as Prime Farmland, Unique Farmland, or Land of Statewide or Local Importance as Important Farmland. Although there is no Important Farmland within Segments 1 and 2, the California Department of Conservation has designated much of the land in Segment 3 as Prime Farmland. The land affected by the Stockdale Highway/State Route 43 intersection improvements is designated as Prime Farmland and Rural Residential Land.

Lands under the California Land Conservation Act of 1965 contract, also referred to as the Williamson Act, are restricted from conversion to other land uses; however, the regulation does allow for public improvements in a preserve, if necessary. Williamson Act contracts are for a period of 10 years and are renewed automatically each year, unless the landowner or local government files to initiate non-renewal. The Government Code requires the minimum size of the area under contract be 10 acres. In return for a Williamson Act contract, property tax assessments are stabilized. Currently, there are four parcels under Williamson Act contracts located in the southwest quadrant of the Stockdale Highway/State Route 43 intersection.

Environmental Consequences

Common to All Build Alternatives

There is no Prime Farmland in Segments 1 and 2; therefore, there would be no impacts to Prime Farmlands or to Williamson Act contract land within these two segments. The improvements at the Stockdale Highway and State Route 43 intersection in Segment 3 would have impacts on farmland.

The proposed intersection improvements at Stockdale Highway and State Route 43 would result in permanent impacts to about 4 acres of Prime Farmland and temporary construction impacts to about 4 additional acres. Because the area that would be affected by the project sits at the edge of the roadway, the remainder of the parcels would continue to be farmable tracts of land. Areas affected by the temporary construction impacts would be restored and usable when the improvements are completed. The intersection improvements would affect one parcel, located to the southwest of the intersection, under a Williamson Act contract, resulting in permanent impacts to about 0.4 acre and temporary construction impacts to about 0.5 acre. Only the impacted area would be converted and taken out of the Williamson Act contract. The unaffected portion of the parcel would remain under the contract. The removal of the 0.4 acre of land from the Williamson Act contract would not

affect the viability of the remainder of the parcel remaining under the contract. Therefore, impacts to tax savings for the landowner are not anticipated.

The total acreage of Prime Farmland in Kern County is 608,790.99 acres (source: State of California Department of Conservation Division of Land Resource Protection, Farmland Mapping & Monitoring Program [1984-2013]). The total County's Prime Farmland to be lost or affected by the project is 0.000013 percent. Based on the coordination with the U.S. Department of Agriculture the project would not result in a substantial impact on farmland.

No-Build Alternative

The No-Build Alternative would not result in any impacts to Important Farmland or lands under a Williamson Act contract.

Avoidance, Minimization, and/or Mitigation Measures

Right-of-way acquisition of the Prime Farmland and Williamson Act contract land for the intersection improvements at Stockdale Highway and State Route 43 cannot be avoided. But, due to the small size of land required, substantial impacts to farmland operations are not expected. The land owners would receive appropriate compensation allowed by laws as described in Section 3.1.4.2, Relocations and Real Property Acquisition.

Mitigation and Minimization Measure

AG-1 In conjunction with right-of-way acquisition for the improvements to the Stockdale Highway/State Route 43 intersection, Caltrans shall coordinate with the County of Kern to amend the applicable Williamson Act contract to reflect the removal of the right-of-way purchased for roadway improvements from the contract.

3.1.4 Community Impacts

Three subject areas are discussed in the Community Impacts Section, including community cohesion and character; relocation and property acquisition; and environmental justice. The section focuses on Segment 1, which includes the improvements to connect Centennial Corridor to the Westside Parkway. Impacts to Segments 2 and 3 have been previously evaluated in their respective environmental documents, and there have been no substantive changes to the general settings of the area since the environmental documents for Segments 2 and 3 were certified.

3.1.4.1 Community Character and Cohesion

Community cohesion is the degree to which residents have a "sense of belonging" to their neighborhood, a level of commitment to the community, or a strong attachment to neighbors, groups, and institutions, usually because of continued association over time. The information in this section comes from the *Community Impact Assessment* (September 2013) prepared for this project.

Regulatory Setting

The National Environmental Policy Act of 1969 as amended established that the federal government use all practicable means to ensure that all Americans have safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 U.S. Code 4331[b][2]). The Federal Highway Administration in its implementation of the National Environmental Policy Act (23 U.S. Code 109[h]) directs that final decisions on projects are to be made in the best overall public interest, taking into account adverse environmental impacts, such as destruction or disruption of human-made resources, community cohesion, and availability of public facilities and services.

Under the California Environmental Quality Act, an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant. Since this project would result in physical change to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the project's effects.

Affected Environment

The study area is characterized as containing a mix of mostly suburban residential communities, many dating to the 1970s, along with a few neighborhood or pocket areas characterized by houses that date to the immediate post-World War II period or earlier, the latter most markedly as one gets closer to downtown Bakersfield. While the main land use in the Centennial Corridor study area is single-family residential housing, there are also medium-density residential (single- and multiple-family), commercial (neighborhood and regional), institutional (government and schools), and light industrial (general manufacturing) uses. As described below, the Centennial Corridor (see Figure 3-8, Study Area Neighborhoods, provided in Volume 2) can be perceived as a collection of sub-communities or neighborhoods: Quailwood–Park Stockdale, Westpark, Oleander-Sunset, Southwest Bakersfield, and Southeast Bakersfield. Some residential areas within the larger developed areas are further identified by subdivision names, as indicated below.

In 2009, as part of the community impact assessment process, to gauge local residents' sense of the Centennial Corridor project and supplement information not otherwise available, Caltrans developed and mailed a neighborhood survey to about 16,000 residents living within 1,000 feet of each of the build alternatives for Segment 1 (see Appendix A of the *Community Impact Assessment* for a copy of the survey form). About 920 survey forms were returned. The survey included questions relating to one's perceived quality of life, length of time in the residential unit, and whether the unit was owned or rented. Everyone received an identical survey questionnaire, which was coded so project planners could analyze responses based on the neighborhood geographical area of those who responded. This was done so that data would be gathered in a consistent way from each of the neighborhoods that might be directly affected by the project. Survey forms were available in English and Spanish. Information gathered from those surveys is included in the following discussions.

Community Characteristics

Quailwood – Park Stockdale

The Quailwood and Park Stockdale neighborhoods have been combined because they have similar characteristics and were both master-planned by the Tenneco Company. While a small amount of the housing in the area dates to the 1940s, most of the housing stock was built from the 1960s to the 1980s. Quailwood–Park Stockdale is bound roughly by Ming Avenue to the south, California Avenue to the east, the Kern River to the north, and Coffee Road/Gosford Road to the west.

Respondents to the survey form mailed to residents living in the project study area referred to as Park Stockdale and Quailwood most commonly stated their preference for choosing to live in this section of Bakersfield because of its centrality to nearby amenities, including the Kern River Parkway and bike paths, nearby shopping centers, and restaurants, as well as schools and churches. Most of the area residents responding felt the neighborhood was safe and secure (some were pleased with being able to reside in an upscale, gated community), and many noted the neighborhood's overall cleanliness and quiet. Many of those who completed the survey form were members of a local homeowner's or condominium association. Some expressed that in recent years change had come to the neighborhood primarily in the form of younger families moving in. The one common complaint among many of those responding was the worsening local traffic conditions. Of those who did express an opinion on a project alternative for the Centennial Corridor, there was little support for Alternatives A and B.

Westpark

Westpark is west of State Route 99, north of Stockdale Highway, and south and east of California Avenue, which bends through the project area. While the oldest homes in this area date back to the late 1940s and 1950s, the Westpark neighborhood was mostly developed as part of tract development from the late 1960s through the 1970s.

As part of its master plan development, the Stockdale Development Corporation deeded 9 acres in the heart of the future Westpark neighborhood to the City to establish a park. Centennial Park includes tennis and basketball courts, picnic tables, a pavilion, and a dog park. Harris Elementary School sits along the northeast boundary of the neighborhood, and most neighborhood children walk to school. Centennial Park and Harris Elementary School are considered focal points for neighborhood activity based on one-on-one interviews conducted with neighborhood residents in 2009. The neighborhood has an active homeowner's organization. Westpark is somewhat unique among Bakersfield neighborhoods in that many essential community services are within walking distance of most houses.

The survey respondents residing in the Westpark community cited proximity to schools, churches, parks, retail, and the downtown area as features that attracted them to the neighborhood. A large community of elderly and retired people has owned homes for more than 20 years, and there are many older, well-made homes. Westpark has a Neighborhood Watch Group. Most respondents described the neighborhood as safe and clean, offering them and their families and neighbors a good quality of life.

Most survey respondents noted opposition to the project, with the most negative comments expressed about building Alternative B. Several comments conveyed preference for the alternative that follows the existing freeway alignment as much as possible (Alternative C) or for Alternative A, because these alternatives would cause the least disruption to their neighborhood. Many respondents noted preference for an elevated or depressed highway, rather than an at-grade facility, with incorporation of attractive landscaping and soundwalls. Common concerns about the project included that it would disrupt the neighborhood with increased noise and air quality impacts, as well as increased opportunity for graffiti. Other repeated concerns were that the project would decrease property values in the neighborhood and displace residents and businesses. Many respondents noted concern about displacing the retired and elderly residents for whom the impact would be greater because they have lived in the area so long and have limited resources to handle being displaced and finding replacement housing, especially in an area with so many local services. Provision of crosswalks near parks and other locations were repeatedly listed as potential issues the project could address.

During one-on-one interviews, many Westpark respondents expressed that they take advantage of the proximity to nearby community amenities and neighborhood-based small businesses, allowing them to walk or drive a very short distance to local restaurants, houses of worship, grocery markets, and retail centers. Recreational walking, including people walking dogs, is also common in the neighborhood. When citing attributes of their neighborhood, residents of Westpark often mentioned the affordability of houses, a sense of safety and stability, neighborhood walkability, and access and convenience to other parts of the city. The general feel of the area—with its large trees and sense of community—is identified as a quality that distinguishes their neighborhood from others in Bakersfield.

Oleander-Sunset

The Oleander-Sunset neighborhood is generally considered to be bound by California Avenue to the north, Oak Street to the west, Brundage Lane to the south, and Union Avenue to the east. The main streets in the neighborhood are Union and Chester Avenues, H Street, Palm Street, Fourth Street, and Brundage Lane.

The Oleander-Sunset Park Association, formed in 1992, is considered Bakersfield's first homeowners association. A renewed community spirit revolved around the growing understanding and appreciation of the neighborhood's rich history, including residences that date back to the late 19th and early 20th centuries. The Sunset Park subsection of the community is generally located in the northwest corner of the larger Oleander-Sunset neighborhood; its first houses were built in the mid-1920s.

The housing stock of the neighborhood is broken down as 82 percent being single-family units and 18 percent being multi-family units. Residents of the Oleander-Sunset neighborhood benefit from the neighborhood's centralized location, shopping and dining opportunities, and easy access to other local amenities. Some of the nearby recreational areas include Saunders Park, Lowell Park, Wayside Park, and Beal Park. The southwest corner of this Oleander-Sunset neighborhood, which is directly

affected by the project (Alternative C) encompassing Olive and Cypress Streets among others, can be characterized by the presence of single-family tract houses built in 1950. A large number of the commercial land uses located along the neighborhood's border on Brundage Lane, east of Oak Street, are related to automotive care (tire sales, engine repair, and brake service).

The Oleander-Sunset community survey respondents overall expressed sentiments that their neighborhoods offer a safe, desirable place within an older section of Bakersfield, with well-preserved, unique homes and older trees. Most respondents cited the neighborhood as offering an excellent or good quality of life. The community has many historic houses and provides multiple parks and good access to nearby downtown. Some respondents commented that visitors come to this neighborhood because of its historic character and for neighborhood-sponsored community events such as the July 4th parade and Christmas carriage tours.

Several survey respondents noted that younger families are moving into the Oleander-Sunset neighborhood, and they felt there is increased pedestrian and bicycle traffic, especially near parks and schools. Traffic congestion and cut-through traffic were repeatedly cited as existing problems, at the California Avenue/Oak Street intersection in particular.

Many of those responding to the survey also expressed concerns over aesthetics, with repeated interest for a depressed freeway with landscaping or a landscaped buffer. There were mixed comments about the provision of construction of soundwalls, with some aesthetic concerns about the walls and highway and some comments calling for walls that could be painted. Providing noise walls to address existing sound from State Route 99 and addressing traffic congestion on local streets were listed multiple times as potential issues the project could address. A couple of respondents noted that speeding automobile traffic in areas with high pedestrian traffic is an existing problem. Oak Street, California Avenue, and Truxtun Avenue were repeatedly mentioned as locations to provide or maintain cross-through traffic opportunities with the project. Several respondents showed support for a freeway connection west from State Route 99, urging the use and expansion of existing roadways as a priority in selecting an alternative.

Southwest Bakersfield

Southwest Bakersfield is the most populated section of the Bakersfield metropolitan area. Development in this neighborhood was influenced by the construction of California State University, Bakersfield in the 1970s. Areas farther east, in the northeast section of the Southwest Bakersfield area shown in Figure 3-8 (provided in Volume 2), near Belle Terrace and Real Road, south of Stockdale Highway, are also residential in nature and mostly encompass post-World War II suburban tract housing dating from the early to mid-1950s. Many houses in this area sit on smaller parcels compared to the more recent houses west of New Stine Road. Because they have been there longer, the residential streets typically have more mature trees and landscaping; there is also a higher concentration of multi-family residential units in this section

than in other neighborhoods in the study area. Various commercial services are provided by businesses on nearby Stockdale Highway.

Many survey respondents from this sub-community expressed opposition to the project because they felt it would disrupt or destroy the neighborhood and devalue property. Multiple respondents commented that being offered fair market value for their homes would not justly compensate them due to the current low market conditions, and they would be financially damaged if their house was to be acquired to accommodate the project. Hardship for elderly residents who would be displaced was a repeated concern by respondees. Several expressed preference for Alternative C because they felt it would cause the least disruption to neighborhoods as well as the least number of displacements, and they expressed opposition to Alternative B because they felt it would cause the most disruption. Many respondents also expressed support for the project. Several respondents expressed interest in a depressed highway with landscaping and noise walls. Increased opportunity for graffiti was another repeated concern about the project. Addressing traffic congestion on arterial streets was commonly noted as a problem the project could address.

Southeast Bakersfield

The southeast side of Bakersfield, the northern border of which touches the project area of all build alternatives, is a redevelopment area that generally extends from H Street east to Washington Street and from the State Route 58 corridor north to the California Avenue corridor. In interviews done in 2009, respondents of this section stated they believed the City's redevelopment efforts helped to stimulate the area and bring new businesses that catered to the local residents; this helped bring residents back to the neighborhood. Several residents stated it was fairly easy to get around this section of Bakersfield and one could comfortably walk to nearby places such as grocery stores, other retail stores, and local parks. The neighborhood provides affordable housing according to many of the residents who responded to the survey. Some of the commercial businesses within the area are described by its residents as small businesses and minority owned. Most of the areas right next to existing State Route 58 are industrial or commercial in nature; residential areas are generally south of the Brundage Lane corridor and State Route 58.

Most survey respondents from Southeast Bakersfield rated the neighborhood quality of life as good or fair, but several respondents rated it as poor. Many respondents also commented on the good freeway access (State Route 99 and State Route 58) offered by the neighborhood. At the same time, many respondents commented on noise from these highways as an existing problem and requested soundwalls. Provision of noise walls to address existing sound from State Route 99 and State Route 58, addressing speeding traffic on local streets, improving street lighting, and sidewalks and street pavement conditions were listed many times as potential issues the Centennial Corridor project could address. Multiple respondents commented that in looking at the map the project does not appear to affect their neighborhood. Many respondents expressed general support for the project and complained about congestion on State Route 58 (West) (Rosedale Highway). Soundwalls, landscaping with trees, speed bumps, and stop signs as traffic-calming measures were listed as potential project

features to help make the project more compatible with the neighborhood. Several respondents expressed interest in an elevated highway being built.

Community Cohesion

Community cohesion stems from the social interaction among members of a community or neighborhood. Indicators of higher community cohesion generally include the following:

- Long average residency tenures
- Households of two or more people
- Social factors such as higher proportions of homeownership versus rentals, and single-family homes versus higher-density housing
- Ethnic homogeneity
- Substantial community activity
- Higher proportion of seniors
- Facilities for pedestrians and the disabled
- Community facilities

Based on information collected by Caltrans, including through feedback in interviews and public meetings, returned survey forms, and field surveys, the Centennial Corridor project area can be thought of as generally containing several moderately cohesive neighborhoods. For example, residents of all the neighborhood districts potentially affected by one or more of the build alternatives are likely to have neighborly exchanges on the street and see each other occasionally at nearby grocery stores or local restaurants, as well as during school functions and while attending services at local places of worship, to name a few instances. When members of gated communities get to know their neighbors as they participate in group activities, or residents of older neighborhoods feel common bonds for protecting the historic character of their neighborhood and involve themselves in Neighborhood Watch programs, they exhibit certain characteristics of people residing in cohesive communities. Therefore, it might be best to view the concept of community cohesion as being on an ongoing condition and not an either/or characteristic.

Westpark neighborhood residents appear to exhibit a strong sense of community cohesiveness. Shopping, local restaurants, the nearby bookstore, preschool and elementary schools, places of worship, and non-emergency and outpatient medical care facilities are all within walking distance of Westpark, and many residents report they frequently walk rather than drive to nearby destinations. Availability of facilities in a walking distance allows face-to-face contact and contributes to a cohesive community, compared to master planned developments in Southwest Bakersfield and Quailwood-Park Stockdale, for example, which would require a car for most people

to get around to local businesses and amenities. Centennial Park and Harris Elementary School are anchors in the Westpark community, serving to further bind the residents as a cohesive group, but certainly the residents living near many of the parks would likely experience much of the same sense of cohesiveness.

A factor that would distinguish Westpark from other nearby sub-community sections is that many of its residents have been involved in the Centennial Corridor project over the course of many years, and they have shown a strong commitment to staying involved. When public meetings for the project were held, a great many of those attending came from Westpark. The neighborhood's interest in the project is reflected in part by the degree of participation in voluntary one-on-one interviews and survey return rates. Although residents of all potentially affected neighborhoods were encouraged to participate in the one-on-one interviews, most of the interviewees were residents of Westpark. Likewise, no neighborhood matched Westpark for returning the general survey forms. These numbers, and the consistency of the individual responses to interview/survey questions, are further evidence of the strong community cohesion within the Westpark neighborhood.

In addition, a sizable percentage of the surveys returned to Caltrans in 2009 noted that many Westpark residents have adopted an informal system to provide their neighbors assistance in times of need, much more than was shown in survey forms returned from the other nearby communities.

Measuring the quality of life within a neighborhood is an important aspect in determining the satisfaction of individuals with their community or neighborhood. What one defines as quality of life is subjective. Many factors may contribute to an individual's image of a community – for example, the opportunity for forming friendships, the attachment of residents to their particular neighborhood, a positive sense of the nearby physical and cultural environment. Table 3.5 demonstrates how survey responders to the Caltrans 2009 questionnaire perceive the quality of life within their particular sub-community or neighborhood.

Table 3.5 Quality of Life within Centennial Corridor Communities

Neighborhood	Quality of Life (Percentage)					
	Excellent	Good	Fair	Poor	Unknown	No Answer
Westpark	49.7	40.5	7.0	1.9	0.0	0.9
Quailwood-Park Stockdale	37.5	52.5	5.0	2.5	0.0	2.5
Southwest Bakersfield	19.4	56.4	21.0	2.7	0.0	0.5
Southeast Bakersfield	4.0	44.5	33.7	15.8	2.0	0.0
Oleander-Sunset	19.4	55.4	18.3	4.8	0.5	1.6
Source: Developed from the *Community Impact Assessment* 2013.						

As shown in Table 3.5, about 90 percent of the residents of Westpark and Quailwood-Park Stockdale rated their quality of life as being either good or excellent, while other sections of Bakersfield collectively rated their quality of life as merely good or fair.

This closely parallels the comments that were formally received during public meetings, information obtained from the one-on-one interviews, and the handwritten comments expressed on the neighborhood surveys returned to Caltrans.

In summary, while factors used to measure community cohesion tend to be somewhat subjective and difficult to quantify, Westpark, as a whole, exhibits many of the classic characteristics perceived to be associated with a cohesive community.

Socioeconomic Characteristics

In addition to feedback from residents about their neighborhoods, socioeconomic and demographic data for the census tracts and block groups for each alternative, as shown in Figures 3-9a through 3-9c (provided in Volume 2), were used for reference and analysis in this section and are based on the 2010 U.S. Census. Also included in the analysis is a larger region of analysis, specifically the city of Bakersfield and Kern County.

Table 3.6 shows the racial composition of the population by alternative compared to the larger region. The information is summarized below:

- Alternative A passes through 17 census block groups with a total population reported at 13,921, of which about 43 percent are white and about 57 percent are considered minority (non-white).

- Alternative B passes through 16 census block groups with a total population reported at 12,460, of which about 44 percent are white and about 56 percent are considered minority (non-white).

- Alternative C passes through 15 census block groups with a total population of 11,689, of which about 42 percent are white and about 58 percent are considered minority (non-white).

Table 3.7 presents the data on household income according to the 2010 U.S. Census. The information is summarized below:

- Alternative A is contained within 11 census tracts with an average household size of about 2.9 persons and an average median household income of $44,620.

- Alternative B is contained within 11 census tracts with an average household size of about 2.9 persons and an average median household income of $44,620.

- Alternative C is contained within 12 different census tracts with an average household size of about 2.8 persons and an average median household income of $45,112.

Table 3.6 Race and Ethnic Composition of the Population in the Project Area

Geographic Area	Total Population	White	African-American	American Indian/ Alaska Native	Asian	Native Hawaiian/ Other Pacific Islander	Other Race/Two or more races	Total Minority Population	Hispanic or Latino of Any Race
Kern County	839,631	323,794	45,377	5,893	33,100	995	17,439	515,837	413,033
		39%	5%	1%	4%	<1%	2%	61%	49%
City of Bakersfield	347,483	131,311	26,677	2,265	20496	357	8,172	216,172	158,205
		38%	8%	1%	6%	<1%	2%	62%	46%
Alternative A	23,868	10,304	2,126	191	854	18	569	13,564	9,806
		43%	9%	1%	4%	0%	2%	57%	41%
Alternative B	22,446	9,882	1,853	178	828	17	534	12,564	9,341
		44%	8%	1%	4%	0%	2%	56%	41%
Alternative C	18,815	7,971	1,562	158	708	15	443	10,844	7,958
		42%	8%	1%	4%	0%	2%	58%	42%

Note: Percentage number is rounded to the nearest one.
Source: Developed from the *Community Impact Assessment* 2013.

Table 3.7 2010 Median Income Data for Affected Census Tracts

Geographic Area	Total Occupied Households	Average Persons per Household	Median Household Income (dollars)	2010 Poverty Guideline[a]
Alternative A and B				
Census Tract 5.07	1,283	2.9	$78,188	$18,310
Census Tract 18.01	2,040	3.0	$46,107	$18,310
Census Tract 18.02	2,134	2.5	$64,839	$18,310
Census Tract 19.01	1,318	2.8	$41,500	$18,310
Census Tract 19.02	1,825	2.8	$38,018	$18,310
Census Tract 20.00	2,205	3.3	$20,513	$22,050
Census Tract 26.00	931	3.5	$33,092	$22,050
Census Tract 27.00	1,721	3.4	$47,668	$22,050
Census Tract 28.12	2,065	2.4	$27,955	$18,310
Census Tract 28.13	1,652	2.7	$31,604	$18,310
Census Tract 38.12	1,633	2.7	$61,339	$18,310
Total or Average	18,807	2.9	$44,620	-
Alternative C				
Census Tract 5.07	1,283	2.9	$78,188	$18,310
Census Tract 17.00	1,907	2.0	$50,525	$14,570
Census Tract 18.01	2,040	3.0	$46,107	$18,310
Census Tract 18.02	2,134	2.5	$64,839	$18,310
Census Tract 19.01	1,318	2.8	$41,500	$18,310
Census Tract 19.02	1,825	2.8	$38,018	$18,310
Census Tract 20.00	2,205	3.3	$20,513	$22,050
Census Tract 26.00	931	3.5	$33,092	$22,050
Census Tract 27.00	1,721	3.4	$47,668	$22,050
Census Tract 28.12	2,065	2.4	$27,955	$18,310
Census Tract 28.13	1,652	2.7	$31,604	$18,310
Census Tract 38.12	1,633	2.7	$61,339	$18,310
Total or Average	20,714	2.8	$45,112	-
City of Bakersfield	111,132	3.1	$53,997	$18,310
Kern County	254,610	3.2	$47,089	$18,310

a The federal poverty line or level is issued each year by the Department of Health and Human Services and is used for determining financial eligibility for certain federal programs, including Medicare, Family Planning Services, and the Community Food and Nutrition Program, among others. They are a simplified version of the Census Bureau's poverty thresholds and the same for the 48 contiguous states. Neither the Census Bureau nor the Department of Health and Human Services (HHS) tabulates the number of people below the HHS poverty guidelines. The best approximation for the number of people below the HHS poverty guidelines in a specific area would be the number of persons below the Census Bureau poverty thresholds in that area. Information from the Department of HHS, Office of the Assistant Secretary for Planning and Evaluation. Accessed at: www.aspe.hhs.gov/poverty on February 10, 2012.

Source: Developed from the *Community Impact Assessment* 2013 (U.S. Census, 2010, ACS 5-Year Estimate 2006-2010, DP-03, S1101, DP04).

Although the average median household incomes within each alternative study area are less than the city of Bakersfield and Kern County as a whole, they are above the federal poverty guideline, except for Census Tract 20.00. The poverty line, determined by the Department of Health and Human Services on a yearly basis, is defined as a minimum income level below which a person is officially considered to lack adequate subsistence and to be living in poverty. Households below this line are considered "low-income." The poverty guideline (also known as the "poverty line") in 2010 for a household of 3 and 4 persons was $18,310 and $22,050, respectively.

Housing Demographics

Based on 2010 U.S. Census housing characteristics data, the project area covering the build alternatives contained about 9,372 housing units for Alternatives A, 8,747 housing units for Alternative B, and 7,232 housing units for Alternative C. Most of the housing units in each build alternative study area were occupied at a percentage similar to the city of Bakersfield (about 92 percent), but slightly higher than the County of Kern (about 89 percent).

The area with the highest percentage of occupied housing units belonged to Tract 18.02, Block Group 1 (96 percent). The area with the lowest percentage of occupied units was in Tract 19.02, Block Group 3 (86 percent). The high percentage of occupied units along the project corridor is likely due to a combination of factors including, but not limited to, price, incidence of foreclosures, and tenure of residents.

Environmental Consequences

Construction of any of the build alternatives would place a new freeway in existing neighborhoods, causing numerous residential and business displacements, neighborhood disruption, and environmental resource impacts such as localized air quality, noise, and visual effects as discussed below.

Alternative A

This alignment would pass through the northern portion of the Quailwood-Park Stockdale and also the northern portion of neighborhoods in the Southwest section of Bakersfield. A total of 356 residential units and 127 commercial, industrial, and manufacturing businesses would be displaced. Residential areas that would experience the greatest number of displacements include the condominiums on Mohawk Street and Lennox Avenue; several apartment houses on Williamson Way; and single-family residences on Brite Street, Frazier Avenue, Laverne Avenue, Curran Street, Jones Street, and Griffiths Street, among others. Many single-family residences on these streets are considered eligible for the National Register of Historic Places as part of the Rancho Vista Historic District. Displacement of these houses would result in a substantial change in the character of this small section of Bakersfield.

Many business properties that would be required for Alternative A are concentrated along California Avenue and Stockdale Highway. Detailed information on property acquisitions is provided in Section 3.1.4.2, Relocation and Property Acquisition.

As part of the new freeway construction, changes to several local residential streets would be required. Any proposed roadway closures or redesign, such as an overpass or underpass of the freeway, would change the circulation patterns and access of the local residents. For example, residents living south of Stockdale Highway and west of Real Road may perceive that they would be somewhat "boxed in" by the presence of the new freeway. Although project design would minimize changes in the circulation pattern as much as possible, seven local street closures (refer to Appendix E in Volume 2) would inconvenience and diminish the sense of safety for some pedestrians and bicyclists and would reduce direct automobile connectivity to the larger streets in the affected neighborhoods. Changes that would restrict pedestrian and bicycle travel would result in a negative effect on community cohesion.

Residents living close to the new freeway would experience a greater exposure to trucks and automobile noise. A *Noise Study Report* (January 2013) for the project identified 235 affected receivers representing 532 frequent outdoor use areas where the noise level would be elevated as a result of freeway traffic. A total of 19 soundwalls were recommended feasible and reasonable, which would abate 203 of these affected receivers, which represent 464 frequent outdoor use areas. Detailed information on noise effects of the project can be found in Section 3.2.7, Noise and Section 4.2.3, Unavoidable Significant Environmental Effects – Noise.

The Air Quality Analysis determined that predicted concentrations of carbon monoxide are estimated to be less than 50 percent of the applicable standards. The project would not contribute to a violation of standards, and project-level carbon monoxide conformity would be satisfied.

A qualitative particulate matter conformity analysis was done to predict the level of local impacts from particulate matter (PM_{10} and $PM_{2.5}$) as a result of traffic operations. The results show that the project would not cause a new or contribute to a violation of particulate matter standards with the implementation of the project.

A quantitative hot-spot analysis of local emissions of mobile source air toxics was done. A significant decrease in mobile source air toxics emissions was calculated for the project alternatives when comparing 2018 and 2038 emissions to the base year (2008) levels. This is directly due to the improved pollution emission performance of a modernizing fleet of all vehicles, especially heavy diesel trucks, due to federal and state fuel content and engine emissions rules. More detailed information on air quality analysis can be found in Section 3.2.6, Air Quality and Section 4.2.2, Significant Environmental Effects of the Project – Air Quality.

With the new freeway built in the neighborhood, residents would experience some visual changes from the existing condition. A *Visual Impact Assessment* (March 2013) assessed impacts to visual and aesthetics at various key viewpoints along each build alternative and found that long-term visual impacts on key viewpoints as a result of construction of Alternative A would range from moderately low to moderately high. Presence of the elevated structure and soundwalls would, for some, result in obstructed views that would adversely affect the visual character of the

suburban neighborhoods. The new freeway that would run through the neighborhoods west of State Route 99 would change the visual character of the area. East of the State Route 58/State Route 99 interchange, the alignment for all three build alternatives would follow existing State Route 58 east to Cottonwood Avenue. Most of the proposed project design in this segment is within the existing right-of-way, in a landscape that is already characterized by flat topography, transportation facility infrastructure, light industrial, commercial, and residential properties next to the freeway, which would not largely change under any of the build alternatives. Detailed information on visual impact analysis can be found in Section 3.1.7, Visual/Aesthetics.

In summary, adverse effects to the overall character of the small portion of the project area in Southwest Bakersfield and Quailwood-Park Stockdale neighborhoods are expected as a result of construction of Alternative A. In these areas, the residential tract neighborhood scale would be lost with the addition of a new freeway.

Alternative B

Implementation of Alternative B mirrors some of the impacts affecting neighborhoods discussed for Alternative A. The distinction between Alternatives A and B is the location of the alignment in the western portion of the project area where it crosses the Kern River and where it would bisect the industrial and commercial areas on the east side of the river. Alternative B, generally northeast of the Alternative A alignment, would bisect the existing Westpark suburban neighborhood from California Street and Easton Drive in a diagonal fashion from northwest to southeast through to the intersection of Stockdale Highway and the Stine Canal overcrossing.

A segment of the Alternative B alignment would run just northeast of Centennial Park. This alignment avoids direct impacts to the Stockdale Christian School, First Assembly of God Church, and Assembly Manor Retirement Home on California Avenue. Alternative B would be built below grade through much of the Westpark neighborhood. In addition, access across the freeway would be maintained at several key spots (California Street, Stockdale Highway, La Mirada Drive, and Marella Way) to help circulation from neighborhood sections that would otherwise be cut off. The option of removing the La Mirada Drive overcrossing from Alternative B is also being considered. Removal of the overcrossing would not substantially change access, which would be provided by the Marella Way overcrossing. Removal of the La Mirada Drive overcrossing would eliminate the need to displace 13 single-family homes on La Mirada Drive near Centennial Park and save about $2.5 million in construction costs. The option for adding a Ford Road undercrossing would maintain connection of Ford Road between Stine Road and McDonald Way. The undercrossing would not require the acquisition of any additional property and would add about $5.5 million in construction cost.

As part of the new freeway construction, changes to several local residential streets would be required. Any proposed roadway closures or redesign, such as an overpass or underpass of the freeway, would change the circulation patterns and access of the local residents. Although project design would minimize changes in the circulation pattern as much as possible, closing 12 local streets (refer to Appendix E in

Volume 2) would inconvenience and diminish the sense of safety for some pedestrians and bicyclists and would reduce direct automobile connectivity to the larger streets in the affected neighborhoods. Changes that would restrict, though not completely curtail, pedestrian and bicycle travel would result in a negative effect on community cohesion in the Westpark section of Bakersfield.

Alternative B would result in more residential relocations in the Westpark neighborhood and fewer residential relocations in the Southwest Bakersfield neighborhood. A total of 310 residential units and 121 commercial, industrial, and manufacturing businesses would be displaced. The most single-family residential displacements would occur on Dunlap Street, Morrison Street, Del Rey Court, Montclair Street, La Mirada Drive, Kentfield Drive, Marella Way, Kensington Avenue, Brite Street, and Garnsey Street. Most business-related properties required for implementation of the project are on California Avenue, Stockdale Highway, and Real Road.

Residents living close to the new freeway would experience greater exposure to truck and automobile noise. A *Noise Study Report* (January 2013) for the project identified 230 affected receivers representing 482 frequent outdoor use areas where the noise level would be elevated as a result of freeway traffic. A total of 24 soundwalls was recommended feasible and reasonable, which would abate 193 of these affected receivers, which represent 411 frequent outdoor use areas. Detailed information on noise effects of the project can be found in Section 3.2.7, Noise.

With Alternative B, air quality impacts would occur to residents living closer to the freeway in a way similar to that of Alternative A above.

A *Visual Impact Assessment* (March 2013) done for the project found that Alternative B would result in moderately low to moderately high visual impacts for residents in Westpark and a portion of the Southwest Bakersfield area through which the Alternative would pass, resulting in adverse effects to the character of both neighborhoods. The freeway that runs through the neighborhood would change the visual character of the area. Detailed information on visual impacts can be found in Section 3.1.7, Visual/Aesthetics.

Due to the large number of community residents that would be displaced, the Westpark community would undergo substantial change. In addition, by changing through access on certain streets, creating cul-de-sacs, and changing internal circulation, the project would change access within the neighborhood. As discussed in Section 3.1.1.3, Parks and Recreation, Alternative B would eliminate several east-west roadways that provide access to Centennial Park, which is a key feature in the Westpark neighborhood. However, area residents would continue to have access to the park via the remaining roadways (such as Marella Way and Montclair Street).

The character of this relatively quiet suburban development, which has existed since the early 1970s as an integrated community system, would be further changed by the addition of substantial visual and noise impacts, as detailed in Sections 3.1.7

Visual/Aesthetics and Section 3.2.7, Noise. Impacts experienced at the neighborhood level would change the quality of life of many of the residents who live next to the new freeway. Also, bisecting Westpark, a community that appears to be cohesive, as discussed in Section 3.1.1.5, Community Character and Cohesion, could hinder the continued connectiveness of that area. Access within the neighborhood, characterized presently by the ability to travel by means of a variety of modes, including walking and bicycling, would be altered despite efforts by design engineers to minimize the disruption to established and familiar local circulation routes and convenient travel routes. Construction of a freeway would create physical barriers in Westpark where none existed before.

Alternative C

The Alternative C alignment differs from the alignments of Alternatives A and B by avoiding the bisection and separation of residents in the Westpark and Southwest Bakersfield neighborhoods. Of the three alternatives, Alternative C would require the most business acquisitions, but would have the fewest effects on residential units. A total of 133 residential units and 198 commercial, industrial, and manufacturing businesses would be displaced. Residential areas that would experience the most displacements would be the condominiums on Brite Street and single-family residences on Oakdale Drive, Wetherley Drive, Roosevelt Street, La Verne Avenue, Chester Avenue, Terry Street, and Haybert Court. Most business properties that would be acquired for this alternative are on Commerce Drive, Easton Drive, Oak Street, Real Road, and Brundage Lane.

As the new freeway would be aligned next to the existing railroad tracks and existing State Route 99 freeway, it would not bisect business parks or divide residential neighborhoods; therefore, implementation of Alternative C would not create a sense of separation of neighborhood areas on the east and west sides of State Route 99. The existing railroad tracks and the State Route 99 freeway already act as a barrier and discourage interaction between neighborhoods on opposite sides. Very little pedestrian activity appears to occur between these locations because of heavy, fast-moving traffic. The one exception is the Palm Street overcrossing over State Route 99 from Oak Street, which links the Oleander-Sunset neighborhood to Saunders Park. Rows of houses south of Saunders Park and next to State Route 99, specifically along Oakdale Drive and Wetherley Drive (between Palm Avenue and Verde Street), would be removed by this alternative; however, most of the existing residential tract developments would remain intact. The Alternative C alignment would be less likely to negatively affect community cohesion compared to the other two alignment alternatives; therefore, the overall effects of Alternative C on cohesiveness may be less severe than would be the case with implementation of Alternative A or B.

Residents close to the new freeway would experience a greater exposure to trucks and automobile noise. A *Noise Study Report* (January 2013) for the project identified 189 affected receivers representing 401 frequent outdoor use areas where the noise level would be elevated as a result of freeway traffic. A total of 17 soundwalls was recommended feasible and reasonable, which would abate 149 of these affected

receivers, which represent 326 frequent outdoor use areas. Detailed information on noise effects of the project can be found in Section 3.2.7, Noise.

With Alternative C, air quality impacts would occur to residents living closer to the freeway in the similar way as that described under Alternatives A and B above.

Residents next to the affected homes could experience adverse community impacts. The residences in the impact area are on higher ground than the existing State Route 99, which was built below grade, but residences that would continue to be in the neighborhood would be at a lower elevation than the new freeway. Those living in the remaining housing units would see the freeway structure carrying State Route 58 traffic and hear the increased truck and automobile noise. According to the *Visual Impact Assessment* (March 2013), Alternative C would result in average to moderately high visual impacts for the remaining residents at the western edge of the Westpark and Saunders Park areas.

Houses that would remain with implementation of Alternative C along Wetherley Drive would then be right next to a freeway and have views of soundwalls along the freeway right-of-way. Noise impacts would be abated with construction of soundwalls. The soundwalls could block views and adversely affect the visual character of the neighborhoods.

In summary, Alternative C would result in the most business acquisitions but would have the fewest effects on residential units. However, residents living closest to the new freeway would experience greater exposure to truck and automobile noise. In addition, residents next to the affected homes could experience adverse community impacts such as being located next to a freeway and views of soundwalls.

No-Build Alternative

No impacts would result from implementation of the No-Build Alternative because there would be no construction of the project.

Avoidance, Minimization, and/or Mitigation Measures

Project design would minimize impacts to the neighborhoods as much as feasible and practicable. Mitigation measures presented in Parks and Recreation, Section 3.1.1.3, Traffic and Transportation/Pedestrian and Bicycle Facilities, Section 3.2.6, Noise, Section 3.2.7, and Construction Impacts, Section 3.6 of this environmental document have been developed to minimize impacts to the neighborhoods affected by the project construction and operation. The following mitigation measures are provided in addition to specific measures in respective sections indicated earlier. These specifically include the aesthetic design theme and the assistance mandated by the Uniform Relocation Act, as amended, provided during the relocation process.

Minimization and Mitigation Measures

C-1 The overall Centennial Corridor aesthetic design theme shall be compatible with surrounding neighborhoods and in keeping with the overall Westside Parkway design theme, to the extent feasible, including landscaping, aesthetic soundwall, and bridge treatments.

C-2 Caltrans, in coordination with the City of Bakersfield, shall prepare a relocation analysis as part of the Final Relocation Impact Report. The results will be incorporated into the final environmental document. The relocation analysis will enable the relocation activities to be planned so that the problems associated with the displacement of individuals, families, and businesses are recognized in advance of moves and so that solutions are developed to minimize the adverse impacts of displacement. The scope of planning will be based on the complexity and nature of the anticipated displacement activity, including the evaluation of program resources available to carry out timely and orderly relocations.

C-3 Close coordination with the Kern County Department of Human Services shall be undertaken to prepare a special publication for the residents of the Centennial Corridor project area that will identify the variety of social service providers available from metropolitan Bakersfield and Kern County public and private community-based organizations, including local religious institutions. The publication, which will be prepared in both English and Spanish, will also include contact numbers and the methods to obtain those services. Hard copies of the publication will be widely distributed in addition to online versions being placed on a website for viewing and downloading. The following services should be anticipated: employment opportunities and workforce development; legal services; information about financial and tax consequences of relocation; possible homeowner credit-repair counseling; first-time buyer counseling; and other services for special needs populations, including disabled, low-income, and senior citizens.

3.1.4.2 Relocation and Property Acquisition

Regulatory Setting

Caltrans' Relocation Assistance Program is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and Title 49 CFR Part 24. The purpose of the Relocation Assistance Program is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. See Appendix D in Volume 2 for a summary of the Relocation Assistance Program.

All relocation services and benefits are administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 U.S. Code 2000d, et seq.). See Appendix C in Volume 2 for a copy of Caltrans' Title VI Policy Statement.

Affected Environment

Information for this section comes from the *Draft Relocation Impact Report* (November 2012) and the *Community Impact Assessment* (September 2013) prepared for the project.

The project sits in the metropolitan Bakersfield area, which is densely developed. All Segment 1 alternatives would result in displacements (full acquisitions) or partial acquisitions of residential and non-residential properties. Residential properties include single-family residences and multi-family residences. No mobile homes would be directly affected by the project, and group housing is not known to be affected. The non-residential properties include hotels and motels, medical centers and clinics, gas stations, restaurants, fast-food outlets, mini-storage facilities, liquor stores, auto body or auto repair businesses, used-car dealerships, retail stores, office buildings, a privately owned nursery school, industrial/manufacturing buildings, and an animal hospital.

Environmental Consequences

All three build alternatives would result in numerous full acquisitions, partial acquisitions, permanent easements, and temporary construction easements, as shown in Figures 3-10a through 3-10c (provided in Volume 2). A list of potentially affected properties, including affected businesses, for each alternative is presented in the *Community Impact Assessment* and can also be found in Appendix G in Volume 2 of this environmental document. The design plans showing the locations of the affected properties are provided in Appendix E in Volume 2. The corresponding right-of-way maps showing potentially affected properties can be found in the *Draft Relocation Impact Report* prepared for this project.

Adequate relocation resources for residential displacements would be available within a 15-mile radius of the project area. A 15-mile radius replacement area was chosen because it has a sufficient supply of replacement single-family and multi-family dwelling units, as well as comparable commercial sales data matching similar socioeconomic characteristics of the existing population. The replacement area contains public amenities similar to the existing community, including access to public transportation, public and private educational facilities, major commercial outlets, and entertainment venues.

The project area contains a relatively high proportion of elderly residents, presenting a challenge for relocation because of the burden of the cost of housing and their often fixed and limited incomes. The elderly also often have special physical needs, and enhanced relocation advisory assistance may be necessary in such cases. Moving seniors to new housing may also require changes to the replacement housing to meet Americans with Disabilities Act (ADA) compliance requirements. In addition,

particular medical needs—including at-home medical care, access to public transit, home delivery services, and lifestyle preferences—may likely require sensitive responses to those needs.

Another factor for consideration is accommodation of low-income and non-English speaking populations. Recommended mitigation measures contain provisions to ensure the relocation needs of the elderly, low-income, and non-English speaking residents are met.

The current real estate vacancy rates in Bakersfield total nearly 10 percent in the commercial office market, 14 percent in retail, and 11 percent in the industrial sector. While recognizing the normally expected difficulty in relocating and reestablishing certain types of non-residential properties, the report concluded that there is ample space available in the current real estate market, and both purchase prices and lease rates are competitive within Bakersfield to accommodate those needs.

The severity of non-residential property impacts would vary with the type of business displaced. Certain businesses—such as automotive repair garages, gasoline service stations, auto detailing, and other similar businesses—typically experience a greater challenge in finding a suitable replacement site because these types of businesses traditionally serve localized market areas and are only allowed in certain areas as they are restricted by zoning. While Alternatives A and B each have two such properties, Alternative C would require right-of-way acquisition from 18 automobile-oriented business operations, as well as four auto sales lots east of State Route 99.

This may also be the case for some of the business parks that would be displaced in Alternative C, such as the business park complexes at 1400, 4000, 4100, 4200, and 4300 Easton Drive, which support a variety of enterprises and would no longer find an adequate replacement parcel within the boundaries of the city of Bakersfield proper, though most of the individual operations within these business parks do not appear to need large amounts of space.

Property uses in the Centennial Corridor, such as a veterinary clinic, a bowling alley, massage therapy, or a cocktail lounge may also be difficult to relocate due to zoning restrictions, the need to reapply for licenses, or the ability to find an existing facility that can accommodate that same functional use. Of these types of property, Alternative C has the most with seven; Alternatives A and B each have three businesses which fall within this category.

In addition, the current recession may have weakened some marginal businesses to the point where relocation or disruption of their business could result in the failure of these businesses altogether. At this stage of the environmental analysis, however, it is not possible to know the specific businesses for which this might hold true.

Certain types of business operations within each build alternative alignment may hold a particular niche within the community or serve important social roles within the community. For example, this could include certain hair salons or barber shops,

neighborhood bars and restaurants, the bowling alley, and so forth. To take another example, the Little Red School House, a child-care facility established in 1967, which would be displaced by Alternative B, is the type of business for which it takes years to build a good reputation and often grows by word of mouth among parents. Relocation in the same general locale would be important. While classifying such properties necessarily involves subjective judgment, it appears that each of the three build alternatives have but a very small handful of properties that would fall within this category, with the most being potentially displaced by Alternative C.

Alternative A

Residential Displacements

As shown in Table 3.8, Alternative A would displace the most residential units among the three build alternatives, with a total of 356: 140 single-family residences, 74 duplex/triplex units (the most among the three alternatives), and 142 apartment units (also the most among the three alternatives). Based on California Department of Finance 2010 household data for the city of Bakersfield (3.1 average persons per household), Alternative A would displace an estimated 1,104 persons.

Table 3.8 Type of Residential Displacements for Each Alternative

Type	Alternative		
	A	B	C
Single-Family Residence	140	200	88
Duplex/Triplex (2 or 3 units)	74	16	16
Apartment House Units (Building with 4 or more units)	142	94	29
Total Residential Units Displaced	356	310	133
Total Persons Displaced (based on 3.1 persons per unit)	1,104	961	413
Source: Developed from the *Community Impact Assessment* 2013.			

The most residential displacements for Alternative A would be south of Mohawk Street between Truxtun Avenue and California Avenue. In this area, an estimated 26 and 38 condominiums would be taken from two Greenbrier condominium complexes on Mohawk Street and Lennox Avenue, substantially reducing the number of available units in this complex.

A second area of residential acquisition would occur south of Stockdale Highway between South Montclair Street and Williamson Way. In this area, an estimated 60 single-family homes would be taken from within the Rancho Vista subdivision neighborhood of Southwest Bakersfield. The acquisitions in this area would cut through the northern edge and middle half of an early post-war subdivision.

In another area of residential acquisition on the south side of proposed State Route 58 at Chester Avenue, a cluster of eight single-family homes would be taken. Adequate relocation resources for residential displacements would be available within a 15-mile radius of the project area. Therefore, no adverse effect on the overall housing supply in the area would result from implementation of Alternative A.

Note that about 77 percent of the residential units to be displaced in Alternative A are occupied by renters.

Non-residential Displacements

As shown in Table 3.9, Alternative A would displace 127 non-residential properties.

Commercial business displacements make up the largest category of displaced businesses. This category would include professional offices, retail merchants, banks, medical offices and dental clinics, real estate and mortgage offices, restaurants, fast-food outlets, mini-storage facilities, and private schools.

Table 3.9 Non-residential Displacements for Each Alternative

Type	Alternative		
	A	B	C
Commercial Businesses	127	106	184
Industrial/Manufacturing Businesses	0	15	13
Non-profit Organizations	0	0	1
Total Non-residential Units Displaced	127	121	198

Source: Developed from the *Community Impact Assessment* 2013.

Most business displacements for Alternative A would occur near the California Avenue/Stockdale Highway intersection, where businesses would be displaced surrounding the Lennox/California Avenue intersection and east of California Avenue extending southeasterly to Stockdale Highway. In addition, businesses would be displaced in the area south of Stockdale Highway, from Real Road to State Route 99, and would cause several scattered displacements south of this location on the west side of State Route 99 and also in the transition area to State Route 58. Alternative A would displace fast-food, retail, office, public storage (405 units), the Public Health Education Center (a nursing school), and banking, restaurant, and market businesses.

Most non-residential properties directly affected by implementation of any of the build alternatives would be able to find suitable replacement sites nearby.

Partial Acquisitions

Partial acquisitions are property acquisitions needed for the project that do not require the entire property. Table 3.10 identifies the partial acquisitions by type and alternative.

Table 3.10 Number of Parcels Subject to Partial Acquisitions by Land Use Type

Land Use Type	Alternative A	Alternative B	Alternative C
Vacant Land	14	12	11
Single-Family Residential	13	33	8
Multi-Family Residential	5	1	1
Commercial/Industrial	16	15	22
Farm/Agricultural	6	6	6
Permanent and/or Temporary Easements	50	61	36
Other[1]	5	1	2
Total Partial Acquisitions	**109**	**129**	**86**

[1] "Other" refers to churches, park and ride facilities, flood channels, parks, drainage basins and public lands.
Source: Developed from the *Community Impact Assessment* 2013.

Alternative A would result in partial acquisitions of 18 residential parcels, 16 commercial parcels, and 25 other various land uses. There would be 50 permanent easements and/or temporary construction easements required. This alternative would also encroach into the Kaiser Health Care Center site at 3501 Stockdale Highway by an estimated 5.8 percent of the site, affecting mostly onsite parking.

Economic Considerations

Property tax, sales tax, and employment are three economic parameters considered for assessing effects from displacement activities. Certain economic benefits would come with implementation of any of the build alternatives as calculated as part of a Federal Highway Administration Surface Transportation Efficiency Analysis Model (STEAM). These are not taken into account in the analysis below, however, though they can be quite substantial. Such economic improvements are measured incrementally, in part by time savings on freight transport services and less roadway congestion and traffic delay, potentially saving drivers travel time, fuel, auto repair, and maintenance; and reduction in property damage and lower medical costs attributable to fewer vehicle crashes. Collectively, these savings are estimated to total more than $1.1 billion over the 20-year life cycle of the project.

Property Tax: Although Alternative A would require the permanent acquisition of a number of properties, the potential loss of property tax base with implementation of this alternative would not be considered substantial. Based on the current real estate data for the project area, the total value of property tax paid by these property owners is in the range of $1 million annually. The total assessed value for the properties is about $85 million. Therefore, the loss of property tax from these businesses would be about 1 percent of the total property tax revenue currently received by the City of Bakersfield and the County of Kern.

Sales Tax: The sales tax loss for the City of Bakersfield from the aggregate loss in retail sales is estimated to be less than $1 million in the event that all displacees were to move out of the city (worst case). Since most displaced people are expected to be relocated within the city, no adverse effect to sales tax revenue is anticipated.

Employment: Displacement of businesses as a result of the required right-of-way acquisition would cause some loss in employment due to relocation. Because most businesses are expected to be successfully relocated within the city, impacts on employment are not expected to be adverse. Should employees of businesses decide not to work at the new business location, then they would lose their employment. It is also possible that a business may eventually fail if the new site selected proves to be inadequate. In such a case, jobs would be lost. There may even be a few people who would be displaced from their homes, but not lose their place of employment; however, they may be forced to travel much farther, resulting in higher commuting costs. In such cases, their overall net income would be reduced in the short run and eventually may lead to job changes. Overall, experience with measuring employment effects of past transportation projects, as reflected in national research studies, shows that effects are not likely to be substantively disruptive for the vast majority of people affected by the project.

Alternative B

Residential Displacements

As shown in Table 3.8, Alternative B would displace 310 residential units, with the largest number of single-family residences (200) among the three build alternatives. Alternative B would also displace 16 duplex/triplex units and 94 apartment units.

Using California Department of Finance 2010 household data for the city of Bakersfield (3.1 average persons per household), Alternative B would displace 961 persons. The most residential displacements for Alternative B lie in the area between California Avenue and Stockdale Highway, east of Centennial Park. More than 150 single-family homes would be taken along this stretch of the project. This would occur through the middle portion of the Westpark community, effectively resulting in two smaller neighborhoods separated by the new freeway.

Another area of residential acquisition sits on the south side of the proposed State Route 58 alignment, at Chester Avenue. A cluster of eight single-family homes would be taken at this location. Adequate relocation resources for residential displacements would be available within a 15-mile radius of the Alternative B project area.

Note that about 51 percent of residential units displaced in Alternative B are occupied by renters.

Non-residential Displacements

As shown in Table 3.9, Alternative B would displace the fewest non-residential properties and associated businesses, with 121. Commercial business displacements constitute the largest category of displaced businesses. Alternative B would displace 15 industrial/manufacturing businesses. It is expected that these properties could find replacement parcels well within the 50-mile range.

For Alternative B, business displacements would occur in the area south of Carrier Canal extending to California Avenue, and then again in the same areas west of State

Route 99 and transitioning to State Route 58. Alternative B would displace offices and 405 public storage units. This alternative would displace the Little Red School House, a private day-care facility at Easton Drive and California Avenue.

Alternative B would displace many of the same types of businesses affected under Alternative A, though it would affect fewer fast-food outlets. Alternative A has six fast-food outlets, Alternative C has four, and Alternative B has one. Alternative B, however, would displace an estimated 12 office buildings compared to 17 within Alternative A. Very few of the properties would appear to offer unique challenges. Two auto-related businesses and three massage therapy businesses would appear to be the most problematic. Ample space is available in the current real estate market, and both purchase prices and lease rates are competitive within Bakersfield to accommodate those needs.

Most non-residential properties directly affected by implementation of Alternative B would be able to find suitable replacement sites nearby.

Partial Acquisitions

As shown in Table 3.10, Alternative B would result in partial acquisitions of 34 residential parcels, 15 commercial parcels, and 19 other various land uses. There would be 61 permanent easements and/or temporary construction easements. This alternative would also encroach into the Kaiser Health Care Center site and affect an estimated 4.8 percent of the site, mostly parking.

Economic Considerations

Property Tax: Based on current real estate data for this project, the total value of property tax paid by potentially affected properties under Alternative B is about $0.5 million annually. The total assessed value for the properties is about $47 million. Therefore, the worst-case loss of property tax from these businesses would be less than 1 percent of the total property tax revenue currently received by the City of Bakersfield and the County of Kern.

Sales Tax: The sales tax loss for the City of Bakersfield from the aggregate loss in retail sales is estimated to be less than $0.8 million in the event all displacees were to move out of the city (worst case). Since most displaced people are expected to relocate within the city, no adverse effect to sales tax revenue is expected.

Employment: Similar to Alternative A, because most businesses are expected to be successfully relocated within the city, the impacts on employment are not expected to be adverse.

Alternative C

Residential Displacements

As shown in Table 3.8, Alternative C would displace 133 residential units. Of these, 88 would be single-family residences, 16 would be duplex/triplex units, and 29 would be apartment units.

Using California Department of Finance 2010 household data for the city of Bakersfield (3.1 average persons per household), Alternative C would displace 413 persons. Most residential displacements (an estimated cluster of 71 single-family units) for Alternative C would be west of State Route 99 between Palm Avenue and Stockdale Highway, many of them on Oakdale Drive and Wetherley Drive. These acquisitions would occur on the eastern edge of the established residential neighborhood, further extending the influence of the freeway barrier into that area.

Another area of residential acquisition sits on the south side of proposed State Route 58, at Chester Avenue. A cluster of eight single-family homes there would be taken. Adequate relocation resources for residential displacements would be available within a 15-mile radius of the Alternative C project area.

Note that about 59 percent of residential units displaced in Alternative C are occupied by renters.

Non-residential Displacements

As shown in Table 3.9, Alternative C would displace the most non-residential properties, with 198. Commercial business displacements make up the largest category of displaced businesses. Alternative C would displace 13 industrial/ manufacturing businesses.

Most of the Alternative C business displacements would occur in the area from Truxtun Avenue to State Route 99, south of the BNSF Railway tracks, and again in the same areas west of State Route 99 and transitioning to State Route 58 described above under Alternative A. Alternative C would involve displacement of all or parts of eight business parks on Easton Drive. The alternative would also displace an animal hospital at 2905 Brundage Lane and an animal emergency clinic at 4300 Easton Drive.

Ample space is available in the current real estate market, and both purchase prices and lease rates are competitive within Bakersfield to accommodate those needs. Most of the businesses to be displaced have been in operation 7 years or less, although Alternative C would also displace a substantial number of businesses that have been in operation from 8 years to more than 15 years; these businesses could have long-established local clientele loyalties and site identities that may entail some additional difficulties for relocation.

Certain types of businesses may hold a particular niche in the community. For example, auto repair shops of which there are 13 in the Alternative C alignment (versus none in either Alternative A or B) may have built up a fair amount of repeat business based on customers pleased with their services, and they may rely on their recommended referrals. On the other hand, Alternative B has businesses which would be displaced which appear to especially cater to older residents, reflecting the nearby neighborhood demographics. These include the Walls Hearing Aid Center, Procare Hospice, and Affordable Dentures. Also, Alternative C would displace more office buildings (an estimated of 58) as compared to Alternatives A and B.

Most non-residential properties directly affected by implementation of any of the build alternatives would be able to find suitable replacement sites nearby.

Partial Acquisitions

Table 3.10 showed the number of partial acquisitions by type and alternative. Alternative C would result in partial acquisitions of 9 residential parcels, 22 commercial parcels, and 19 other various land uses. In addition, there would be 36 permanent and/or temporary construction easements. This alternative would also encroach into the Kaiser Health Care Center site, affecting an estimated 2 percent of the site, mostly parking.

Economic Considerations

Property Tax: Based on the current real estate data for this project, the total value of property tax paid by the potentially affected property owners under Alternative C is estimated at less than $0.8 million annually. The total assessed value for the properties is $70 million. Therefore, the worst-case loss of property tax from these businesses would be about 1 percent of the total property tax revenue currently received by the City of Bakersfield and the County of Kern.

Sales Tax: The sales tax loss for the City of Bakersfield from the aggregate loss in retail sales is estimated to be less than $0.4 million in the event all displacees were to move out of the city (worst case). Since most displaced people are expected to be relocated within the city, no adverse effect to sales tax revenue is expected.

Employment: As under Alternatives A and B, because most businesses are expected to be successfully relocated within the city, the impacts on employment are not expected to be adverse.

No-Build Alternative

No relocation of residences or businesses would be required under this alternative.

Avoidance, Minimization, and/or Mitigation Measures

Standard Condition

The following standard condition and mitigation measure would apply to all three build alternatives:

SC-R-1 Caltrans, in coordination with the City of Bakersfield, shall implement all property acquisition and relocation activities in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act) of 1970 (Public Law 91-646, 84 Stat. 1894). The Uniform Act mandates that certain relocation services and payments be made available to eligible residents, businesses, and non-profit organizations displaced by the project. The Uniform Act provides uniform and equitable treatment by federal or federally assisted programs of persons displaced from their homes, businesses, or farms, and establishes uniform and equitable land acquisition policies. See Appendix D in

Volume 2 for more information on the Caltrans Relocation Assistance Program.

Mitigation Measure

R-1 The following measures may be considered by Caltrans and the City of Bakersfield for incorporation into the relocation plan to minimize impacts to displaced businesses and residences:

- Disruption of children's education shall be minimized to the extent feasible. This may include, where possible, scheduling the relocation of families with school-aged children during the months of June through August, and identifying, as a priority, replacement housing options within the same Bakersfield public and private school district for those families who wish to keep their children there.
- All relocation assistance materials shall be written in a non-technical way and be available in Spanish and English. One or more of the relocation specialists shall be fluent in Spanish; have demonstrated training/be certified from the International Right-of-Way Association; and have no fewer than five years of experience in explaining to potentially affected homeowners, tenants, and businesses, the provisions of the Uniform Relocation Act, as amended.
- To the extent applicable, relocation of residential and non-residential properties shall be phased over time so that displacees have an opportunity to select the best replacement sites without competing with other affected property owners within the same community.
- To the extent applicable, a lease-back of non-residential properties shall be considered to allow those proprietors who wish to continue to conduct their business at their current location as long as it is feasible.
- Last Resort Housing Program payments shall be used to relocate residential households being displaced, if necessary, as provided for by the Uniform Relocation Act, as amended.
- One or more specialists on the relocation team with prior experience working with people with special needs—especially the elderly, disabled, and low-income population groups—shall be made available to facilitate the relocation process.
- Supplemental transportation at no cost shall be offered for displaced persons to inspect potential relocation housing should they be unable to use their own transportation.
- At least one "business fair" shall be conducted to provide information to those businesses facing displacement. The fair will be an opportunity to provide businesses with the information and resources concerning how to optimize the impending relocations. Among people

expected to participate are those working in the commercial leasing sector, moving companies, and others.

- In advance of potential relocations of minority-owned businesses, outreach to such organizations as the Kern County Black Chamber of Commerce and Kern County Hispanic Chamber of Commerce shall be undertaken to identify resources that may be of particular help to such businesses.

3.1.4.3 Environmental Justice

Regulatory Setting

All projects involving a federal action must comply with Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, signed by President William J. Clinton on February 11, 1994. This order directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Low income is defined based on the Department of Health and Human Services poverty guidelines. In 2010, the poverty threshold for a family of three was $18,310 and for a family of four was $22,050.

All considerations under Title VI of the Civil Rights Act of 1964 and related statutes will also be observed for this project. Caltrans' commitment to upholding the mandates of Title VI is demonstrated by its Title VI Policy Statement, signed by the Director (see Appendix C in Volume 2).

Affected Environment

This section identifies minority and low-income populations in the project area that would be subject to environmental justice analysis. The percentage of minorities and low-income populations for each alignment area is compared to related information for the city and county. To be certain that no environmental justice community is overlooked, this process is repeated for individual areas.

The project passes through portions of 12 census tracts from which socioeconomic data from the 2010 U.S. Decennial Census have been collected. Table 3.11 lists the census tracts and respective block groups for all three build alternatives and provides the race and ethnic composition for each block group. The city of Bakersfield and Kern County serve as communities of comparison, and the race and ethnic composition for these two jurisdictions are also included in Table 3.11.

As shown in Table 3.11, the overall racial composition of the city of Bakersfield is about 46 percent Hispanic/Latino and about 38 percent white, with people of other race and ethnicity categories making up about 17 percent of the city population. The overall racial composition of Kern County is about 49 percent Hispanic/Latino and about 39 percent white, with people of other race and ethnicity categories making up about 12 percent of the remaining county population; therefore, the minority population makes up about 63 and 61 percent of the total populations of the city and

county, respectively. Note that beginning with the 2000 Census individuals were allowed to identify themselves as belonging to more than one race so percentages will total more than 100 percent.

Alternative A

As shown in Figure 3-9a (provided in Volume 2) and listed in Table 3.11, Alternative A passes through 17 block groups, which together contain a population that is about 43 percent white, 41 percent Hispanic/Latino, and 9 percent African-American, with people of other race and ethnicity categories making up the remaining 7 percent of the population. As a whole, the 17 block groups that contain the Alternative A alignment hold a minority population of about 57 percent, which is lower than the minority population in the city and county, estimated at about 63 and 61 percent, respectively.

When four Census block groups are broken out from the totals identified above, they would be considered environmental justice communities because the proportion of minorities exceed city and county averages by 10 percent or more. The environmental justice block groups, shown in Figure 3-9a (provided in Volume 2), are as follows:

- Census Tract 20.00, Block Group 3 (93 percent minority)—this area also has a median income below the poverty guideline
- Census Tract 26.00, Block Group 3 (88 percent minority)
- Census Tract 27.00, Block Group 5 (75 percent minority)
- Census Tract 28.12, Block Group 3 (78 percent minority)

Alternative A passes through 11 census tracts that together contain 18,807 households, with an average household size of about three people. The annual median household income for this area is $44,620 compared with $53,997 in the city and $47,089 in the county, which have an average household size of about three people; therefore, the study area for Alternative A would not be considered a low-income community because the average income of residents is well above the federal poverty level ($22,050 for a family of four). However, as noted above, Census Tract 20.00 Block Group 3 qualifies as a low-income area when considered independently of the rest of the alignment area.

Alternative B

As shown in Figure 3-9b (provided in Volume 2) and listed in Table 3.11, Alternative B passes through 16 block groups that together contain a population that is about 44 percent white, about 41 percent Hispanic/Latino, and about 8 percent African-American, with people of other race and ethnicity categories making up about 7 percent of the remaining population. As a whole, the Alternative B study area population is about 56 percent minority, which is lower than the minority population in the city and county, estimated at 63 and 61 percent, respectively.

The Alternative B study area would pass through three of the same census block groups as Alternative A that would be considered environmental justice communities:

- Census Tract 20.00, Block Group 3 (93 percent minority)—this area also has a median income below the poverty guideline
- Census Tract 26.00, Block Group 3 (88 percent minority)
- Census Tract 27.00, Block Group 5 (74 percent minority)

Alternative B passes through 11 census tracts that together contain 18,807 households, with an average household size of about three people. The median household income for this area is $44,620, compared with $53,997 for the city and $47,089 for the county; therefore, the Alternative B study area would not be considered a low-income population because the average income of residents is well above the federal poverty threshold ($22,050 for a family of four). However, as noted above, Census Tract 20.00 Block Group 3 qualifies as a low-income area when considered independently of the rest of the alignment area.

Alternative C

As shown in Figure 3-9c (provided in Volume 2) and listed in Table 3.11, Alternative C passes through 15 block groups that together contain a population that is about 42 percent white, about 42 percent Hispanic/Latino, and about 8 percent African-American, with people of other race and ethnicity categories making up about 7 percent of the remaining population. The Alternative C study area population is about 57 percent minority, which is lower than the minority population in the city and county, estimated at 63 and 61 percent, respectively.

The Alternative C study area would also pass through the same three census block groups that would be considered environmental justice communities as those listed above under Alternative B. In addition, most of the residential relocations in Alternative C are in a single census tract block group (Census Tract 18.01 Block Group 1) that has an African-American population more than 60 percent higher than the city average and more than 2.5 times the county average. Because so many residential relocations are concentrated in this single block group, it is treated as an environmental justice community.

Alternative C passes through 12 census tracts that together contain 20,714 households, with an average household size of 2.8 people. The annual median household income for this area is $45,112, compared with $53,997 and $47,089 in the city and county, respectively; therefore, the Alternative C study area would not be considered a low-income population because the average income of residents is well above the federal poverty threshold ($22,050 for a family of four). However, as noted above, Census Tract 20.00 Block Group 3 qualifies as a low-income area when considered independently of the rest of the alignment area.

Table 3.11 Race and Ethnic Composition of the Project Area Population By Block Group

Geographic Area	White	Black or African-American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Other Race/Two or More Races	Hispanic or Latino of Any Race
City of Bakersfield	131,311	26,677	2,265	20,496	357	8,172	158,205
	38%	8%	1%	6%	0%	2%	46%
Kern County	323,794	45,377	5,893	33,100	995	17,439	413,033
	39%	5%	1%	4%	0%	2%	49%
Alternative A							
Census Tract 5.07, Block Group 1	2,486	45	39	130	3	58	837
	69%	1%	1%	4%	0%	2%	23%
Census Tract 18.01, Block Group 3	1,062	216	3	94	3	67	675
	50%	10%	0%	4%	0%	3%	32%
Census Tract 18.02, Block Group 1	394	114	4	94	0	42	329
	40%	12%	0%	10%	0%	4%	34%
Census Tract 18.02, Block Group 3	526	28	8	23	0	30	420
	60%	7%	1%	4%	0%	2%	26%
Census Tract 19.01, Block Group 2	526	28	8	23	0	30	379
	53%	3%	1%	2%	0%	3%	38%
Census Tract 19.01, Block Group 3	329	44	10	14	0	28	354
	42%	6%	1%	2%	0%	4%	45%
Census Tract 19.02, Block Group 3	374	45	7	27	1	17	399
	43%	5%	1%	3%	0%	2%	46%
Census Tract 20.00, Block Group 3	118	517	7	84	0	44	1,031
	7%	29%	0%	5%	0%	2%	57%
Census Tract 26.00, Block Group 3	142	186	7	19	2	28	829
	12%	15%	1%	2%	0%	2%	68%
Census Tract 27.00, Block Group 1	235	47	15	29	0	10	448
	30%	6%	2%	4%	0%	1%	57%
Census Tract 27.00, Block Group 4	256	41	2	19	1	14	422
	34%	5%	0%	3%	0%	2%	56%
Census Tract 27.00, Block Group 5	249	29	7	21	0	26	638
	26%	3%	1%	2%	0%	3%	66%

Table 3.11 Race and Ethnic Composition of the Project Area Population By Block Group

Geographic Area	White	Black or African-American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Other Race/Two or More Races	Hispanic or Latino of Any Race
Census Tract 28.12, Block Group 1	510	119	19	18	0	29	561
	41%	9%	2%	1%	0%	2%	45%
Census Tract 28.12, Block Group 2	595	82	11	11	0	30	432
	51%	7%	1%	1%	0%	3%	37%
Census Tract 28.12, Block Group 3	445	324	14	31	3	52	1,070
	23%	17%	1%	2%	0%	3%	55%
Census Tract 28.13, Block Group 1	547	82	3	37	0	15	503
	46%	7%	0%	3%	0%	1%	42%
Census Tract 38.12, Block Group 2	1,057	92	16	144	3	48	479
	57%	5%	1%	8%	0%	3%	26%
Grand Total	**10,304**	**2,126**	**191**	**854**	**18**	**569**	**9,806**
	43%	**9%**	**1%**	**4%**	**0%**	**2%**	**41%**
Alternative B							
Census Tract 5.07, Block Group 1	2,486	45	39	130	3	58	837
	69%	1%	1%	4%	0%	2%	23%
Census Tract 18.01, Block Group 2	1,002	166	20	64	4	48	1,025
	43%	7%	1%	3%	0%	2%	44%
Census Tract 18.01, Block Group 3	1,062	216	3	94	3	67	675
	50%	10%	0%	4%	0%	3%	32%
Census Tract 18.02, Block Group 1	394	114	4	94	0	42	329
	40%	12%	0%	10%	0%	4%	34%
Census Tract 19.01, Block Group 2	526	28	8	23	0	30	379
	53%	3%	1%	2%	0%	3%	38%
Census Tract 19.01, Block Group 3	329	44	10	14	0	28	354
	42%	6%	1%	2%	0%	4%	45%
Census Tract 19.02, Block Group 3	374	45	7	27	1	17	399
	43%	5%	1%	3%	0%	2%	46%
Census Tract 20.00, Block Group 3	118	517	7	84	0	44	1,031
	7%	29%	0%	5%	0%	2%	57%

Table 3.11 Race and Ethnic Composition of the Project Area Population By Block Group

Geographic Area	White	Black or African-American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Other Race/Two or More Races	Hispanic or Latino of Any Race
Census Tract 26.00, Block Group 3	142	186	7	19	2	28	829
	12%	15%	1%	2%	0%	2%	68%
Census Tract 27.00, Block Group 1	235	47	15	29	0	10	448
	30%	6%	2%	4%	0%	1%	57%
Census Tract 27.00, Block Group 4	256	41	2	19	1	14	422
	34%	5%	0%	3%	0%	2%	56%
Census Tract 27.00, Block Group 5	249	29	7	21	0	26	638
	26%	3%	1%	2%	0%	3%	66%
Census Tract 28.12, Block Group 1	510	119	19	18	0	29	561
	41%	9%	2%	1%	0%	2%	45%
Census Tract 28.12, Block Group 2	595	82	11	11	0	30	432
	51%	7%	1%	1%	0%	3%	37%
Census Tract 28.13, Block Group 1	547	82	3	37	0	15	503
	46%	7%	0%	3%	0%	1%	42%
Census Tract 38.12, Block Group 2	1,057	92	16	144	3	48	479
	57%	5%	1%	8%	0%	3%	26%
Grand Total	**9,882**	**1,853**	**178**	**828**	**17**	**534**	**9,341**
	44%	**8%**	**1%**	**4%**	**0%**	**2%**	**41%**
Alternative C							
Census Tract 5.07, Block Group 1	2,486	45	39	130	3	58	837
	69%	1%	1%	4%	0%	2%	23%
Census Tract 17.00, Block Group 4	365	22	7	7	1	28	232
	55%	3%	1%	1%	0%	4%	35%
Census Tract 18.01, Block Group 1	383	151	7	42	4	26	517
	34%	13%	1%	4%	0%	2%	46%
Census Tract 18.02, Block Group 1	394	114	4	94	0	42	329
	40%	12%	0%	10%	0%	4%	34%
Census Tract 19.01, Block Group 2	526	28	8	23	0	30	379
	53%	3%	1%	2%	0%	3%	38%

Table 3.11 Race and Ethnic Composition of the Project Area Population By Block Group

Geographic Area	White	Black or African-American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Other Race/Two or More Races	Hispanic or Latino of Any Race
Census Tract 19.01, Block Group 3	329	44	10	14	0	28	354
	42%	6%	1%	2%	0%	4%	45%
Census Tract 19.02, Block Group 3	374	45	7	27	1	17	399
	43%	5%	1%	3%	0%	2%	46%
Census Tract 20.00, Block Group 3	118	517	7	84	0	44	1,031
	7%	29%	0%	5%	0%	2%	57%
Census Tract 26.00, Block Group 3	142	186	7	19	2	28	829
	12%	15%	1%	2%	0%	2%	68%
Census Tract 27.00, Block Group 1	235	47	15	29	0	10	448
	30%	6%	2%	4%	0%	1%	57%
Census Tract 27.00, Block Group 4	256	41	2	19	1	14	422
	34%	5%	0%	3%	0%	2%	56%
Census Tract 27.00, Block Group 5	249	29	7	21	0	26	638
	26%	3%	1%	2%	0%	3%	66%
Census Tract 28.12, Block Group 1	510	119	19	18	0	29	561
	41%	9%	2%	1%	0%	2%	45%
Census Tract 28.13, Block Group 1	547	82	3	37	0	15	503
	46%	7%	0%	3%	0%	1%	42%
Census Tract 38.12, Block Group 2	1,057	92	16	144	3	48	479
	57%	5%	1%	8%	0%	3%	26%
Grand Total	**7,971**	**1,562**	**158**	**708**	**15**	**443**	**7,958**
	42%	**8%**	**1%**	**4%**	**0%**	**2%**	**42%**

Note: percentage number is rounded to the nearest one.
Source: Developed from the *Community Impact Assessment* 2013.

Environmental Consequences

This section presents the benefits and adverse impacts in relationship to the overall community and environmental justice neighborhoods. Because there was redundancy in the discussion, report authors and reviewers believed a holistic approach to the Environmental Consequences made more sense. The purpose of this comparison is to determine if there is a disproportionate impact on the environmental justice neighborhoods (i.e., neighborhoods that contain higher percentage of minority and low-income populations when compared to the comparable information for the city and county). Based on the executive order to address environmental justice in minority populations and low-income populations, a disproportionately high and adverse effect on minority and low-income populations means an adverse effect that: (1) is predominately borne by a minority population and/or a low-income population, or (2) will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population.

Development for the Centennial Corridor is being carried out to ensure that the following environmental justice strategies are followed:

- Avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations
- Ensure the full and fair participation by all potentially affected communities in the transportation decision-making process
- Prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations

The study areas for Alternatives A, B, and C contain five census block groups that meet the criteria for considering them as environmental justice communities per Executive Order 12898. Three points should be noted. All three build alternatives go through three of the five block groups; the fourth is next to only Alternative A, and the fifth is affected only by Alternative C. The effects of the alternatives, be they positive or adverse, would be felt equally along each of the alignments. So, while environmental justice communities have been identified, the Centennial Corridor project would not result in “disproportionately high and adverse” effects on environmental justice communities because of the equivalent distribution of the effects on all communities through which the alignments pass.

Because the project serves both intraregional and interregional traffic, the transportation benefits would be equally available to all residents of the county. For example, all users (including transit users, pedestrians, and bicyclists) would benefit from less congested streets. Private vehicles and public transportation would benefit from the continuous east-west route.

Relocations

The combined relocations of residential and commercial properties under Alternative A in the four environmental justice neighborhoods would be 36 compared to 447 relocations in the non-environmental justice neighborhoods. Alternative B would have 7 relocations within environmental justice neighborhoods compared to 424 relocations in non-environmental justice neighborhoods. Alternative C would have 88 relocations compared to 243 relocations. The magnitude of impacts is not appreciably more severe or greater in the environmental justice communities compared to the non-environmental justice communities, nor is the impact predominantly borne by the environmental justice community. It should be noted, however, that most residential relocations for Alternative C would be in environmental justice communities including nearly 90 percent of the single-family home relocations. Moreover, in Census Tracts 20.00, BG 3 and 26.00, BG 5, east of Chester Avenue, containing areas common to all build alternatives with the greatest concentration of environmental justice populations, the project work would involve few property acquisitions and occur mostly within the existing right-of-way.

Air Quality

Overview

Potential effects from air pollutant emissions on sensitive receptors serving communities next to the build alternative alignments, such as schools, day care facilities and senior centers, have been evaluated. The following facilities are within 500 feet of a buffer from a build alternative alignment:

- Little Red School House (on the Alternative B alignment and about 1,700 and 3,500 feet from the Alternative A and C alignments, respectively)—this day care facility would be relocated if Alternative B is selected.
- Child Haven Preschool (about 500 feet from the Alternative A and B alignments, and about 1,000 feet from the Alternative C alignment)
- Caring Corner Day Care Center (about 300 feet from State Route 99 for all build alternative alignments)
- Healthsouth Bakersfield Rehabilitation Hospital (about 500 and 1,400 feet from the Alternative B and C alignments, respectively, and over 2,000 feet from the Alternative A alignment)
- Bakersfield Family Medical (about 500 and 1,900 feet from the Alternative B and C alignments, respectively, and over 2,000 feet from the Alternative A alignment)
- Stockdale Podiatry (200 and 150 feet from the Alternative A and C alignments, respectively)—this outpatient facility provides foot treatment; as an outpatient facility, it is not considered a sensitive receptor to air pollutants
- Kaiser Permanente–Stockdale Medical Office (next to the Alternative A and B alignments, and over 500 feet away from the Alternative C alignment)—this facility contains medical clinics with no inpatient care; therefore, it is not considered a sensitive receptor to air pollutants

The only sensitive community facility receptor that is within neighborhoods with environmental justice populations is the Caring Corner Day Care Center, east of State Route 99. The roadway improvement at this location involves sidewalk relocation for Alternatives A and B but no work under Alternative C. No effect on businesses would occur. Based on the results of the air quality analysis, none of the above facilities would be substantially affected by air pollutant concentrations. One neighborhood park, Saunders Park, west of Oak Street and State Route 99, a portion of which is within the Alternative C alignment, is next to an environmental justice community. Though no detailed park user information is available, Saunders Park is likely used mostly by local residents, including the nearby environmental justice community. No other neighborhood parks sit in environmental justice communities within the Centennial Corridor build alternatives. The analysis indicates that the effects from air pollution concentrations on low-income and minority populations in the study area compared with non-low-income and/or minority populations would be the same. Therefore, there would be no impacts borne predominantly by low-income and/or minority population and, consequently, no disproportionate or high and adverse effects on environmental justice populations, pursuant to Executive Order 12898.

Analysis and Modeling

Air quality has both regional and local components. On a regional scale, there would be no impacts borne predominantly by low-income and/or minority populations or disproportionately experienced by such groups. The effects of emissions from transportation sources are experienced equally across the basin.

On a local scale, there would be no impacts borne predominantly by low-income and/or minority populations or disproportionately experienced by such groups. Using carbon monoxide as an example, the analysis has determined that of the 10 intersections analyzed, seven are near the five identified census block groups with environmental justice populations: Mohawk Street/California Avenue, California Avenue/ Stockdale Highway, Chester Lane/ California Avenue, State Route 99 southbound ramp/ California Avenue, Stine Road/Stockdale Highway, Real Road/Stockdale Highway and H Street/Brundage Lane. At these intersections (as well as the remaining six intersections in the analysis), none of the calculated concentrations were above the established federal or state standards and all have been shown to be about the same in absolute value. A qualitative analysis was done for particulate matter with a diameter less than 10 microns (PM_{10}) and fine particulate matter ($PM_{2.5}$). The modeling predicted concentrations of these air pollutants using a modeling protocol reviewed and approved by the Interagency Coordination Group. Results of the qualitative particulate matter and conformity analysis indicated that 24-hour average concentrations of particulate matter (PM_{10}) along the study area corridor would be less than the currently established applicable National Ambient Air Quality Standard.

Results of the EMFAC modeling and conformity analysis determined that annual average concentrations of fine particulate matter ($PM_{2.5}$) along the study area corridor would be less than the currently established applicable National Ambient Air Quality Standard. Concentrations of fine particulate matter ($PM_{2.5}$) along the study area

corridor would not exceed no-build concentrations and would be in conformity with the State Implementation Plan for achieving the 24-hour fine particulate matter ($PM_{2.5}$) standard.

Therefore, based on these results, there would be no impacts borne predominantly by low-income and/or minority populations, nor would those effects be more severe on such groups. Accordingly, no disproportionate or high and adverse effects on environmental justice populations are expected, pursuant to Executive Order 12898. Detailed air quality analysis and results are presented in the *Air Quality Study Report* (November 2013) prepared for the project.

Mobile Source Air Toxics

For mobile source air toxics, conservative emission estimates for the project opening year (2018) and the horizon operational year (2038) indicate substantial reductions in all locations analyzed (Rosedale Highway between Allen Road and State Route 99, Stockdale Highway between Allen Road and H Street, California Avenue between Stockdale Highway and State Route 99, State Route 99 between Airport Drive and White Lane), except for the Westside Parkway between Allen Road and State Route 99 and State Route 58 between State Route 99 and Cottonwood. Although these two segments of roadway pass through the neighborhoods with environmental justice populations, no hospitals, schools, or day-care facilities sit within the 500 feet of the freeway within the respective environmental justice communities.

The Caring Corner Day Care Center, 300 feet from State Route 99 in a neighborhood with an environmental justice population, would experience a reduction in the mobile source air toxics. The reduction is due in large part to improvements in automotive technology resulting from scheduled regulatory requirements and redirection of traffic once the new freeway is established.

The distribution of low-income and minority populations in the study area compared with non-low-income and/or minority populations is the same; the effects would be felt equally throughout the corridor. So, there would be no impacts borne predominantly by low-income and/or minority populations.

Service-oriented Facilities

As noted in the Relocation Section of the *Community Impact Assessment* for this project, the following service-oriented facilities would be subject to either partial or full acquisition:

Alternative A

- Better Way Services (mental health counseling)—full acquisition
- PathPoint (education and training for young adults with developmental or other disabilities)—full acquisition
- Farmworker Institute for Education and Leadership Development—full acquisition

Alternative B

- Healthsouth Bakersfield Rehabilitation Hospital—partial acquisition

Alternative C

- Kern County Department of Human Services—full acquisition

PathPoint and the Farmworker Institute for Education and Leadership Development are next to Tract 28.12 Block Group 3, which is identified as an environmental justice neighborhood. If Alternative A is selected, these facilities would be relocated to an area within the same block group to minimize impacts to the community members using services from these two facilities.

Transportation and Accessibility

Local street changes would be required under each alternative. A road closure at nine spots along each of the Alternatives A and B alignments would be required. Out of these, only one road closure under Alternative A would be within the environmental justice communities. Alternate routes for local access are provided for all the alternatives. No existing transit routes operate on the streets proposed for permanent change/closure; so, there would be no direct effects to transit service due to road changes or closures. Traffic diverted to local streets as a result of any build alternative would not substantially affect transit services.

Each build alternative is designed to maintain existing pedestrian and bicycle travel ways to the extent feasible. Bike routes would be a component of planned Centennial Corridor overcrossings and undercrossings where existing and/or planned routes exist. No local through street access would change under Alternative C; pedestrian, bicycle, and vehicle accessibility to schools and existing links between neighborhoods and schools would stay as they are.

Alternatives A and B would require street closures, which would change local access patterns and, in some cases, potentially lengthen travel distances to community facilities for some pedestrians and cyclists. Impacts to pedestrian and bicycle facilities would not disproportionately affect a minority or low-income community. So, no impacts would be borne predominantly by low-income and/or minority populations; no effects would be more severe on such groups.

No-Build Alternative

Under the No-Build Alternative, no construction would occur; therefore, there would be no environmental justice issues associated with the No-Build Alternative.

Avoidance, Minimization, and/or Mitigation Measures

Alternatives A, B, and C would not cause disproportionately high and adverse effects on minority or low-income populations per Executive Order 12898, so no mitigation is required. Implementation of minimization and mitigation measures outlined elsewhere in this environmental document would minimize impacts on all the local communities, including low-income and minority neighborhoods.

3.1.5 Utilities/Emergency Services

This section addresses potential impacts to public utilities and emergency services that would result from construction of the Centennial Corridor project. Short-term construction impacts are also addressed in Section 3.6.

Affected Environment

The study area for utilities and emergency services impact assessment for Segment 1 includes the area right next to the proposed freeway alignment and the surrounding area that is likely to be disturbed by the proposed freeway construction. The information in this section is from the *Community Impact Assessment* (September 2013) prepared for this project.

Utilities and emergency services for Segments 2 and 3 have been described in their respective environmental documents; there have been no changes since certification of those environmental documents.

Utilities

The project area is served by the following utility providers:

Water Service:	City of Bakersfield, California Water Service Company (CalWater), Big West (water line)
Wastewater:	City of Bakersfield
Storm Drainage:	City of Bakersfield
Gas:	Pacific Gas and Electric (PG&E), Southern California Gas Company
Electric:	Pacific Gas and Electric (PG&E)
Telecommunications:	Bright House Network, AT&T, Time Warner Communications, MCI, Verizon, Alliance, Sprint
Oil and Petroleum Lines:	Alon USA, Mobil Oil Company, San Joaquin Facilities Management Incorporated, Chevron Oil Company, Tricor Incorporated

These service providers have utility lines in areas that would become the right-of-way for the Centennial Corridor project. The following utilities occur within the project's footprint (area of disturbance):

- Water lines, 4 inches to 16 inches in diameter
- Sewer lines, 6 inches to 10 inches in diameter
- Electrical lines, 12 kilovolt underground and overhead lines, and 70- and 115-kilovolt transmission lines on steel towers
- Gas lines, 2 inches to 6 inches in diameter

- Cable television lines, overhead lines, and buried cables in 1-inch to 4-inch ducts
- Oil and petroleum pipelines, 10 inches in diameter
- Oil wells, lines, and flowlines
- Street lights, traffic signals, interconnects, and storage boxes
- Storm drain facilities, 30-inch pipe, a detention basin, and a pump house

Emergency Services

The Kern County and City of Bakersfield Fire Departments provide fire protection services to the area. The Kern County Fire Department also provides emergency medical services. Paramedic and ambulance service is provided by Hall Ambulance, a private company.

The Bakersfield Police Department, the Kern County Sheriff's Department, and the California Highway Patrol provide law enforcement and police protection services to the project area.

No changes to utility and emergency service systems for Segments 2 and 3 have occurred since the environmental documents were certified.

Environmental Consequences

Utilities

Common to All Build Alternatives

Utilities are allowed in the Caltrans right-of-way with an encroachment permit. Utility facilities (such as water lines, sewer laterals, electrical connections/lines/poles, natural gas service lines, streetlights, fire hydrants, and cable television lines and utility boxes) in the right-of-way would be subject to abandonment, removal, and relocation or replacement as a result of project construction. Utility companies would be given enough notice to relocate their facilities before construction or at a later stage of construction, as appropriate.

Such coordination is standard during the design phase. Utility relocations would be done using standard engineering practices, so substantial service disruption is not expected.

Existing oil wells within the proposed right-of-way would be abandoned in accordance with the requirements in the California Code of Regulations.

For the improvements proposed in Segment 3 at the intersection of Stockdale Highway and State Route 43, utilities, such as natural gas, electricity, and telephone lines would need to be relocated. The utility relocation plans would be prepared during the design phase. As part of that effort, the design team would work with the utility provider to identify the relocation area that would minimize impact to the various resources. Generally, utilities would be relocated within the existing right-of-way. These areas are already disturbed so adverse impacts are not expected and

implementation of standard engineering practices would ensure that no substantial interruptions of utility service would occur. Should the relocation of the utilities result in impacts to resources, additional environmental clearance will be required.

Alternative A

Alternative A would relocate about 221 utility facilities. Some would be high-risk utility relocations per Caltrans' *Policy on High and Low Risk Underground Facilities within Highway Right of Way*; these would include a 7,800-foot-long section of oil pipeline, an active oil well, and a section of 12-kilovolt underground electrical line. As discussed in Section 3.6, Construction Impacts, the utility lines would be relocated before construction of the road. The utility relocation plans would be prepared during the design phase. As part of that effort, the design team would work with the utility provider to identify the relocation area that would minimize impact to the various resources. Generally, utilities would be relocated within the existing right-of-way. These areas are already disturbed so adverse impacts are not expected and implementation of standard engineering practices would ensure that no substantial interruptions of utility service would occur. Should the relocation of the utilities result in impacts to resources, additional environmental clearance will be required.

Alternative B

Alternative B would relocate about 238 utility lines or facilities. Also, six oil wells and associated lines would be abandoned. High risk utility relocations include abandoning or changing petroleum production pipelines; relocating about 7,800 feet of an existing 10-inch oil pipeline; abandoning or relocating six oil wells and an oil tank; relocating or protecting in place 12-kilovolt underground electrical facilities; and protecting in place a 10-inch gas line in the Union Avenue overcrossing. Other major relocations (not considered high risk) include relocating 70-kilovolt and 115-kilovolt electrical towers. Of the 238 relocations, the 10 Pacific Gas and Electric towers would be relocated in coordination with Pacific Gas and Electric and in compliance with applicable Public Utilities Commission regulations.

The utility relocation plans would be prepared during the design phase. As part of that effort, the design team would work with the utility provider to identify the relocation area that would minimize impact to the various resources. Generally, utilities, with the exception of the large electrical towers, would be relocated within the existing right-of-way. These areas are already disturbed so adverse impacts are not expected and implementation of standard engineering practices would ensure that no substantial interruptions of utility service would occur. Should the relocation of the utilities result in impacts to resources, additional environmental clearance will be required.

Alternative C

Alternative C would relocate about 205 utility lines or facilities. High-risk utility relocations include relocating oil lines; relocating about 9,400 feet of a 10-inch oil pipeline; relocating or protecting in place 12-kilovolt underground electrical facilities; and protecting in place a 10-inch gas line on the Union Avenue overcrossing. Other

major relocations (not considered high risk) include relocating 70-kilovolt and 115-kilovolt electrical towers and relocating five telecommunication towers and one AT&T equipment building. Alternative C would result in the same impacts to the 10 Pacific Gas and Electric towers as Alternative B.

The utility relocation plans would be prepared during the design phase. As part of that effort, the design team would work with the utility provider to identify the relocation area that would minimize impact to the various resources. Generally, utilities, with the exception of the large electrical towers, would be relocated within the existing right-of-way. These areas are already disturbed so adverse impacts are not expected and implementation of standard engineering practices would ensure that no substantial interruptions of utility service would occur. Should the relocation of the utilities result in impacts to resources, additional environmental clearance will be required.

No-Build Alternative

No freeway/roadway improvements would be built under the No-Build Alternative, so no utility relocations would be required under this alternative.

Emergency Services

Common to All Build Alternatives

Where local roads would be closed, emergency access would be changed. Based on conceptual plans reviewed with the City of Bakersfield and County of Kern Fire Departments, no road closures would isolate areas or hinder emergency response times. With reduced congestion, there would be a benefit of potentially faster response times. Impacts to emergency service systems during project construction, such as delays due to construction, are discussed in Section 3.6, Construction Impacts.

No-Build Alternative

The No-Build Alternative would not directly affect traffic patterns, nor would it lead to construction detours that could affect emergency services. In the long term, however, there would be a reduced traffic level of service on State Route 58 that could result in delays for emergency response vehicles.

Avoidance, Minimization, and/or Mitigation Measures

Standard conditions of approval are requirements based on local, state, or federal regulations that are required independently of the California Environmental Quality Act or National Environmental Policy Act analysis but also serve to offset or prevent specific impacts. These have been identified in the Avoidance, Minimization, and Mitigation Measures Section, where appropriate.

The project design minimizes impacts to the existing utility system as much as practicable. Because there would be no impacts to utility systems or emergency services over the long term, no mitigation measures are required. Minimization Measure SC-U-1 has been identified to minimize potential impacts from the

abandonment of the oil wells. Standard conditions for impacts as a result of construction activities are presented in Section 3.6, Construction Impacts.

SC-U-1 Existing oil wells within the proposed right-of-way would be abandoned in accordance with the requirements in the California Code of Regulations. This includes filing a Notice of Intent and preparing an abandonment plan for approval by the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources. Completion of the well abandonment process in compliance with existing regulations would ensure that no environmental hazards are created by the plugging operations or the abandoned well.

3.1.6 Traffic and Transportation/Pedestrian and Bicycle Facilities

This section addresses potential impacts to vehicular traffic and circulation. Impacts to the transit system, pedestrian and bicycle facilities, and parking are also addressed.

Regulatory Setting

Caltrans, as assigned by the Federal Highway Administration, directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of federal-aid highway projects (23 CFR 652). It further directs that the special needs of the elderly and the disabled must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

In July 1999, the U.S. Department of Transportation issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally-assisted programs is governed by the U.S. Department of Transportation regulations (49 CFR part 27) implementing Section 504 of the Rehabilitation Act (29 U.S. Code 794). The Federal Highway Administration has enacted regulations for the implementation of the 1990 Americans with Disabilities Act (ADA), including a commitment to build transportation facilities that provide equal access for all persons. These regulations require application of the Americans with Disabilities Act requirements to federal-aid projects, including Transportation Enhancement Activities.

Affected Environment

The traffic and circulation impact analysis in this section is based on the results of the *Traffic Study Report for the Centennial Corridor Project* (November 2012). Analysis on parking, public transportation, and pedestrian and bicycle facilities comes from the *Community Impact Assessment* (September 2013) for this project. The proposed project is consistent with the *State Route 58 Corridor System Management Plan* (September 2011) prepared by Caltrans and approved by the Kern Council of Governments. A project consistency analysis with adopted plans is provided in Section 3.1.1, Land Use.

The study area used for the traffic analysis runs from Cottonwood Road on the east to Interstate 5 on the west, and from just north of State Route 58 (West) (Rosedale Highway) on the north to White Lane on the south. The traffic analysis considers the overall operating conditions of the highway and local street network in the traffic study area for the existing (baseline) condition (2008); the opening year (2018); and the 20-year design life (2038).

This section describes lack of route continuity and summarizes the characteristics of the existing roadway network in the study area, the existing traffic volumes, the truck traffic, and the current operating conditions of the roadway network. Future traffic forecasts for the build alternatives and the No-Build Alternative are presented in the Environmental Consequences section that follows.

Existing Roads and Highways

The purpose of the Centennial Corridor project is to provide route continuity and associated traffic congestion relief along State Route 58 within metropolitan Bakersfield and Kern County from State Route 58 east (at Cottonwood Road) to Interstate 5. The goal of route continuity is to ease the driving task by reducing the need to change lanes and search for directional signing. Route continuity is qualitatively evaluated in terms of driver ease of use, maintaining consistent levels of service and speeds, and by providing an appropriate number of lanes. (Please see Figure 1-3a through 1-3d in Section 1.2 of Chapter 1 which illustrate and describe level of service conditions. Local intersections [i.e. city streets] are considered deficient at level of service D, E, or F. State highway or freeway ramp intersections [owned and operated by Caltrans] are considered deficient at level of service E or F.)

Currently, State Route 58 lacks route continuity from the State Route 58/State Route 99 interchange west to Interstate 5. From the State Route 58/99 interchange, State Route 58 is offset by about 2 miles where State Routes 58 and 99 merge and share a common north-south alignment. Traffic continuing west from the shared portion of State Route 58/State Route 99 must exit at the State Route 178/24th Street off-ramp to access State Route 58 (West) where the road resumes as an east-west local road known as Rosedale Highway/24th Street.

State Route 58 runs west of State Route 99 as an arterial highway (Rosedale Highway) for about 12 miles. Between Allen Road and Mohawk Street, the road is under local control (the city and county, not the state, own the roadway). At State Route 43, State Route 58 is again offset to the north for about 1 mile and shares alignment with State Route 43. From this point, State Route 58 again assumes an east-west alignment as a two-lane roadway for about 8 miles, and then has an interchange with Interstate 5. Table 3.12 describes the existing study area roads and highways.

The lack of route continuity contributes to traffic congestion and reduced levels of service on adjoining highways and local streets. As shown in Table 1.1 in Chapter 1, 16 local intersections with traffic signals along State Route 58 currently operate at level of service E or F during at least one of the peak hours. This condition is

expected to worsen as the population grows, and by 2038, 22 intersections are projected to operate at level of service E or F.

The pattern of regional highways and local arterial streets in the study area is shown in Figure 3-11 (provided in Volume 2). The characteristics of these thoroughfares are summarized in Table 3.12.

Existing Traffic Volumes

Existing traffic volumes presented in this environmental document refer to the traffic volume in 2008, the year the Notice of Preparation for this environmental document was issued.

The average daily traffic volume along State Route 58 is 7,000 vehicles from Interstate 5 to State Route 43, between 7,100 and 21,000 vehicles from State Route 43 to Allen Road; between 40,500 and 49,500 vehicles from Allen Road to State Route 99; and 68,000 vehicles east of State Route 99. The average daily traffic volume along State Route 99 is 100,000 vehicles north of Rosedale Highway; 132,000 vehicles between Rosedale Highway and State Route 58 (East); and 134,000 vehicles south of State Route 58 (East). North of the river, Allen Road carries from 10,000 to 17,000 vehicles per day. Stockdale Highway carries from 18,000 to 34,000 vehicles per day. The daily volumes by road segment, approximately 100 entries, are shown in Figure 2-12 of the *Traffic Study Report for the Centennial Corridor Project* (November 2012).

Truck Traffic

Truck traffic in Kern County accounts for 27 percent of total traffic, compared to a statewide average of 9 percent. The proportion of truck traffic on State Route 99 ranges from 18 to 27 percent, which is two to three times the statewide average. As a critical link in the state transportation network, State Route 58 is used by a large number of regional and inter-regional trucks.

According to 2009 traffic data (*2009 Annual Average Daily Truck Traffic on the California State Highway System*, December 2010), every weekday there are 500 five-axle trucks on State Route 58 east of Enos Lane (7.1 percent of the annual average daily traffic), over 2,000 five-axle trucks west of Mohawk Street (4.9 percent of the annual average daily traffic), 6,700 five-axle trucks east of the interchange with State Route 99 (9.9 percent of the annual average daily traffic) and 8,000 five-axle trucks at the interchange with Cottonwood Road (12.2 percent of the annual average daily traffic).

Without an efficient east-west route through Bakersfield, truck drivers resort to using a dispersed system of inadequate highways, which has strained the transportation network. Truck traffic along the State Route 58 corridor is generally heaviest near the State Route 99 interchanges in Bakersfield, likely due to local and regional trucks using the corridor and the various truck-related land uses (such as agricultural businesses and distribution facilities) along the freeways.

Table 3.12 Study Area Roads and Highways

Facility Name	Type	Direction	Number of Lanes	Road and Highway Characteristics
State Route 99	Freeway	North-South	8	State Route 99 is a north/south facility and is used as an alternate route for Interstate 5. The speed limit is 65 miles per hour in the project study area.
State Route 58	Freeway (East); Local Highway and conventional (West)	East-West	Varies	***Interstate 5 to Allen Road.*** Two-lane conventional highway. Alignment is disjointed by about 1 mile at State Route 43 which has a shared alignment with State Route 58. State Route 43 is also a two-lane conventional highway. ***Allen Road to State Route 99.*** Two lanes in each direction, with outside turn pocket lanes at street intersections. It should be noted the portion of Rosedale Highway between Allen Road and Mohawk Street was previously part of State Route 58 and is now a local roadway. ***State Route 99.*** Four lanes in both north and south directions along a 2-mile shared route with State Route 99. ***State Route 58 East (Barstow-Bakersfield Highway).*** Four to six lane freeway within Bakersfield metro area. Four lane freeway east of Bakersfield.
State Route 178	Arterial/ Freeway	East-West	4	Crosses northeast Bakersfield before extending east through the Kern River Valley past Lake Isabella to State Route 14. State Route 178 is four lanes east of Oak Street to downtown Bakersfield; three lanes in each direction as part of a one-way couplet through downtown; and a four to six lane freeway east of downtown.
Interstate 5	Interstate Highway	North-South	4	A major north-south route of the Interstate Highway System, linking San Diego, Los Angeles, Sacramento, and Redding. Four lanes within Kern County, north of State Route 99 junction.
Truxtun Avenue	Arterial	East-West	4–6	Two lanes in each direction from Coffee Road to downtown Bakersfield and 3 lanes in each direction when approaching Chester Avenue.
New Stine Road (south of State Route 58)/ California Avenue	Arterial	North-South (New Stine); East-West (California)	5–6	South of Stockdale Highway, New Stine Road is striped with bike lanes. The California Avenue alignment turns northeast before extending across downtown Bakersfield. Bike lane striping is discontinued north of Stockdale Highway.
Stockdale Highway (west of State Route 99) /Brundage Lane	Major Arterial	East-West	4–6	Stockdale Highway is a local road with four to six lanes and bike lanes. Brundage Lane is two lanes in each direction east of State Route 99.
Ming Avenue	Major Arterial	East-West	4–6	Two lanes in each direction east of Allen Road, with single and double outside turning lanes. Near Hughes Lane, two lanes in each direction.
Allen Road	Minor Arterial	North-South	2–4	From Rosedale Highway south, one lane in each direction and two lanes in each direction south of the Kern River.

Table 3.12 Study Area Roads and Highways

Facility Name	Type	Direction	Number of Lanes	Road and Highway Characteristics
Calloway Drive/ Old River Road (south of Stockdale Highway)	Arterial	North-South	4–6	Two lanes in each direction from Rosedale Highway south and three lanes in each direction when approaching Brimhall Road. South of Marby Grange Way, the roadway is being widened to three lanes.
Coffee Road/ Gosford Road (south of Stockdale Highway)	Arterial	North-South	4–6	Three lanes in each direction for most of Coffee Road and Gosford Road.
Oak Street/ Wible Road (south of Stockdale Highway)	Arterial	North-South	4–6	***Oak Street:*** Two lanes in each direction south of 24th Street, three lanes in each direction with right-turn lanes when approaching California Avenue. ***Wible Road:*** Two lanes in each direction.
Chester Avenue	Arterial	North-South	4	Two lanes in each direction for most of the route.
Union Avenue (State Route 204)	Arterial	North-South	6	Three lanes in each direction for most of the route.

Definitions of the Facility types:

Local County or City Roadways:
Arterials are roads used primarily for through traffic movements rather than access to adjacent land. Arterials are characterized by providing high vehicular capacity and continuity of movement. Traffic signals are used to control traffic movements at intersections of high volume cross streets and at driveways providing access to significant land uses such as major shopping centers. Speed limits are typically between 30 and 50 mph, depending on the density of use of the surrounding development. In school zones, speeds may be further reduced; likewise, in sparsely developed or rural areas, speeds may be increased. The width of arterial roads can range from two lanes to ten lanes or more. Some arterials are divided at the center with a paved median, while others share a common center lane, such as a center turning lane. Arterial roads are often referenced as “Major arterials” or “Minor Arterials” depending on the number of through traffic lanes and the importance of the roadway to the local circulation system.

Collector roadways are relatively short, and provide connections from local roads to arterial streets. Collector roads are typically two lanes wide and are not signalized, except at major intersections with arterial roadways.

Local roadways serve adjacent land uses, such as residential neighborhoods. They provide access to collector roadways, which in turn connect to the arterial street network.

State Highways:
Conventional: A highway without control of access which may or may not be divided. Grade separations at intersections or access control may be used when justified at spot locations.
Expressway: An arterial highway with at least partial control of access, which may or may not be divided or have grade separations at intersections.
Freeway: A divided arterial highway with full control of access and with grade separations at intersections.

Source: Developed from the *Traffic Study Report for the Centennial Corridor Project* 2012 and *Highway Design Manual* (Chapter 60, Nomenclature).

Existing Intersection Levels of Service

Efficiency of traffic operations on a transportation facility is measured in terms of level of service, with level of service A representing the best operating conditions and level of service F the worst. This is graphically shown in Figures 1-3a through 1-3d of Section 1.2, Purpose and Need.

Freeway operational performance was measured using computer software developed by the Federal Highway Administration. To determine freeway level of service, the number of passenger cars per lane over mile-long freeway segments was calculated using computer software and then compared to the criteria listed in Figure 1-3a. In addition, the intersections at the end of freeway interchange ramps were evaluated using the same computer software. The level of service criteria for intersections are shown graphically in Figures 1-3c and 1-3d in Section 1.2, Purpose and Need.

The Caltrans design standard for urban areas within Disctict 6 is level of service D, which means that Caltrans facilities are to be designed to operate at level of service D or better for 20 years from the date construction is completed (2038 for this project). Existing level of service on State Route 99 in the project area without the project is summarized in Table 1.2 in Section 1.2, Purpose and Need. State Route 58 east of State Route 99 is relatively uncongested under existing conditions, except for the eastbound segment approaching Union Avenue. The shared section of State Route 99 and State Route 58 between State Route 58 (East) and Rosedale Highway is more congested, with slower speeds and light congestion experienced at the interchanges. This is from traffic merging with freeway traffic at the on-ramps and traffic on the freeway changing lanes to get to the off-ramps. Locations on State Route 99 that are operating below level of service D are identified below.

State Route 99 Northbound. Most of the analysis locations operate at level of service D or better, except for the following locations that operate at level of service E:

- White Lane eastbound on-ramp during the morning peak hour
- White Lane westbound on-ramp during the morning peak hour
- State Route 58 off-ramp during the morning peak hour
- California Avenue off-ramp during the morning peak hour
- Rosedale Highway off-ramp during the morning peak hour

State Route 99 Southbound. Most of the analysis locations operate at level of service D or better, except for the following locations, which operate at level of service E:

- California Avenue off-ramp during the afternoon peak hour
- Ming Avenue off-ramp during the afternoon peak hour

The State Route 58 off-ramp from southbound State Route 99 operates at level of service F during the afternoon peak hour, as both the off-ramp volume and the mainline volume exceed their capacity in the two right lanes.

Level of service C is the design standard used for local intersections in metropolitan Bakersfield. The overall performance of the highway network was evaluated using a 2007 update of the Kern Council of Governments Regional Transportation Travel Forecasting Model. A total of 79 intersections of the street network were selected for study (see Figure 3-11, provided in Volume 2). Existing level of service for key intersections under study was summarized and presented in Table 1.1 of Section 1.2, Purpose and Need of this environmental document.

Traffic Accident Data

Caltrans maintains a traffic safety database called the Traffic Accident Surveillance and Analysis System. The database tabulates crash rates for all highways in California, identified by post miles. Data is reported based on the number of lanes, whether the crash occurred on wet or dry pavement, whether it occurred during the night or day, and whether the crash resulted in fatalities. Data collected between 2007 and 2010 indicates that fatal accidents for State Route 58 and State Route 99 in the project area are below the average for similar facilities in California, while "fatal plus injury" and "total accident" rates are higher than average.

Parking Facilities

Much of the Segment 1 study area is characterized by typical suburban residential neighborhoods, with on-street and off-street parking in residential areas and usually plentiful off-street surface parking in commercial lots. Parking conditions vary along the major arterials within the study area.

Park and ride lots are used to encourage carpooling. A park and ride lot with 49 parking spaces sits west of State Route 99, south of Stockdale Highway.

Public Transit Service

Public transit service in the metropolitan Bakersfield area is provided by the Golden Empire Transit District, Consolidated Transportation Service Agency, Kern Regional Transit Division, Amtrak, and Greyhound. Four transit centers lie in the study area: Downtown Transit Center, Southwest Transit Center, Bakersfield Greyhound Station, and Bakersfield Amtrak Station.

The Golden Empire Transit District serves an area of 60 square miles with a fleet of 81 buses and 19 GET-A-Lift buses. It provides bus service to about 24,000 riders each weekday, with more than 7 million boardings each year. (Note that a one-way trip may involve more than one boarding per trip due to the need to transfer between bus routes.)

In the project area, Golden Empire Transit District Routes 11 and 14 provide east-west service. Route 11 runs along Stockdale Highway, going between Stockdale Village (at California Avenue and Stockdale Highway) and California State University, Bakersfield. The route then runs south to Ming Avenue, providing east-west service to State Route 204 (Union Avenue), and then crosses the city via Union Avenue and various streets to an eastern end at Bakersfield College. Route 14

provides service between downtown and California State University, Bakersfield via Rosedale Highway.

The Kern Regional Transit Division provides transit services to unincorporated cities in Kern County. Some of the routes offer service between Bakersfield and the surrounding rural communities.

The alignment for the California High-Speed Train project through downtown Bakersfield crosses the eastern portion of the study area. This 800-mile (track length) rail line would serve as a transportation backbone for the state by connecting Los Angeles/Anaheim to San Francisco with trains that would reach speeds of 220 miles per hour. Initial construction is slated to begin with the Central Valley segment, with a goal of completing the San Francisco to Los Angeles segments by 2029.

Pedestrian and Bicycle Facilities

The main components of the pedestrian circulation system are sidewalks and crosswalks. Most developed properties in the Segment 1 study area are improved with sidewalks. While the city requires installation of sidewalks in conjunction with new development, some older study area streets within neighborhoods built before this requirement took effect do not have sidewalk improvements.

Kern County first adopted a bikeway plan in the mid-1970s. The plan called for bike lanes on various streets and dedicated bike paths on canal levees, along former railroad rights-of-way, and along the Kern River. In 1984, the Kern Council of Governments sponsored a bikeway study for the region, calling for more bike lanes on existing conventional streets and fewer bike paths along canals and abandoned railroad rights-of-way. The Kern Council of Governments recently updated its plan with a study called the *Kern Bicycle Plan and Complete Streets Recommendations*, December 2012, which identified a network of bicycle facilities that will provide improved access.

The *Metropolitan Bakersfield General Plan* contains a bikeway master plan that identifies existing and planned bikeways in Bakersfield:

- Near the project, the master plan designates a Class 1 (off-road) bike path along the Kern River.
- A Class 2 bike lane is a designated bike lane painted on the roadway. Class 2 bike lanes are shown along Stockdale Highway west of Oak Street; on Oak Street/Wible Road south of the Kern River; on Brimhall Road from Coffee Road to Heath Road; on Mohawk Street from Hageman Road to California Avenue; and on Allen Road, Calloway Drive, and Coffee Road from Snow Road to East Panama Road. The master plan identifies a future bikeway that would extend the Class 2 bike lane on H Street from Ming Avenue to Brundage Lane.
- A Class 3 bike route is an unpainted bike lane on the roadway (generally using wider shoulders). The master plan designates Class 3 bike routes on Brundage Lane between Oak Street and State Route 58 and Marella Way/New Stine

Road/Garnsey Lane/Real Road/Palm Avenue/4th Street/Virginia Avenue from California Avenue to State Route 58.

The Kern River Parkway within the project area consists of a variety of park facilities and several types of trails, including a paved bike trail, the Hoey Trail, and equestrian trails. The Kern River Parkway bike trail extends along the south side of the river. A long-term paved bike path detour was built at Mohawk Street in 2010 to allow the bike path to remain open while the Westside Parkway was being built.

Environmental Consequences

This analysis addresses the build alternatives and No-Build Alternative during the opening year (2018) and the 20-year design life (2038) of the project. The project analysis evaluates the changes in traffic patterns as a result of the Westside Parkway being incorporated into the State Highway System. The traffic conditions for the future years are also compared against the baseline 2008 conditions.

Results of the traffic study showed the build alternatives would provide better traffic flow for all vehicles including trucks, due to direct route continuity compared to both the existing condition and the No-Build Alternative in the future years. The improvements would result in the following circulation benefits:

- Improvements between Cottonwood Road and State Route 99 would provide auxiliary lanes and collector-distributor lanes (lanes separated from the freeway to accommodate the lane-changing associated with traffic getting on and off the freeway), which would improve traffic flow by separating traffic exiting the freeway from through traffic.
- State Route 58 would no longer be required to share an alignment with State Route 99. It would continue westerly and connect to the Westside Parkway. This would eliminate the 2-mile overlap where State Routes 58 and 99 merge and share a common north-south alignment, thereby removing traffic from State Route 99.
- By moving traffic onto the Westside Parkway, which is a freeway, the project would enable drivers to continue their trips without having to use a local roadway. This would also eliminate the need to stop at multiple signals and the San Joaquin Valley railroad crossing at Landco Drive.
- The Westside Parkway would connect to Stockdale Highway to provide a direct link to Interstate 5, eliminating the offset route that exists at State Route 43.

Later in this section is more detailed information on the operation of the freeways and intersections. The benefits are summarized here.

The additional capacity provided by the build alternatives compared to the No-Build Alternative would also help reduce congestion on adjacent local roadways because traffic is expected to shift to the freeway.

Because the benefits of the project would extend beyond State Route 58, the project was evaluated using the Surface Transportation Efficiency Analysis Model (STEAM) version 2.0, which quantifies the cost of congestion in dollars. The STEAM model assigns $10.83 as the cost for a person sitting in congestion for 1 hour. Below are the savings in travel time over the 20-year (2018–2038) study period for the build alternatives compared to the No-Build Alternative (note that the cost savings in travel time associated with the project would extend beyond the 20-year period studied and would actually increase in later years because of future increased congestion).

- Alternative A—$769 million
- Alternative B—$794 million
- Alternative C—$945 million

Detailed traffic analysis is provided in the sections that follow. Level of service analysis on freeways, ramps, and key intersections documents the benefits summarized above. Other issues addressed include safety benefits, the loss of parking, transit operations, and pedestrian and bicycle facilities.

Circulation Networks Assumptions

Common to All Build Alternatives

Network Improvements

The 2038 circulation network used in the traffic analysis assumes implementation of transportation improvements listed in the *2011 Regional Transportation Improvement Plan* and the *Metropolitan Bakersfield Transportation Impact Fee* program. The improvements from each of these programs are assumed to be in place by 2038. The planned future construction of these improvements explains why there are locations that would operate at a better level of service in 2038 than the projected level of service for 2018.

Level of service is a ranking A through F rating, with A being best and F being worst. See Figures 1-3a through 1-3d in Chapter 1 for a comparison of the different levels of service.

Freeway Changes

Changes to existing freeway on-ramps along State Route 99 and existing State Route 58 are required as part of the project and would affect traffic conditions. Freeway access changes proposed for each build alternative and the closest alternative travel routes are discussed below and shown on the project plans provided in Appendix E in Volume 2:

- The southbound State Route 99 off-ramp with direct access to Stockdale Highway would be eliminated. Vehicles would exit at the California Avenue interchange, just to the north. California Avenue and Oak Street provide a direct connection with the Stockdale Highway corridor.

- The northbound State Route 99 exit and entrance access points to and from Wible Road would be eliminated. Vehicles would use either the California Avenue interchange to the north or the Ming Avenue interchange to the south, depending on the destination.
- Access from Real Road and the Stockdale Highway corridor to southbound State Route 99 would be eliminated. Real Road or Stine Road would provide access to southbound State Route 99 via the Ming Avenue interchange.

Alternative A

Freeway Changes

The following freeway changes would apply to Alternative A:

- The connection between westbound State Route 58 (East) to Real Road and the Stockdale Highway corridor would be eliminated. Drivers would have the option to use the H Street/Chester Avenue interchange. The next nearest intersection to the north would be Calloway Drive.
- The northbound State Route 99/Ming Avenue on-ramp would be reconfigured to allow traffic to access westbound State Route 58 (Centennial Corridor) or northbound State Route 99. Access to eastbound State Route 58 from the Ming Avenue interchange would be eliminated. Vehicles would instead use the H Street/Chester Avenue interchange.

Local Street Changes

With Alternative A of Segment 1, changes to the local street network would affect local circulation as well as pedestrian and bicycle access. In all cases, alternative access would be provided nearby. On the north side of the proposed State Route 58, the following existing through streets would either end or be converted to a cul-de-sac just north of the proposed right-of-way: Jones Street, Williamson Way, McDonald Way, and Business Park South.

On the south side of the proposed State Route 58, the following existing through streets would either end or be converted to a cul-de-sac just south of the project right-of-way: Jones Street, South Garnsey Avenue, Williamson Way, Frazier Avenue, Westwood Street, McDonald Way, Brite Street, South Oleander Avenue, and Houchin Road. South Garnsey Avenue, an existing cul-de-sac, would end farther south.

Alternative B

Freeway Changes

The following freeway changes would apply to Alternative B:

- The connection between westbound State Route 58 (East) to Real Road and the Stockdale Highway would be eliminated. Drivers would have the option to use the H Street/Chester Avenue interchange. The next nearest intersection to the north would be Mohawk Street.

- The northbound State Route 99/Ming Avenue on-ramp would be reconfigured to allow traffic to access westbound State Route 58 (Centennial Corridor) or northbound State Route 99. Access to eastbound State Route 58 from the Ming Avenue interchange would be eliminated. Vehicles would instead use the H Street/Chester Avenue interchange.

Local Street Changes

Alternative B of Segment 1 would also require changes to the local street network. On the north side of the proposed State Route 58, the following existing through streets would end just north of the proposed right-of-way: Kentfield Drive and Hillsborough Drive.

On the south side of the proposed State Route 58, the following existing through streets would either end or be converted to a cul-de-sac just south of the proposed right-of-way: Dunlap Street, Kentfield Drive, Kensington Avenue, Woodlake Drive, Montclair Street, Hillsborough Drive, and Charter Oaks Avenue. South Garnsey Avenue would end farther south to accommodate the proposed roadway right-of-way.

Seville Street would be extended north just past Laverne Avenue to serve existing properties. A frontage road connection between Mona Way and Belle Terrace would be established. Belle Terrace would form an overpass across State Route 99. The existing Wood Lane cul-de-sac would move slightly west. North-south through access would remain at Belle Terrace.

Alternative C

Freeway Changes

Access from westbound State Route 58 (East) to California Avenue via State Route 99 would be eliminated. Drivers would have the option to use the H Street/Chester Avenue interchange to access California Avenue to the north.

Local Street Changes

Alternative C would change the local street network. On the west side of State Route 99, the following existing streets would end at the future State Route 58 extension: Oakdale Drive, Bank Street and Alamo Street. A frontage road link between Mona Way and Belle Terrace Avenue would be established. The existing Belle Terrace Avenue bridge would be replaced with a new overpass across State Route 99. East-west through access would remain at Belle Terrace. Chester Avenue, an existing cul-de-sac on the west side of State Route 99 and a dead-end on the east side of State Route 99, would be shortened on both sides of the new facility.

On the south side of the State Route 58 extension (Centennial Corridor), Commerce Drive would be converted to a cul-de-sac just south of the project right-of-way. Commerce Drive currently ends in a cul-de-sac south of Truxtun Avenue. Commerce Drive would end farther south to accommodate the proposed road right-of-way, but neither circulation nor access would be affected.

No-Build Alternative

As part of the regional planning effort, numerous transportation improvements are assumed in the metropolitan Bakersfield area. These improvements are identified on the Regional Transportation Plan and in the Metropolitan Bakersfield Traffic Fee Impact Program. These improvements are not part of the Centennial Corridor project and would occur regardless of the approval of Centennial Corridor. Therefore, they are assumed as part of the future roadway network for all the alternatives, including the No-Build Alternative. The improvement projects that would have the greatest influence in the project study area involve upgrades to major thoroughfares, including Rosedale Highway (State Route 58), State Route 99, Oak Street, and State Route 204.

Circulation and Congestion

Common to All Build Alternatives

Circulation and congestion are analyzed using freeway segment analysis and intersection level of service analysis. Information in the following subsections comes from the *Traffic Study Report* for the project.

Effectiveness of Freeway Segment Analysis

The effectiveness of freeway segments along State Routes 58 and 99 in both directions in the traffic study area is analyzed in the *Traffic Study Report for the Centennial Corridor Project*. Table 3.13 summarizes the freeway segments that would operate at level of service E or F in the forecasted years 2018 and 2038, for the build alternatives and the No-Build Alternative.

As shown in the table, none of the freeway segments along State Routes 58 and 99 would operate at the unacceptable level of service E or F in 2018 with any of the build alternatives; up to four freeway segments along State Route 99 would operate at level of service E or F with the No-Build Alternative. By 2038, up to 16 freeway segments along State Routes 58 and 99 would operate at the unacceptable level of service E or F under the No-Build Alternative compared to four segments for Alternatives A and B and five segments for Alternative C.

Table 3.13 Results of Freeway Effectiveness Analysis for Freeway Mainlines Within the Study Area

Freeway Analyzed	Peak Hour	Number of Segments with Level of Service E or F							
		2018				2038			
		No-Build	A	B	C	No-Build	A	B	C
State Route 58 Eastbound	AM	0	0	0	0	0	0	0	0
	PM	0	0	0	0	0	0	0	0
State Route 58 Westbound	AM	0	0	0	0	0	0	0	0
	PM	0	0	0	0	2	0	0	0
State Route 99 Northbound	AM	1	0	0	0	5	1	1	2
	PM	1	0	0	0	3	0	0	0
State Route 99 Southbound	AM	0	0	0	0	0	0	0	0
	PM	2	0	0	0	6	3	3	3
Totals	--	4	0	0	0	16	4	4	5

Source: Developed from the *Traffic Study Report for the Centennial Corridor Project* 2012.

These projections showing future congestion reduction with the project would benefit all traffic, including truck traffic; as mentioned earlier, east-west truck volume is currently very high relative to other state highway facilities in Kern County.

Intersection Level of Service Analysis

A total of 79 roadway intersections were analyzed to evaluate traffic congestion conditions under the project alternatives for the existing (baseline) year (2008), opening year (2018), and horizon year (2038). Projected traffic conditions in future years are compared against the 2008 baseline condition. Table 3.14 lists the intersections that have or would have traffic operations at deficient levels of service for existing and future (2018 and 2038) years. Local intersections (i.e. city streets) are considered deficient at level of service D, E, or F. State highway or freeway intersections including ramp intersections are considered deficient at level of service E or F. This information is summarized in Table 3.15.

No-Build Alternative

With the No-Build Alternative, State Route 99, State Route 58, and State Route 178 are all predicted to have high daily traffic volumes. Traffic volumes on each freeway segment would increase. In terms of traffic operations, the roadway network would experience congestion along Rosedale Highway, 24th Street, Truxtun Avenue extension west of Oak Street, portions of Stockdale Highway, State Route 99, and portions of State Route 178, Coffee Road, Mohawk Street, and Union Avenue.

Table 3.14 Comparison of Intersections Operating at Deficient Levels of Service

	Intersection	Peak Hour	Existing Condition (2008)		Future Year Traffic Control	Forecasted 2018 Level of Service (Delay[1])				Forecasted 2038 Level of Service (Delay[1])			
			Traffic Control	Level of Service (Delay*)		No-Build	Alt. A	Alt. B	Alt. C	No-Build	Alt. A	Alt. B	Alt. C
1	Interstate 5 Southbound Ramps/Stockdale Highway	Morning	northbound/ southbound 2-way stop		northbound/ southbound 2-way stop								
		Afternoon								F (92)*	F (66)*	F (69)*	F (52)*
3	State Route 43/Rosedale Highway	Morning	4-way stop		4-way stop								
		Afternoon								F(77)	F(82)*	F (79)*	F (83)*
4	State Route 43/Stockdale Highway	Morning	4-way stop		4-way stop	F(46)*	F(53)	F(52)	F(54)	F(>150)*	F(>150)*	F(>150)*	F(>150)*
		Afternoon				F(66)*	F(86)	F(87)	F(82)	F(>150)*	F(>150)*	F(>150)*	F(>150)*
7	Stockdale Highway/Nord Road	Morning	Signal		Signal	D(40)	D(40)	D(39)	D(37)				
		Afternoon											
8	Stockdale Highway/Wegis Avenue	Morning	northbound/ southbound 2-way stop		northbound/ southbound 2-way stop					F(>150)*	F(>150)*	F(>150)*	F(>150)*
		Afternoon								F(>150)*	F(>150)*	F(>150)*	F(>150)*
13	Allen Road/Rosedale Highway	Morning	Signal	D(37)	Signal					D(41)	D(36)	D(38)	D(36)
		Afternoon		E(77)		D(43)	D(41)	D(40)	D(41)	D(47)	D(48)	D(48)	D(47)
18	Allen Road/Stockdale Highway	Morning	Signal	D(39)	Signal								
		Afternoon											
19	Calloway Drive/Rosedale Highway	Morning	Signal	E(69)	Signal	D(40)	D(47)	D(43)	D(52)	D(49)	E(53)	E(56)	D(54)
		Afternoon		F(91)		D(41)	D(40)	D(39)	D(39)	D(55)	E(59)	E(61)	E(62)
23	Calloway Drive/Stockdale Highway	Morning	Signal	D(36)	Signal	D(41)	D(48)	D(47)	D(43)	D(52)	D(43)	D(45)	D(44)
		Afternoon		D(39)						D(40)	D(37)	D(38)	D(36)
24	Coffee Road/Rosedale Highway	Morning	Signal	E(76)	Signal	E(69)	D(46)	D(45)	D(41)	F(82)	E(64)	E(67)	E(65)
		Afternoon		E(66)		F(88)	F(93)	F(109)	F(129)	F(93)	F(84)	F(136)	F(94)
25	Coffee Road/Westside Parkway Westbound Ramp/Brimhall Road	Morning	Signal	E(60)	Signal								
		Afternoon		E(73)						D(43)			
28	Coffee Road/Truxtun Avenue	Morning	Signal	E(67)	Signal								
		Afternoon		F(81)									

Table 3.14 Comparison of Intersections Operating at Deficient Levels of Service

	Intersection	Peak Hour	Existing Condition (2008)		Future Year Traffic Control	Forecasted 2018 Level of Service (Delay[1])				Forecasted 2038 Level of Service (Delay[1])			
			Traffic Control	Level of Service (Delay*)		No-Build	Alt. A	Alt. B	Alt. C	No-Build	Alt. A	Alt. B	Alt. C
29	Coffee Road/Stockdale Highway	Morning	Signal	F(112)	Signal	D(36)	D(38)	D(44)	D(38)	E(56)	E(65)	E(57)	E(65)
		Afternoon		F(90)		D(54)	D(53)	D(51)	D(50)	F(100)	F(93)	F(83)	F(104)
30	Mohawk Street/Rosedale Highway	Morning	No Signal[2]	F(63)	Signal	E(57)	D(50)	E(61)	E(69)	F(104)	E(65)	F(84)	E(77)
		Afternoon		F(53)		F(112)	F(87)	F(154)	F(139)	F(123)	F(107)	F(109)	F(106)
33	Mohawk Street/Truxtun Avenue	Morning	Signal		Signal								
		Afternoon		D(42)						E(60)			
34	Mohawk Street/California Avenue	Morning	Signal		Signal					F(106)	D(37)	D(41)	D(35)
		Afternoon				F(89)	E(62)	E(55)	E(56)	F(162)	E(65)	E(62)	F(82)
35	Stockdale Highway/California Avenue	Morning	Signal	E(56)	Signal	E(65)	D(40)	D(43)	D(43)	F(93)	D(42)	D(46)	D(43)
		Afternoon		F(82)		D(49)	E(59)	E(57)	E(62)	F(100)	E(74)	E(60)	E(64)
36	Airport Drive/State Route 204 Off-ramp	Morning	Signal	D(36)	Signal								
		Afternoon		D(43)									
38	Buck Owens Boulevard/Rio Mirada Drive	Morning	Signal	D(44)	Signal								
		Afternoon											
39	State Route 99 Northbound Ramps/Buck Owens Boulevard	Morning	Signal	D(39)	Signal	D(41)		D(38)	D(37)	D(38)	D(42)	D(45)	D(42)
		Afternoon		D(38)		D(44)	D(44)	D(43)	D(46)	D(46)	D(43)	D(42)	D(43)
42	Rosedale Highway/State Route 99 Northbound Ramps	Morning	Signal	D (51)	Signal								
		Afternoon		F(126)							D(43)	D(36)	D(38)
43	24th Street/Oak Street	Morning	Signal	F(89)	Signal								
		Afternoon		F(100)						D(38)	D(38)	D(39)	D(37)
44	Truxtun Avenue/Empire Drive	Morning	Signal		Signal								
		Afternoon								D(48)		D(52)	
45	Truxtun Avenue/Oak Street	Morning	Signal	D(43)	Signal	D(36)				E(62)	D(52)	D(53)	D(52)
		Afternoon		E(74)		D(53)	D(44)	D(46)	D(44)	E(74)	D(46)	D(45)	D(48)

Table 3.14 Comparison of Intersections Operating at Deficient Levels of Service

	Intersection	Peak Hour	Existing Condition (2008)		Future Year Traffic Control	Forecasted 2018 Level of Service (Delay[1])				Forecasted 2038 Level of Service (Delay[1])			
			Traffic Control	Level of Service (Delay*)		No-Build	Alt. A	Alt. B	Alt. C	No-Build	Alt. A	Alt. B	Alt. C
46	California Avenue/Chester Lane	Morning	Signal		Signal								
		Afternoon					D(54)	D(48)	D(52)		F(131)	F(124)	F(121)
47	California Avenue/State Route 99 Southbound Ramps	Morning	Signal		Signal						E(58)	E(60)	E(59)
		Afternoon				E(61)	E(66)	E(66)	E(62)	E(76)	F(90)	F(83)	F(83)
49	California Avenue/Oak Street	Morning	Signal	D(44)	Signal								
		Afternoon		E(79)		E(56)	D(41)	D(41)	D(40)	E(62)	E(59)	E(58)	E(58)
50	Stockdale Highway/Stine Road	Morning	No Signal	Not Available	Signal	D(40)				F(89)			
		Afternoon				E(76)	D(53)	D(48)	D(52)	F(>150)	F(90)	F(84)	F(81)
51	Stockdale Highway/Real Road	Morning	Signal	F(96)	Signal	E(59)	D(40)	D(42)	D(51)	D(48)	D(36)	D(43)	D(45)
		Afternoon		F(93)		E(58)	D(41)	D(39)	F(82)	F(94)	D(53)	D(51)	F(91)
53	Brundage Lane/Oak Street	Morning	Signal		Signal								
		Afternoon		D(39)		D(42)				D(40)			
56	Ming Avenue/New Stine Road	Morning	Signal	E(57)	Signal	D(47)		D(38)	D(37)	D(47)	D(42)	D(48)	D(45)
		Afternoon		E(80)		D(48)	D(37)	D(39)	D(40)	E(70)	D(44)	D(45)	E(55)
57	Ming Avenue/Real Road	Morning	Signal		Signal								
		Afternoon		E(61)						E(65)			
59	Ming Avenue/Wible Road	Morning	Signal	E(61)	Signal								
		Afternoon		E(68)									
60	Ming Avenue/ State Route 99 Northbound Ramps	Morning	Signal		Signal					D(36)			
		Afternoon		D(40)									
61	Ming Avenue/Castro Lane	Morning	Signal		Signal								
		Afternoon								D(39)	D(40)	D(37)	D(36)
62	White Lane/Wible Road	Morning	Signal	D(55)	Signal	E(56)	E(65)	E(61)	E(58)	F(83)	F(84)	E(78)	F(81)
		Afternoon		F(83)		E(77)	E(72)	E(73)	E(72)	F(132)	F(139)	F(137)	F(130)

Table 3.14 Comparison of Intersections Operating at Deficient Levels of Service

	Intersection	Peak Hour	Existing Condition (2008)		Future Year Traffic Control	Forecasted 2018 Level of Service (Delay[1])				Forecasted 2038 Level of Service (Delay[1])			
			Traffic Control	Level of Service (Delay*)		No-Build	Alt. A	Alt. B	Alt. C	No-Build	Alt. A	Alt. B	Alt. C
63	White Lane/State Route 99 Southbound Ramps	Morning	Signal		Signal								
		Afternoon		F(110)		F(96)	F(90)	F(81)	F(86)	F(97)	F(87)	F(89)	F(94)
65	White Lane/Hughes Lane	Morning	Signal	D(36)	Signal	D(36)	D(37)	D(39)	D(39)	D(37)	D(43)	D(41)	D(46)
		Afternoon		D(38)		D(45)	D(45)	D(44)	D(44)	--	D(48)	D(53)	D(50)
66	H Street/Brundage Lane	Morning	Signal		Signal								
		Afternoon		D(35)		D(39)	D(40)	D(51)		E(68)	D(54)	D(48)	
67	H Street/State Route 58 Westbound Ramp	Morning	Signal		Signal								
		Afternoon		E(56)		E(66)	D(45)	D(47)		E(64)	D(35)	D(36)	D(36)
69	H Street/Ming Avenue	Morning	Signal		Signal						D(35)	D(33)	D(37)
		Afternoon		D(35)		D(43)	D(41)	D(45)	D(43)	D(37)	D(42)	D(41)	D(41)
70	Chester Avenue/Brundage Lane	Morning	Signal		Signal								
		Afternoon					D(41)	D(46)	D(36)	E(68)	D(54)	D(48)	
73	Chester Avenue/Ming Avenue	Morning	Signal		Signal	D(39)	D(36)	D(38)	D(44)		D(36)	D(40)	D(40)
		Afternoon				D(37)	D(43)	D(43)	D(41)	D(48)	D(48)	D(53)	D(51)
74	Union Avenue/Brundage Lane	Morning	Signal	D(42)	Signal					D(47)	D(43)	D(46)	E(57)
		Afternoon		D(40)						D(43)	D(48)	D(49)	D(51)
75	Brundage Lane/ State Route 58 Westbound Ramps	Morning	Signal		Signal								
		Afternoon								D(41)	D(42)	D(43)	D(43)

1 Note: Only intersections operating at a deficient level of service are listed in the table. Cells with no values listed are operating at an acceptable level of service. Local intersections are considered deficient at level of service D, E, or F. Caltrans' intersections (ramp intersections) are considered deficient at level of service E or F. The number in parenthesis is the delay in seconds, rounded to a full number.

2 The Rosedale Highway/Mohawk Street intersection was signalized after 2008, which represents the baseline for the analysis in this environmental impact report/environmental impact statement.

* Level of service improves to an acceptable level with installation of a traffic signal.

Source: Developed from the *Traffic Study Report for the Centennial Corridor Project* 2012.

Table 3.15 Summary of Deficient Intersections

	Existing (2008)	No-Build 2018	Alternative A 2018	Alternative B 2018	Alternative C 2018	No-Build 2038	Alternative A 2038	Alternative B 2038	Alternative C 2038
Local Intersections Operating at:									
Level of Service D	9 morning 7 afternoon	9 morning 11 afternoon	10 morning 14 afternoon	10 morning 14 afternoon	10 morning 12 afternoon	7 morning 10 afternoon	11 morning 13 afternoon	11 morning 14 afternoon	11 morning 9 afternoon
Level of Service E	6 morning 7 afternoon	5 morning 4 afternoon	1 morning 3 afternoon	2 morning 3 afternoon	2 morning 3 afternoon	2 morning 7 afternoon	4 morning 4 afternoon	4 morning 4 afternoon	4 morning 4 afternoon
Level of Service F	4 morning 8 afternoon	1 morning 4 afternoon	1 morning 3 afternoon	1 morning 3 afternoon	1 morning 4 afternoon	8 morning 11 afternoon	3 morning 9 afternoon	3 morning 9 afternoon	3 morning 11 afternoon
Ramp Termini Operating at:									
Level of Service E	1 morning 2 afternoon	0 morning 2 afternoon	0 morning 1 afternoon	0 morning 1 afternoon	0 morning 1 afternoon	0 morning 2 afternoon	1 morning 0 afternoon	1 morning 0 afternoon	1 morning 0 afternoon
Level of Service F	0 morning 2 afternoon	0 morning 1 afternoon	0 morning 1 afternoon	0 morning 1 afternoon	0 morning 1 afternoon	0 morning 2 afternoon	0 morning 3 afternoon	0 morning 3 afternoon	0 morning 3 afternoon
Source: Developed from the *Traffic Study Report for the Centennial Corridor Project* 2012.									

Safety Benefits

Analysis of All Build Alternatives

The build alternatives would result in safety benefits associated with considerably less congestion on local streets and State Route 99, as discussed earlier.

As discussed in the Traffic Study Report, accident costs benefits were quantified using the STEAM model. In 2038, the build alternatives would result in an estimated savings of between $6.3 million and $8.9 million compared to the No-Build Alternative. Additionally, based on the University of Washington Report, “Why Can’t We Be Friends: Reducing Conflicts Between Bicycles and Trucks”, (December 7, 2012, Chapter 7) removing traffic, including trucks, from local streets would result in fewer potential vehicular hazards to bicyclists and pedestrians.

No-Build Alternative

The No-Build Alternative would not provide safety benefits because no improvements would be made. Accident types most frequently avoided by providing freeway improvements are rear-end collisions, sideswipe, and hit objects. Rear-end collisions are the most frequent type of accident avoided.

Parking Impacts

Analysis of All Build Alternatives

Based on preliminary design information, the assessment of parking impacts was made by determining the number of available parking spaces, the types of businesses being affected, and the total number of parking spaces that would remain after project implementation.

All alternatives would remove a 49-space Caltrans Park and Ride facility on Stockdale Highway between Real Road and State Route 99. But, each alternative provides for a replacement lot providing a minimum of 49 parking spaces. (Please see Figures 2-4a, 2-5a, and 2-6a, provided in Volume 2, for the locations of replacement park and ride facilities for Alternatives A through C, respectively.)

The build alternatives would all affect parking at the Kaiser Health Care Center, though replacement parking could be provided using land leftover on an adjacent parcel acquired for the project. The number of parking spaces affected varies by alternative, as shown in Table 3.16. Detailed information of the affected parcels is provided in Appendix G in Volume 2.

Table 3.16 Summary of Parking Impact

Build Alternative	Current Number of Parking Spaces	Affected Parking Spaces[1]	Parking Spaces Remaining After Construction	Net Loss of Parking Spaces
A	1,635	285	1,513	122
B	1,210	300	1,064	146
C	1,771	383	1,629	142

1. Includes temporary parking space losses during construction
Source: Developed from the *Community Impact Assessment* 2013.

No-Build Alternative

The No-Build Alternative would not require the removal of any parking spaces.

Public Transit Impacts

Common to All Build Alternatives

Implementation of the transportation improvements is expected to enhance transit service because they would improve east-west access across the city of Bakersfield, while at the same time reducing freeway and local street congestion. Improved access, connectivity, continuity, and reduced congestion with all build alternatives should result in more timely and reliable transit service in the project area. Also, transit agencies serving the metropolitan Bakersfield area would likely be able to offer new bus routing options using the project freeway corridor.

No Golden Empire Transit routes use streets proposed for permanent closure/change under the build alternatives; neither do they use any of the freeway ramps proposed for closure. Therefore, there would be no direct effects to transit service due to road changes or closures. There may be some localized, minor increases in traffic on collector and arterial streets that would receive diverted traffic during operation of the build alternatives, but these indirect impacts are not expected to be substantial and should not adversely affect transit.

Alternative A

Alternative A would provide the shortest, most direct east-west service to the west side of Bakersfield, but there are no exits as you travel west from downtown along this alternative alignment in the Segment 1 study area. So, destinations such as shopping centers on Stockdale Highway would not be directly accessible via this alternative.

Alternative B

With Alternative B, east-west travel time across the Segment 1 study area would be slightly longer than for Alternative A, given the greater length of this alternative alignment. Eastbound transit on this alternative route would be able to exit at Truxtun Avenue, providing direct access to the Health South Bakersfield Rehabilitation Hospital and nearby office parks.

Alternative C

With Alternative C, east-west travel time across the Segment 1 study area would be slightly longer than for Alternatives A and B, given that this alternative would provide the least direct route. Also, with Alternative C, the exit to and from Real Road and State Route 58 is maintained. The Real Road connection provides direct access to the Stockdale and California Street corridors, which is not provided in Alternatives A and B. This would provide better accessibility for both transit and other vehicles.

No-Build Alternative

As mentioned under the discussion of Circulation Network Assumptions, as part of the regional planning effort, many transportation improvements have been planned in the metropolitan Bakersfield area. These improvements, which are not part of the Centennial Corridor project are assumed as part of the future roadway network for all alternatives, including the No-Build Alternative. Several of these improvement projects involve upgrades to major thoroughfares, including Rosedale Highway (State Route 58), State Route 99, Oak Street, and State Route 204. Generally, these improvements should improve traffic under operational conditions which, in turn, could benefit transit service. However, overall level of service on the circulation network would be reduced compared to existing conditions and implementation of the build alternatives.

Impacts to Pedestrian and Bicycle Facilities

Overall, the project would be designed to retain existing pedestrian and bicycle travel ways to the extent feasible. Each of the Segment 1 build alternatives would be designed to provide for arterial and collector road connections across the facility. Specific impacts on pedestrian and bicycle travel by alternative are provided below.

Alternative A

The proposed closure of Frazier Avenue, McDonald Way, Jones Street, and Williamson Way would eliminate existing local access used by bicyclists and pedestrians. Because residential areas are on both sides of the freeway, the lack of pedestrian and bicycle connection, particularly at Stine Road, would increase neighborhood travel distances. The closing of Business Park South, which is north of Stockdale Highway and east of California Avenue, would slightly affect pedestrian and bicycle travel times to and from the adjacent residential neighborhood. However, bikeways designated on the Bikeway Master Plan would not be affected.

Alternative A would affect a bicycle trail and the Hoey Trail on the south side of the Kern River. On the north side of the Kern River, a portion of the equestrian trail would be relocated within the Kern River Parkway.

Alternative B

The proposed closure to through traffic of Montclair Street, Charter Oak Avenue, Woodlake Drive, Kensington Avenue, Hillsborough Drive, Kentfield Drive, and Williamson Way would eliminate travel ways used by bicyclists and pedestrians,

resulting in modified travel patterns in the same neighborhood. With this alternative, pedestrian and bicycle cross-freeway access would be limited to the two overcrossings. Permanent bicycle and pedestrian traffic crossings would be at La Mirada Drive, Marella Way, California Avenue, Stockdale Highway, Belle Terrace, Ming Avenue, Hughes Lane, and H Street.

The option of removing the La Mirada Drive overcrossing from Alternative B is also being considered. Caltrans and the City of Bakersfield will consider the benefits associated with minimizing impacts on the remaining neighborhood, costs, and internal circulation needs. Removal of the overcrossing would not substantially change access, which would be provided by the Marella Way overcrossing. Removal of the La Mirada Drive overcrossing would eliminate the need to displace 13 single-family homes on La Mirada Drive near Centennial Park and save about $2.5 million in construction costs. The option of adding a Ford Road undercrossing would maintain connection of Ford Road between Stine Road and McDonald Way. This is the design option that was raised during the public information meeting held on December 6, 2012 and will be evaluated during final design. The undercrossing would not require the acquisition of any additional property and would add about $5.5 million in construction cost.

The Class 3 bike route (an on-road, unstriped bike route) designated on the Bikeway Master Plan, which uses Montclair Street, would have to be changed. The route currently uses Garnsey Lane to Mira Loma Drive, to Montclair Street, to Marella Way. Under Alternative B, the route would have to be changed to continue along Mira Loma Drive to Marella Way. This would provide generally the same access to California Avenue, but would require a realignment of the route on the City of Bakersfield Bikeway Master Plan.

Alternative C

Because no local through street access would be eliminated, Alternative C would not directly affect pedestrian and bicycle networks.

No-Build Alternative

Because no local through street access would be eliminated, the No-Build Alternative would not directly affect pedestrian and bicycle networks.

Avoidance, Minimization, and/or Mitigation Measures

Mitigation measures are presented below for each of the adverse effects to traffic identified in this section. Standard conditions for impacts on traffic and circulation during construction are presented in Section 3.6, Construction Impacts.

Minimization and Mitigation Measures

T-1 Modifications could include parking lot design modifications, space management (such as parking area restriping), or identifying parking lot replacement options.

The following measure would apply if Alternative A were selected:

T-2 For Alternative A, Caltrans shall take into consideration the means to minimize both operational and construction impacts to existing and planned bike routes and trails potentially affected by the project construction, such as rerouting the trails prior to the initiation of construction activities.

The following measure would apply if Alternative B were selected:

T-3 During final design, Caltrans shall work with the City of Bakersfield to amend the Metropolitan Bakersfield General Plan, Bikeway Master Plan to reflect the modified Class 3 bicycle route affected by Alternative B and shall take into consideration the means to minimize both operational and construction impacts to existing and planned bike routes and trails potentially affected by the project construction, including the Kern River Parkway bike path and Hoey Trail. The Kern River Parkway bike path and Hoey Trail shall be relocated, where necessary, to ensure connectivity with the existing facility on both sides of the bridge. All pedestrian facilities shall be designed to meet or exceed requirements of the Americans with Disabilities Act and current safety standards. Access to the pedestrian, bicycle, and equestrian trails shall be maintained to the extent practicable during the construction period.

The following measure would apply if Alternative C were selected:

T-4 With Alternative C, replacement parking shall be created to compensate for the loss of parking at Saunders Park. Sufficient parking shall be provided to meet zoning code requirements for the park.

3.1.7 Visual/Aesthetics

This section addresses potential visual and aesthetic impacts associated with the alternatives of the project. Preparation of the visual analysis is consistent with methodologies established by Federal Highway Administration's Visual Impact Assessment for Highway Projects (1981). Viewpoint analysis was focused on Segment 1, which will be newly built as part of the Centennial Corridor project. However, there are also intersection improvements at the Stockdale Highway and State Route 43 (known locally as Enos Lane) intersection (Segment 3). These would include widening the intersection to provide turn lanes and adding traffic signal to control traffic movement. Stockdale Highway would be widened to add a dedicated left-turn lane and a shared through/right-turn lane in both directions. These improvements would be built at the same time as the Segment 1 improvements.

Regulatory Setting

The National Environmental Policy Act of 1969 as amended establishes that the federal government use all practicable means to ensure all Americans safe, healthful,

productive, and *aesthetically* (emphasis added) and culturally pleasing surroundings (42 U.S. Code 4331[b][2]). To further emphasize this point, the Federal Highway Administration in its implementation of National Environmental Policy Act (23 U.S. Code 109[h]) directs that final decisions on projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

The California Environmental Quality Act establishes that it is the policy of the state to take all action necessary to provide the people of the state "with…enjoyment of *aesthetic*, natural, scenic and historic environmental qualities" (California Public Resources Code Section 21001[b]).

Affected Environment

Information in this section is based on the analysis in the *Visual Impact Assessment* (September 2013) for the project.

The Centennial Corridor project area sits at the southern end of the San Joaquin Valley in west-central Kern County, which has relatively flat topography. The Kern River is an important visual and recreational corridor running through the project area. All of the project alternatives cross the river, so the river is readily visible from all the build alternatives.

Much of the regional landscape of the project area, except for the northwestern portion, consists of urbanized land uses. Existing views are typical of a developed urban setting with little topographic variation and limited middle-ground or background vistas. Some locations within the region allow for visual relief from the urban setting. These include parkland such as Centennial Park, Saunders Park, and the Kern River Parkway. No Scenic Highways are found in the project area. Figure 3-12 shows images of typical views in the project area.

Viewshed

A "viewshed" is the area normally visible from an observer's viewpoint; it is limited by the screening/obstruction effects of any vegetation or structures.

To describe the visual environment of the project area, the viewshed was divided into four geographic landscape units, described in Table 3.17. A landscape unit is an area with similar visual characteristics; it is often marked by changes in land uses or a physical characteristic such as crossing a river or entering a valley.

Table 3.17 Summary of Landscape Units

Landscape Unit	Description	
State Route 58	Image Types	Commercial, residential, industrial
	Viewer Groups	Motorists, residents, commercial employees
	Visual Resources	Residential neighborhoods and commercial properties
	Overall Visual Character	Established transportation facility; residential neighborhoods; commercial properties

Table 3.17 Summary of Landscape Units

Landscape Unit	Description	
State Route 99	Image Types	Commercial, residential, recreational, industrial
	Viewer Groups	Motorists, residents, commercial employees, recreational viewers
	Visual Resources	Residential neighborhoods and commercial properties; Saunders Park
	Overall Visual Character	Established transportation facility; residential neighborhoods; commercial properties; Saunders Park
Mixed-Land Use	Image Types	Commercial, residential, recreational, industrial
	Viewer Groups	Commercial employees, motorists, residents, recreational users
	Visual Resources	Strip mall commercial development with some larger buildings; Centennial Park; the Kern River; the Kern River Parkway and Bike Path
	Overall Visual Character	Dense, urbanized strip mall development; residential neighborhoods; parkland; the Kern River
Sparsely Developed/ Kern River	Image Types	Residential, recreational, industrial
	Viewer Groups	Residents, motorists, commercial employees, recreational users
	Visual Resources	Expansive undeveloped land; the Kern River; the Kern River Parkway and Bike Path; Lake Truxtun
	Overall Visual Character	Underdeveloped area, parkland, the Kern River
Source: Developed from the *Visual Impact Assessment* 2013.		

Thirteen key viewpoints along each alternative alignment of Segment 1 were identified to represent the visual character of each landscape unit. See Figure 3-13 (provided in Volume 2) for the landscape units and key viewpoint locations.

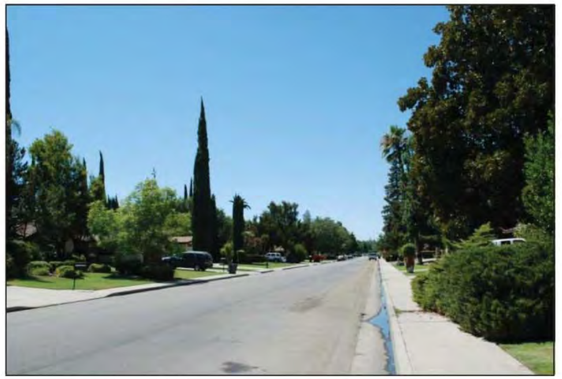
Each of the 13 viewpoints was analyzed to determine its visual quality in terms of *vividness* (how the views mix together to create patterns that stay in a person's memory); *intactness* (the consistency of the views of the natural and human-made landscape and amount of inconsistent views); and *unity* (how well the features blend to a visual design).

The seven evaluation criteria used to measure existing visual quality are: very low, low, moderately low, average, moderately high, high, and very high. Existing and simulated project viewpoints are shown in Figures 3-14 through 3-26. The environmental conditions in 2008, when the Notice of Preparation was issued and when the existing view photos were taken, serve as the baseline for the impact analysis evaluated for this project.

Viewer Groups

Viewer groups are groups of people that would see the project. Viewer groups for the Centennial Corridor project include drivers on the road, residents, and employees and customers of the commercial and office/light industrial uses along the route. Residents would be more sensitive to changes than would a driver passing through an area at 40 to 50 miles per hour.

Sparsely Developed/Industrial



Residential

Recreational

Commercial

Source: Visual Impact Assessment 2013

Representative Views within the Project Area

Centennial Corridor, Kern County, California

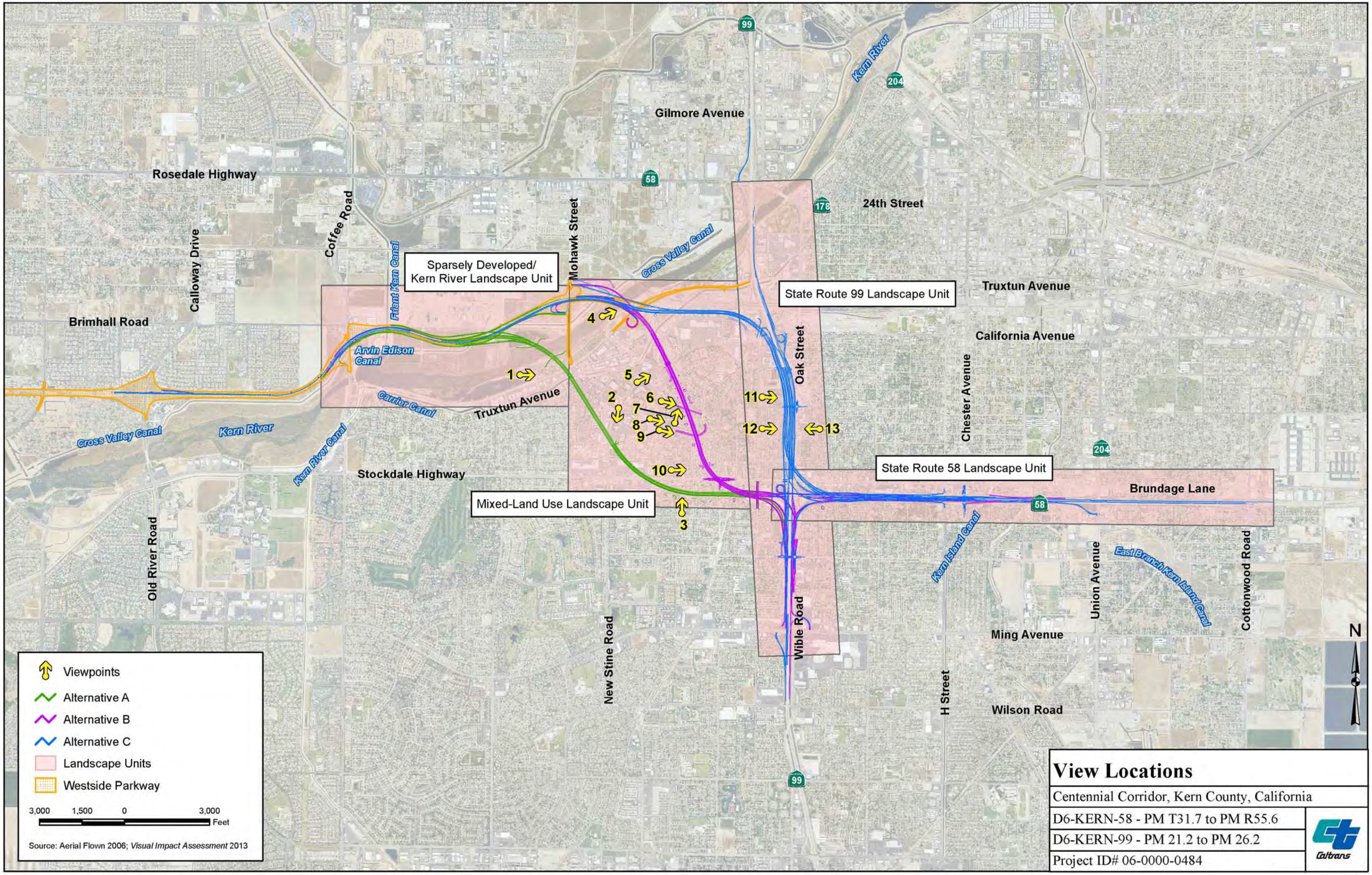
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-12



View Locations

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-13

Existing view (Baseline Condition 2008).

Simulated project view without vines.

Simulated project view with vines.

Source: Visual Impact Assessment 2013

Viewpoint 1 Kern River Parkway (looking east toward Alternative A Corridor Alignment)

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-14

Existing view (Baseline Condition 2008).

Simulated project view.

Viewpoint 2 California Avenue near Lennox Avenue (looking south toward Alternative A Corridor Alignment)

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Source: Visual Impact Assessment 2013

Figure 3-15

Existing view (Baseline Condition 2008).

Simulated project view without vines.

Simulated project view with vines.

Source: Visual Impact Assessment 2013

Viewpoint 3 McDonald Way near Peckham Avenue (looking north toward Alternative A Corridor Alignment)

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-16

Baseline Condition 2008.

Existing View with Westside Parkway.

Simulated view with Westside Parkway and Centennial Corridor.

Source: Visual Impact Assessment 2013

Viewpoint 4 Kern River Parkway (looking northeast toward Alternative B Corridor Alignment)

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-17

Existing view (Baseline Condition 2008).

Simulated project view.

Viewpoint 5 California Avenue near Marella Way (looking northeast toward Alternative B Corridor Alignment)

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Source: Visual Impact Assessment 2013

Figure 3-18

Existing view.

Simulated Project View, Option A

Simulated Project View, Option B

Source: Visual Impact Assessment 2013

Viewpoint 6 Centennial Park (looking east on Marella Way toward Alternative B Corridor Alignment)

Centennial Corridor, Kern County, California

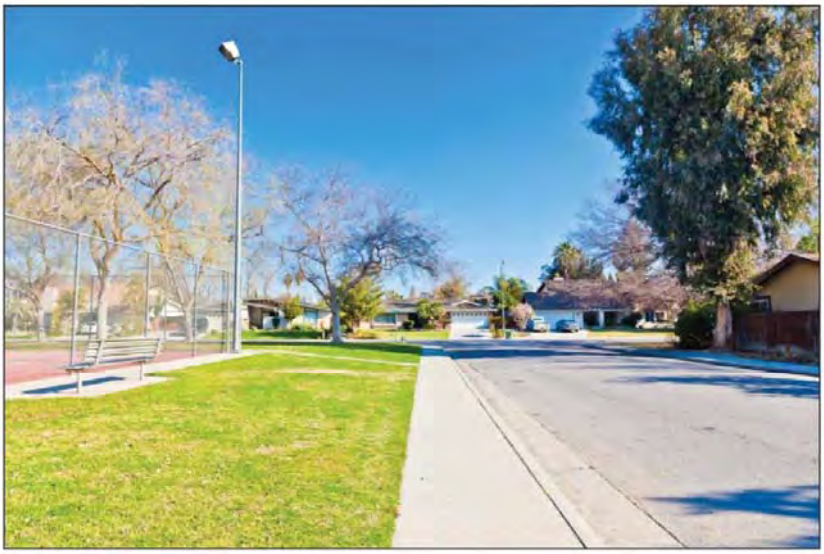
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-19



Existing view (Baseline Condition 2008).

Simulated project view.

Viewpoint 7 Centennial Park (looking north on Fallbrook Street toward Alternative B Corridor Alignment)

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Source: Visual Impact Assessment 2013

Figure 3-20

Existing view (Baseline Condition 2008).

Simulated project view.

Viewpoint 8 Centennial Park (looking east toward Alternative B Corridor Alignment)

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

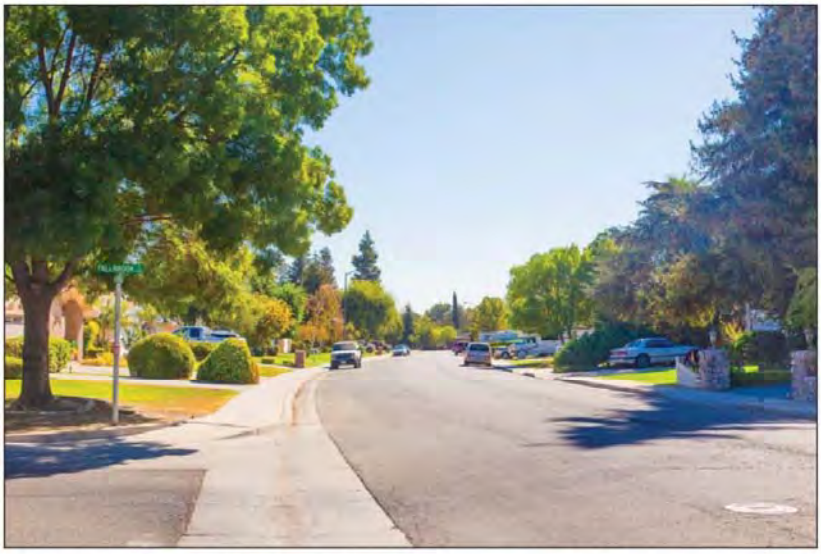
D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Source: Visual Impact Assessment 2013

Figure 3-21



Existing view (Baseline Condition 2008).

Simulated project view.

Viewpoint 9 La Mirada Drive at Fallbrook Street (looking east toward Alternative B Corridor Alignment)

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

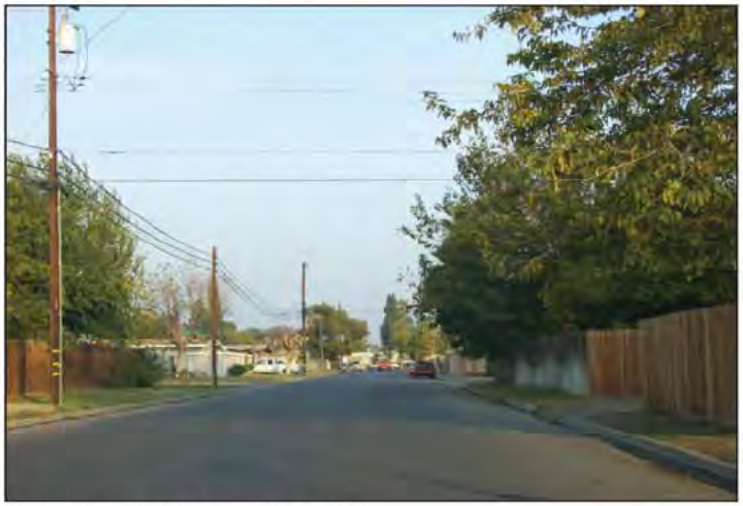
D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Source: Visual Impact Assessment 2013

Figure 3-22



Existing view (Baseline Condition 2008).

Simulated project view without vines.

Simulated project view with vines.

*Note: The option for adding a Ford Road undercrossing would maintain connection of Ford Road between Stine Road and McDonald Way. The bridge would not require the acquisition of any additional property.

Source: Visual Impact Assessment 2013

Viewpoint 10 Ford Avenue near Candy Street (looking east toward Alternative B Corridor Alignment)

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-23

Existing view (Baseline Condition 2008).

Simulated project view without vines.

Simulated project view with vines.

Source: Visual Impact Assessment 2013

Viewpoint 11 Saunders Park (looking east toward Alternative C Corridor Alignment)

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-24

Existing view (Baseline Condition 2008).

Simulated project view without vines.

Simulated project view with vines.

Source: Visual Impact Assessment 2013

Viewpoint 12 Bank Street near Wetherley Drive (looking east toward Alternative C Corridor Alignment)

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-25

Existing view (Baseline Condition 2008).

Simulated project view.

Viewpoint 13 Bank Street near Olive Street (looking west toward Alternative C Corridor Alignment)

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Source: Visual Impact Assessment 2013

Figure 3-26

Environmental Consequences

The visual impact assessment analyzed changes at key viewpoints in the project study area. Photo simulations compared existing and post-project views. Table 3.18 shows existing and "with project" vividness, intactness, and unity ratings, plus overall visual ratings for the viewpoints.

Table 3.18 Summary of Existing Visual Quality for Viewpoints[1]

Viewpoint			Vividness	Intactness	Unity	Overall Visual Quality[2]
Alternative A						
Viewpoint 1	Kern River Parkway (looking east toward Alternative A)	**Existing**	Moderately High (5)	Moderately High (5)	Moderately High (5)	Moderately High (5)
		With Alternative A	Average (4)	Moderately Low (3)	Average (4)	Average (3.7)
Viewpoint 2	California Avenue near Lennox Avenue (looking south toward Alternative A)	**Existing**	Average (4)	Average (4)	Average (4)	Average (4)
		With Alternative A	Moderately Low (3)	Moderately Low (3)	Moderately Low (3)	Moderately Low (3)
Viewpoint 3	McDonald Way near Peckham Avenue (looking north toward Alternative A)	**Existing**	Average (4)	Average (4)	Average (4)	Average (4)
		With Alternative A	Moderately Low (3)	Moderately Low (3)	Moderately Low (3)	Moderately Low (3)
Alternative B						
Viewpoint 4	Kern River Parkway (looking northeast toward Alternative B)	**Existing**	Moderately High (5)	Average (4)	Average (4)	Average (4.3)
		With Alternative B	Average (4)	Moderately Low (3)	Moderately Low (3)	Moderately Low (3.3)
Viewpoint 5	California Avenue near Marella Way (looking northeast toward Alternative B)	**Existing**	Average (4)	Moderately High (5)	Average (4)	Average (4.3)
		With Alternative B	Moderately Low (3)	Average (4)	Moderately Low (3)	Moderately Low (3.3)
Viewpoint 6	Centennial Park (looking east on Marella Way toward Alternative B)	**Existing**	Average (4)	Moderately High (5)	Average (4)	Average (4.3)
		With Alternative B	Moderately Low (3)	Average (4)	Moderately Low (3)	Moderately Low (3.3)
Viewpoint 7	Centennial Park (looking north on Fallbrook Street toward Alternative B)	**Existing**	Average (4)	Moderately High (5)	Average (4)	Average (4.3)
		With Alternative B	Moderately Low (3)	Moderately Low (3)	Moderately Low (3)	Moderately Low (3)
Viewpoint 8	Centennial Park (looking east toward Alternative B)	**Existing**	Average (4)	Moderately High (5)	Average (4)	Average (4.3)
		With Alternative B	Average (4)	Average (4)	Average (4)	Average (4)
Viewpoint 9	La Mirada Drive at Fallbrook Street (looking east toward Alternative B)	**Existing**	Average (4)	Average (4)	Average (4)	Average (4)
		With Alternative B	Average (4)	Moderately Low (3)	Moderately Low (3)	Moderately Low (3.3)
Viewpoint 10	Ford Avenue near Candy Street (looking east toward Alternative B)	**Existing**	Average (4)	Average (4)	Average (4)	Average (4)
		With Alternative B	Moderately Low (3)	Moderately Low (3)	Moderately Low (3)	Moderately Low (3)

Table 3.18 Summary of Existing Visual Quality for Viewpoints[1]

Viewpoint			Vividness	Intactness	Unity	Overall Visual Quality[2]
Alternative C						
Viewpoint 11	Saunders Park (looking east toward Alternative C)	**Existing**	Average (4)	Moderately High (5)	Average (4)	Average (4.3)
		With Alternative C	Moderately Low (3)	Average (4)	Moderately Low (3)	Moderately Low (3.3)
Viewpoint 12	Bank Street near Wetherley Drive (looking east toward Alternative C)	**Existing**	Moderately Low (3)	Average (4)	Moderately Low (3)	Moderately Low (3.3)
		With Alternative C	Moderately Low (3)	Moderately Low (3)	Moderately Low (3)	Moderately Low (3)
Viewpoint 13	Bank Street near Olive Street (looking west toward Alternative C)	**Existing**	Average (4)	Average (4)	Average (4)	Average (4)
		With Alternative C	Average (4)	Average (4)	Average (4)	Average (4)

[1] Seven evaluation criteria were applied to measure visual quality: very low, low, moderately low, average, moderately high, high, and very high (Federal Highway Administration 1981).

[2] The score for the Overall Visual Quality was determined by adding the score for Vividness, Intactness, and Unity then dividing by three. This gave an average score for the three evaluation criteria.

Source: Developed from the *Visual Impact Assessment* 2013.

Common to All Build Alternatives

As noted in Section 2.1.1, the aesthetic treatment for walls, bridges, and landscaping of all build alternatives would be designed to be consistent with the Westside Parkway to provide a cohesive visual character to the project. Landscaping would be implemented upon completion of construction. Plant material would use native and adapted plant material consistent with Caltrans District 6 approved plant palette and would not include any invasive plant species. With the similar aesthetic treatment, no visual contrast along the corridor would be seen.

Alternative A

Three key viewpoints were analyzed for the Alternative A alignment:

Viewpoint 1 – Kern River Parkway (looking east toward Alternative A)

This viewpoint is in the Kern River Parkway near the intersection of Truxtun Avenue and the Mohawk Street extension. The natural topography and views of the Kern River Parkway and various tree types and foliage have a moderately high degree of overall visual quality (see Figure 3-14, Viewpoint 1 Kern River Parkway, looking east toward Alternative A).

Alternative A would build a new retaining wall and raised freeway north of Truxtun Avenue crossing Kern River Parkway (see simulated view in Figure 3-14). The addition of the retaining wall and raised freeway would affect the vividness, intactness, and unity of the existing view because the human-made structure would encroach on the natural landscape, resulting in a change in visual character of the Kern River Parkway. There would be a moderately high to high adverse change in the

visual quality/character of this viewpoint, decreasing the overall visual quality to an average rating.

The main viewer group for this viewpoint is Kern River Parkway users. The park users would see the views of the new freeway for a moderate duration and, therefore, would have a high sensitivity and awareness of the project and its effect on views. The view through the Kern River Parkway at this location would be interrupted by the new freeway. The viewer awareness of the changes is likely to be high.

The resulting visual impact to Viewpoint 1 would be moderately high and adverse with implementation of Alternative A.

Viewpoint 2 – California Avenue near Lennox Avenue (looking south toward Alternative A)
This viewpoint is near the intersection of California Avenue and Lennox Avenue in a busy commercial area. The streetscape is developed with commercial land uses, street furniture, and business signs. This viewpoint has an average degree of overall visual quality (see Figure 3-15, Viewpoint 2 California Avenue near Lennox Avenue, looking south toward Alternative A).

Alternative A would build a new overhead freeway north of Stockdale Highway crossing California Avenue. There would be concrete freeway decking and concrete columns supporting the new transportation facility (see simulated view in Figure 3-15). The proposed freeway would affect vividness, intactness, and unity of the existing view by introducing a new substantial above-grade structure into the commercial area as well as bisecting the commercial area. A visual change to Viewpoint 2 would be from average to moderately low.

The view from southbound California Avenue includes commercial development and prominent signage. The main viewer groups for this viewpoint include motorists and commercial area users. Motorists driving by this area would see the view at this location for a short time (about 1 to 5 seconds) and therefore, awareness to the changes of view is likely to be low. Awareness to the changes of view of the commercial employees is likely to be moderate or average because they would see the project only during business hours.

The resulting visual impact to Viewpoint 2 would be moderately low with implementation of Alternative A.

Viewpoint 3 – McDonald Way near Peckham Avenue (looking north toward Alternative A)
This viewpoint is near the intersection of McDonald Way and Peckham Avenue in a single-family residential neighborhood. The McDonald Way streetscape has residential homes, trees, and overhead utility lines and has an average degree of overall visual quality (see Figure 3-16, Viewpoint 3 McDonald Way near Peckham Avenue, looking north toward Alternative A).

Alternative A would build a cul-de-sac at the end of McDonald Way and Peckham Avenue, and a chain-link fence would be put up in front of a landscaped slope leading to a raised freeway and soundwall south of Stockdale Highway crossing McDonald Way (see simulated view in Figure 3-16). Many residential properties would be relocated to build the new freeway. The retaining wall, soundwall, and raised freeway would affect vividness, intactness, and unity of the existing view because the new freeway would add an above-grade structure into the residential area. The existing character of the area would change from a quiet residential street into a neighborhood bisected by a freeway. A moderate to high adverse change in the visual quality/character of this viewpoint would occur, resulting in a decrease in the visual quality from average to moderately low. The main viewer groups for this viewpoint include motorists and area residents. Motorists using northbound McDonald Way would see the foreground and middleground views of the new freeway for a short duration while driving by. Residents would see the scene of the new freeway for a longer period of time from their homes and the neighborhood and, therefore, would have a high sensitivity and awareness of the project and its effect on views. In addition, the project would affect the character of the residential landscape. Viewer awareness of the changes in neighborhood character would be high.

The resulting visual impact to Viewpoint 3 would be moderately high and adverse with implementation of Alternative A.

Alternative B

Seven key viewpoints were analyzed for the Alternative B Alignment:

Viewpoint 4 – Kern River Parkway (looking northeast toward Alternative B)

This viewpoint is in the Kern River Parkway north of the Truxtun Avenue and Commercial Way intersection. This area has flat, open space topography and views of the Kern River Parkway Bike Trail. Also seen are the relatively undeveloped land, fences, petroleum infrastructure, and overhead utility lines that have an average degree of overall visual quality (see Figure 3-17, Viewpoint 4 Kern River Parkway, looking northeast toward Alternative B). Figure 3-17 reflects not only 2008 baseline conditions, but also the recently constructed Westside Parkway because the visual character of this location has been substantially changed since the baseline conditions.

Alternative B would build an elevated freeway and ramps between the Kern River and Truxtun Avenue. The powerlines shown in this view would be removed. In addition, a portion of the Westside Parkway would be visible at this viewpoint. As shown in the simulated project view in Figure 3-17, the freeway decking and concrete columns of the Westside Parkway and support structures and a portion of the flyover connected with Segment 2 would be visible to the viewers.

An elevated freeway in the sparsely developed area would affect vividness, intactness, and unity of the existing view. The change in the visual quality/character of this viewpoint from a sparsely developed recreational area to one with an elevated freeway would reduce the visual quality from average to moderately low.

The main viewer group for this viewpoint is the Kern River Parkway users who would see the foreground to middle-ground views of the new freeway and ramps for a moderate time (more than 10 seconds at a time) and therefore would have a moderate to high sensitivity and awareness of the project and its effect on these views. The view of the Kern River Parkway Bike Path at this location would be interrupted by the new freeway. Viewer awareness of the changes is likely to be moderate/average to high because the project would slightly decrease the visual character of the key view. So, there would be average adverse changes to Viewpoint 4 with implementation of Alternative B.

Viewpoint 5 – California Avenue near Marella Way (looking northeast toward Alternative B)
This viewpoint is near the intersection of California Avenue and Marella Way. The urban streetscape and views of California Avenue and the various commercial land uses with tree canopy have an average degree of overall visual quality (see Figure 3-18, Viewpoint 5 California Avenue near Marella Way, looking northeast toward Alternative B).

Alternative B would build a new freeway northwest of Centennial Park crossing California Avenue. Concrete freeway decking and concrete columns would support the new freeway (see simulated project view in Figure 3-18). The elevated freeway would affect the vividness, intactness, and unity of the existing view because it would add a new substantial above-grade structure into the mostly commercial building area. There would be an adverse change in the visual quality/character of this viewpoint because the area would be bisected by the freeway. The visual quality of this viewpoint would change from average to moderately low with implementation of Alternative B.

The main viewer groups for this viewpoint include motorists and commercial area users. Motorists using eastbound California Avenue would see the foreground and middle-ground views of the new freeway for a short time while driving by. Commercial area users and employees would see the views of the new freeway for a longer time during business hours, but are likely to have a low sensitivity and awareness of the project because the project would only slightly affect the current highly developed urban character of the landscape. So, there would be moderately low adverse changes to Viewpoint 5 with implementation of Alternative B.

Viewpoint 6 – Centennial Park (looking east on Marella Way toward Alternative B) Corridor Alignment)
This viewpoint is in Centennial Park along Marella Way. The residential streetscape and views of the park's sidewalk, trees and distant tennis courts have an average degree of overall visual quality (see Figure 3-19, Viewpoint 6 Centennial Park, Existing View).

Alternative B would build a new overcrossing on Marella Way at Centennial Park, a retaining wall and concrete barrier with pipe rail along the top between the new

roadway and park, 6-foot sidewalks and street parking on both sides of the road, and street trees along the north side of the roadway.

The project offers two design options for the south side of the overcrossing. In Option A, a minor slope (about 12 inches) would provide a transition between the park property and the approach to the retaining wall/barrier. Most of the area in front of the wall would remain at its existing elevation and landscaped with turf grasses to blend into the adjacent park landscape. In Option B, a larger slope would be used within existing right-of-way, which reduces the height appearance of the retaining wall and shortens the length of the barrier needed along the sidewalk. The area in front of the wall would be landscaped with turf grasses to blend into the adjacent park landscape.

Residential properties contained within this viewpoint would be removed with the proposed project. In addition, a soundwall would be built at the back of the park near the tennis courts to shield Centennial Park users from the noise created by the proposed freeway. Until project design is complete, the soundwall is assumed to be 16 feet tall. The proposed freeway is not visible from this viewpoint because it is depressed below grade behind the soundwall in the background of this viewpoint.

The proposed overcrossing and removal of houses would be a substantial change in the visual environment of the neighborhood residential landscape surrounding Centennial Park. The change would affect the vividness, intactness, and unity of the existing view because the new freeway would change the visual character of the residential area; the existing character of the area would change from a quiet residential street into a bisection of the neighborhood by a large-scale transportation facility. In addition, the residential properties within this viewpoint would be removed with the proposed project. Therefore, there would be a high adverse change in the visual quality/character of this viewpoint, resulting in a moderately low visual quality with the implementation of Alternative B (see Figure 3-19, Viewpoint 6 Centennial Park, Simulated Project View, Option A and Option B).

Motorists using eastbound Marella Way would have short-term (less than 5 seconds) views of the proposed freeway (Alternative B) because Marella Way would be elevated over the freeway at this location. Residents would have longer duration (more than 10 seconds) foreground to middle-ground views of the new freeway and would have a high sensitivity and awareness of the project and its effect on views from their homes and neighborhood. Viewer awareness of the changes is likely to be high because duration of the view is long (more than 10 seconds) for community residents, and the proposed project would remove all residential properties contained within this viewpoint.

The resulting visual impact would be moderately high for Viewpoint 6 with implementation of Alternative B.

Viewpoint 7 – Centennial Park (looking north on Fallbrook Street toward Alternative B Corridor Alignment)
This viewpoint is in Centennial Park along Fallbrook Street. The grassy park area, tennis courts, sidewalk, and views of homes, trees, and lampposts have an average degree of overall visual quality (see Figure 3-20, Viewpoint 7 Centennial Park, Existing View).

Alternative B would build a new overcrossing on Marella Way and a cul de sac on Fallbrook Street. Until project design is complete, the soundwall is assumed to be 16 feet tall. The residential properties contained within this viewpoint would be removed with the proposed project. The proposed freeway is not visible from this viewpoint.

The proposed overcrossing, cul de sac, and removal of houses would be a substantial change in the visual environment of the neighborhood residential landscape surrounding Centennial Park. The change would affect the vividness, intactness, and unity of the existing view because the new transportation facilities would change the visual character of the residential area; the existing character of the area would change from a quiet residential street next to the park into a bisection of the neighborhood by a large-scale transportation facility. Therefore, there would be an adverse change in the visual quality/character of this viewpoint, resulting in a moderately low visual quality with the implementation of Alternative B (see Figure 3-20, Viewpoint 7 Centennial Park, Simulated Project View).

Motorists using Fallbrook Street would have long-term (more than 10 seconds) foreground and middle-ground views of the proposed project (Alternative B). Residents would have longer duration (more than 10 seconds) foreground to middle-ground views of the new freeway and would have a moderately high sensitivity and awareness of the project and its effect on views from their homes and neighborhood. Viewer awareness of the changes is likely to be high because duration of the view is long (more than 10 seconds) for community residents and motorists who would now need to turn around in the cul de sac, rather than continue on to Marella Way, and the proposed project would affect the character of the residential landscape.

The resulting visual impact would be moderately high for Viewpoint 7 with implementation of Alternative B.

Viewpoint 8 – Centennial Park (looking east toward Alternative B Corridor Alignment)
This viewpoint is in Centennial Park near the picnic area. Views of the grassy park and picnic area, mature trees and adjacent neighborhood have an average degree of overall visual quality (see Figure 3-21, Viewpoint 8 Centennial Park, Existing View).

Alternative B would build a soundwall, freeway, and cul de sac at Centennial Park. Except for two houses directly behind the picnic area, the residential properties within this viewpoint would be removed with the proposed project. The proposed freeway is not visible from this viewpoint because it is depressed below grade behind the soundwall in the background of this viewpoint.

The proposed soundwall, freeway, cul de sac, and removal of houses would be a substantial change in the visual environment of the neighborhood residential landscape surrounding Centennial Park. The change would affect the intactness and unity of the existing view because the new freeway would change the visual character of the residential area; the character would change from a quiet residential street to a neighborhood bisected by a large-scale transportation facility. Therefore, there would be an adverse change in the visual quality/character of this viewpoint, resulting in an average visual quality with the implementation of Alternative B (see Figure 3-21, Viewpoint 8 Centennial Park, Simulated Project View).

Motorists using Centennial Park would have long-term (more than 10 seconds) background views of the proposed freeway (Alternative B). Residents would have long duration (more than 10 seconds) background views of the new freeway and would have a high sensitivity and awareness of the project and its effect on views from their homes and neighborhood. Viewer awareness of the changes is likely to be high because duration of the view is long (more than 10 seconds) for community residents and motorists, and the proposed project would affect the character of the residential landscape.

The resulting visual impact would be moderately high for Viewpoint 8 with implementation of Alternative B.

Viewpoint 9 – La Mirada Drive at Fallbrook Street (looking east toward Alternative B Corridor Alignment)
This viewpoint is near the intersection of La Mirada Drive and Fallbrook Street. The residential streetscape and views of homes, trees, roadway and cars have an average degree of overall visual quality (see Figure 3-22, Viewpoint 9 La Mirada Drive at Fallbrook Street, Existing View).

Alternative B would build an overcrossing on La Mirada Drive at Fallbrook Street. Residential properties in the background of this viewpoint would be removed as a result of the proposed project; foreground and middle-ground homes would remain with their driveways elevated to meet the new overcrossing. The proposed freeway would be depressed under the overcrossing at this location. The option of removing the La Mirada Drive overcrossing from Alternative B is also being considered. Removal of the La Mirada Drive overcrossing would eliminate the need to displace 13 single-family homes on La Mirada Drive near Centennial Park. The visual analysis from this viewpoint is assuming the overcrossing because it represents the greatest visual change.

The proposed overcrossing and removal of residential properties would be a substantial change in the visual environment of the neighborhood residential landscape. The change would affect the intactness and unity of the existing view because the new freeway would change the visual character of the residential area; the character would change from a quiet residential street into a neighborhood bisected by a large-scale transportation facility. Therefore, there would be a high adverse change in the visual quality/character of this viewpoint, resulting in a

moderately low visual quality with the implementation of Alternative B (see Figure 3-22, Viewpoint 9 La Mirada Drive at Fallbrook Street, Simulated Project View).

Motorists using the proposed La Mirada overcrossing would have long-term (more than 10 seconds) foreground and middle-ground views of the proposed freeway and overcrossing (Alternative B). Residents would also have long duration (more than 10 seconds) foreground to middle-ground views of the new freeway and would have a high sensitivity and awareness of the project and its effect on views from their homes and neighborhood. Viewer awareness of the changes is likely to be high because duration of the view is long (more than 10 seconds) for community residents, and the proposed project would affect the character of the residential landscape.

The resulting visual impact would be moderately high for Viewpoint 9 with implementation of Alternative B.

Viewpoint 10 – Ford Avenue near Candy Street (looking east toward Alternative B)

In this viewpoint near the intersection of Ford Avenue and Candy Street, the residential streetscape and views of homes, trees, fences, and overhead utility lines have an average degree of overall visual quality (see Figure 3-23, Viewpoint 10 Ford Avenue near Candy Street, looking east toward Alternative B).

Alternative B would build a new soundwall and an elevated freeway behind these features near the Ford Avenue and Candy Street intersection (see Figure 3-23, Viewpoint 10 Ford Avenue near Candy Street, Simulated Project View). Many residential properties would be relocated to build the new freeway. The new structures would add a substantial change in the visual environment of the neighborhood residential landscape, affecting the vividness, intactness, and unity of the existing view and the visual character of the residential area from a quiet residential street to a neighborhood that is bisected. So, there would be an adverse change in the visual quality/character of this viewpoint, resulting in a moderately low visual quality.

The main viewer groups for this viewpoint include motorists and area residents. Motorists using eastbound Ford Avenue would see the foreground and middle-ground views of the new freeway for a short time while driving by. Residents would see the views of the new freeway from their homes and neighborhood for a much longer time and therefore would have a high sensitivity and awareness of the project. Residents' views down Ford Avenue would be interrupted by the freeway, no longer allowing them to look down the street at a neighbor's house. Overall, viewer awareness of the changes is likely to be high. So, the resulting visual impact would be moderately high for Viewpoint 6 with implementation of Alternative B.

Alternative C

Seven key viewpoints were analyzed for the Alternative C alignment:

Viewpoint 11 – Saunders Park (looking east toward Alternative C)

This viewpoint is in Saunders Park near the children's sand play area. The views of the play area, parking lot, park building, wall, trees, foliage, and overhead utility lines have an average degree of overall visual quality (see Figure 3-24, Viewpoint 11 Saunders Park, looking east toward Alternative C).

Alternative C would build a new raised freeway and soundwall parallel to the existing State Route 99 (see Figure 3-24, Viewpoint 11 Saunders Park, Simulated Project View). This would introduce a substantial change in the visual park landscape, affecting the vividness, intactness, and unity of the existing view. The visual character of Saunders Park would be affected from the removal of parkland and some mature trees, and addition of a new soundwall outside the parking lot perimeter. The visual quality at this viewpoint would therefore be adversely changed, from average to moderately low.

The main viewer group for this viewpoint is the Saunders Park users who would see the views of the new freeway and wall for a long duration. Viewer awareness of the changes at this location would be high. So, the resulting visual impact would be moderately high adverse changes to Viewpoint 11 with implementation of Alternative C.

Viewpoint 12 – Bank Street near Wetherley Drive (looking east toward Alternative C)

In this viewpoint near the intersection of Bank Street and Wetherley Drive on the west side of State Route 99, the residential streetscape views of overhead utility lines, trees, and a wall have a moderately low degree of overall visual quality (see Figure 3-25, Viewpoint 12 Bank Street near Wetherley Drive, looking east toward Alternative C).

Alternative C would build a chain-link fence in front of a landscaped slope leading to a soundwall and raised freeway next to and parallel to the existing State Route 99 (see Figure 3-25, Viewpoint 12 Bank Street near Wetherley Drive, Simulated Project View). Nearby residential properties would be relocated for project construction, affecting the intactness of this viewpoint. The change is not likely to affect vividness or unity because there is an existing wall next to the existing State Route 99 freeway. However, the overall visual quality/character of this viewpoint would remain moderately low with implementation of Alternative C.

The main viewer groups for this viewpoint include motorists and area residents. Motorists using eastbound Bank Street would see the views of the soundwall and raised freeway for a short time while driving by. Residents would see the project for a longer time and therefore would have a moderate sensitivity and awareness of the project and its effect on views from their homes and neighborhood. Viewer awareness

of the changes is likely to be at the moderate/average level. So, there would be average adverse changes to Viewpoint 12 with implementation of Alternative C.

Viewpoint 13 – Bank Street near Olive Street (looking west toward Alternative C)

In this viewpoint near the intersection of Bank Street and Olive Street, next to the east side of State Route 99, the streetscape is commercial, with a car lot on the left side of the viewpoint and trees and foliage. This viewpoint has an average degree of overall visual quality (see Figure 3-26, Viewpoint 13 Bank Street near Olive Street, looking west toward Alternative C).

Adjacent and parallel to the existing State Route 99 (see Figure 3-26, Viewpoint 13 Bank Street near Olive Street, Simulated Project View), Alternative C would build a short concrete barrier with a chain-link fence on top. Some mature trees may be removed, but would be replaced. The addition of the concrete barrier and chain-link fence would change the visual environment of the mixed commercial/residential area, but would not affect the vividness, intactness, and unity of the existing view because the character of this viewpoint would not substantially change. So, this viewpoint would remain at an average rating with the implementation of Alternative C.

The main viewer groups for this viewpoint include motorists and area residents. Motorists using westbound Bank Street would see the structure a short time while driving by. The view from westbound Bank Street is from within a mixed commercial/residential area. Community residents would see the project structure longer (more than 10 seconds) and therefore would have a moderate sensitivity and awareness of the project and its views from their homes and businesses. Viewer awareness of the changes is likely to be moderate/average. So, there would be average adverse changes to Viewpoint 13 with implementation of Alternative C.

The assessment results for all viewpoints are summarized in Table 3.19. Impacts to visual qualities and aesthetics of the area during construction are discussed in Section 3.6, Construction Impacts.

Table 3.19 Summary of the Visual Impact Assessment[1]

Viewpoint			Overall Visual Quality[2]	Viewer Response	Resulting Visual Impact[3]
Alternative A					
Viewpoint 1	Kern River Parkway (looking east toward Alternative A)	Existing Visual Quality	Moderately High (5)	High (6)	Moderately High (4.9)
		Visual Resource Change	Average (3.7)		
Viewpoint 2	California Avenue near Lennox Avenue (looking south toward Alternative A)	Existing Visual Quality	Average (4)	Moderately Low (3)	Moderately Low (3)
		Visual Resource Change	Moderately Low (3)		

Table 3.19 Summary of the Visual Impact Assessment[1]

Viewpoint			Overall Visual Quality[2]	Viewer Response	Resulting Visual Impact[3]
Viewpoint 3	McDonald Way near Peckham Avenue (looking north toward Alternative A)	Existing Visual Quality	Average (4)	High (6)	Moderately High (4.5)
		Visual Resource Change	Moderately Low (3)		
Alternative B					
Viewpoint 4	Kern River Parkway (looking northeast toward Alternative B)	Existing Visual Quality	Average (4.3)	Moderately High (5)	Average (4)
		Visual Resource Change	Moderately Low (3)		
Viewpoint 5	California Avenue near Marella Way (looking northeast toward Alternative B)	Existing Visual Quality	Average (4.3)	Low (2)	Moderately Low (2.7)
		Visual Resource Change	Moderately Low (3.3)		
Viewpoint 6	Centennial Park (looking east on Marella Way toward Alternative B)	Existing Visual Quality	Average (4.3)	High (6)	Moderately High (4.5)
		Visual Resource Change	Moderately Low (3)		
Viewpoint 7	Centennial Park (looking north on Fallbrook Street toward Alternative B)	Existing Visual Quality	Average (4.3)	High (6)	Moderately High (4.5)
		Visual Resource Change	Moderately Low (3)		
Viewpoint 8	Centennial Park (looking east toward Alternative B)	Existing Visual Quality	Average (4.3)	High (6)	Moderately High (5)
		Visual Resource Change	Average (4)		
Viewpoint 9	La Mirada Drive at Fallbrook Street (looking east toward Alternative B)	Existing Visual Quality	Average (4)	High (6)	Moderately High (4.7)
		Visual Resource Change	Moderately Low (3.3)		
Viewpoint 10	Ford Avenue near Candy Street (looking east toward Alternative B)	Existing Visual Quality	Average (4)	High (6)	Moderately High (4.5)
		Visual Resource Change	Moderately Low (3)		
Alternative C					
Viewpoint 11	Saunders Park (looking east toward Alternative C)	Existing Visual Quality	Average (4.3)	High (6)	Moderately High (4.7)
		Visual Resource Change	Moderately Low (3.3)		
Viewpoint 12	Bank Street near Wetherley Drive (looking east toward Alternative C)	Existing Visual Quality	Moderately Low (3.3)	Average (4)	Average (3.5)
		Visual Resource Change	Moderately Low (3)		

Table 3.19 Summary of the Visual Impact Assessment[1]

Viewpoint			Overall Visual Quality[2]	Viewer Response	Resulting Visual Impact[3]
Viewpoint 13	Bank Street near Olive Street (looking west toward Alternative C)	Existing Visual Quality	Average (4)	Average (4)	Average (4)
		Visual Resource Change	Average (4)		

1 Seven evaluation criteria were applied to measure visual quality: very low, low, moderately low, average, moderately high, high, and very high (Federal Highway Administration 1981).
2 Visual Resource Change summation taken from Table 3.18, Summary of Existing Visual Quality for Viewpoints.
3 Resulting Visual Impact = (Visual Resource Change of the Overall Visual Quality + Viewer Response) ÷ 2

Source: Developed from the *Visual Impact Assessment* 2013.

Segment 2 (Westside Parkway)/Segment 3 (Western Connection)

Analysis for Segment 2 (Westside Parkway) was done in the previous environmental document; the minor improvements to the Westside Parkway would not create additional visual impacts, so analysis for Segment 2 is not performed in this environmental document. In Segment 3 only minor improvements at the intersection of Stockdale Highway and State Route 43 are proposed. No substantial new elements (such as bridges or walls) are being introduced in Segment 3. No environmental impacts or substantial visual changes would occur with construction or operational impacts associated with Segment 2 or Segment 3.

No-Build Alternative

No environmental impacts would occur with the No-Build Alternative.

Avoidance, Minimization, and/or Mitigation Measures

As noted above, the aesthetic treatment for walls, bridges, and landscaping would be consistent with the design used for the Westside Parkway to provide a cohesive visual character to the project. Figures 3-14 through 3-26 (Simulated Project View) show the Westside Parkway treatments as they could look on the Centennial Corridor alternatives. Design features, such as depressing Alternative B between California Avenue and Ford Avenue, would minimize visual disruption of the roadway in the Westpark neighborhood.

Implementation of the following minimization measures would soften the addition of new transportation corridor infrastructure, reduce visual impacts, and improve visual appeal to the residential, open space, and commercial areas along the proposed project alternatives. These measures are also intended to reduce the visual impacts of the proposed project for community residents, commercial employees, recreation viewers, and motorists traveling along commercial corridors near the proposed project.

Minimization Measures

V-1 In conjunction with final design, Caltrans shall develop, and the contractor shall implement, an irrigation plan that includes the following requirements:

- All drip zones of isolated trees shall be protected with fencing. In addition, the existing environmentally sensitive areas (parks, Kern River) shall remain protected.
- An irrigation system shall be provided to all new plantings.
- An extended three-year maintenance period after the construction is completed shall be provided for single-source maintenance through the establishment period.

V-2 The overall Centennial Corridor aesthetic design theme shall be compatible with surrounding neighborhoods and in keeping with the overall Westside Parkway design theme, to the extent feasible, including landscaping, aesthetic soundwalls, bridge treatments, and lighting fixtures. The architectural treatments are shown in the visual simulations and are primarily comprised of brick. Additionally, the simulations contain views with and without vines for walls. The City of Bakersfield and the County of Kern shall enter into maintenance agreements with Caltrans. The maintenance agreement with the City will include maintenance of the enhanced aesthetic treatment, including graffiti removal. It should be noted that the City will have to provide the beige color paint to Caltrans for graffiti removal so that it is matched with the Westside Parkway architectural treatments. In the event the City cannot provide the beige color paint, Caltrans will have to use grey color paint to remove graffiti.

V-3 As part of storm water runoff management, the infiltration basins will be designed to include buffer areas and/or plant screens to shield public views where practical.

V-4 Landscaping would be implemented upon completion of construction. Plant material would consist of native, drought tolerant, and self-sustaining species. Any proposed plant material shall be consistent with the Caltrans District 6-approved plant palette and would not include any invasive plant species.

V-5 Caltrans shall preserve as many mature trees as practical. The landscape plan will incorporate a tree replacement plan with a replacement ratio of 1:1—for every one tree removed, a tree will be planted. Mature trees (larger than 20 feet high) that are to be removed shall be replaced using 20-inch box trees. A tree survey shall be completed during final design. Design plans shall indicate locations of existing specimen-sized trees (larger than 20 feet high) to be preserved if possible. Tree replacement shall meet all Caltrans and City standards and policies.

3.1.8 Cultural Resources

This section addresses potential impacts to archaeological and architectural resources that are historic properties and within the designated Area of Potential Effects. The Area of Potential Effects includes areas that may be directly or indirectly affected by construction of the project alternatives. An indirect impact occurs when the project could cause a change in character or use of historic properties, but would not directly encroach upon the property. Only those properties sitting within the Area of Potential Effects were included in the survey.

Regulatory Setting

The term "cultural resources" as used in this document refers to all "built environment" resources (structures, bridges, railroads, water conveyance systems, etc.), culturally important resources, and archaeological resources (both prehistoric and historic), regardless of significance. Laws and regulations dealing with cultural resources are explained below.

The National Historic Preservation Act of 1966, as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the National Register of Historic Places. Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings, following regulations issued by the Advisory Council on Historic Preservation (36 CFR 800).

On January 1, 2004, a Section 106 Programmatic Agreement between the Advisory Council, Federal Highway Administration, California State Historic Preservation Officer, and Caltrans went into effect for Caltrans projects, both state and local, with Federal Highway Administration involvement. In January 2014, the first amended Section 106 Programmatic Agreement went into effect. The Programmatic Agreement implements the Advisory Council's regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to Caltrans. The Federal Highway Administration's responsibilities under the Programmatic Agreement have been assigned to Caltrans through the NEPA Assignment (23 USC 327) Memorandum of Agreement, which became effective October 1, 2012.

Historic properties may also be covered under Section 4(f) of the U.S. Department of Transportation Act, which regulates the "use" of land from historic properties. See Appendix B in Volume 2 for specific information about Section 4(f).

Historical resources are also considered under the California Environmental Quality Act as well as California Public Resources Code Section 5024.1, which established the California Register of Historical Resources. California Public Resources Code Section 5024 requires state agencies to identify and protect state-owned resources that meet National Register of Historic Places listing criteria. It further requires Caltrans to inventory state-owned structures in its right-of-way.

Affected Environment

The following documents were summarized in the Historic Property Survey Report (January 2013) and serve as the basis for the analysis in this section: *Archaeological Survey Report* (January 2013), *Extended Phase I Geoarchaeological Study* (November 2012), the *Historical Resources Evaluation Report* (January 2013), and California Historic Bridge Inventory sheet (October 2011). Information from the Finding of Effect on historic properties (March 2014) was also used.

Common to All Build Alternatives

Caltrans has determined that no bridges associated with the project are listed in or eligible for the National Register of Historic Places.

Built Environment Resources

The built environment within the Area of Potential Effects reflects the evolution of this portion of Bakersfield. Residential subdivisions, particularly mid-20th century subdivisions, are the predominant building type found within the project area in areas north and south of Stockdale Highway and west of State Route 99. Older residential parcels dating to the early 20th century, modern residential parcels, commercial buildings, canals, oil wells, bridges, and railroads are also found within the project area. Oil operations continue to extract crude oil nearest the Kern River.

The Secretary of the Interior sets standards for evaluating cultural resources for their potential eligibility to the National Register of Historic Places. For this study, cultural resources fewer than fifty years of age were evaluated to take into consideration their potential significance at the time construction begins, which may be several years beyond when the architectural history survey was conducted.

The 639 historic-era resources evaluated for this project reflect the major historical events discussed in the Historic Property Survey Report. The resources exist throughout the Centennial Corridor with most within the boundaries of the City of Bakersfield. All but one of the resources (the Kern Island Canal), date to the 20th century. About 10 percent were built in the 20th century before the end of World War II; the remaining were built after the end of World War II between 1946 and the mid-1960s.

Most of the buildings (about 95 percent) are modest residential properties built between the 1920s and 1960s. About 93 percent of the homes were built in one of three common styles: Minimal Traditional, Ranch, or Contemporary. Most of the houses in these three styles were built in subdivisions with homogenous architectural styles.

Cultural resources records were searched at the Southern San Joaquin Valley Information Center at California State University, Bakersfield in May and June 2007. An updated records search was done in August 2009. A survey of the area was done in the field to evaluate all buildings, structures, and objects found within the Area of Potential Effects. A total of 639 buildings or groups of buildings and structures required formal evaluations.

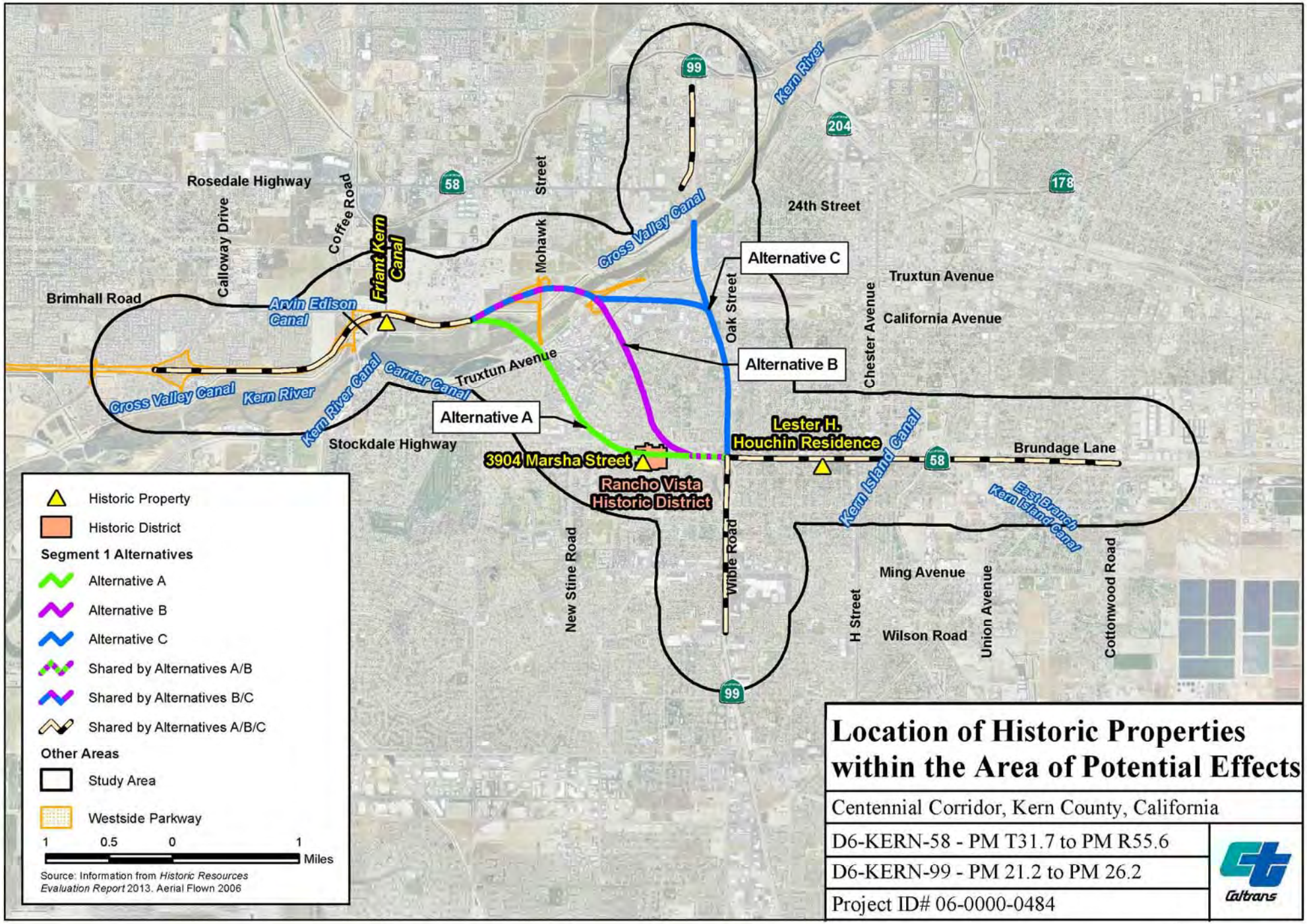
Four properties within the Area of Potential Effects were determined eligible for inclusion in the National Register of Historic Places: Friant-Kern Canal, the Lester H. Houchin residence, the Rancho Vista Historic District, and the property at 3904 Marsha Street (see Figure 3-27 for location of each historic property). These historic properties are described below. No remaining property formally evaluated for this project is eligible for the National Register of Historic Places or the California Register of Historical Resources.

Friant-Kern Canal

Friant-Kern Canal has been determined eligible for the National Register of Historic Places and is listed in the California Register of Historical Resources. As a key component of California's Central Valley Project, the canal has been determined eligible for listing in the National Register of Historic Places under Criterion A. It is historically significant at the state level under Criterion A within the context of development, construction, and operation of the Central Valley Project. The period of significance—1945 to 1951—is the canal's period of construction. Friant-Kern Canal is a 152-mile-long gravity-fed earth- and concrete-lined canal that ends at the Kern River northwest of Bakersfield. Character-defining features include its overall length, width, and its major contributing structures. The historic boundary of this property encompasses the canal and the contributing features that are attached to the canal.

All build alternative alignments would follow the recently built Westside Parkway that crosses the Friant-Kern Canal. Photo 1 shows a view of Friant-Kern Canal looking north toward the recently constructed Westside Parkway.

Photo 1. Friant-Kern Canal looking north toward the recently constructed Westside Parkway.



Location of Historic Properties within the Area of Potential Effects

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-27

Lester H. Houchin residence

The Lester H. Houchin residence and its detached garage at 307 South Oleander Avenue was determined eligible for listing in the National Register of Historic Places and the California Register of Historical Resources at the local level under Criterion C as an important local example of Colonial Revival architecture. The period of significance for this historic property is 1939. Contributing elements include the residence; the two-story garage; the circular driveway; and the landscaping on the north, south, and east sides of the residence and garage.

Photo 2 is a view of the Lester H. Houchin residence taken from Oleander Street looking north toward State Route 58 (depressed freeway).

Photo 2. Lester H. Houchin residence from Oleander Street looking north toward State Route 58

Rancho Vista Historic District

Rancho Vista Historic District is a residential subdivision determined to be eligible for the National Register of Historic Places under Criteria A and C. The tract is an unusual and important example of post-World War II efforts made to apply prefabrication techniques to tract housing. The general boundary of this historic property is defined by Stine Road to the east, Stockdale Highway to the north, McDonald Way to the west, and Quarter Avenue to the south. A more precise boundary, which excludes some non-contributing parcels that are part of the original tract development along perimeter streets, has been delineated as part of the Section 106 (National Historic Preservation Act) documentation prepared for the project. Rancho Vista Historic District is significant at the local level and has a period of significance between 1950 and 1957 when the residences in the area were built. Of the 113 properties that are within the Rancho Vista Historic District boundaries, 81 properties are considered contributors see Figure 12 of Volume 2, Appendix B). Character-defining features of this district include design characteristics of the tract (i.e., rounded concrete curbs; concrete sidewalks placed next to the curb with no

planting strip; houses set back from the curb at varying distances, and mature trees that were planted as part of the initial tract development) and design characteristics of the houses (i.e., small, one-story residences with compact plans, wood-frame construction on low concrete foundation; varied roof forms, including gable, hip and combination roofs; wood siding in a variety of types, applied both vertically and horizontally; and metal casement windows).

Photos 3a and 3b are a view of the east boundary of the Rancho Vista Historic District taken from Stine Road looking north toward the new freeway alignment (Alternatives A and B).

Photo 3a. East boundary of the Rancho Vista Historic District taken from Stine Road looking north toward the new freeway alignment (Alternatives A and B).

Photo 3b. Photo taken from about 4 houses north of Photo 3a looking north toward the new freeway alignment (Alternative B).

Photo 4 shows a view of the Rancho Vista Historic District taken on Jones Street south of Stockdale Highway looking northeast toward Alternative B Alignment. Alternative C is located further away and cannot be seen from any area within the Rancho Vista Historic District.

Photo 4. Rancho Vista Historic District taken from Jones Street south of Stockdale Highway looking northeast toward Alternative B Alignment

3904 Marsha Street Property

The property at 3904 Marsha Street, in addition to being a contributor to the Rancho Vista Historic District, was determined to be individually eligible for the National Register of Historic Places and is a historical resource under CEQA. The residence is significant under Criterion A at the local level for its association with the Cold War and civil defense measures designed for survival in the event of a nuclear war. The period of significance is between 1956 (when the residence was built) and 1962 (generally the end of the period of fallout shelter construction in the United States). The historic property boundary is defined by the legal parcel.

Photo 5 shows a view of the property at 3904 Marsha Street residence taken from Marsha Street looking north-northeast toward the new freeway alignment (Alternatives A and B). Alternative C is located further away and cannot be seen from this residence.

Photo 5. 3904 Marsha Street residence taken from Marsha Street looking north-northeast toward the new freeway alignment (Alternatives A and B).

Archaeological Resources

The archaeological project area includes all areas within the proposed right-of-way and a buffer of about 10 feet to allow for potential construction impacts. A larger area was surveyed as part of the analysis.

Three archaeological/historical resources records searches were done at the Southern San Joaquin Valley Information Center at California State University, Bakersfield; each covered different portions of the project area and a surrounding 0.5-mile radius: May to July 2007; July 15, 2009; and November 29, 2011. The searches found that few archaeological studies (8 total) that include portions of the archaeological survey area have been completed. Since much of the City of Bakersfield was developed before consideration of cultural resources, very few sites were recorded. Four cultural resources were recorded within half a mile of the archaeological project area. None of the known archaeological sites are within the survey area itself.

Consultation with the Native American Heritage Commission began in June 2007 as part of the Thomas Roads Improvement Program projects. This consultation involved requests for a search of the Sacred Lands File and a contact list of potentially interested Native American representatives. The Native American Heritage Commission responded by letter on June 21, 2007, and stated that the Sacred Lands File search does not show the presence of Native American cultural resources in the immediate project area. The Commission provided a contact list of 12 Native American groups and individuals who may have knowledge of Native American cultural resources not formally listed in any database. Those individuals were contacted, as was a second group of individuals identified as potentially interested but

not listed by the Native American Heritage Commission. Several responses were received as a result, and three requested additional information. On December 21, 2011, these three individuals were sent an updated informational letter describing the current Centennial Corridor Project. Results of the Native American consultation are provided in Section 5.3.3, Native American Consultation.

Archaeological field surveys were done April 13 through 15, 2009; October 26 and 27, 2011; and November 28 and 29, 2011. The surface of the archaeological survey area is covered mostly by asphalt, concrete, buildings, and other structures; only in a few cases—particularly near the Kern River—is there undeveloped land. No archaeological sites were found during the survey. The survey included all of Segment 1, those portions of Segment 2 where improvements are proposed as part of this project, as well as a portion of Segment 3 at the intersection of Stockdale Highway and State Route 43.

A sensitivity study for Segment 1 was done in the *Extended Phase I Geoarchaeological Study*. The study reviewed existing data and developed an archaeological sensitivity model for buried archaeological sites (a computer model based on soils and geologic maps and archaeological data to determine an area's archaeological sensitivity). This model was used to evaluate the archaeological sensitivity of each alternative. Further identification efforts are planned in sensitive areas of the preferred alternative (Alternative B).

Environmental Consequences

Architectural Built Environment Resources

Four properties within the Area of Potential Effects were determined eligible for the National Register of Historic Places: Friant-Kern Canal, Lester H. Houchin Residence, Rancho Vista Historic District, and the property at 3904 Marsha Street. On February 15, 2013, Caltrans initiated consultation with the State Historic Preservation Officer on these determinations and on April 15, 2013, she concurred. This correspondence is included in Appendix J, Volume 2. The Section 106 process is ongoing and further consultation with the State Historic Preservation Officer will be concluded prior to completion of the final environmental document. Should either Alternative A or B be selected, a Memorandum of Agreement will be signed that includes measures to mitigate the adverse effects to the Rancho Vista Historic District.

Section 4(f) of the Department of Transportation Act of 1966, states that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites." A discussion of Section 4(f) as it relates to the four historic properties under the three build alternatives is included below. More detailed information can be found in Appendix B, Section 4(f) Analysis, contained in Volume 2 of this environmental document.

Alternative A

Friant-Kern Canal

Alternative A alignment would follow the recently built Westside Parkway that crosses the Friant-Kern Canal. This alternative would require the construction of an additional bridge crossing Friant-Kern Canal for the eastbound Coffee Road on-ramp connector, in addition to the Westside Parkway. As proposed, this project feature will have no adverse effect on the historically significant canal. The architectural design of the new bridge will be similar in character to another recently constructed bridge structure (Westside Parkway project) over the Friant-Kern Canal, which the State Historic Preservation Officer concurred there was no adverse effect. While the Project would add a second bridge over the canal, in the context of it being a 152-mile long linear feature, there would be no direct or indirect adverse and no cumulative effect due to the length of the property. Further, the footings and abutments of the new bridge will be located outside of the National Register boundaries of the historic canal. The short bridge crossings over the canal do not diminish the historic character nor significant qualities that qualify the Friant-Kern Canal for National Register eligibility.

Photo 6 shows a simulated view of Friant-Kern Canal looking north toward the recently constructed Westside Parkway with Alternative A Alignment.

Photo 6. Simulated view of Friant-Kern Canal looking north toward the recently constructed Westside Parkway with Alternative A Alignment

Lester H. Houchin Residence

Alternative A alignment would follow the existing State Route 58 located approximately 56 feet from the northern edge of this historic property's boundary and about 150 feet from the elevation on the north side of the residence. Alternative A would not encroach into the Lester H. Houchin residential property boundaries, nor cause a change in the physical setting of the resource that would compromise the characteristics or features that qualify the resource for the National Register. Under this alternative a retaining wall and soundwall will be constructed near this historic property. The retaining wall would rise 25 feet from the base of the existing depressed freeway (State Route 58). The top of the retaining wall would be at the same level as Brite Street. The 8-foot-tall soundwall would be built atop the retaining wall along the north side of Brite Street. All proposed construction activities would be conducted within the state right-of-way; therefore, there would be no direct effects to this historic property. The soundwall, as well as construction activity, would be shielded by the existing mature and dense landscaping located along the north side of the property. No indirect adverse effects to this historic property would be expected from the introduction of new visual elements, which would be barely discernable. In addition, no adverse noise or vibration effects to this historic property would be expected.

Photo 7 shows the simulated view of the Lester H. Houchin residence from Oleander Street looking north toward State Route 58 where the new freeway alignment under all alternatives would follow.

Photo 7. Simulated view of Lester H. Houchin residence from Oleander Street looking north toward all build alternative alignments

Rancho Vista Historic District

Alternative A alignment would traverse the center of the Rancho Vista Historic District. Under Section 106, Alternative A would result in a direct adverse effect to this property by physically destroying or damaging its contributing elements and character-defining features. Direct impacts would result from the construction of an infiltration basin, an elevated roadway, and soundwalls within the Rancho Vista Historic District. The construction of an elevated freeway structure would also introduce a visual intrusion that would not be in keeping with the character and setting of the Rancho Vista Historic District. Photo 8 shows the simulated view of the Rancho Vista Historic District (taken from Stine Road near Peckham Avenue looking toward Alignment A). Alternative A would demolish more than half of the contributors (46 of the 81 residences). This would diminish the qualities that make the property eligible for the National Register, perhaps to such a degree that the historic property would lose its eligibility as it would no longer be able to convey its significant history due to a substantial loss of integrity. Alternative A would result in the use of a Section 4(f) historic property (as discussed above and in the *Section 4(f) Evaluation* provided in Appendix B in Volume 2).

Photo 8. Simulated view of Rancho Vista Historic District taken from Stine Road and Peckham Street looking north toward Alternative A Alignment

3904 Marsha Street Property

The residential property at 3904 Marsha Street is both a contributor to the Rancho Vista Historic District and is individually eligible for the National Register for a bomb shelter located in the rear of the property. The house and garage, both dating from 1956, and the circa 1960-62 underground shelter, are all character-defining features of the historic property, and are located approximately 180 feet south of the limits of construction and improvements which would be undertaken for Alternative A, and cannot be seen from the view shown in Photo 4 above. Therefore, under Section 106, there would be no adverse effect on the character-defining features of the property, which include the shelter entry hatch and ventilation pipe, neither of which is visible to anyone not standing in the rear yard. There would be no use under Section 4(f).

Alternative B

Friant-Kern Canal

Alternative B alignment would follow the recently built Westside Parkway that crosses the Friant-Kern Canal. Alternative B would not require new construction over the Friant-Kern Canal in addition to the Westside Parkway. No view would be changed from what is seen in Photo 1 above. Therefore, there would be no effect under Section 106 and no use of this Section 4(f) historic property.

Lester H. Houchin Residence

Similar to Alternative A, Alternative B alignment would follow the existing State Route 58 located approximately 56 feet from the northern edge of this historic property's boundary and about 150 feet from the elevation on the north side of the residence. The view looking toward Alignment B would be the same as that shown in Photo 7 above. Alternative B would not result in any adverse effect to the Lester H. Houchin residential property as discussed under Alternative A above.

Rancho Vista Historic District

Alternative B alignment would be located about 110 feet away from the nearest contributing residence within the Rancho Vista Historic District, with a proposed soundwall of approximately 12 to 16 feet in height, located approximately 70 feet from the closest edge of the historic property boundary. Although the elevated roadway structure at about 38 feet in height (with a soundwall atop it in places) could alter some views when looking north, east and northeast from street level from some sections of the Rancho Vista Historic District; the new infrastructure from most contributors would be relatively low on the horizon and be primarily visible to the north only from certain streets and to the northeast from the spatial gaps between the houses and when not otherwise obstructed by trees. Photo 9 shows the simulated view of the Rancho Vista Historic District (taken at Stine Road near Peckham Avenue looking toward Alignment B) and Photo 10 from Jones Street south of Stockdale Highway looking northeast toward Alternative B Alignment.

Photo 9. Simulated view of Rancho Vista Historic District taken from Stine Road about 4 houses north of Peckham Street looking north toward Alternative B Alignment

Photo 10. Simulated view of Rancho Vista Historic District taken from Jones Street south of Stockdale Highway looking northeast toward Alternative B Alignment

Rancho Vista Historic District is eligible for the National Register as a significant example of a planned postwar residential subdivision with houses built using innovative whole-house prefabrication techniques, and a setting of mature landscaping and houses setback from the curbs in a uniform manner. The integrity of location, design, materials, and workmanship would remain the same. The historic association and feeling of the historic property as a postwar residential housing tract from the perspective of most of its contributors would remain largely unchanged under Alternative B. In consultation with the State Historic Preservation Officer, Caltrans has determined that implementation of Alternative B would have an adverse effect on the Rancho Vista Historic District under Section 106 due to visual impacts associated with construction of an aerial structure with soundwalls that would be incompatible with the historic district.

In order to address the adverse effects on Rancho Vista Historic District, consideration is being given to a number of mitigation measures, including the incorporation of hardscape features, landscape, and architectural treatments that are compatible with the historic character of the Rancho Vista Historic District, such as color, texture, and vine treatment. Other mitigation measures under consideration include preparing detailed documentation on the historic district, including interpretation materials to be made available to the public. The specific mitigation to address effects on the historic district will be refined in detail in the Memorandum of Agreement prepared for the project after circulation of the Environmental Impact Report/Environmental Impact Statement.

Under Section 4(f), no land within the Rancho Vista Historic District will be permanently incorporated into the Project under Alternative B. Thus, there will be no direct use. Nor will there be any temporary occupancy of the historic district. While the introduction of an elevated structure and soundwalls would be out of scale with the historic setting and would have the effect of diminishing the overall integrity of the historic property, thereby constituting an adverse effect under Section 106, the Section 4(f) regulations limit “constructive use” to circumstances where a “project’s proximity impacts are so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired [23 CFR 774.15]. The full *Section 4(f) Evaluation,* contained in Volume 2, Appendix B, examined the proximity impacts to Rancho Vista Historic District and concluded there would be no constructive use of the property.

3904 Marsha Street Property

The residential property at 3904 Marsha Street is located approximately 1,200 feet southwest of the limits of construction and improvements which would be undertaken for Alternative B, and cannot be seen from the view shown in Photo 5 above. Therefore, under Section 106, there would be no effect on the character-defining features of the property, which include the shelter entry hatch and ventilation pipe, neither of which is visible to anyone not standing in the rear yard. There would be no use under Section 4(f).

Alternative C

Friant-Kern Canal

Alternative C alignment would follow the recently built Westside Parkway that crosses the Friant-Kern Canal. Alternative C would not require new construction over the Friant-Kern Canal in addition to the Westside Parkway. No view would be changed from what is seen in Photo 1 above. Therefore, there would be no effect under Section 106 and no use of this Section 4(f) historic property.

Lester H. Houchin Residence

Similar to Alternative A, Alternative B alignment would follow the existing State Route 58 located approximately 56 feet from the northern edge of this historic property's boundary and about 150 feet from the elevation on the north side of the residence. The view looking toward Alignment B would be the same as that shown in Photo 7 above. Alternative B would not result in any adverse effect to the Lester H. Houchin residential property as discussed under Alternative A above.

Rancho Vista Historic District

Alternative C alignment is located about 1,300 feet west of the boundary of the Rancho Vista Historic District at its nearest point, so it would have no direct or indirect adverse effect on the Rancho Vista Historic District. The view of the Alternative C alignment cannot be seen from any contributors within the Rancho Vista Historic District. None of the qualities that qualify the property for eligibility will be diminished. Therefore, in addition, there would be no Section 4(f) use of the historic property under this alternative.

Property at 3904 Marsha Street

The residential property at 3904 Marsha Street is located over 2,300 feet southwest of the limits of construction and improvements which would be undertaken for Alternative C, and cannot be seen from the view shown in Photo 5 above. Therefore, under Section 106, there would be no effect on the character-defining features of the property, which include the shelter entry hatch and ventilation pipe, neither of which is visible to anyone not standing in the rear yard. There would be no use under Section 4(f).

No-Build Alternative

The No-Build Alternative would have no effect on architectural resources because no construction would occur. The No-Build Alternative would not use a Section 4(f) historic property.

Archaeological Resources

Common to All Build Alternatives

The records search indicated that four cultural resources were recorded within half a mile of the project area. None of the sites are within the Area of Potential Effects. No archaeological sites were identified during the field survey of the project area.

With use of the sensitivity model in the Extended Phase I Geoarchaeological study, areas of low potential, moderate potential, high potential, and very high potential were identified within the study area.

Areas of moderate potential for buried resources include soils mapped as urban land that have experienced extensive historical-period disturbance related to the building of roads and structures. Areas of high potential include areas that overlap in time with prehistoric occupation of the Bakersfield area.

Areas of very high potential are next to the abandoned channels identified in the 1952 aerial images and the modern channel of the Kern River.

As shown in Table 3.20, among the three alternatives, Alternative C crosses the highest number of acres with very high potential and high potential (a combined total of 354 acres) of discovering a buried archaeological site. Alternative B crosses the lowest number of acres of very high potential and high potential (a combined total of 321 total acres) and the highest number of acres of low potential (50 total acres). All three alternatives extend over areas of very high potential where buried sites (if present) are most likely to be found.

Table 3.20 Buried-Site Potential for Alternatives A, B, and C in Acres

Buried-Site Potential	Alternative		
	A	B	C
Very high	25	30	52
High	319	291	302
Moderate	154	133	175
Low	36	50	69
Source: Developed from the *Extended Phase I Geoarchaeological Study* November 2012.			

Given the sensitivity of portions of the project area, further identification efforts for archaeological resources will be done for the preferred alternative. Should archaeological resources be identified during the additional identification efforts in sensitive areas of the preferred alternative, every effort will be made to avoid these resources during construction. If the identified archaeological resources cannot be avoided, they will be evaluated for their eligibility for the National Register of Historic Places. If any of these archaeological resources are determined eligible for the National Register of Historic Places, appropriate mitigation measures will be implemented.

No-Build Alternative

The No-Build Alternative would have no effect on archaeological resources because no construction would occur.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance measures have been incorporated into the current design concepts for each of the build alternative alignments near the Lester H. Houchin residence. Early design

concepts assumed embankments (slopes at the edge of the freeway) would have resulted in the State Route 58 right-of-way extending onto the property of the Houchin residence. To avoid impacts to this eligible property, a retaining wall and soundwall is proposed in this location to ensure the project does not affect this property. The retaining wall and soundwall would be at the edge of right-of-way north of Brite Street. This avoids direct impacts to the Houchin residence. In addition, it allows the landscaping on the north side of the property to be retained, which provides a visual buffer to Brite Street and State Route 58.

Construction methods would also be used to avoid and minimize potential indirect adverse effects to the Rancho Vista Historic District due to vibration resulting from construction activities near the homes. Alternative construction methods may include cast-in-drilled-hole piles rather than pile driving. Specific methods would be determined during final design.

Mitigation Measures

If either Alternative A or B is selected as the preferred alternative, a Memorandum of Agreement with the State Historic Preservation Officer and the Advisory Council on Historic Preservation would be required to identify mitigation measures to reduce potential impacts to the Rancho Vista Historic District. Measure CR-1 provides the type of measure that would be appropriate. The following measures would apply if either Alternative A or B is selected as the preferred alternative, except as noted:

CR-1 The conceptual mitigation measures for effects to the Rancho Vista Historic District would include as appropriate:

1. Detailed documentation of the Rancho Vista Historic District as a whole, and of each adversely affected contributing property at a level specified by the State Historic Preservation Officer (similar to Historic American Building Survey Level II documentation, consisting of large format archival quality photographs, available as-built plans, and written historical data in the form of an historical report), distribution to the appropriate Regional Information Center, local public library, and other repositories to be determined.
2. Preparation of a brochure on the local history and architecture of the affected Rancho Vista Historic District.
3. Adding information to existing social media sites dealing with related architectural topics.
4. Incorporation of hardscape features (including soundwalls), landscape, and architectural treatments that are compatible with the historic character of the affected Rancho Vista Historic District, such as color, texture, and vine treatment as feasible. (See Section 3.2.7, Noise, for location and heights of proposed soundwalls.)
5. Before demolition of contributing properties (this would only occur with implementation of Alternative A) for which an adverse effect

finding is made, strategies such as working with a local agency to identify appropriate sites or offering the properties for sale for $1 (or other reasonable amount) and paying up to the cost of demolition and removal of each contributing property would be attempted.

6. Architectural and structural elements or character-defining features would be made available for reuse in other buildings of the same age and style through an architectural salvage operation (this would only occur with implementation of Alternative A). No salvage would take place until an opportunity for the relocation described in item 5 above has taken place.
7. The Rancho Vista Historic District contributing buildings/structures affected by temporary construction easements would be protected by the establishment of Environmentally Sensitive Areas. After construction, the land, hardscape (e.g., residential walkways, garden walks/walls, etc.) and vegetation would be replaced in-kind per the Secretary of the Interior's *Standards for the Treatment for Historic Properties with Guidelines for Rehabilitation.*

CR-2 Contract specifications shall direct the contractor not to use pile driving for the construction of the bridge crossing at Stine Road and Stockdale Highway. The contractor shall use alternative construction methods (such as cast-in-drilled-hole piles) that would cause less than 0.12 inch per second peak particle velocity for the construction of the bridge to avoid any indirect adverse vibration effects to contributing elements of the Rancho Vista Historic District that is an Historic Property.

3.2 Physical Environment

3.2.1 Hydrology and Floodplain

Regulatory Setting

Executive Order 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. Federal Highway Administration requirements for compliance are outlined in 23 CFR 650 Subpart A. To comply, the following must be analyzed:

- Practicability of alternatives to any longitudinal encroachments
- Risks of the action
- Impacts on natural and beneficial floodplain values
- Support of incompatible floodplain development
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values affected by the project

The base floodplain is defined as "the area subject to flooding by the flood or tide having a 1 percent chance of being exceeded in any given year." This is also referred to as the "100-year storm event." An encroachment is defined as "an action within the limits of the base floodplain."

Affected Environment

Information in this section comes from the *Location Hydraulic Study* (November 2012) for the project. The discussion below primarily focuses on Segment 1 areas within the influence of the Kern River. Farther west, the Segment 3 study area is located outside the 100-year and 500-year floodplains.

The Kern River is the major water body in the project area, running for 165 miles and draining over 2,400 square miles of the southern Sierra Nevada Mountains. The river flows southwest into the San Joaquin Valley through the city of Bakersfield and empties into the normally dry Kern Lake. Property protection from river floods is provided by a system of levees, bridges, diversion structures, and canals. The Kern River is a designated floodway under jurisdiction of the Central Valley Flood Protection Board. Any encroachment on the floodplain would require permits from this agency. The Federal Highway Administration defines a "significant encroachment" as development that would involve one or more of the following construction or flood-related impacts: (1) significant potential for interruption or termination of a transportation facility that is needed for emergency vehicles or provides a community's only evacuation route; (2) a significant risk; or (3) a significant adverse impact on the natural and beneficial floodplain values.

The Kern River hydrologic and hydraulic conditions have been studied by the Federal Emergency Management Agency and potential flood hazard zones have been mapped. In the project area, the designated 100-year and 500-year floodplains of the river include the river channel and adjacent low-lying areas, as shown in Figure 3-28.

Figure 3-29 shows surface water bodies in the project area. Two groundwater recharge ponds (just north of Truxtun Avenue and south of the Kern River) are referred to as Truxtun Lakes. Various canals in the project area divert the Kern River water for use in agricultural irrigation and municipal water supplies: Arvin-Edison Canal, Friant-Kern Canal, Cross Valley Canal, Carrier Canal, Stine Canal, Central Branch Canal, and Kern Island Canal.

Natural and beneficial uses of the Kern River and adjacent floodplain include fish and wildlife foraging, migration, and breeding; flood flow conveyance and storage; groundwater recharge; and recreational activities. Even with surrounding urbanization, the Kern River and adjacent floodplain have moderate wildlife habitat values in the project area.

Environmental Consequences

This section discusses impacts to hydrology and floodplain within the project study area as a result of the proposed project alternatives. Construction impacts are provided in Section 3.6 of this environmental document.

Common to All Build Alternatives

The proposed drainage system for each build alternative would keep the existing drainage patterns and route the onsite runoff to existing and proposed infiltration basins through the onsite drainage system. Because all runoff would be retained within these basins, there would be no changes in offsite flow rate or quantity as a result of the project.

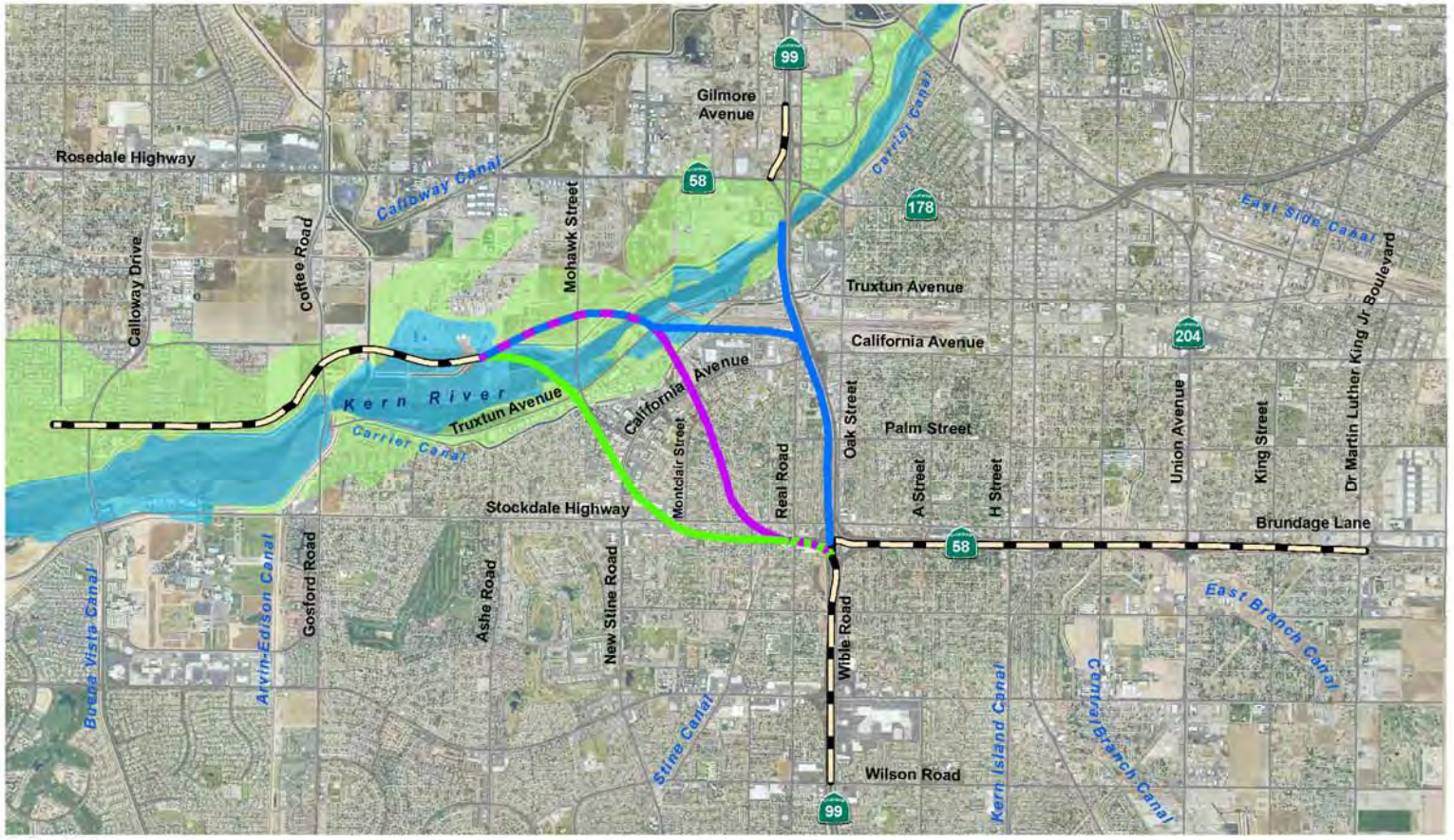
Direct runoff into the Kern River and canals would be avoided through roadway design and with infiltration basins located along each proposed alternative. Storm water on pavements would generally drain as surface flow to the outside edge of the freeway/roadway travel lanes, or toward the median. Storm drain inlets would then collect the storm water and direct it into infiltration basins. Several existing drainage facilities would be improved or rerouted to new infiltration/retention basins as a result of the project.

In accordance with Caltrans standards, the drainage facilities would handle runoff from a 25-year, 5-minute storm (i.e., a storm with a 4 percent probability of occurring in any given year, where water flows from the most remote point in a watershed to the watershed outlet in 5 minutes), and infiltration basins would accommodate runoff from two 10-year storms occurring within a 24-hour time period.

The three build alternatives would have abutments and piers within the 100-year floodplain of the Kern River. While each alternative bridge does encroach on the floodplain, impacts to the floodplain would not fit the definition of a significant encroachment. Each of these topics is discussed in text that follows.

Significant Potential for Interruption or Termination of a Transportation Facility—Road surfaces would be designed to be above the 100-year floodplain elevation, so vehicles using the freeway would not be exposed to flood hazards. The project would not affect emergency vehicle use of State Route 58 or its use as an evacuation route in the event of flooding.

A Significant Risk—Levees along the Kern River protect adjacent areas from flooding by providing at least 3 feet of freeboard (distance between the base flood level and the top of the levee) and an additional 1 foot of freeboard within 100 feet of structures, such as bridges. The increase in water level in the Kern River due to the bridges proposed under all build alternatives would not decrease the freeboard to less than the required minimum for the 100-year design flow. Levee freeboards would not be substantially affected under the build alternatives. The specific effects of each alternative are discussed below.



Not to Scale;
Source: Information from *Water Quality Assessment Report* 2012; Aerial flown 2006; Federal Emergency Management Agency 2010

- Alternative A
- Alternative B
- Alternative C
- Shared by Alternatives A/B
- Shared by Alternatives B/C
- Shared by Alternatives A/B/C
- 100 Year Floodplain
- 500 Year Floodplain

Floodplains

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-28

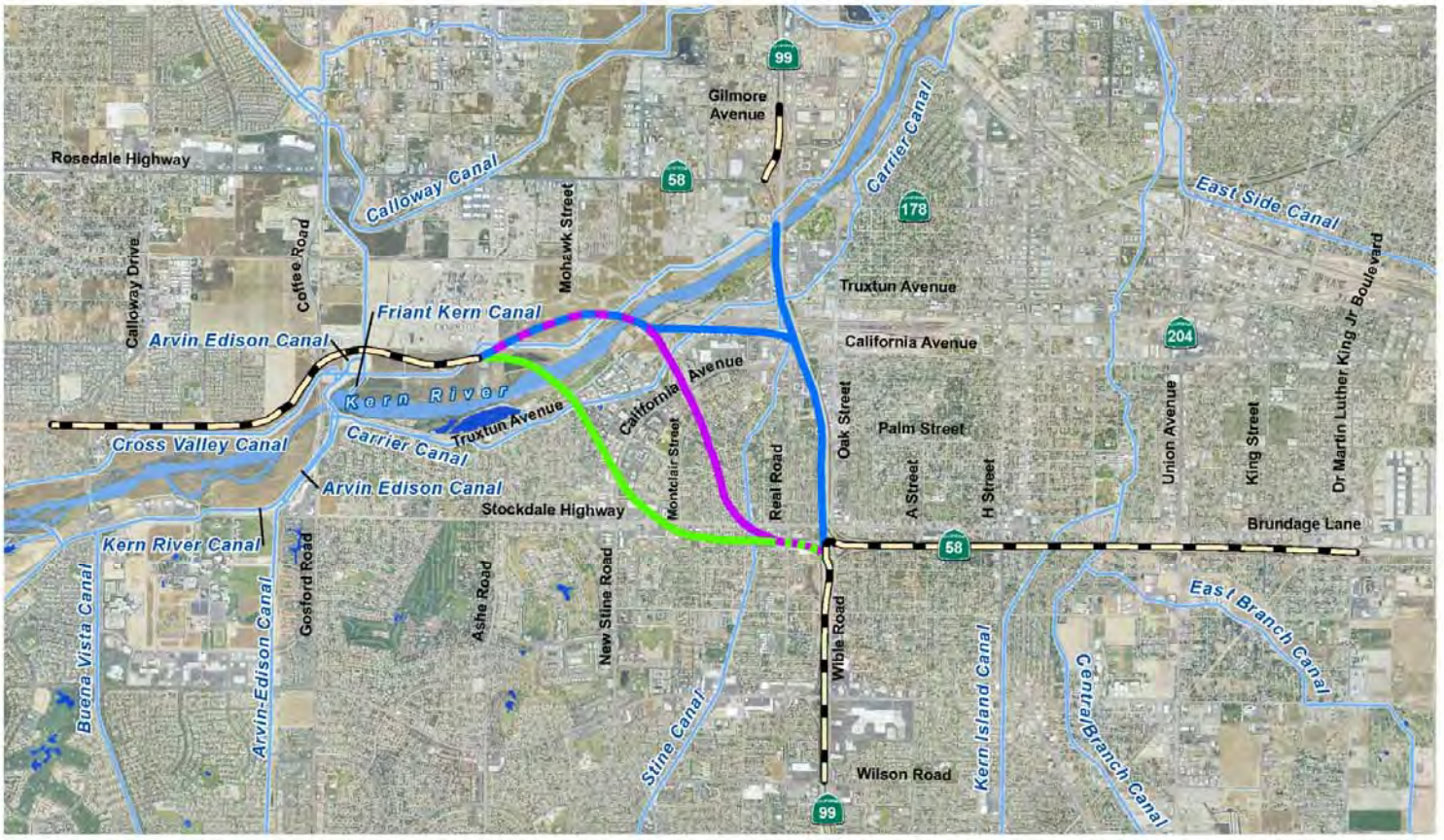

Rosedale Highway
Calloway Canal
Gilmore Avenue
Carrier Canal
East Side Canal
Calloway Drive
Cottee Road
Mohawk Street
Truxtun Avenue
Friant Kern Canal
Arvin Edison Canal
California Avenue
Kern River
Cross Valley Canal
Carrier Canal
Truxtun Avenue
Oak Street
Palm Street
Union Avenue
King Street
Dr Martin Luther King Jr Boulevard
Arvin Edison Canal
Stockdale Highway
Montclair Street
Real Road
A Street
H Street
Brundage Lane
Kern River Canal
Buena Vista Canal
Gosford Road
Ashe Road
New Stine Road
Wible Road
East Branch Canal
Arvin-Edison Canal
Stine Canal
Kern Island Canal
Central Branch Canal
Wilson Road
99
58
178
204
N
Not to Scale; Source: Information from *Water Quality Assessment Report* 2012; Aerial flown 2006; Kern County 2011
Segment 1 Alternatives
Alternative A
Alternative B
Alternative C
Shared by Alternatives A/B
Shared by Alternatives B/C
Shared by Alternatives A/B/C
Water Features
Canals
Rivers
Lakes
Surface Water Bodies
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-29

Since bridge abutments and piers would be built within the Kern River floodplain, there would be a small decrease in storage capacity of the floodplain. The decrease in storage capacity due to the increase in impervious surface area would be minor compared to the size of the Kern River watershed. With conveyance of increased runoff to infiltration basins instead of the river, risks to the river's floodplain due to the added impervious surfaces would be eliminated. Given these consideration, impacts would be minimal and would not result in a significant risk.

Significant Adverse Impact on the Natural and Beneficial Floodplain Values—Even with surrounding urbanization, the Kern River channel and adjacent floodplain have moderate wildlife habitat values. Given the minimal effects on groundwater recharge and the expected minimal loss of habitat (see Section 3.3), the project would not adversely affect the beneficial uses of the floodplain.

Significant Potential for Support of Probable Incompatible Floodplain Development—The three build alternatives would not support incompatible floodplain development because no new permanent access to the Kern River floodplain would be created by the bridges and structures proposed.

Neither the minor improvements to nor the designation of the Westside Parkway as State Route 58 (Segment 2 of the Centennial Corridor project) would have an effect on local hydrology or existing flood hazards.

Alternative A

An 855-foot-long bridge would be built over the Kern River west of Mohawk Street, along with the replacement of the existing bridge over the Friant-Kern Canal. Based on the hydraulic analysis, bridge supports to be built in or near the Kern River would increase water surface elevation, without encroaching on mandated freeboard of the river's levees. Alternative A would raise the 100-year water surface level in the river by no more than 0.46 foot (5.5 inches). The change is reduced to zero about 3,600 feet upstream of the proposed bridge. The calculated increase in water level in the river would be less than 1 foot, and the increase in water level in the Kern River due to the bridges proposed would not decrease the levee freeboard below the required minimum for the 100-year design flow. The impact from the water level rising less than 6 inches in the Kern River channel would not cause an adverse impact to flood flow at this location.

Alternative B

A 941-foot-long bridge connecting westbound State Route 58 to Mohawk Street and a 677-foot-long mainline bridge would be built over the Kern River. Based on the hydraulic analysis, bridge piers and abutments to be built in the Kern River would raise the 100-year water surface in the river by no more than 0.15 foot (1.8 inches). The change is reduced to zero about 1,500 feet upstream of the proposed bridge. The impact from water rising less than 2 inches would not be adverse.

Alternative C

A 737-foot-long mainline bridge and about a 1,550-foot-long off-ramp bridge would be built over the Kern River. Based on the hydraulic analysis, bridge piers and abutments to be built in the Kern River would raise the 100-year water surface in the river by no more than 0.15 foot (1.8 inches). The change is reduced to zero about 1,500 feet upstream of the proposed bridge. The impact from water rising less than 2 inches would not be adverse.

Although no adverse impact is anticipated with any of the three build alternatives, any increase in the water surface elevation due to proposed improvements within the floodway must be approved by the Central Valley Flood Protection Board and the Federal Emergency Management Agency.

No-Build Alternative

No impacts to hydrology and floodplain would occur under the No-Build Alternative.

Avoidance, Minimization, and/or Mitigation Measures

The following measures would minimize floodplain impacts and preserve the beneficial floodplain values of the project area. In addition, Section 3.6, Construction Impacts, identifies standard conditions that would reduce impacts during construction.

Standard Condition

SC-FP-1 The following measures will be incorporated into project design to minimize flood flow impacts on the Kern River:

1. Project design elements will include incorporation of bridge piers and abutments that are parallel to the direction of water flow to minimize flow obstruction.
2. Pier placement will be optimized to align the piers with existing piers in the Kern River.
3. Bridge abutments will be located outside of or as close to the limits of the floodplain as possible to minimize the reduction of conveyance capacity of the Kern River.
4. Bridges will be designed with sufficient freeboard above the 100-year flood water surface elevation to prevent the bridge deck from affecting flood flows.

3.2.2 Water Quality and Storm Water Runoff

Regulatory Setting

Federal Requirements: Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States, from any point source unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System permit. This act and its amendments are known today as the

Clean Water Act, this act has been amended by Congress several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the National Pollutant Discharge Elimination System permit scheme. The following are important Clean Water Act sections:

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the United States, to obtain certification from the State that the discharge will comply with other provisions of the act. [Most frequently required in tandem with a Section 404 permit request. See below.]
- Section 402 establishes the National Pollutant Discharge Elimination System, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the United States. Regional Water Quality Control Boards administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems.
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by the U.S. Army Corps of Engineers.

The goal of the Clean Water Act is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."

The U.S. Army Corps of Engineers issues two types of 404 permits: General and Standard permits. There are two types of General Permits: Regional permits and Nationwide permits. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of U.S. Army Corps of Engineer's Standard permits. There are two types of Standard Permits: Individual permits and Letters of Permission. For Standard permits, the U.S. Army Corps of Engineers decision to approve is based on compliance with U.S. Environmental Protection Agency's Section 404(b)(1) Guidelines (U.S. Environmental Protection Agency CFR 40 Part 230), and whether permit approval is in the public interest. The Section 404(b)(1) guidelines were developed by the U.S. Environmental Protection Agency in conjunction with the U.S. Army Corps of Engineers, and allow the discharge of dredged or fill material into the aquatic system (waters of the United States) only if there is no practicable alternative that would have a less adverse effect. The guidelines state that the U.S. Army Corps of Engineers may not issue a permit if there is a least environmentally damaging practicable alternative, to the proposed discharge that would have lesser effects on

waters of the United States, and not have any other significant adverse environmental consequences. According to the guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The guidelines also restrict permitting activities that violate water quality or toxic effluent standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the United States. (The U.S. EPA defines "effluent" as "wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall.") In addition every permit from the U.S. Army Corps of Engineers, even if not subject to the Section 404(b)(1) guidelines, must meet general requirements. See 33 CFR 320.4.

State Requirements: Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the Clean Water Act and regulates discharges to Waters of the State. Waters of the State include more than just Waters of the United States, like groundwater and surface waters not considered Waters of the United States. Also, it prohibits discharges of "waste" as defined; this definition is broader than the Clean Water Act definition of "pollutant." Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements and may be required even when the discharge is already permitted or exempt under the Clean Water Act.

The State Water Resources Control Board and Regional Water Quality Control Boards are responsible for establishing the water quality standards (objectives and beneficial uses) required by the Clean Water Act, and regulating discharges to ensure compliance with the water quality standards.

Details about water quality standards in a project area are included in the applicable Regional Water Quality Control Board Basin Plan. In California, Regional Water Quality Control Boards designate beneficial uses for all water body segments, and then set criteria necessary to protect these uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use.

In addition, the State Water Resources Control Board identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with Clean Water Act Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-point source controls, the Clean Water Act requires the establishment of Total Maximum Daily Loads. Total Maximum Daily Loads specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

State Water Resources Control Board and Regional Water Quality Control Boards

The State Water Resources Control Board administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application and oversees water quality functions throughout the state by approving Basin Plans, Total Maximum Daily Loads, and National Pollutant Discharge Elimination System permits. Regional Water Quality Control Boards are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

National Pollutant Discharge Elimination System Program

Municipal Separate Storm Sewer Systems

Section 402(p) of the Clean Water Act requires the issuance of National Pollutant Discharge Elimination System permits for five categories of storm water dischargers, including Municipal Separate Storm Sewer Systems. An Municipal Separate Storm Sewer System is defined as "any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that is designed or used for collecting or conveying storm water." The State Water Resources Control Board has identified Caltrans as an owner/operator of a Municipal Separate Storm Sewer System under federal regulations. This permit covers all Caltrans rights-of-way, properties, facilities, and activities in the state. The State Water Resources Control Board or the Regional Water Quality Control Board issues National Pollutant Discharge Elimination System permits for five years, and permit requirements remain active until a new permit has been adopted.

Caltrans' Municipal Separate Storm Sewer System Permit, (Order No. 2012-0011-DWQ, NPDES No. CAS000003) was adopted on September 19, 2012 and became effective on July 1, 2013, under revision at the time of this update, contains three basic requirements:

- Caltrans must comply with the requirements of the Construction General Permit (see below)
- Caltrans must implement a year-round program in all parts of the state to effectively control storm water and non-storm water discharges, and
- Caltrans storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices and other measures to the Maximum Extent Practicable, as the State Water Resources Board determines necessary to meet the water quality standards

To comply with the permit, Caltrans developed the Statewide Storm Water Management Plan to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The Storm Water Management Plan assigns responsibilities within Caltrans for

implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The Storm Water Management Plan describes the minimum procedures and practices Caltrans uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of best management practices. The project will be programmed to follow the guidelines and procedures outlined in the latest Storm Water Management Plan to address storm water runoff.

Construction General Permit

Construction General Permit (Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ), adopted on September 2, 2009, became effective on July 1, 2010. The permit regulates storm water discharges from construction sites that result in a disturbed soil area of 1 acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least 1 acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than 1 acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the Regional Water Quality Control Board. Operators of regulated construction sites are required to develop a Storm Water Pollution Prevention Plan; implement sediment, erosion, and pollution prevention control measures; and obtain coverage under the Construction General Permit.

The Construction General Permit separates projects into Risk Level 1, 2 or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the risk level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff hydrogen potential (pH) and turbidity monitoring, and before-construction and after-construction aquatic biological assessments during specified seasonal windows.

For all projects subject to the permit, applicants are required to develop and implement an effective Storm Water Pollution Prevention Plan. In accordance with Caltrans' Standard Specifications, a Water Pollution Control Plan is necessary for projects with a disturbed soil area less than 1 acre.

Section 401 Permitting

Under Section 401 of the Clean Water Act, any project requiring a federal license or permit that may result in a discharge to a water body must obtain a 401 Certification, which certifies that the project will comply with state water quality standards. The most common federal permits triggering 401 Certification are Clean Water Act Section 404 permits issued by the U.S. Army Corps of Engineers. The 401 permit certifications are obtained from the appropriate Regional Water Quality Control

Board, dependent on the project location, and are required before the U.S. Army Corps of Engineers issues a 404 permit.

In some cases, the Regional Water Quality Control Board may have specific concerns with discharges related to a project; the Regional Water Quality Control Board may then issue a set of requirements known as Waste Discharge Requirements under the State Water Code that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. Waste Discharge Requirements can be issued for both permanent and temporary discharges of a project.

Affected Environment

Analysis in this section is based on the *Water Quality Assessment Report* (November 2012) technical study prepared for the project.

The Centennial Corridor is within the Kern Delta hydrologic area within the South Valley Floor hydrologic unit of the Tulare Lake hydrologic basin. Receiving water bodies in the Kern Delta hydrologic area include the Kern River, Carrier Canal, Stine Canal, and Kern Island Canal. The Kern River receives storm water runoff from the project area through sheet flow and a number of drainage pipes, canals, retention basins, cross culverts, pump stations, and landscaped areas.

The Tulare Lake hydrologic basin is under the jurisdiction of the Central Valley Regional Water Quality Control Board. The board has prepared a Water Quality Control Plan for the Tulare Lake Basin that lists the beneficial uses of the Kern River as (1) Municipal and Domestic Supply; (2) Agricultural Supply; (3) Industrial Service Supply; (4) Industrial Process Supply; (5) Hydropower Generation; (6) Water Contact Recreation; (7) Non-Contact Water Recreation; (8) Warm Freshwater Habitat; (9) Wildlife Habitat; (10) Rare, Threatened or Endangered Species (Habitat); and (11) Groundwater Recharge.

Surface water quality in the Kern River and other surface water bodies within the Tulare Lake Basin is generally good. To protect water quality, the Central Valley Regional Water Quality Control Board has established water quality objectives for inland surface waters. Water bodies that do not meet the water quality objectives are considered “impaired” under Section 303(d) of the Clean Water Act. None of the water bodies within the project area have been identified as “impaired.”

The Southern San Joaquin Groundwater Basin underlies the project area. This groundwater basin is a subbasin of the Tulare Lake hydrologic region. Average depth to groundwater in the project area is estimated at 80 to 120 feet below the ground surface. Variations in groundwater depth may be due to seasonal groundwater fluctuations, weather conditions, surface runoff, and other factors.

Groundwater is the main source of domestic water supply in the Bakersfield area, with the Kern River water and imported water as supplemental sources. Aside from the river channel, there are recharge ponds along the river, recharge facilities, ground

percolation programs, canal seepage, spreading/banking projects, and wastewater reclamation that contribute to local groundwater recharge.

The Central Valley Regional Water Quality Control Board has established water quality objectives for groundwater in terms of bacteria, chemical constituents, pH, pesticides, radioactivity, salinity, tastes and odors, and toxicity. Beneficial uses for groundwater in the Kern County Subbasin of the Southern San Joaquin Groundwater Basin are (1) Municipal and Domestic Supply; (2) Agriculture Supply; (3) Industrial Process Supply; (4) Industrial Service Supply; (5) Water Contact Recreation; (6) Non-Contact Water Recreation; and (7) Wildlife Habitat. Groundwater quality in the Tulare Lake hydrologic region is suitable for most urban and agricultural uses.

Environmental Consequences

Common to All Build Alternatives

Under the build alternatives, the project would increase the impervious surface area and potentially increase storm water runoff from construction of Segment 1 and improvement at Stockdale Highway and State Route 43 under Segment 3 as part of the establishment of the Centennial Corridor (see Table 3.21).

Table 3.21 Changes in Impervious Surface Area

Build Alternative	Existing Impervious Area	Construction Disturbance Area	Increase in Impervious Area	Total Proposed Impervious Area
Alternative A	89 acres	1,125 acres	66 acres	155 acres
Alternative B	129 acres	1,020 acres	34 acres	163 acres
Alternative C	129 acres	1,124 acres	99 acres	228 acres
Source: Developed from the *Water Quality Assessment Report* 2012.				

Infiltration basins are proposed to collect runoff from the proposed improvements, which would help ground infiltration, reduce offsite runoff volumes and velocities, and remove pollutants in storm water.

Pollutants associated with the use of the proposed freeway/roadway include sediment from natural erosion; nutrients (phosphorus and nitrogen) from freeway landscaping; mineralized organic matter in soils; nitrite discharges from automobile exhausts and atmospheric fallout; litter; and metals from the combustion of fossil fuels, the wearing of brake pads, and the corrosion of galvanized structures. Table 3.22 identifies pollutants that could be generated by long-term use of the Centennial Corridor.

Table 3.22 Infrastructure Operation and Associated Pollutants

Pollutant Source	Pollutants
Motor Vehicles	Oil Grease Petroleum Coolants Nitrite Metals
Highway Maintenance	Asphalt Sediment Mineralized Organic Matter Thermoplastics Treated Wood Tree/Shrub Clippings
Landscaping	Aluminum Sulfate Sulfur-elemental Fertilizers – Inorganic and Organic Natural Earth (sand, gravel and topsoil) Herbicide Pesticide Lime
Illegal Dumping	Trash Oil/Grease
Spills	Hazardous and non-hazardous chemicals
Source: Developed from the *Water Quality Assessment Report* 2012.	

Pollutants from transportation facilities that commonly exceeded standards that are considered treatable by Caltrans-approved treatment best management practices are called "Targeted Design Constituents." Such constituents include sediment, metals (such as total and dissolved fractions of zinc, lead, and copper), nitrogen (including ammonia), phosphorus, and general metals. Although the anticipated ammonia levels that could be generated by use of the Centennial Corridor may exceed the water quality objective for the Kern River and other surface water bodies in the project area (see Figure 3-29), use of treatment best management practices would reduce ammonia levels in storm water runoff and reduce potential adverse impacts to surface water and groundwater.

Pile driving, dewatering and construction activities could encounter groundwater. While piles and foundations may reduce the storage capacity of the underlying groundwater, the displaced volume would not be great compared to the total volume of the groundwater basin. The volume of water used for construction, dust control, and other uses would be nominal. So, construction activities would not deplete groundwater supplies, nor would they interfere with groundwater recharge. The Central Valley Regional Water Quality Control Board has adopted regulations for dewatering activities (Order No. R5-00-175) to reduce effects on surface water. Compliance with the Central Valley Regional Water Quality Control Board's regulations would minimize impacts from dewatering activities.

Segment 2 of the Centennial Corridor project (Westside Parkway) is now in construction. The Westside Parkway project has incorporated water quality and storm

water runoff protection consistent with Caltrans' standards. The improvements within Segment 2 (auxiliary lanes and minor ramp changes) would have nominal influence on surface water or groundwater quality because the improvements are within the Westside Parkway right-of-way, portions of which would be paved as part of the ongoing construction activities.

Adding turn lanes and a traffic signal at the Stockdale Highway and State Route 43 intersection in Segment 3 would only slightly increase the impervious surface area. The use of Stockdale Highway as a connection to Interstate 5 would not change the drainage of the roadway because no improvements beyond those at State Route 43 are required. It would also not substantially change the effects on water quality.

No long-term increase in surface water pollutants would occur with any of the build alternatives. Impacts to water quality and storm water runoff during project construction are discussed in Section 3.6, Construction Impacts.

No-Build Alternative

No ground disturbance, demolition or construction would occur under the No-Build Alternative. So, no impacts on water quality and storm water runoff would occur under this alternative. No new impervious areas that could increase storm water runoff volume and pollutants would be created by the No-Build Alternative.

Avoidance, Minimization, and/or Mitigation Measures

Disturbed soil areas and slopes would be stabilized with permanent landscaping and/or permanent erosion-control measures as part of the Design Pollution Prevention best management practices in Caltrans' Storm Water Management Plan. In addition, velocity dissipation devices would be used in design to reduce erosion potential. Standard best management practices would maintain runoff patterns, volumes, and velocities, and would prevent erosion, channel scouring, and sediment deposition. Standard best management practices include the following:

- Consideration of downstream effects (such as flow rate and pollutant concentration) related to potentially increased flow, including peak-flow attenuation devices, reduction of paved surface, soil modification, and energy dissipation devices.
- Preservation of existing vegetation
- Concentrated flow conveyance systems (ditches, berms, dikes, and swales, overside drains, downdrains, paved spillways, channel linings, flared culvert end sections, outlet protection/velocity dissipation devices)
- Slope/Surface protection systems (specifically, vegetated surfaces, benching/terracing, slope rounding, reduce gradients, hard surfaces)

The treatment best management practices (which include use of biofiltration systems, infiltration devices, detention devices, dry weather flow diversions, gross solid removal devices, multi-chambered treatment trains, wet basins, traction sand traps, and media filters) have been evaluated for use throughout the alignments. The report

found that the use of infiltration basins throughout the alignment of each build alternative would allow the storm water runoff to use the natural filtering ability of the soil to remove pollutants. Runoff from all new impervious surfaces would be directed into the infiltration basins for treatment and so would not create any surface water or groundwater quality impacts.

With the incorporation of project design features and standard best management practices into the project, no mitigation measures are required.

Standard conditions for impacts as a result of construction activities are provided in Section 3.6, Construction Impacts.

3.2.3 Geology/Soils/Seismic/Topography

Regulatory Setting

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects "outstanding examples of major geological features." Topographic and geologic features are also protected under the California Environmental Quality Act.

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. The Caltrans Office of Earthquake Engineering is responsible for assessing the seismic hazard for Caltrans projects. Structures are designed using the Caltrans Seismic Design Criteria, which provide the minimum seismic requirements for highway bridges designed in California. A bridge's category and classification will determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities. For more information, see the Caltrans Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria.

Affected Environment

Information in this section comes from the *Preliminary Geotechnical Report - Centennial Corridor* (revised May 2012).

The San Joaquin Valley is a large plain with a slight southwesterly slope bound by the Coast Ranges to the west, the Sierra Nevada to the east, the Transverse Range to the south, and the San Joaquin/Sacramento Delta to the north. The project area is in the southern portion of the San Joaquin Valley, with the Kern River flowing northeast to southwest.

The project area is nearly flat, with a ground elevation at 380 feet above mean sea level near the intersection of the Westside Parkway and Coffee Road, rising to 405 feet above mean sea level at the intersection of State Route 99 and Gilmore Avenue. Although the area is essentially flat, the site slopes gently to the southwest in the same direction as the flow of the Kern River, which crosses the eastern half of the project area under State Route 99, the BNSF railroad tracks, Mohawk Street and Coffee Road.

The project site is underlain by human-made roadway fill embankments and alluvial fan deposits from the Kern River. Roadway fill embankment materials consist of sands with lesser amounts of silt, gravel and clay.

The project area is not within an Alquist-Priolo Earthquake Fault Zone, as designated by the California Geological Survey. No known active faults go toward or run through the project area, but the area is within a seismically active region of California. Several active faults within the region could produce significant ground shaking at the project site. The closest known active faults to the site are the Kern Front (4.2 miles north of the site at its nearest point), White Wolf (16.5 miles to the southeast), Pleito Thrust (23.2 miles to the south), and San Andreas faults (33 miles to the southwest).

Eleven soil borings were drilled along the three proposed alignments for Segment 1 to get soil information for preliminary design. Boring depths ranged from 11.5 to 86.5 feet. The soil analysis indicated that the upper subsurface materials are susceptible to caving and the soils are non-corrosive to buried metal structures.

Groundwater was encountered in two soil borings. Near the intersection of California Avenue and Lennox Avenue (within Alternative A), groundwater was encountered 70 feet below ground (at an elevation of 322 feet above mean sea level). Near Commerce Drive (within Alternative B), groundwater was encountered 24 feet below ground (at an elevation of 374 feet above mean sea level). Groundwater was not encountered in the other nine borings drilled to maximum depths of 12 to 87 feet. In addition, shallow water conditions may be present near the Kern River and in areas where surface water infiltrates into the ground from unlined canals.

Environmental Consequences

Common to All Alternatives

Grading would not affect any designated natural landmarks as there are no officially-designated natural landmarks or other major geological features within the project area.

The California Geological Survey has not found seismic hazards (including liquefaction and landslides due to earthquake) in the project area. While groundwater levels are estimated to be deeper than 50 feet below the ground surface (which is typically the greatest depth to which liquefaction hazards would occur), near the Kern River, groundwater levels vary seasonally and may be shallower than 50 feet below the ground surface, as seen in one soil boring. Fluctuations in the groundwater level are due to the change in seasons, variations in rainfall, and proximity to the Kern River. Analysis done for the project concluded that liquefaction is unlikely. However, foundations supporting bridges would be designed to withstand the effects of soil liquefaction consistent with Caltrans design specifications.

Earthquakes could lead to ground-shaking hazards in the project area. Using Caltrans seismic design procedures would ensure the structural integrity of structures and reduce hazards to the travelling public during a major earthquake in the region.

As standard engineering practice, the design of embankments and retaining walls would account for long-term settlement, elastic settlement, resistance to lateral loads, lateral earth pressure, increase in vertical and lateral pressures on existing underground utilities, factors of safety for slope stability, and structural stability. Therefore, permanent slopes would be designed no steeper than 2:1 (2 horizontal to 1 vertical). Structures to be supported on shallow foundations would be placed on a layer of compacted fill and should account for total and differential settlements.

Retaining wall selection and design would be based on several considerations (i.e., construction sequence, extent of earthwork, cost, effect on adjacent properties, need for shoring or slope cut, corrosion protection, amount of import fill, and aesthetics). Other factors considered in the engineering design of the project include resistance of underlying soils for pavement thickness, soil corrosion potential, and slopes of utility trenches.

Though soils have the potential to cave, standard construction practices would protect the construction crew from the collapse of slopes within excavation areas and trenches. This would apply for all areas where trenching is required.

Improvements at the Stockdale Highway and State Route 43 (Enos Lane) intersection in Segment 3 would not result in any adverse effects because minimal grading would be required and no geotechnical constraints are expected.

Impacts from construction activities are addressed in Section 3.6, Construction Impacts.

No-Build Alternative

Because no ground disturbance would occur under the No-Build Alternative, there would be no impacts on geology, soils, seismicity or topography. Existing geologic and seismic hazards would remain.

Avoidance, Minimization, and/or Mitigation Measures

The project would be designed to minimize geotechnical impacts. Because there would be no geotechnical impacts using standard design practices, no mitigation measures are required.

3.2.4 Paleontology

This section presents an overview of potential impacts on important paleontological resources.

Regulatory Setting

Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils.

A number of federal statutes specifically address paleontological resources and their treatment and funding for mitigation as a part of federally authorized or funded projects (such as the Antiquities Act of 1906 [16 U.S. Code 431-433] and Federal-

Aid Highway Act of 1960 [23 U.S. Code 305]). Under California law, paleontological resources are protected by the California Environmental Quality Act. 23 United States Code (USC) 305 authorizes the appropriation and use of federal highway funds for paleontological salvage as necessary by the highway department of any state, in compliance with 16 USC 431-433 above and state law.

Affected Environment

Information in this section comes from the *Paleontological Evaluation Report* (November 2012).

The project area sits on the San Joaquin Valley floor, a fairly featureless plain that slopes gently southwesterly to the valley axis. Near its northeastern end, the project area crosses the Kern River. Regional surficial geologic mapping indicates the project area is underlain by four sedimentary stratigraphic units, all of continental origin. In ascending stratigraphic order, these stratigraphic units include Pleistocene non-marine sedimentary deposits (includes Turlock Lake and Riverbank Formations elsewhere in the San Joaquin Valley), recent alluvial fan deposits of the Great Valley (includes Modesto Formation elsewhere in the San Joaquin Valley), recent basin deposits of the Great Valley, and recent river and major stream channel deposits of the Great Valley.

Fossilized remains of mostly extinct continental vertebrate species have been recorded in Pleistocene non-marine deposits at numerous localities in the San Joaquin Valley. Additionally, although Holocene deposits are typically too young to yield fossilized remains, Pleistocene age fossils have also been recovered in units mapped on the surface as Holocene age in other areas of the San Joaquin Valley, indicating that Pleistocene sediments were either present immediately below or that fossils from surrounding Pleistocene deposits were re-deposited in the Holocene age sediments. Excavation in units identified as Holocene is not likely to encounter Pleistocene sediments at depths above five feet as referenced to the native ground surface (see Figure 3-30).

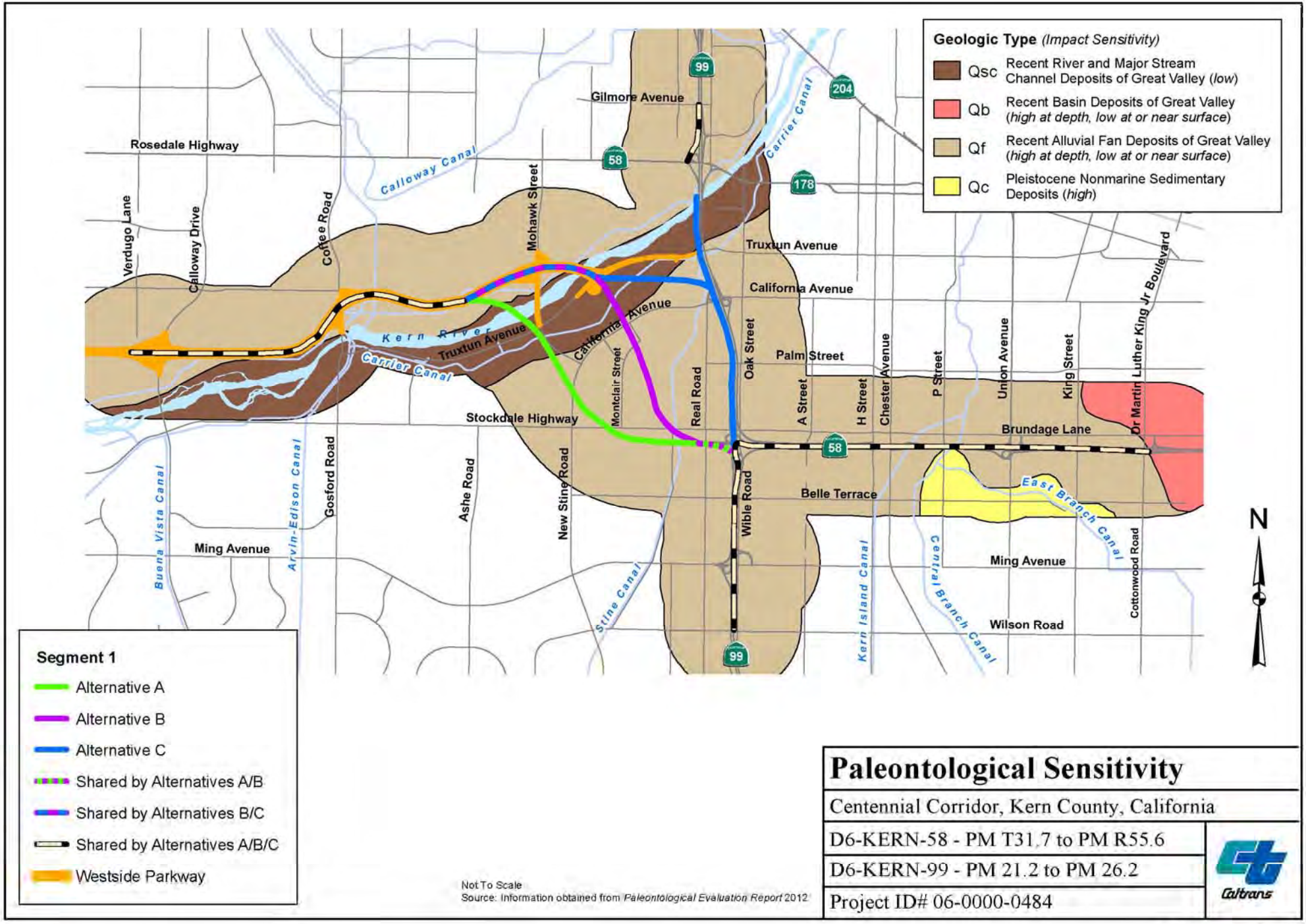
No fossils were found during paleontological surveys of the project area.

Environmental Consequences

Potential construction-related impacts of the build alternatives are discussed in Section 3.6 of this environmental document. There would be no impact on paleontological resources under the No-Build Alternative.

Avoidance, Minimization, and/or Mitigation Measures

Mitigation measures to prevent impacts to significant fossils will be incorporated during construction through the use of a Paleontological Mitigation Plan involving monitoring during excavation in select locations, since excavation into highly sensitive deposits would occur as a result of construction activities. The mitigation program is discussed in Section 3.6, Construction Impacts.



Paleontological Sensitivity

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-30

3.2.5 Hazardous Waste or Materials

Regulatory Setting

Hazardous materials including hazardous substances and wastes are regulated by many state and federal laws. Specific statutes govern the generation, treatment, storage, and disposal of hazardous materials, substances and waste, and also the investigation and mitigation of waste releases, air and water quality, human health, and land use.

The main federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act of 1980 and the Resource Conservation and Recovery Act of 1976. The purpose of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, often referred to as Superfund, is to identify and clean up abandoned contaminated sites so that public health and welfare are not compromised. The Resource Conservation and Recovery Act of 1976 provides for "cradle to grave" regulation of hazardous wastes. Other federal laws include:

- Community Environmental Response Facilitation Act of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act
- Atomic Energy Act
- Toxic Substances Control Act
- Federal Insecticide, Fungicide, and Rodenticide Act

In addition to the acts listed above, Executive Order 12088, Federal Compliance with Pollution Control, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste and substances under the authority of the California Health and Safety Code and is also authorized by the federal government to implement the Resource Conservation and Recovery Act of 1976 in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and cleanup of contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper disposal of hazardous materials is vital if it is found, disturbed or generated during project construction.

Affected Environment

Information in this section comes from the *Initial Site Assessment for the Centennial Corridor Project* (November 2012) and *Focused Initial Site Assessment for the Centennial Corridor Project* (October 2013).

An Initial Site Assessment was done to address potential impacts associated with hazardous materials for all portions of the project where additional right-of-way would be required for the project or where adjacent contamination could affect the construction activities. The evaluation included a site visit, a review of the project area history, and a review of official records (an environmental database report and regulatory agency file reviews) to identify sites of hazardous waste concern. As described in Chapter 2, Segment 2 of the Centennial Corridor project is composed of the Westside Parkway, which was previously evaluated in the *Westside Parkway Environmental Assessment/Final Environmental Impact Report*. However, the *Initial Site Assessment for the Centennial Corridor Project* did include the easterly portion of the Westside Parkway where improvements are proposed.

The Initial Site Assessment evaluated 850 parcels that are part of the project area, with 197 parcels identified to be part of more than one alternative route. Due to the large number of parcels that were assessed, the privately owned parcels were observed from public property. The Initial Site Assessment did not include screening or testing for aerially deposited lead, asbestos, radon, lead paint, lead in drinking water, or urea formaldehyde. Between the draft environmental document and the final environmental document, sampling for these materials, as applicable, would be done. Should such materials be found during sampling, they would be handled in accordance with applicable federal, state, and local regulatory requirements.

The three alternatives being studied for Segment 1 of the project pass through a mix of residential, commercial, and light industrial land use areas. There are residential communities west of State Route 99 and north and south of Stockdale Highway. Some of the businesses use materials classified as hazardous. These include gas stations, paint stores, and automotive support businesses. Oil refineries and businesses that support the oil and gas industry are north of the alignment. These uses have open fields that contain oil wells, aboveground storage tanks, and petroleum pipelines. Oil cake sand (a mixture of oil residue and sand) was found on several of these parcels.

The Kern River, Cross Valley Canal, Stine Canal, and Carrier Canal are in the project area. Each build alternative in Segment 1 crosses the Kern River and Stine Canal. Vacant parcels with scattered oil wells and an oil refinery are north of the Kern River. Segment 3, including the intersection of Stockdale Highway and State Route 43, passes through mostly open space (undeveloped) and agricultural lands.

Following the completion of the initial site assessment and the identification of the recommended preferred alternative, a focused initial site assessment was conducted to further evaluate the need to do testing of potential hazardous materials at any parcel or structure to be affected by Alternative B. The focused initial site assessment was developed based on the results of the following activities: review of Initial Site Assessment recommendations; communication with project engineer on current design and proposed right-of-way acquisition; coordination with the City Right-of-Way staff and the previous Hazardous Material Specialist on the Westside Parkway project; and field visits of the ranked parcels identified for Alternative B in the initial site assessment.

Environmental Consequences

Parcels within the project boundaries were ranked for their potential for containing hazardous materials/wastes:

- Rank 1: Parcels within the study area that are known to be contaminated with hazardous wastes or substances.
- Rank 2: Parcels within the study area that are suspected of being contaminated with hazardous wastes or substances.
- Rank 3: Parcels that have the potential to be contaminated with hazardous wastes or substances within the study area or having the potential to impact the proposed study area due to known or suspected hazardous wastes or substances located on the parcel.
- NR (no numbered rank): Parcels with no significant potential for the presence of hazardous waste or substances impacting the proposed study area.

Detailed information on sites ranked 1 through 3 for each of the alternatives, as well as the maps showing the location of the ranked parcels, is provided in Appendix H in Volume 2.

Common to All Build Alternatives

The project would make improvements in all segments of the corridor. Most of the construction requiring new right-of-way is in Segment 1 and to a lesser extent Segment 3 near Stockdale Highway and State Route 43. The minor improvements being made within Segment 2 are mostly within the original construction footprint of the Westside Parkway. Any hazardous waste remediation required for the Westside Parkway project has already been completed as part of that project. The *Initial Site Assessment for the Centennial Corridor Project* addressed the minor additional right-of-way required within Segment 2 (minor sliver acquisitions between Mohawk Street and Coffee Road, see Figures 3-10a–c, provided in Volume 2).

Previous sampling of surface soils along State Routes 58 and 99 near the project limits indicated that there were hazardous levels of lead to a depth of 1.5 feet likely due to the historic use of leaded fuel and emissions settling on the ground. Older buildings and/or bridge structures that are subject to demolition or renovation under

each build alternative may contain asbestos and lead-based paint. Both yellow and white traffic paint, striping, and markings on roadways could also contain high lead levels. Testing to identify the extent of these hazardous materials will be done and the results will be incorporated into the final environmental document.

Ground-disturbing as well as demolition/renovation activities could potentially expose workers and the public to hazardous wastes or materials.

Alternative A

Five parcels in the Alternative A project area are categorized as Rank 1: four are partial acquisitions and one is a full acquisition. All potentially have soil contamination as a result of oil and oil-production activities. Division of Oil and Gas maps indicate that one parcel contains active and inactive wells; another parcel contains an inactive well.

Alternative A would require a partial right-of-way acquisition from six parcels and full acquisitions of nine parcels that are listed as Rank 2. The potential contaminants in most of these parcels include active or inactive oil wells onsite from oil-pumping activities. Site cleanup may be required before use.

Partial or full acquisition of 14 parcels listed as Rank 3 would be required. Three parcels would require a partial acquisition; five parcels would require a full acquisition; five parcels would be required for a temporary construction easement; and one parcel would be required for a permanent easement. Potential contaminants in most of these parcels include water disposal wells, a leak from a transformer onto soil, presence of an underground storage tank, and use of chemicals in operations.

Seven water infiltration basins are proposed along Alternative A. All but one of the basins would be on parcels listed as No Rank. Only one basin would be on a parcel classified as Rank 3.

Alternative B

Five parcels within the Alternative B project area are classified as Rank 1: three are full acquisitions and two are partial acquisitions. All potentially have soil contamination as a result of oil and oil-production activities. Division of Oil and Gas maps indicate that one parcel contains active and inactive wells; another parcel contains one inactive well.

Alternative B would require acquisitions from the 11 parcels classified Rank 2; four are partial acquisitions; six are full acquisitions; and a temporary construction easement would be needed from one parcel. The potential contaminants in most of these parcels include active or inactive oil wells onsite from oil-pumping activities. Site clean up may be required before use.

Partial or full acquisition of 12 parcels listed as Rank 3 would be required. Two parcels would require a partial acquisition; four parcels would require a full acquisition; five parcels would be required for a temporary construction easement;

and one parcel would be required for a permanent easement. The potential contaminants in most of these parcels include water disposal wells, a leak from a transformer onto soil, presence of an underground storage tank, and use of chemicals in operations.

Eight water infiltration basins are proposed along Alternative B. All of these basins are on parcels that are listed as No Rank.

As indicated above, a focused initial site assessment has been conducted for Alternative B. Based on the results of the focused initial site assessment, the following Preliminary Site Investigation sampling is proposed and will be done before the completion of the final environmental document.

- Conduct soil sampling at seven potentially contaminated parcels to identify presence or absence of hazardous materials and the extent of contamination. Testing requirements for each parcel was determined based on several factors, such as presence or absence of the hazardous material and hazardous wastes reported in the initial site assessment, right-of-way acquisition, proposed use of the parcels, and effect from project construction. The focused initial site assessment found that the former Tosco Coke Pile site (APN#502-010-12) has been cleaned up. Therefore, no further testing is required.
- Conduct shallow soil sampling along State Route 99 and State Route 58 within the project limit to identify presence or absence of aerially-deposited lead.

Alternative C

Five parcels within the Alternative C project area are classified as Rank 1: one is a full acquisition and four are partial acquisitions. All potentially have soil contamination as a result of oil and oil-production activities. Division of Oil and Gas maps indicate that one parcel contains active and inactive wells; another parcel contains one inactive well.

Alternative C would require a partial acquisition from three parcels and full acquisitions of 11 parcels that are listed as Rank 2. Potential contaminants in most of these parcels include active or inactive oil wells onsite from oil-pumping activities. Site clean up may be required before use.

Partial or full acquisition of 23 parcels listed as Rank 3 would be required. Five parcels would require partial acquisition, and 16 parcels would need full acquisition. In addition, there would be one temporary construction easement and one permanent easement. Potential contaminants in most of these parcels include water disposal wells, a leak from a transformer onto soil, presence of an underground storage tank, and use of chemicals in operations.

Eleven infiltration basins are proposed for Alternative C. Infiltration basins on six parcels have been identified as Rank 3. These include a multi-tenant commercial property, a residential property, and a commercial property.

Construction impacts pertaining to hazardous materials and wastes are discussed in Section 3.6 of this document.

No-Build Alternative

Under the No-Build Alternative, there would be no impacts associated with hazardous waste/materials.

Avoidance, Minimization, and/or Mitigation Measures

As identified in the minimization measures below, a Preliminary Site Investigation for the selected alternative (Alternative B) would be done before the final environmental document to ensure that sites with potential contaminants are studied, cleanup methods are identified, and health and safety measures are addressed consistent with federal, state, and local requirements before project construction. Results of the site investigation will be reported in the final environmental document. If hazardous materials/wastes are found as a result of the Preliminary Site Investigation, site clean up will be conducted between the right-of-way acquisition and the project construction periods. Caltrans will comply with its policy with regard to acquisition of contaminated property as required by the project. Early coordination with relevant regulatory agencies such as, but not limited to, the California Environmental Protection Agency Department of Toxic Substances Control, Kern County Department of Environmental Health Services, and the City of Bakersfield Fire Department would be undertaken as soon as the results of the Preliminary Site Investigation are available to identify any necessary permits and approvals needed.

Based on the evaluation in the *Initial Site Assessment for the Centennial Corridor Project* (November 2012), a preliminary assessment of cost for remediation (clean-up) of hazardous materials is estimated to be $8,711,250 for Alternative A, $7,935,000 for Alternative B, and $9,947,500 for Alternative C, as can be seen in Table 4 of the *Initial Site Assessment*. Based on the evaluation in the focused initial site assessment, the cost to clean up hazardous materials within the seven parcels identified for testing is estimated at $1,150,000. The cost estimate will be revisited after the Preliminary Site Investigation is complete. The cost to clean up hazardous materials is generally the property owner's responsibility. Any remedial activity would occur before property acquisition. Some costs, however, should be budgeted as part of the project. A reasonable estimate may be up to 25 percent of the total clean-up cost.

Minimization Measures

H-1 Prior to finalization of the environmental document, a Preliminary Site Investigation for the preferred alternative (Alternative B) shall be conducted to determine the existence and the level of contamination, if any. If contamination is identified, the wastes/materials shall be handled in accordance with all applicable federal, State, and local regulatory requirements.

H-2 Special provisions shall be included in the construction contract. Contractors will be required to prepare and work under a Health and Safety Contingency Plan(s), which will address worker safety when working with potentially hazardous materials including asbestos, lead-based paint, aerially-deposited lead and/or other construction-related materials within the project right-of-way. Asbestos-containing materials sampling and analysis of buildings subject to demolition will be done by the contractor, as needed, prior to demolition and the statement of work will be included in the specifications.

H-3 As part of project design, a Soil Management Plan shall be developed to ensure that soil excavated during the project construction which is impacted by metals or petroleum hydrocarbons is handled, stockpiled, and disposed of in accordance with federal, state, and local regulations. The Soil Management Plan will also establish Reuse Screening Levels for the excavated soils with contaminant concentrations below the Reuse Screening Levels, which may be reused during construction projects on the right-of-way, while soils with contaminant concentrations exceeding the Reuse Screening Levels will need to be managed as hazardous wastes and disposed of at a Class I landfill.

H-4 Prior to any soil disturbance at the former Tosco Coke Pile (APN#502-010-12), the Department of Toxic Substances Control shall be properly notified.

3.2.6 Air Quality

Regulatory Setting

The Federal Clean Air Act as amended, is the primary federal law that governs air quality while the California Clean Air Act is its companion state law. These laws, and related regulations by the U.S. Environmental Protection Agency and California Air Resources Board, set standards for the concentrations of pollutants in the air. At the federal level, these standards are called the National Ambient Air Quality Standards. National and state ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), which is broken down for regulatory purposes into particles of 10 micrometers or smaller – (PM_{10}) and particles of 2.5 micrometers and smaller – ($PM_{2.5}$), and sulfur dioxide (SO_2). In addition, national and state standards exist for lead (Pb), and state standards exists for visibility-reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The national and state standards are set at levels that protect public health with a margin of safety and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under the National Environmental Policy Act. In addition, to this environmental analysis, a parallel “Conformity” requirement under the Federal Clean Air Act also applies.

Conformity

The conformity requirement is based on Federal Clean Air Act Section 176(c), which prohibits the U.S. Department of Transportation and other federal agencies from funding, authorizing, or approving plans, programs, or projects that do not conform to the State Implementation Plan for attaining the National Ambient Air Quality Standards. "Transportation Conformity" applies to highway and transit projects and takes place on two levels: the regional (or planning and programming) level and the project level. The project must conform at both levels to be approved.

Conformity requirements apply only in nonattainment and "maintenance" (former nonattainment) areas for the National Ambient Air Quality Standards, and only for the specific standards that are or were violated. U.S. Environmental Protection Agency regulations at 40 CFR 93 govern the conformity process. Conformity requirements do not apply in unclassifiable/attainment areas for NAAQS and do not apply at all for state standards regardless of the status of the area.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the standards set for carbon monoxide, nitrogen dioxide, ozone, particulate matter (PM_{10} and $PM_{2.5}$), and in some areas (although not in California) sulfur dioxide. California has non-attainment or maintenance areas for all of these transportation-related "criteria pollutants" except sulfur dioxide, and also has one non-attainment area for lead. However, lead is not currently required by the Federal Clean Air Act to be covered in a transportation conformity analysis. Regional conformity is based on emissions analysis of Regional Transportation Plans and Federal Transportation Improvement Programs that include all transportation projects planned for a region over a period of at least 20 years for the Regional Transportation Plan, and 4 years for the Federal Transportation Improvement Program. Regional Transportation Plan and Federal Transportation Improvement Program conformity is based on travel demand and emissions models to determine whether or not the implementation of those projects would conform to emission budgets or other tests at various analysis years showing that requirements of the Clean Air Act and the State Implementation Plan are met. If the conformity analysis is successful, the Metropolitan Planning Organization and Federal Highway Administration, and/or Federal Transit Administration make determinations that the Regional Transportation Plan and Federal Transportation Improvement Program are in conformity with the State Implementation Plan for achieving the goals of the Federal Clean Air Act. Otherwise, the projects in the Regional Transportation Plan and/or Federal Transportation Improvement Program must be modified until conformity is attained. If the design concept, scope, and "open to traffic" schedule of a proposed transportation project are the same as described in the Regional Transportation Plan and Federal Transportation Improvement Program, then the project meets regional conformity requirements for purposes of project-level analysis.

Conformity analysis at the project-level includes verification that the project is included in the regional conformity analysis and a "hot spot" analysis if an area is a "nonattainment" or "maintenance" area for carbon monoxide and/or particulate matter (PM_{10} or $PM_{2.5}$). A region is "nonattainment" if one or more of the monitoring

stations in the region measures a violation of the relevant standard, and the U.S. Environmental Protection Agency officially designates the area as a nonattainment. Areas that were previously designated as nonattainment areas but subsequently meet the standard may be officially redesignated to attainment by the U.S. Environmental Protection Agency and are then called "maintenance" areas. Hot spot analysis is essentially the same, for technical purposes, as carbon monoxide or particulate matter analysis performed for National Environmental Policy Act purposes. Conformity does include some specific procedural and documentation standards for projects that require a "hot-spot" analysis. In general, projects must not cause the hot spot-related standard to be violated and must not cause any increase in the number and severity of violations in non-attainment areas. If a known carbon monoxide or particulate matter violation is located in the project vicinity, the project must include measures to reduce or eliminate the existing violation(s) as well.

Affected Environment

Information in this section comes from the *Air Quality Study Report* (November 2013) for the project. Detailed analysis methodology, modeling files, and calculation worksheets can be found in the *Air Quality Study Report*. A climate change discussion is provided in Section 4.5.

Climate and Meteorology

The project study area lies in western Kern County, an area within the San Joaquin Valley Air Basin. The air basin is bordered by the Sierra Nevada Mountains on the east, the Pacific Coast Range on the west, and the Tehachapi Mountains on the south; the basin is open to the north extending to the Sacramento Valley Air Basin.

Air quality is affected by climate, topography, and the types and amount of pollutants emitted. The climate in Bakersfield is typical of the southern basin area, with hot dry summers and cooler winters characterized by dense tule fog.

In summer, the average high temperature is about 97 degrees Fahrenheit, and the average low temperature is about 68 degrees Fahrenheit. The wind in the summer is thermally driven by rising air in the Mojave Desert; wind flows in a northwesterly direction through the valley, the Tehachapi Pass and into the Mojave Desert.

In winter, the average high temperature is about 59 degrees Fahrenheit, and the average low temperature is about 43 degrees Fahrenheit. In addition to ambient temperatures, factors affecting ambient air quality include wind direction and speed, as well as atmospheric stability. This pattern is affected by mountain ranges and valleys.

The precipitation in winter in the southern basin is influenced by Pacific storms; there is little or no precipitation in summer. About 90 percent of the precipitation in the area occurs between December and April.

The basin has persistent temperature inversions, which limit vertical dispersion of air pollutants and result in stagnant air. During summer, inversion periods can promote

the formation of ozone. In winter, steep inversion layers typically set up after a cold front passes, forming what is referred to as a "tule fog." This fog can last for days and, under stagnant conditions, can promote a buildup of particulates or carbon monoxide.

Attainment Status

Criteria pollutants are defined as those pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health and prevent degradation of the environment. The standards for these pollutants are shown in Table 3.23.

Table 3.23 State and Federal Criteria Air Pollutant Standards

Pollutant	Averaging Time	State [8] Standard	Federal [8] Standard	Principal Health and Atmospheric Effects	Typical Sources	Project Area Attainment Status
Ozone (O_3) [2]	1 hour 8 hours	0.09 ppm 0.070 ppm	--- [4] 0.075 ppm (4th highest in 3 years)	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic VOC may also contribute.	Low-altitude ozone is almost entirely formed from reactive organic gases/ volatile organic compounds (ROG or VOC) and nitrogen oxides (NOx) in the presence of sunlight and heat. Common precursor emitters include motor vehicles and other internal combustion engines, solvent evaporation, boilers, furnaces, and industrial processes.	**Federal:** *1 Hour* – Not applicable *8 Hour* – Extreme Non-attainment **State:** *1 Hour* – Severe Non-attainment *8 Hour* – Non-attainment
Carbon Monoxide (CO)	1 hour 8 hours 8 hours (Lake Tahoe)	20 ppm 9.0 ppm [1] 6 ppm	35 ppm 9 ppm ---	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone. Colorless, odorless.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.	**Federal:** Attainment/ Maintenance **State:** Attainment/ Unclassified
Respirable Particulate Matter (PM_{10}) [2]	24 hours Annual	50 µg/m^3 20 µg/m^3	150 µg/m^3 --- [2] (expected number of days above standard < or equal to 1)	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many toxic and other aerosol and solid compounds are part of PM_{10}.	Dust- and fume-producing industrial and agricultural operations; combustion smoke and vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.	**Federal:** *24 Hour* – Attainment/ Maintenance *Annual* – Not applicable **State:** *24 Hour & Annual* –Non-attainment

Table 3.23 State and Federal Criteria Air Pollutant Standards

Pollutant	Averaging Time	State [8] Standard	Federal [8] Standard	Principal Health and Atmospheric Effects	Typical Sources	Project Area Attainment Status
Fine Particulate Matter ($PM_{2.5}$) [2]	24 hours Annual 24 hours (conformity process [5]) Secondary Standard (annual; also for conformity process [5])	--- 12 µg/m^3 --- ---	35 µg/m^3 12.0 µg/m^3 65 µg/m^3 15 µg/m^3 (98th percentile over 3 years)	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – a toxic air contaminant – is in the $PM_{2.5}$ size range. Many toxic & other aerosol and solid compounds are part of $PM_{2.5}$.	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical and photochemical reactions involving other pollutants including NOx, sulfur oxides (SOx), ammonia, and ROG.	**Federal:** Non-attainment **State:** Non-attainment
Nitrogen Dioxide (NO_2)	1 hour Annual	0.18 ppm 0.030 ppm	0.100 ppm [6] (98th percentile over 3 years) 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain and nitrate contamination of stormwater. Part of the "NOx" group of ozone precursors.	Motor vehicles and other mobile or portable engines, especially diesel; refineries; industrial operations.	**Federal:** Attainment/ Unclassified **State:** Attainment
Sulfur Dioxide (SO_2)	1 hour 3 hours 24 hours	0.25 ppm --- 0.04 ppm	0.075 ppm [7] (99th percentile over 3 years) 0.5 ppm [9]	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.	**Federal and State:** Attainment
Lead (Pb)[3]	Monthly Rolling 3-month average	1.5 µg/m^3 ---	--- 0.15 µg/m^3 [11]	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from older gasoline use may exist in soils along major roads.	**Federal:** Attainment **State:** Attainment

Table 3.23 State and Federal Criteria Air Pollutant Standards

Pollutant	Averaging Time	State [8] Standard	Federal [8] Standard	Principal Health and Atmospheric Effects	Typical Sources	Project Area Attainment Status
Sulfate	24 hours	25 µg/m^3	---	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.	**State Only:** Attainment (entire state)
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm	---	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea. Strong odor.	Industrial processes such as: refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs.	**State Only:** Attainment
Visibility Reducing Particles (VRP)	8 hours	Visibility of 10 miles or more (Tahoe: 30 miles) at relative humidity less than 70%	---	Reduces visibility. Produces haze. Note: Not directly related to the Regional Haze program under the Federal Clean Air Act, which is oriented primarily toward visibility issues in National Parks and other "Class I" areas. However, some issues and measurement methods are similar.	See particulate matter above. May be related more to aerosols than to solid particles.	**State Only:** Attainment
Vinyl Chloride[3]	24 hours	0.01 ppm	---	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes	**State Only:** Unclassified (entire state)

Notes: ppm = parts per million; µg/m^3 = micrograms per cubic meter; ppb=parts per billion (thousand million)

1 Rounding to an integer value is not allowed for the State 8-hour CO standard. A violation occurs at or above 9.05 ppm.

2 Annual PM_{10} National Ambient Air Quality Standards revoked October 2006; was 50 µg/m^3. 24-hr. $PM_{2.5}$ National Ambient Air Quality Standards tightened October 2006; was 65 µg/m^3. Annual $PM_{2.5}$ National Ambient Air Quality Standards tightened from 15 µg/m^3 to 12 µg/m^3 December 2012 and secondary annual standard set at 15 µg/m^3.

3 The Air Resources Board has identified vinyl chloride and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM_{10} and, in larger proportion, $PM_{2.5}$. Both the ARB and U.S. Environmental Protection Agency have identified lead and various organic compounds that are precursors to ozone and $PM_{2.5}$ as toxic air contaminants. There are no exposure criteria for adverse health effect due to toxic air contaminants, and control requirements may apply at ambient concentrations below any criteria levels specified above for these pollutants or the general categories of pollutants to which they belong.

4 Prior to 6/2005, the 1-hour ozone National Ambient Air Quality Standards was 0.12 ppm. Emission budgets for 1-hour ozone are still be in use in some areas where 8-hour ozone emission budgets have not been developed, such as the S.F. Bay Area.

5 The 65 µg/m^3 $PM_{2.5}$ (24-hr) National Ambient Air Quality Standards was not revoked when the 35 µg/m^3 National Ambient Air Quality Standards was promulgated in 2006. The 15 µg/m^3 annual $PM_{2.5}$ standard was not revoked when the 12 µg/m^3 standard was promulgated in 2012. The 0.08 ppm 1997 ozone standard is revoked for conformity purposes only when area designations for the 2008 0.75 ppm standard become effective for conformity use (7/20/2013). Conformity requirements apply for all National Ambient Air Quality Standards, including revoked National Ambient Air Quality Standards, until emission budgets for newer National Ambient Air Quality Standards are found adequate, State Implementation Plan amendments for the newer National Ambient Air Quality Standards are approved with a emission budget, U.S. Environmental Protection Agency specifically revokes conformity requirements for an older standard, or the area becomes attainment/unclassified. State Implementation Plan-approved emission budgets remain in force indefinitely unless explicitly replaced or eliminated by a subsequent approved State Implementation Plan amendment. During the "Interim" period prior to availability of emission budgets, conformity tests may include some combination of build vs. no build, build vs. baseline, or compliance with prior emission budgets for the same pollutant.

6 Final 1-hour NO_2 National Ambient Air Quality Standards published in the Federal Register on 2/9/2010, effective

Table 3.23 State and Federal Criteria Air Pollutant Standards

Pollutant	Averaging Time	State [8] Standard	Federal [8] Standard	Principal Health and Atmospheric Effects	Typical Sources	Project Area Attainment Status

3/9/2010. Initial area designation for California (2012) was attainment/unclassifiable throughout. Project-level hot spot analysis requirements do not currently exist. Near-road monitoring starting in 2013 may cause redesignation to nonattainment in some areas after 2016.

7 U.S. Environmental Protection Agency finalized a 1-hour SO_2 standard of 75 ppb in June 2010. Nonattainment areas have not yet been designated as of 9/2012.

8 State standards are "not to exceed" or "not to be equaled or exceeded" unless stated otherwise. Federal standards are "not to exceed more than once a year" or as described above.

9 Secondary standard, set to protect public welfare rather than health. Conformity and environmental analysis address both primary and secondary National Ambient Air Quality Standards.

10 Standards no longer apply in California starting in 2013 (1 year after designations to attainment/unclassified statewide) were completed. Do not use or quote any more. Will be removed in 2013 edition of this table.

11 Lead National Ambient Air Quality Standards are not considered in Transportation Conformity analysis.

Greenhouse Gases and Climate Change:

Greenhouse gases do not have concentration standards for that purpose. Conformity requirements do not apply to greenhouse gases.

Source: Developed from the *Air Quality Study Report* 2013.

The basin is currently designated as a federal non-attainment area for ozone and particulate matter equal to or less than 2.5 microns in diameter ($PM_{2.5}$) and a maintenance area for inhalable particulate matter less than 10 microns in diameter (PM_{10}); the basin is subject to conformity requirements for these pollutants.

The project area is within the jurisdiction of the San Joaquin Valley Air Pollution Control District and the Kern Council of Governments. The San Joaquin Valley Air Pollution Control District implemented a 2007 Ozone Plan for 8-hour ozone. Based on the plan, the project area in Bakersfield will reach attainment in 2020.

Transportation conformity for ozone is demonstrated by the project being listed in the currently conforming RTP and TIP. The Centennial Corridor project is in the 2011 Regional Transportation Plan Amendment 3 (Project Identification Number KER08RTP020). The Kern Council of Governments adopted the 2011 plan on July 19, 2012. The Federal Highway Administration and Federal Transit Administration made a conformity finding for the 2011 plan on December 13, 2012. Segments 1 and 2 of the Centennial Corridor project are in the Kern Council of Governments' 2013 Federal Transportation Improvement Program, which was federally approved on December 13, 2012 (Project Identification Number KER050104).

The San Joaquin Valley Air Pollution Control District 2012 Attainment Plan for the 2006 $PM_{2.5}$ standard (24-hour average $PM_{2.5}$ = 35 $\mu g/m^3$) was adopted by the district on December 20, 2012 and was approved by the California Air Resources Board on January 24, 2013. Approval by the Environmental Protection Agency is pending. According to this plan, the 24-hour fine particulate matter ($PM_{2.5}$) standard of 35 micrograms per cubic meter will be achieved by 2019 (with approval of the 5-year extension of the 2014 deadline). The project is within a federal nonattainment area for fine particulate matter ($PM_{2.5}$) and in a maintenance area for inhalable particulate matter (PM_{10}).

Local Ambient Air Quality

The California Air Resources Board and the San Joaquin Valley Air Pollution Control District maintain a network of air quality monitoring stations located throughout the Basin. The nearest most representative air monitoring station to the project site is the Bakersfield-California Avenue Station, located at 5558 California Avenue, which is west of the project alignments. The monitoring station distance is about 0.2 mile, 0.6 mile, and 1.1 mile from the Alternatives A, B, and C alignments, respectively. All criteria pollutants are monitored at this station (i.e., O_3, CO, NO_2, SO_2, PM_{10}, and $PM_{2.5}$). Table 3-24 presents ambient air quality data, which was recorded at this station, for the past 4 years. Table 3-24 shows the following trend in local ambient criteria pollutant concentrations:

- Ozone – The maximum 1-hour ozone concentration recorded during the 2007 to 2011 period was 0.127 ppm. During this period, the California standard of 0.09 ppm was exceeded between 4 to 16 times annually, with the highest number of exceedances recorded in 2009. The 8-hour O_3 standards, for both national and state standards were exceeded every year and the highest number of exceedances occurred in 2008.
- Respirable Particulate Matter (PM_{10}) – During the recorded period of 2007 to 2011, the maximum 24-hour monitored data were below the NAAQS, with the exception of 2008. In 2008, the highest 24-hour concentration recorded was 196 $\mu g/m^3$. The exceedance was recorded only once; the second high measured concentration in 2008 was 128 $\mu g/m^3$, which is below the standard level.
- Fine Particulate Matter ($PM_{2.5}$) – During the recorded period of 2007 to 2011, the 3-year average of 98th percentile of 24-hour concentrations exceeded the 2006 NAAQS every year. The annual mean $PM_{2.5}$ concentration exceeded the national ambient air quality standard every year except in 2010 and 2011. Although the recorded data do not show a consistent trend, they do indicate an overall declining trend for ambient $PM_{2.5}$ concentrations in the project area.

Table 3- 24 Criteria Air Pollutants Data Summary (California Avenue Monitoring Station)

Pollutant	Averaging Time	Standard	2007	2008	2009	2010	2011
Ozone (O_3)	1-Hour	Maximum Concentration (ppm)	0.117	0.127	0.120	0.109	0.107
		Days > CAAQS (0.09 ppm)	4	15	16	8	5
	8-Hour	4th Maximum Concentration (ppm)[a]	0.085	0.101	0.086	0.093	0.087
		Days > NAAQS (0.075 ppm)	**25**	**40**	**34**	**28**	**25**
		Days > CAAQS (0.07 ppm)	49	60	58	48	51
Particulate Matter (PM_{10})	24-Hour	Maximum Concentration ($\mu g/m^3$)	115	262	95	86	97
		Days > CAAQS (50 $\mu g/m^3$)	130	170	84	47	116
		Days > NAAQS (150 $\mu g/m^3$)	0	**3**	0	0	0
	Annual	State Annual Average (20 $\mu g/m^3$)	49	55	41	33	n/a

Table 3- 24 Criteria Air Pollutants Data Summary (California Avenue Monitoring Station)

Pollutant	Averaging Time	Standard	2007	2008	2009	2010	2011
Particulate Matter ($PM_{2.5}$)	24-Hour	Maximum Concentration ($\mu g/m^3$)	86	99	196	92	53
		Days > NAAQS (35 $\mu g/m^3$)	n/a	**67**	**46**	**29**	n/a
		National Std. 98th Percentile [b]	73	65	67	53	38
	Annual	National Annual (15.0 $\mu g/m^3$)	**21.9**	**21.9**	**19.0**	14.1	13.1
Carbon Monoxide [c] (CO)	1-Hour	Maximum Concentration (ppm)	2.8	3.5	2.2	2.1	n/a
		Days > CAAQS (20 ppm)	0	0	0	0	0
		Days > NAAQS (35 ppm)	0	0	0	0	0
	8-Hour	Maximum Concentration (ppm)	1.97	2.17	1.51	1.34	n/a
		Days > CAAQS (9.0 ppm)	0	0	0	0	0
Nitrogen Dioxide (NO_2)	1-hour	Maximum Concentration (ppm)	0.072	0.083	0.069	0.079	0.064
		Days > CAAQS (0.18 ppm)	0	0	0	0	0
	Annual	Arithmetic Average (0.053 ppm)	0.017	0.016	0.016	0.014	0.015

AAM – Annual Arithmetic Mean; CAAQS – California ambient air quality standards; $\mu g/m^3$ – micrograms per cubic meter; NAAQS – National ambient air quality standards; ppm – parts per million; n/a – sufficient data not available to determine the value

The estimated number of measured concentrations above national standards are shown in **bold**.

Note: Ambient data for SO_2 and airborne lead are not included in this table since the Basin is currently in compliance with state and federal standards for these pollutants.

[a] The 8-hour ozone standard is attained when the fourth highest concentration in a year, averaged over 3 years, is equal to or less than the new national standard of 0.075 ppm (effective May 27, 2008).

Values listed in the table represent midnight-to-midnight 24-hour averaged and may be related to an exceptional event.

[b] Attainment condition for $PM_{2.5}$ is that the 3-year average of the 98th percentile of 24-hour concentrations at each monitor within an area must not exceed the standard (65 $\mu g/m^3$ at the time of monitoring) .

[c] Carbon monoxide concentrations have not been measured at the California station since 2005; the listed data are from the Golden State Monitoring Station located at 1128 Golden State Highway, about 2.7 miles northeast of Alternative A, 2.2 miles northeast of Alternative B, and 2 miles northeast of Alternative C alignment.

Source: *Air Quality Study Report* 2013.

Mobile Sources Air Toxics

Controlling air toxics emissions became a national priority with passage of the Clean Air Act Amendments, whereby Congress mandated that the U.S. Environmental Protection Agency regulate 188 identified air toxics, also known as hazardous air pollutants. Mobile source air toxics are a subset of the 188 air toxics. The agency identified seven compounds that have significant contributions from mobile sources (Federal Highway Administration 2006) that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment (see the following website for more information: http://www.epa.gov/ttn/atw/nata1999/). The priority mobile source air toxics are acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases, formaldehyde, naphthalene, and polycyclic organic matter. While the Federal Highway Administration currently considers these to be the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future U.S. Environmental Protection Agency rules. Of these seven pollutants, diesel particulate matter, 1,3-butadiene, and

benzene account for about 89 percent of the total toxic air pollutants responsible for potential excess cancer risk. Diesel particulate matter accounts for 71.2 percent of the total toxic air pollutants producing potential excess cancer risk. The Federal Highway Administration released interim guidance on February 3, 2006 to determine when and how to address mobile source air toxics impacts in the National Environmental Policy Act process for transportation projects. The guidance document was updated on September 30, 2009 (Federal Highway Administration 2009). The Federal Highway Administration has identified three levels of analysis:

- No analysis for exempt projects or projects with no potential for meaningful mobile source air toxics effects.
- Qualitative analysis for projects with low potential mobile source air toxics effects.
- Quantitative analysis to differentiate alternatives for projects with higher potential mobile source air toxics effects.

The Centennial Corridor project best fits into the last category. For projects warranting mobile source air toxics analysis, the seven priority mobile source air toxics should be analyzed.

Based on Federal Highway Administration guidance, the Centennial Corridor project is a project with higher potential mobile source air toxics effects. This category includes projects that have the potential for meaningful differences among project alternatives. Only a limited number of projects meet this two-pronged test. To fall into this category, projects must:

- Create or significantly alter a major intermodal freight facility that has the potential to concentrate high levels of diesel particulate matter in a single location, or
- Create new or add significant capacity to urban highways such as interstates, urban arterials, or urban collector-distributor routes with traffic volumes where the annual average daily traffic is projected to be in the range of 140,000 to 150,000 or greater by the design year, and
- Be located near populated areas or in rural areas near concentrations of vulnerable populations (i.e., schools, nursing homes, hospitals).

The Centennial Corridor project meets the second and third criteria above.

Several studies have concluded that mobile sources (i.e., on-road and non-road combined) are responsible for most of the excess cancer risk associated with exposure to urban air toxics. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. Currently, the tools and techniques for assessing project-specific health impacts from mobile source air toxics are limited.

Furthermore, neither the U.S. Environmental Protection Agency nor the California Air Resources Board have established regulatory concentration targets for the seven relevant mobile source air toxics for use in the project development process. For the same reason, states are not required to achieve an identified level of air toxics in the ambient air or to identify air toxics reduction measures in the State Implementation Plan. Developing strategies for reducing mobile source air toxics is a cooperative effort between federal and local authorized agencies.

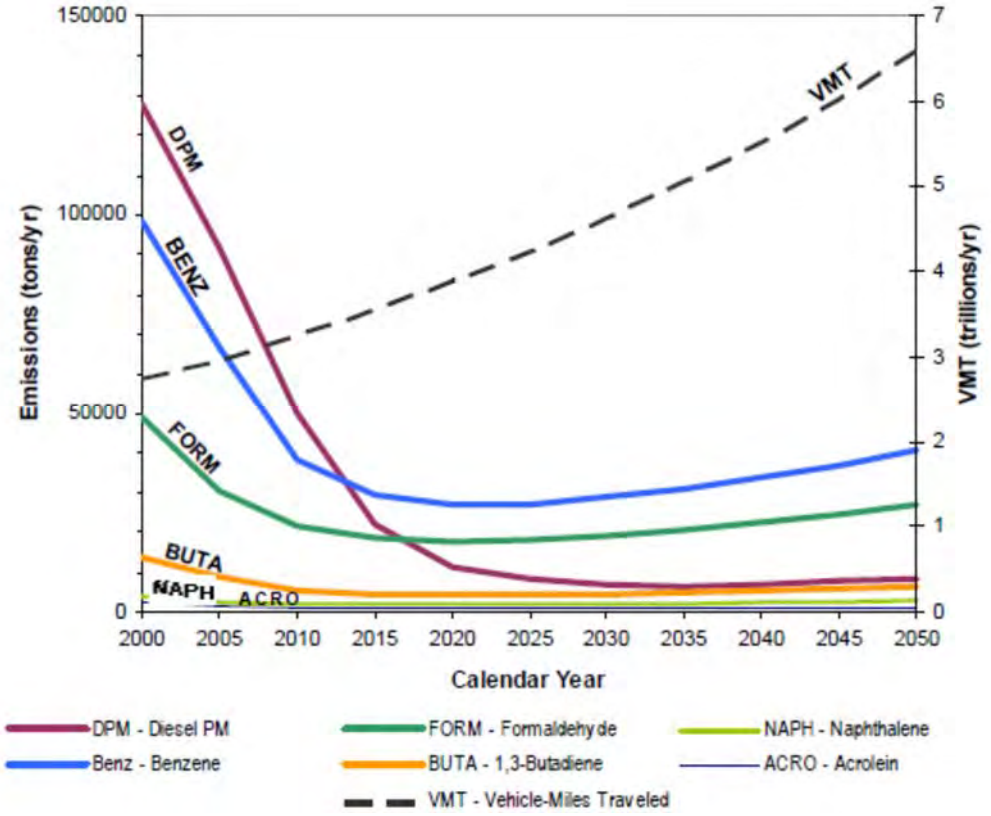
The Clean Air Act provides the U.S. Environmental Protection Agency with the authority to establish and regulate emission standards for engines and vehicles. The State of California also has certain rights to adopt its own emission regulations, which are often more stringent than the federal rules. To reduce mobile source emissions, mandatory and incentive-based programs have been developed in conjunction with new engine emission regulations; additional emission testing requirements (i.e., supplemental emission test, not-to-exceed limits); and limiting fuel sulfur content. These programs are implemented by all levels of government: federal, state, and local. Currently, the Federal Highway Administration's interim guidance update is used to analyze potential impacts of mobile source air toxics to be included in environmental documents.

The 2007 U.S. Environmental Protection Agency rule requires controls that will dramatically decrease mobile source air toxics emissions through cleaner fuels and cleaner engines. According to an analysis done by the Federal Highway Administration, using the U.S. Environmental Protection Agency's MOBILE 6.2 emission factors model, even if vehicle activity (vehicle miles traveled) increases by 145 percent as assumed, a combined reduction of 72 percent in the total annual emission rate for the priority mobile source air toxics is projected from 1999 to 2050, as shown in Figure 3-31.

California's vehicle emission control and fuel standards are more stringent than federal standards and are effective sooner, so the effect of combined state and federal regulations is expected to result in greater reduction of mobile source air toxics earlier than the Federal Highway Administration analysis predicts.

Based on the Federal Highway Administration's tiered approach in its interim guidance document, the project would be considered to have potential effects from mobile source air toxics emissions. The following analysis provides an assessment of the project's local effects from mobile source air toxics emissions. The analysis used projected traffic data, including peak and off-peak roadway traffic volumes and vehicle miles traveled, fleet mix, traffic diversion data, average speed, and associated changes in air toxics emissions from project alternatives.

Figure 3-31 National Mobile Source Air Toxic Emissions Trend, 1999 – 2050 for Vehicles Operating on Roadways



Notes: *(1) Projected data were estimated using the EPA's MOBILE 6.2 Model run August 20, 2009.*

(2) Annual emissions of polycyclic organic matter are projected to be 561 tons/yr for 1999, decreasing to 373 tons/yr for 2050.

(3) Trends for specific location may be different depending on locally derived information representing vehicle miles traveled, vehicle speeds, vehicle mix, fuels, emission control programs, methodology, and other factors.

Source: Federal Highway Administration, 2009

Information for Project-Specific Mobile Source Air Toxics Impact Analysis

Available technical tools do not enable reliable predictions of the project-specific health impacts of the emission changes associated with the alternatives in this environmental document. Due to these limitations, the following discussion is included in accordance with the Council on Environmental Quality regulations (40 CFR 1502.22[b]) on incomplete or unavailable information.

Information that is Unavailable or Incomplete

Evaluating the environmental and health impacts from mobile source air toxics on a proposed highway project would involve several key elements, including emissions modeling; dispersion modeling to estimate ambient concentrations resulting from the estimated emissions; exposure modeling to estimate human exposure to the estimated concentrations; and a final determination of health impacts based on the estimated exposure. Each of these steps is encumbered by technical shortcomings or uncertain

science that prevents a more complete determination of the mobile source air toxic health impacts of this project.

Exposure Levels and Health Effects

Shortcomings in current techniques for exposure assessment and risk analysis do not permit reaching meaningful conclusions about project-specific health impacts. Exposure assessments are difficult because it is difficult to accurately calculate annual concentrations of mobile source air toxics near roadways and to determine the portion of a year that people are actually exposed to those concentrations at a specific location. These difficulties are magnified for 70-year cancer assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over a 70-year period. There are also considerable uncertainties associated with the existing estimates of toxicity of the various mobile source air toxics because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population. Because of these shortcomings, any calculated difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with calculating the impacts. Consequently, the results of such assessments would not be useful to decision-makers, who would need to weigh this information against other project impacts that are better suited for quantitative analysis.

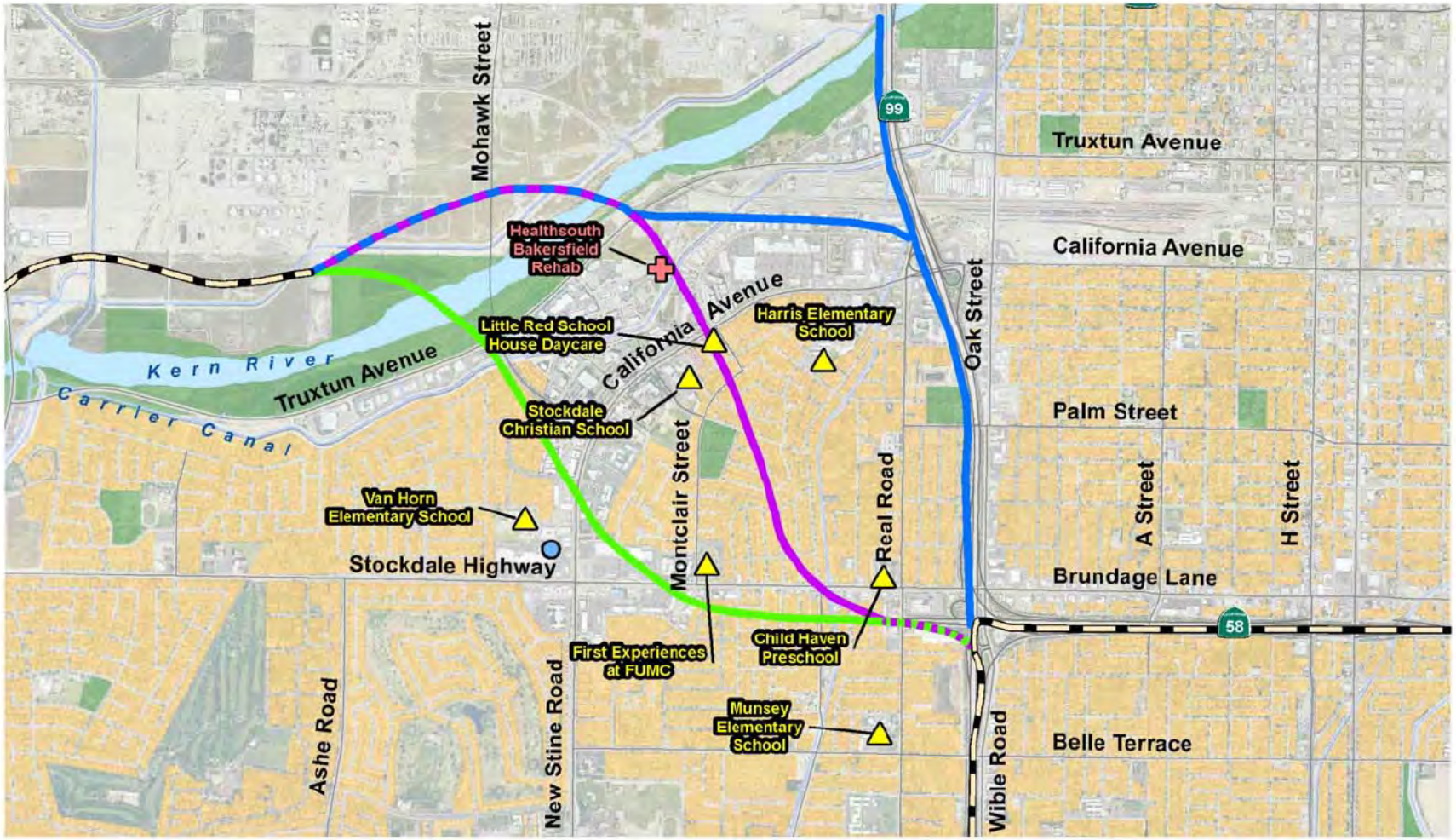
Summary of Existing Credible Scientific Evidence Relevant to Evaluating the Impacts of Mobile Source Air Toxics

Research into the health impacts of mobile source air toxics is ongoing. For different emission types, various studies show that some are either statistically associated with adverse health outcomes through epidemiological studies (frequently based on emissions levels found in occupational settings) or that animals have adverse health outcomes when exposed to large doses. Exposure to toxics has been a focus of numerous U.S. Environmental Protection Agency efforts. Most notably, the agency's National Air Toxics Assessment in 1996 evaluated modeled estimates of human exposure at the county level. While not intended as a measure of or benchmark for local exposure, modeled estimates in the National Air Toxics Assessment database best show the levels of various toxics when aggregated to a national or state level.

In California, the South Coast Air Quality Management District did a comprehensive study on air toxics for the South Coast Air Basin (SCAQMD 2000, 2008). These studies identified particulate emissions, attributed mostly to diesel engines, as an important cancer risk factor. According to the studies, diesel particulate matter accounted for about 84 percent of the total cancer risk associated with the studied group of air pollutants. The studies also provided regional trends in estimated outdoor cancer risk from air toxics emissions.

Sensitive Receptors

Segment 1 of the Centennial Corridor is in an area of mixed land use. Figure 3-32 shows the sensitive receptors in the Segment 1 alternative study area.



Source: Information obtained from *Air Quality Study Report* 2013

Not To Scale

Air Quality Sensitive Receptors

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-32

Environmental Consequences

This section discusses long-term impacts on air quality in terms of regional air quality conformity and project-level conformity. Temporary impacts associated with construction of the project are addressed in Section 3.6, Construction Impacts.

Regional conformity and project-level conformity for the Westside Parkway (Segment 2) were analyzed in the *Westside Parkway Environmental Assessment/Final Environmental Impact Report.* Regional conformity was found, and no further analysis is required. Project-level conformity was also found. However, because connection with Segment 1 of the Centennial Corridor project would substantially increase traffic on the Westside Parkway (Segment 2), the project-level analyses addressed in the *Air Quality Study Report* (November 2013) prepared for this project extended west of Segment 1 into the Westside Parkway.

Analysis of Build Alternatives

Regional Air Quality Conformity

In determining whether a project conforms to an approved air quality plan, agencies must use current emission estimates based on the most recent population, employment, travel, and congestion estimates determined by the Kern Council of Governments. As the Metropolitan Planning Organization for the region, the Council of Governments is required to develop and maintain long-range plans and programs, such as 20-year Regional Transportation Plans and 4-year (or longer) Regional Transportation Improvement Programs that set out transportation policies and programs for the region. A conforming Regional Transportation Improvement Program model projects that the regulated pollutants will be reduced to acceptable levels within time frames that meet the National Ambient Air Quality Standards.

The proposed project is listed in the financially constrained 2011 Kern County Regional Transportation Plan, Amendment 3, which was found to conform by the Kern Council of Governments on July 19, 2012. The Federal Highway Administration and Federal Transportation Administration made a regional conformity determination on December 14, 2012. Segments 1 and 2 of the project are also included in the Kern Council of Governments 2013 Federal Transportation Improvement Program, which was determined to conform by the Federal Highway Administration and Federal Transportation Administration on December 14, 2012. The design concept and scope of the proposed project are consistent with the project description in the 2011 Regional Transportation Program, and the 2013 Federal Transportation Improvement Program, and the “open to traffic” assumptions of the Kern Council of Government’s regional emissions analysis.

Project-Level Conformity

The San Joaquin Valley Air Basin is designated as a non-attainment area for the following standards: federal and state ozone, federal and state fine particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), and state inhalable particulate matter less than 10 microns in diameter (PM_{10}). The basin is designated as an attainment/ maintenance area for federal carbon monoxide and inhalable particulate matter

(PM_{10}) standards. Based on the federal attainment designations, a project-level transportation conformity determination is required for the project. Project-level transportation conformity was determined by hot spot analyses for carbon monoxide, inhalable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$).

To meet conformity requirements, a project-level hot spot analysis is required under the U.S. Environmental Protection Agency's Transportation Conformity Rule for projects of local air quality concern. Section 40 CFR 93.123(b)(1) of the Transportation Conformity Rule defines types of projects that are considered projects of local air quality concern, including the following:

- New or expanded highway projects that have a significant number of or significant increase in diesel vehicles.
- Projects affecting intersections that are at level of service D, E, or F with a significant number of diesel vehicles, or those that will change to level of service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project.

The Centennial Corridor project falls within the category of new or expanded highway projects with a significant number of diesel vehicles. (The U.S. Environmental Protection Agency Guidance suggests that a project of air quality concern would be a project on a new highway or expressway that serves a significant volume of diesel truck traffic, such as facilities with greater than 125,000 annual average daily traffic, with 8 percent or more of such annual average daily traffic as diesel truck traffic.) The 2038 horizon year average annual daily traffic estimates, along segments of some of the study area roadways—including the Westside Parkway, State Route 58 and State Route 99—are projected to be above 150,000 vehicles. The average diesel truck percentage using State Route 99 and the Westside Parkway (when the construction is completed) within the project limits ranges (or will range, in Westside Parkway's case) from 17 to 24 percent. It is not expected that the vehicle fleet mix would change significantly in the future years. According to the traffic operations analysis, several intersections with level of service D, E, and F within the project limits would be affected. Therefore, the project would be considered as a project of local air quality concern.

Carbon Monoxide Hot Spot Analysis

Localized carbon monoxide impacts from the project alternatives were evaluated following the 1997 Caltrans guidance document titled *Transportation Project-Level Carbon Monoxide Protocol*. A quantitative hot spot analysis was done at 10 intersections that would have the highest traffic volume and the worst peak hour level of service (with level of service E or F) according to the *Traffic Study Report for the Centennial Corridor Project* (November 2012). The results are summarized in Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, of this environmental document. The intersections were selected based on their proximity to residential sites and sensitive receptors.

Localized concentrations of carbon monoxide were estimated for existing conditions (2008), opening year (2018), and horizon year (2038) for each build alternative and for the No-Build Alternative using the CALINE4 dispersion model (developed by Caltrans), in conjunction with emission factors from the California Air Resources Board emission factor model EMFAC2007.

Background carbon monoxide concentrations were taken from the Bakersfield-California Avenue Monitoring Station at 5558 California Avenue, which is about 0.2 mile from the Alternative A alignment, about 0.6 mile from the Alternative B alignment, and about 1.1 mile from the Alternative C alignment (see Figure 3-32). Because the air basin is in a maintenance area for carbon monoxide standards, using the average ambient concentrations during the past four years at this monitoring station is appropriate for background concentrations for future years as well as the existing condition.

Results of localized carbon monoxide analysis for Alternative A, shown in Table 3.25, indicate that, for all analyzed intersections, future predicted carbon monoxide concentrations are expected to be less than the existing levels. These reductions, even with projected regional growth and increased traffic, are due to cleaner-burning fuels and improved vehicle emission standards.

All predicted concentrations are estimated to be less than 50 percent of the applicable standards. The modeled data show very little difference in the carbon monoxide concentrations, without or with the project. As Table 3.25 shows, the project would not have a considerable impact on 1-hour or 8-hour local carbon monoxide concentrations at the intersections with the highest traffic volumes. No substantial adverse effect is expected to occur at any other locations in the study area. The project would not contribute to a violation of standards, and project-level carbon monoxide conformity would be satisfied.

The modeled localized carbon monoxide concentrations for Alternatives A, B, and C are shown in Tables 3.25, 3.26, and 3.27, respectively. The results for all the alternatives are very similar and would not contribute to a violation of standards, and project-level carbon monoxide conformity would be satisfied.

Particulate Matter (PM) Hot Spot Analysis

The U.S. Environmental Protection Agency's Transportation Conformity Rule (40 CFR Parts 51.390 and Part 93, March 2012) addresses local air quality impacts in particulate matter (PM_{10} and $PM_{2.5}$) federal non-attainment and maintenance areas. The rule provides criteria and procedures to ensure that any such project will not cause or contribute to new violations, increase the frequency or severity of any existing violations, or delay the timely attainment of the relevant National Ambient Air Quality Standard as described in 40 CFR Part 93.101. In March 2006, the U.S. Environmental Protection Agency issued a guidance document with a methodology

Table 3.25 Localized Carbon Monoxide Concentrations – Alternative A

Intersection	Peak Hour	1-hour Concentration (parts per million)					8-hour Concentration (parts per million)				
		Base Year 2008	Opening Year 2018		Horizon Year 2038		Base Year 2008	Opening Year 2018		Horizon Year 2038	
			No-Build Alternative	Build Alternative	No-Build Alternative	Build Alternative		No-Build Alternative	Build Alternative	No-Build Alternative	Build Alternative
Coffee Road and Stockdale Highway	AM	8.2	4.5	4.5	4.1	4.1	4.79	2.83	2.83	2.62	2.62
	PM	7.4	4.7	4.8	4.3	4.2	4.44	2.97	3.04	2.76	2.69
Mohawk Street and California Avenue	AM	8.1	6.6	6.4	5.5	5.0	4.65	3.67	3.60	3.18	2.97
	PM	6.4	5.4	5.3	4.7	4.3	4.09	3.46	3.39	3.11	2.90
California Avenue and Stockdale Highway	AM	6.6	4.9	4.7	4.5	4.0	4.02	3.04	2.97	2.83	2.62
	PM	7.9	5.2	5.0	4.5	4.3	4.93	3.25	3.18	2.90	2.76
Chester Lane and California Avenue	AM	5.1	4.2	4.2	3.8	3.8	3.11	2.62	2.69	2.41	2.48
	PM	5.8	4.5	4.5	4.0	4.0	3.46	2.76	2.76	2.48	2.55
State Route 99 southbound Ramp and California Avenue	AM	6.1	4.7	4.7	4.1	4.1	3.74	2.83	2.90	2.62	2.62
	PM	7.2	5.0	5.2	4.2	4.4	4.30	3.11	3.18	2.69	2.76
Coffee Road and Rosedale Highway	AM	6.3	4.7	4.7	4.1	4.1	3.88	2.97	2.97	2.62	2.62
	PM	6.6	5.0	5.1	4.2	4.2	4.02	3.18	3.25	2.76	2.69
Stine Road and Stockdale Highway	AM	–*	5.0	4.3	4.4	3.8	–*	2.97	2.76	2.76	2.48
	PM	–*	5.3	4.7	4.6	4.1	–*	3.18	2.97	2.90	2.62
Real Road and Stockdale Highway	AM	8.8	5.8	4.5	4.6	3.9	4.30	3.18	2.76	2.76	2.48
	PM	8.9	5.9	4.8	4.7	4.1	4.44	3.25	2.83	2.83	2.55
Wible Road and White Lane	AM	6.3	4.5	4.6	4.0	4.0	3.81	2.83	2.83	2.55	2.55
	PM	6.7	4.8	4.8	4.1	4.1	4.02	2.97	3.04	2.62	2.62
H Street and Brundage Lane	AM	5.1	4.1	4.2	3.8	3.8	3.11	2.62	2.69	2.48	2.48
	PM	5.4	4.3	4.4	3.9	3.9	3.32	2.76	2.76	2.55	2.55
State Standard (parts per million)		20					9.0				
Federal Standard (parts per million)		35					9				

AM: morning peak hour; PM: afternoon peak hour.

* This is a future intersection that did not exist in the base year 2008.

Notes:

- Total carbon monoxide concentrations include background 1-hour and 8-hour concentrations of 3.3 and 2.2 parts per million, respectively, based on the maximum values recorded during the past 4 years at the California Street monitoring station. Model files are included in the November 2013 *Air Quality Study Report.*
- Emission factors were obtained using EMFAC2007 model and for winter (worst case for carbon monoxide exhaust emissions).
- Actual emissions would likely be smaller for certain roadways and the overall project than reported in this table because the predicted truck volumes on parts of the Westside Parkway and State Route 58 are smaller than those used in this analysis which represents the worst case.

Source: *Air Quality Study Report* 2013.

Table 3.26 Localized Carbon Monoxide Concentrations – Alternative B

Intersection	Peak Hour	1-hour Concentration (parts per million)					8-hour Concentration (parts per million)				
		Base Year 2008	Opening Year 2018		Horizon Year 2038		Base Year 2008	Opening Year 2018		Horizon Year 2038	
			No-Build Alternative	Build Alternative	No-Build Alternative	Build Alternative		No-Build Alternative	Build Alternative	No-Build Alternative	Build Alternative
Coffee Road and Stockdale Highway	AM	8.2	4.5	4.6	4.1	4.1	4.79	2.83	2.90	2.62	2.62
	PM	7.4	4.7	4.9	4.3	4.2	4.44	2.97	3.04	2.76	2.69
Mohawk Street and California Avenue	AM	8.1	6.6	6.3	5.5	5.0	4.65	3.67	3.60	3.18	2.97
	PM	6.4	5.4	5.3	4.7	4.3	4.09	3.46	3.39	3.11	2.83
California Avenue and Stockdale Highway	AM	6.6	4.9	4.7	4.5	4.0	4.02	3.04	2.97	2.83	2.62
	PM	7.9	5.2	5.0	4.5	4.2	4.93	3.25	3.18	2.90	2.76
Chester Lane and California Avenue	AM	5.1	4.2	4.2	3.8	3.8	3.11	2.62	2.69	2.41	2.48
	PM	5.8	4.5	4.5	4.0	4.0	3.46	2.76	2.76	2.48	2.48
State Route 99 southbound Ramp and California Avenue	AM	6.1	4.7	4.6	4.1	4.2	3.74	2.83	2.90	2.62	2.62
	PM	7.2	5.0	5.2	4.2	4.3	4.30	3.11	3.18	2.69	2.76
Coffee Road and Rosedale Highway	AM	6.3	4.7	4.7	4.1	4.1	3.88	2.97	2.97	2.62	2.69
	PM	6.6	5.0	5.1	4.2	4.2	4.02	3.18	3.18	2.76	2.69
Stine Road and Stockdale Highway	AM	–*	5.0	4.4	4.4	3.8	–*	2.97	2.76	2.76	2.48
	PM	–*	5.3	4.7	4.6	4.1	–*	3.18	2.90	2.90	2.62
Real Road and Stockdale Highway	AM	8.8	5.8	4.4	4.6	3.9	4.30	3.18	2.69	2.76	2.48
	PM	8.9	5.9	4.8	4.7	4.2	4.44	3.25	2.90	2.83	2.62
Wible Road and White Lane	AM	6.3	4.5	4.5	4.0	4.0	3.81	2.83	2.83	2.55	2.55
	PM	6.7	4.8	4.8	4.1	4.1	4.02	2.97	2.97	2.62	2.62
H Street and Brundage Lane	AM	5.1	4.1	4.2	3.8	3.8	3.11	2.62	2.69	2.48	2.48
	PM	5.4	4.3	4.5	3.9	3.9	3.32	2.76	2.83	2.55	2.55
State Standard (parts per million)		20					9.0				
Federal Standard (parts per million)		35					9				

AM: morning peak hour; PM: afternoon peak hour.

* This is a future intersection that did not exist in the base year 2008.

Notes:

- Total carbon monoxide concentrations include background 1-hour and 8-hour concentrations of 3.3 and 2.2 parts per million, respectively, based on the maximum values recorded during the past 4 years at the California Street monitoring station. Model files are included in the November 2013 *Air Quality Study Report.*
- Emission factors were obtained using EMFAC2007 model and for winter (worst case for carbon monoxide exhaust emissions).
- Actual emissions would likely be smaller for certain roadways and the overall project than reported in this table because the predicted truck volumes on parts of the Westside Parkway and State Route 58 are smaller than those used in this analysis which represents the worst case .

Source: *Air Quality Study Report* 2013.

Table 3.27 Localized Carbon Monoxide Concentrations – Alternative C

Intersection	Peak Hour	1-hour Concentration (parts per million)					8-hour Concentration (parts per million)				
		Base Year 2008	Opening Year 2018		Horizon Year 2038		Base Year 2008	Opening Year 2018		Horizon Year 2038	
			No-Build Alternative	Build Alternative	No-Build Alternative	Build Alternative		No-Build Alternative	Build Alternative	No-Build Alternative	Build Alternative
Coffee Road and Stockdale Highway	AM	8.2	4.5	4.6	4.1	4.1	4.79	2.83	2.90	2.62	2.62
	PM	7.4	4.7	4.7	4.3	4.2	4.44	2.97	2.97	2.76	2.69
Mohawk Street and California Avenue	AM	8.1	6.6	6.4	5.5	5.1	4.65	3.67	3.60	3.18	2.97
	PM	6.4	5.4	5.2	4.7	4.4	4.09	3.46	3.39	3.11	2.83
California Avenue and Stockdale Highway	AM	6.6	4.9	4.7	4.5	4.0	4.02	3.04	2.97	2.83	2.55
	PM	7.9	5.2	5.0	4.5	4.2	4.93	3.25	3.18	2.90	2.76
Chester Lane and California Avenue	AM	5.1	4.2	4.2	3.8	3.8	3.11	2.62	2.69	2.41	2.48
	PM	5.8	4.5	4.5	4.0	4.0	3.46	2.76	2.76	2.48	2.48
State Route 99 southbound Ramp and California Avenue	AM	6.1	4.7	4.5	4.1	4.0	3.74	2.83	2.90	2.62	2.62
	PM	7.2	5.0	5.1	4.2	4.3	4.30	3.11	3.18	2.69	2.76
Coffee Road and Rosedale Highway	AM	6.3	4.7	4.7	4.1	4.1	3.88	2.97	3.04	2.62	2.62
	PM	6.6	5.0	5.0	4.2	4.3	4.02	3.18	3.18	2.76	2.76
Stine Road and Stockdale Highway	AM	–*	5.0	4.4	4.4	3.9	–*	2.97	2.69	2.76	2.48
	PM	–*	5.3	4.8	4.6	4.1	–*	3.18	2.97	2.90	2.62
Real Road and Stockdale Highway	AM	8.8	5.8	5.2	4.6	4.2	4.30	3.18	2.97	2.76	2.62
	PM	8.9	5.9	5.3	4.7	4.4	4.44	3.25	3.11	2.83	2.69
Wible Road and White Lane	AM	6.3	4.5	4.5	4.0	4.0	3.81	2.83	2.83	2.55	2.55
	PM	6.7	4.8	4.7	4.1	4.1	4.02	2.97	2.97	2.62	2.62
H Street and Brundage Lane	AM	5.1	4.1	4.1	3.8	3.7	3.11	2.62	2.62	2.48	2.41
	PM	5.4	4.3	4.2	3.9	3.8	3.32	2.76	2.69	2.55	2.41
State Standard (parts per million)		20					9.0				
Federal Standard (parts per million)		35					9				

AM: morning peak hour; PM: afternoon peak hour.

* This is a future intersection that did not exist in the base year 2008.

Notes:

- Total carbon monoxide concentrations include background 1-hour and 8-hour concentrations of 3.3 and 2.2 parts per million, respectively, based on the maximum values recorded during the past 4 years at the California Street monitoring station. Model files are included in the November 2013 *Air Quality Study Report.*
- Emission factors were obtained using EMFAC2007 model and for winter (worst case for carbon monoxide exhaust emissions).
- Actual emissions would likely be smaller for certain roadways and the overall project than reported in this table because the predicted truck volumes on parts of the Westside Parkway and State Route 58 are smaller than those used in this analysis which represents the worst case.

Source: *Air Quality Study Report* 2013.

for qualitative particulate matter analysis. The qualitative analysis is required effective March 10, 2006. The qualitative analysis requires analysis based on the U.S. Environmental Protection Agency's Transportation Conformity Guidance for Qualitative Hot-spot Analyses in Particulate Matter (PM2.5 and PM10) Nonattainment and Maintenance Areas.

As of December 20, 2012, a quantitative particulate matter hot-spot analysis (dispersion modeling) is required by the U.S. Environmental Protection Agency. Since the Centennial Corridor Project environmental document review process was initiated in 2008 and the associated technical studies prepared as part of the environmental document, were conducted in 2011, the qualitative analysis is therefore appropriate for this project.

Methodology

The qualitative particulate matter hot spot analysis was conducted following the joint U.S. Environmental Protection Agency (EPA)/ Federal Highway Administration (FHWA) Transportation Conformity Guidance for Qualitative Hot Spot Analysis in particulate matter (PM_{10} and $PM_{2.5}$) nonattainment and maintenance areas dated March of 2006. As per the guidance, the project was analyzed for total emission burden of direct particulate matter (PM_{10} or $PM_{2.5}$) emissions which can be attributed to the implementation of the project (including re-entrained road dust). Roadway construction emissions were not included since the construction is anticipated to last less than the 5 year requirement (anticipated construction will last 3 years). The analysis encompassed all roadways (including local surface streets) that would be affected by the project. As mentioned previously the project is included in the current approved Regional Transportation Plan and Federal Transportation Improvement Program as required for a project-level conformity determination.

The U.S. Environmental Protection Agency and Federal Highway Administration established in the Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in PM_{10} and $PM_{2.5}$ Nonattainment and Maintenance Areas (Federal Highway Administration and U.S. Environmental Protection Agency 2006) highlighted two of the following methods for completing a particulate matter (PM_{10} or $PM_{2.5}$) hot-spot analysis:

1. Comparison to another location with similar characteristics – (pollutant trend within the air basin)
2. Air quality studies for the proposed project location – (ambient particulate matter trend analysis in the project area)

The project level analysis uses a hybrid approach to demonstrate that the proposed project would not result in a new or worsened particulate matter (PM_{10} or $PM_{2.5}$) violation. Air data gathered from the local air district was used to establish the ambient particulate matter trend in proposed project area and will not delay attainment of the National Ambient Air Quality Standards. Documentation from the San Joaquin Valley Air District State Implementation Plan was referenced to establish the regional emissions trends for the project area.

In addition to meeting regional conformity requirements as demonstrated in the Regional Transportation Plan, the project is required to demonstrate that the project will not cause or contribute to any localized violations of particulate matter thresholds, or add to existing violations of the standard, or delay timely attainment of the relevant standard. As such, the project needed to be analyzed at the project level and broken down into more detailed emissions calculations. As the qualitative analysis evolved it became apparent that the example methodologies listed in the U.S. Environmental Protection Agency guidance would not adequately address the project level impacts with respect to this project. A methodology was derived using a quasi quantitative element that would use the U.S. Environmental Protection Agency approved EMFAC emissions model to compare the project alternatives to the no-build condition.

The analysis included the proposed Segment 1 alignment and also all major local surface streets that would be affected by the project. The following roadway segments and intersections were included in the analysis:

- State Route 58 – State Route 99 to Cottonwood
- State Route 99 – White Lane to State Route 204
- State Route 204 – State Route 99 to Union Road
- Segment 1 – Alternative A, B, and C
- Rosedale Highway – Allen Road to State Route 99
- Stockdale Highway – Allen Road to Oak Street
- Truxtun Avenue – Coffee Road to Oak Street
- Hageman Avenue – Allen Road to State Route 99
- Union Avenue – State Route 204 to State Route 58
- Ming Avenue – Allen Road to Union Road
- Real Road – State Route 58 to California Avenue
- California Avenue – Stockdale Highway to Oak Avenue
- Brundage Lane – Oak Avenue to Union Avenue
- Mohawk Street – California Avenue to Hageman Road
- Westside Parkway – West Beltway to State Route 99
- Allen Road – Ming Avenue to Hageman Road
- Calloway Drive – Ming Avenue to Hageman Road
- Coffee Road – Ming Avenue to Hageman Road
- Wible Road/Oak Street – Ming Avenue to 24th Street
- Off-/On-Ramps: State Route 99 from White Lane Road to State Route 204, State Route 58 from State Route 99 to Cottonwood Road, Westside Parkway from Allen Road to State Route 99
- Intersections: Rosedale Highway/Calloway Drive, Rosedale Highway/Coffee Road, Rosedale Highway/Mohawk Street, Mohawk Street/Truxtun Avenue, Mohawk Street/California Avenue, Stockdale Highway/California Avenue, California Avenue/Chester Lane, California Avenue, State Route 99 Southbound

Off-/On Ramps, Stockdale Highway Avenue/Stine Road, Stockdale Highway/Real Road, H Street/ State Route 58 Westbound Ramp, and H Street/ State Route 58 Eastbound Ramp

Each roadway listed above was subdivided into segments that were characterized by volume, speed, length, truck and car proportion. A total of 330 roadway segments were used to calculate emissions for the build and no-build conditions. This approach was utilized as a way to capture the entire project emissions along mainlines as well as local roadways. The emissions of each roadway segments were summed up to provide the total emissions.

The analysis compared future emissions (year 2038) for the horizon or design year of the No-Build Alternative to the three build alternatives. In addition, further analysis compared opening year (2018) emissions for Alternative B (the preferred alternative) to the No-Build Alternative. The emissions were calculated using the latest Environmental Protection Agency's approved emissions model -EMFAC 2011. There is an older version of EMFAC (EMFAC 2007); however, it was decided that to be more accurate with the project emissions the latest and recently updated EMFAC 2011 should be used. Since EMFAC 2011 does not provide emission factors beyond 2035, the 2035 emission factors were used with the 2038 traffic data to develop the 2038 emissions results.

Particulate Matter ($PM_{2.5}$ and PM_{10}) Emissions

Table 3.28 provides the sum total of tailpipe, brake wear, and tire wear of particulate matter ($PM_{2.5}$ and PM_{10}) emissions.

Table 3.28 Future Particulate Matter (PM_{10} and $PM_{2.5}$) Emission Reductions by Project Alternatives

Alternative	Existing (Lb/day)	Year 2018 (Lb/day)	Year 2018 % Emission Reduction when compared to No Build	Year 2038 (Lb/day)	Year 2038 % Emission Reduction when compared to No Build
Particulate Matter (PM_{10})					
No-Build	782.4	409.1		534.5	
Alternative A	--	Not calculated		467.1	-12.6%
Alternative B	--	407.6	-0.37%	534.3	-0.04%
Alternative C	--	Not calculated		503.0	-5.9%
Fine Particulate Matter ($PM_{2.5}$)					
No-Build	480.3	196.3		250.4	
Alternative A	--	Not calculated		217.4	-13.2%
Alternative B	--	195.5	-0.41%	246.1	-1.7%
Alternative C	--	Not calculated		233.7	-6.7%

Source: *Air Quality Study Report* 2013.

Re-entrained Particulate Matter (PM_{10}) road dust was also considered. It was estimated based on the existing and projected traffic data; and was computed using the emission factor equations provided in the Fifth Edition, Volume I of the Environmental Protection Agency's AP-42 document dated November 1, 2006. As shown in Table 3.29, implementation of the proposed project is anticipated to result in reduction of re-entrained Particulate Matter (PM_{10}) road dust for Alternatives A and C, with a slight increase in Alternative B.

Table 3.29 PM_{10} Re-entrained Road Dust by Project Alternatives (Year 2038)

Alternative	Re-entrained Dust (lb/day)
No-Build	0.57
Alternative A	0.51
Alternative B	0.59
Alternative C	0.55
Source: *Air Quality Study Report* 2013.	

Summaries of particulate matter ($PM_{2.5}$ and PM_{10}) emissions in Table 3.28 indicate that the implementation of the project would result in reduction of particulate matter ($PM_{2.5}$ and PM_{10}) emissions when compared to the No-Build scenario. It should be noted that this reduction in the Build emissions has resulted despite its overall increase in the truck and total volumes along the Centennial Corridor within the project limits. Additionally, traffic data did not include increased idling times on the local streets that would occur without the project being built. Idling times would dramatically raise the particulate matter quantities for the No-Build with most concentrations added along Rosedale and Stockdale Highways.

Conformity Determination

As mentioned earlier, the project is contained in the approved Regional Transportation Plan and included in the regional emissions analysis that was used to meet regional conformity for the Kern County Area. Based upon the above analysis results, this project will not delay timely attainment of the particulate matter (PM_{10} or $PM_{2.5}$) National Ambient Air Quality Standards for the Kern County area.

As indicated in Tables 3.28 and 3.29, the project would result in lower particulate matter (PM_{10} and $PM_{2.5}$) emissions when compared to the No-Build scenario. This decrease in the particulate matter emissions is the result of increase in vehicle speeds and reduction of congestion anticipated with implementation of the project. As such the project will not cause any new particulate matter violations or worsen existing particulate matter violations in the project area. Activities of this project should, therefore, be considered consistent with the purpose of the State Implementation Plan and it should be determined that this project conforms to the requirements of the Clean Air Act.

Mobile Source Air Toxics

Mobile source air toxics emissions were estimated for each build alternative and the No-Build Alternative for the base year (2008), opening year (2018), and the horizon year (2038) along segments of the eight roadways studied in the project traffic study. Future year analysis compared alternatives, while the 2008 emissions were included to show the effect of current vehicle miles traveled and the degree of control plans on emissions of mobile source air toxics. Analysis was done for seven air toxics identified as priority mobile source air toxics by the U.S. Environmental Protection Agency. The EMFAC2011 model and latest version of the Caltrans' CT-EMFAC Model (Version 4.0 - Sonoma Technology, Inc. 2010) were used to estimate project-specific mobile source air toxics emissions. Detail about methodology and data used for analysis can be found in the *Air Quality Study Report* for the project.

The following roadway segments were included in the analysis:

- Rosedale Highway – between Allen Road and State Route 99
- Stockdale Highway – between Allen Road and H Street
- California Avenue – between Stockdale Highway and State Route 99
- Westside Parkway – between Allen Road and State Route 99 (note traffic volume does not exist on Westside Parkway for base year 2008)
- State Route 58 East – between State Route 99 and Cottonwood Road
- State Route 99 – between Airport Drive and White Lane
- Mohawk Street – between California Avenue and Rosedale Highway
- Real Road – between Stockdale Highway and California Avenue

Tables 3.30 and 3.31 present the estimated daily emissions of priority mobile source air toxics from analyzed roadways for opening year (2018) and horizon year (2038), respectively. Because the health impact of mobile source air toxics on humans in proximity to roadways is still under study, this quantitative analysis is provided only to compare different project alternatives. It should be noted that the results of calculation shown in these tables are conservative. Actual emissions would likely be less for most roadways and also the overall project because the number of roadway segments used for in the calculations is fewer than that used in the particulate matter hot-spot analysis described above. In addition, the predicted truck volumes and speeds on each roadway used in the model were higher than the traffic model results due to the averaging methodology used.

Table 3.30 Comparison of Mobile Source Air Toxics Emissions for Project Alternatives – Opening Year 2018

Roadway Scenario/ Alternative	Mobile Source Air Toxics Emissions (grams per day)						
	Benzene	1,3-Butadiene	Formaldehyde	Acrolein	Naphthalene	Polycyclic Organics	Diesel Particulate Matter[a]
Base Year (2008)	7,835	1,692	12,728	368	2,845	395	66,533
No-Build Alternative	3,577	730	7,606	153	1,211	168	31,948
Alternative A	3,743	768	7,797	162	1,244	173	31,115
Alternative B	3,864	793	8,042	167	1,297	180	32,332
Alternative C	3,848	788	8,098	165	1,319	183	33,257
Project increment (change from No-Build Alternative)							
Alternative A	**166**	**38**	**191**	**9**	**33**	**5**	-833
Alternative B	**287**	**63**	**436**	**14**	**86**	**12**	**384**
Alternative C	**270**	**58**	**492**	**12**	**108**	**15**	**1309**

[a] Diesel Particulate Matter includes emissions of inhalable particulate matter (PM_{10}) and total organic gases from diesel-powered vehicles traveling along the roadway.

Notes: Methodology and calculation worksheets are provided in the *Air Quality Study Report.*
The results of calculation shown in this table are conservative. Actual emissions would likely be less for most roadways and also the overall project because the number of roadway segments used in the calculations is fewer than that used in the particulate matter hot-spot analysis. In addition, the predicted truck volumes and speeds on each roadway used in the model were higher than the traffic model results due to the averaging methodology used.
Source: Developed from the *Air Quality Study Report* 2013.

Table 3.31 Comparison of Mobile Source Air Toxics Emissions for Project Alternatives – Horizon Year 2038

Roadway Scenario/ Alternative	Mobile Source Air Toxics Emissions (grams per day)						
	Benzene	1,3-Butadiene	Formaldehyde	Acrolein	Naphthalene	Polycyclic Organics	Diesel Particulate Matter[a]
Base Year (2008)	7,835	1,692	12,728	368	2845	395	66,533
No-Build Alternative	3,274	680	6,596	143	1,371	192	35,266
Alternative A	3,596	751	7,073	159	1,557	218	38,981
Alternative B	3,693	772	7,224	163	1,598	224	39,495
Alternative C	3,716	782	7,013	166	1,531	214	37,833
Project increment (change from No-Build Alternative)							
Alternative A	**322**	**71**	**477**	**16**	**186**	**26**	**3,715**
Alternative B	**419**	**92**	**628**	**20**	**227**	**32**	**4,229**
Alternative C	**442**	**102**	**417**	**23**	**160**	**22**	**2,567**

[a] Diesel Particulate Matter includes emissions of PM_{10} and total organic gases (TOG) from diesel-powered vehicles traveling along the roadway.

Notes: Methodology and calculation worksheets are provided in the *Air Quality Study Report.*
The results of calculation shown in this table are conservative. Actual emissions would likely be less for most roadways and also the overall project because the number of roadway segments used in the calculations is fewer than that used in the particulate matter hot-spot analysis. In addition, the predicted truck volumes and speeds on each roadway used in the model were higher than the traffic model results due to the averaging methodology used.
Source: Developed from the *Air Quality Study Report* 2013.

Based on the results of the mobile source air toxics emissions within the studied roadway, a significant decrease (on the order of 50 percent) in mobile source air toxics emissions can be expected for the project alternatives as compared with the

base year (2008) levels through future year levels. The decrease is expected to occur for all priority mobile source air toxics. This is directly due to the improved pollution emission performance of a modernizing fleet, including diesel-fueled vehicles, which is a trend that is expected to continue throughout the planning horizon. This finding is consistent with the Federal Highway Administration-projected trend, shown in Figure 3-31.

When comparing both the no-build and build alternatives between 2018 and 2038, the results are mixed. However, the results for 2038 are generally lower when compared to 2018 levels of benzene, 103 butadiene, formaldehyde, and acrolein, depending upon pollutant and alternative. For naphthalene, polycyclic organics, and diesel particulate matter, the emissions in 2038 would be higher than those in 2018.

The mobile source air toxics emissions from each build alternative would be less than the No-Build Alternative along several studied roadways. For most of the study area roadways, the three build alternatives are comparable in level of emissions, while Alternative A exhibits lower mobile source air toxics emissions than Alternatives B and C in the opening year and slightly lower emissions than Alternatives B and C in the horizon year. The mobile source air toxics emissions level of Alternatives B and C are in the same order of magnitude.

In summary, the U.S. Environmental Protection Agency projections indicate a continuing downward trend of all seven primary mobile source air toxics. Comparison of the data in Tables 3.30 and 3.31 indicates that, even with an increase in traffic volume (and vehicle miles traveled), the mobile source air toxics emissions are expected to decline from opening year to horizon year. Due to the comparably less detailed roadway network coverage used in the mobile source air toxics emissions calculation, the analysis shows a general increase in total emissions for the build alternatives compared to the No-Build Alternative. However, the 2038 data show a relatively small increase over the no-build emissions, even though the vehicle miles traveled increase would be considerable.

The study of mobile source air toxics, dose-response effects, and modeling tools are currently in a state where accurate information is incomplete or unavailable. This is relevant to making a viable prediction of any reasonably foreseeable adverse effects on the human environment. Studies are currently being done to clarify some of these unknowns; however, information is not yet available.

No-Build Alternative

The No-Build Alternative would not make any project improvements in Segment 1; however, Segment 2 (Westside Parkway) from Allen Road to Truxtun Avenue is now operational. Additionally, the final segment of the Westside Parkway (from Allen Road to Stockdale Highway) will be completed in 2014. Therefore, the operational consequences of Segment 2, in the absence of Segment 1, are considered as part of the No-Build Alternative. The regional and project-level conformity for the Westside Parkway under no Centennial Corridor Project were analyzed in the *Westside Parkway Environmental Assessment/Final Environmental Impact Report.* Regional

and project-level conformity were shown, and no further analysis is required. Operation of Segment 2 only was judged to not create a new violation or worsen an existing violation of the National Ambient Air Quality Standards for particulate matter PM_{10} or $PM_{2.5}$). However, this alternative is not consistent with regional goals and policies for congestion management and traffic condition improvement, and it would not be consistent with the projected regional growth and the local government goals and policies for reducing air quality emissions within its respective jurisdiction.

Avoidance, Minimization, and/or Mitigation Measures

Standard conditions to minimize short-term air quality impacts are noted in Section 3.6, Construction Impacts.

3.2.7 Noise

This section evaluates potential noise impacts on nearby frequent outdoor use areas as a result of Segment 1 alternative implementation pursuant to the National Environmental Policy Act requirements. Noise impacts pursuant to the California Environmental Quality Act are presented in Chapter 4 of this environmental document. Detailed cost analysis, including input and output data, is contained in the *Noise Study Report* (January 2013). Noise abatement in terms of soundwalls at various locations impacted by traffic noise levels is also provided with detailed analysis in the *Noise Abatement Decision Report* (May 2013) for this project. Construction noise and vibration impacts are discussed in Section 3.6 of this document.

At the time of the noise study analysis, Segment 2 of the Centennial Corridor project (Westside Parkway) was under construction. The Westside Parkway traffic noise impact analysis was done, and a *Noise Study Report* was issued in 2010. However, in anticipation of the Centennial Corridor project, truck percentages associated with the Centennial Corridor project were used in the traffic noise impact analysis and soundwalls recommended under the Westside Parkway analysis have been built at least 2 feet higher than needed for that project. Further details about Segment 2 are provided in the Westside Parkway sub-section of the *Environmental Consequences Under the National Environmental Policy Act*.

The Centennial Corridor project proposed no improvement within Segment 3 except for changes to one intersection. The Centennial Corridor project is proposing to widen and add signals to the Stockdale Highway and State Route 43 intersection. Besides five single-family residences along Stockdale Highway east of State Route 43 (Enos Lane), surrounding areas of this intersection consist of farmlands and open spaces. Proposed changes to the Stockdale Highway in front of these five single-family homes would be minimal, and there would be no noticeable change to the traffic noise levels at the frequent outdoor use areas associated with these houses. Therefore, traffic noise impacts were not evaluated for Segment 3.

Regulatory Setting

The National Environmental Policy Act and the California Environmental Quality Act provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and foster a healthy environment. However, the requirements for noise analysis and consideration of noise abatement and/or mitigation differ between the National Environmental Policy Act and the California Environmental Quality Act.

California Environmental Quality Act

The California Environmental Quality Act requires a strictly baseline-versus-build analysis to assess whether a project will have a noise impact. If a proposed project is determined to have a significant noise impact under the California Environmental Quality Act, then the act dictates that mitigation measures must be incorporated into the project unless such measures are not feasible. The rest of this section will focus on National Environmental Policy Act and 23 CFR 772 noise analysis; please see Chapter 4 of this document for further information on noise analysis under the California Environmental Quality Act.

National Environmental Policy Act and 23 Code of Regulations 772 Analysis

For highway transportation projects with Federal Highway Administration (Caltrans, as assigned) involvement, the Federal-Aid Highway Act of 1970 and the associated implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. Regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations include noise abatement criteria that are used to determine when a traffic noise impact would occur. The noise abatement criteria differ depending on the type of land use under analysis. For example, the noise abatement criterion for residences (67 dBA) is lower than the noise abatement criterion for commercial areas (72 dBA). Table 3.32 lists the noise abatement criteria for use in the National Environmental Policy Act 23 CFR 772 analysis.

Table 3.32 Noise Abatement Criteria

Activity Category	Noise Abatement Criteria, Hourly A-Weighted Noise Level, $L_{eq(h)}$	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[1]	67 (Exterior)	Residential.
C[1]	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.

Table 3.32 Noise Abatement Criteria

Activity Category	Noise Abatement Criteria, Hourly A-Weighted Noise Level, $L_{eq(h)}$	Description of Activity Category
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F.
F	No Noise Abatement Criteria (reporting only)	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical, etc.), and warehousing.
G	No Noise Abatement Criteria (reporting only)	Undeveloped lands that are not permitted.

L_{eq}: Sound Equivalent Noise Level

[1] Includes undeveloped lands permitted for this activity category.

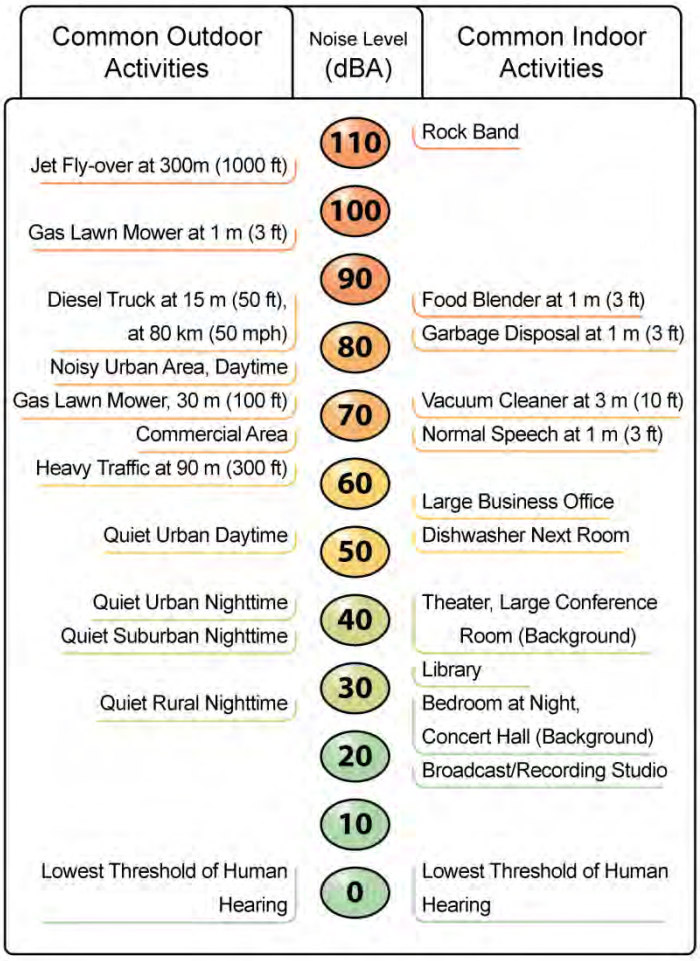
Source: *23 CFR 772,* 2011.

Figure 3-33 shows a range of noise levels for common activities so that a comparison can be made between the predicted traffic noise levels discussed in this section with common activities.

According to Caltrans' *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, May 2011*, a noise impact occurs when the predicted future noise level with the project substantially exceeds the existing noise level (defined as a 12-decibel or more increase) or when the future noise level with the project approaches or exceeds the noise abatement criteria. Approaching the noise abatement criteria is defined as coming within 1 decibel of noise abatement criteria.

If it is determined that the project will have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated in the project.

Figure 3-33 Noise Levels of Common Activities



Caltrans' *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. A minimum 5-decibel reduction in the future noise level must be achieved for an abatement measure to be considered feasible. Other considerations include topography, access requirements, other noise sources, and safety considerations. The reasonableness determination is based on three factors, including the noise reduction design goal (7-decibel reduction at least at one receiver), the cost of noise abatement, and the viewpoints of benefitted land use (including property owners and residents of the benefitted land use).

Affected Environment

Information in this section is from the *Noise Study Report, Centennial Corridor Project* (January 2013) and the *Noise Abatement Decision Report, Centennial Corridor Project* (May 2013). In the *Noise Study Report*, the project corridor area was divided into six general segments for traffic noise impacts analysis:

1) Centennial Corridor west of State Route 99 – Alternative A

2) Centennial Corridor west of State Route 99 – Alternative B

3) State Route 58 east of State Route 99 – Alternatives A, B, and C

4) State Route 99 south of State Route 58 – Alternatives A, B, and C

5) Centennial Corridor/State Route 99 north of State Route 58 – Alternative C

6) Westside Parkway – Calloway Drive to Coffee Road

The six segments were divided further into 32 distinct areas based on major local interchanges and direction of travel (westbound, eastbound, northbound, and southbound), as well as which freeway the project follows (Centennial Corridor Alternatives A, B, and C, existing segment of State Route 58, and State Route 99). The areas are shown in Figures 3-34 through 3-47, provided in Volume 2. No analysis was done in regions that lacked areas with frequent outdoor use. Mapping in Volume 2 shows the locations that were analyzed as well as receiver and soundwall locations. The following land uses occur along the Centennial Corridor:

- Category B – single-family and multi-family residences
- Category C (exterior) – Stockdale Christian School; Centennial Park; Saunders Park; Yokuts Park; Beach Park; Central Bakersfield Community Center/Clinica Sierra Vista; Montessori Children's Center; Camelot Park Family Fun Center; and six places of worship
- Category D (interior) – Bakersfield fire station; Stockdale Christian School; Central Bakersfield Community Center/Clinica Sierra Vista; Montessori Children's Center
- Category E – various hotels/motels; Outback restaurant's outside dining area.

Environmental Consequences Under the National Environmental Policy Act

The project is considered a Type I project by 23 CFR 772 because of the proposed construction that would connect State Route 58 to the Westside Parkway, as well as the improvements along State Route 99, the existing portion of State Route 58, and new connections between State Route 99 and State Route 58 will add lanes and change profile of some parts of different roadway segments.

The following paragraphs explain the steps in predicting traffic noise levels along the project corridor as a result of the proposed changes to the existing freeways and construction of new highway. Results of noise prediction by alternative are also presented.

Existing Noise-Level Measurements

Short-term noise monitoring done at 44 locations in October 2011 lasted 20 minutes at each spot. Long-term noise monitoring was done at two locations in January 2010 and 28 locations in October 2011.

Future Noise-Level Modeling

The Federal Highway Administration's Traffic Noise Model Version 2.5 was used for the noise computations. Receivers, defined as single points, were at frequent outdoor use areas such as residences, schools, and recreational areas.

Results of the traffic noise analysis for each alternative are presented by geographic area. A comparison of current noise levels to the projected noise levels in 2038 under the No-Build Alternative and the build alternatives is provided. Comparison to existing conditions (2008) indicates traffic noise impacts to the receptors; comparison of the build and no-build conditions indicates the direct effect of the project.

Where noise levels met the noise abatement criteria, soundwalls were evaluated to determine if they were reasonable and feasible. The criteria for determining when an abatement measure is reasonable and feasible are provided above in the Regulatory Setting.

Reasonableness of noise abatement (for each noise barrier found to be acoustically feasible) must then be determined based on the cost allowance calculation procedure identified in the *Caltrans Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects*. A soundwall is considered reasonable if it costs less than the reasonable allowance for that barrier (described in more detail in the May 2013 *Noise Abatement Decision Report, Centennial Corridor Project*), meets the design goal, and the viewpoints of benefitted receivers have been taken into consideration. The preliminary determination of reasonableness is discussed later in this section.

Alternative A

Tables 3.33 through 3.35 show the results of the traffic noise analysis for the project in 2038 with implementation of Alternative A. The analysis indicated that 532 outdoor use areas would be impacted by traffic noise levels. Figure 3-34, provided in Volume 2, provides a key map for noise measurement and soundwall locations. Figures 3-35 to 3-38, provided in Volume 2, show receiver locations.

Table 3.33 Traffic Noise Impact Analysis – Alternative A Centennial Corridor West of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
RA-1	73	73	75	Yes	74	73	73	73	73	No
RA-2	60	60	68	Yes	66	66	65	65	65	No
RA-3	60	60	67	Yes	64	64	62	61	61	No
RA-4	73	73	74	Yes	73	73	73	73	73	No
RA-6	52	52	71	Yes	68	66	65	64	64	Yes
RA-7	52	52	69	Yes	67	64	63	62	62	Yes

Table 3.33 Traffic Noise Impact Analysis – Alternative A Centennial Corridor West of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
RA-8	52	52	66	Yes	64	64	61	61	60	Yes
RA-9	52	52	63	No	62	61	60	59	59	No
RA-10	52	52	62	No	61	61	59	59	58	No
RA-11	52	52	64	Yes	63	63	60	59	58	Yes
RA-12	52	52	72	Yes	69	66	64	62	61	Yes
RA-12A	52	52	72	Yes	70	66	64	64	63	Yes
RA-13	52	52	71	Yes	69	69	67	66	66	Yes
RA-13A	52	52	74	Yes	72	68	66	66	65	Yes
RA-14	52	52	73	Yes	71	69	66	65	64	Yes
RA-15	52	52	69	Yes	67	67	63	61	60	Yes
RA-16	52	52	68	Yes	66	66	62	61	59	Yes
RA-17	52	52	71	Yes	68	68	63	62	61	Yes
RA-18	52	52	69	Yes	67	64	62	61	60	Yes
RA-18A	52	52	73	Yes	69	67	66	65	64	Yes
RA-19	52	52	66	Yes	64	64	61	59	58	Yes
RA-20	52	52	69	Yes	67	65	63	61	61	Yes
RA-21	52	52	69	Yes	67	66	63	61	60	Yes
RA-22	50	50	67	Yes	65	65	62	59	58	Yes
RA-23	50	50	68	Yes	66	63	63	60	59	Yes
RA-24	50	50	65	Yes	63	62	59	57	56	Yes
RA-25	50	50	62	Yes	60	60	57	55	55	Yes
RA-26	50	50	61	No	59	59	57	55	55	No
RA-27	50	50	62	Yes	61	60	61	59	58	No
RA-28	54	54	66	Yes	65	63	62	61	61	Yes
RA-29	54	54	70	Yes	65	64	62	62	61	Yes
RA-30	54	54	67	Yes	66	62	60	60	59	Yes
RA-31	54	54	69	Yes	65	64	64	63	63	Yes
RA-32	54	54	67	Yes	65	62	60	59	59	Yes
RA-33	54	54	65	No	64	64	60	59	59	Yes
RA-34	54	54	63	No	62	59	57	56	55	Yes
RA-35	54	54	62	No	60	58	56	56	56	Yes
RA-36	52	52	72	Yes	65	64	64	63	62	Yes
RA-37	52	52	68	Yes	67	63	61	61	60	Yes
RA-38	52	52	69	Yes	66	66	62	61	60	Yes
RA-39	52	52	68	Yes	65	65	62	61	61	Yes
RA-40	71	71	70	No	--	--	--	--	--	--
RA-41	63	63	70	Yes	68	67	65	63	62	Yes
RA-42	63	63	71	Yes	68	67	65	63	62	Yes
RA-43	63	63	70	Yes	67	67	64	62	62	Yes
RA-44	59	59	70	Yes	67	65	63	62	61	Yes
RA-45	59	59	69	Yes	67	64	63	62	61	Yes
RA-46	63	63	69	Yes	66	64	63	62	61	Yes

Table 3.33 Traffic Noise Impact Analysis – Alternative A Centennial Corridor West of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
RA-47	63	63	69	Yes	66	64	63	62	62	Yes
RA-49	63	63	70	Yes	65	65	64	63	63	Yes
RA-50	53	53	66	Yes	64	61	60	60	59	Yes
RA-51	53	53	68	Yes	64	62	61	60	60	Yes
RA-53	53	53	59	No	58	56	55	54	53	No
RA-54	53	53	69	Yes	64	62	61	60	59	Yes
RA-55	53	53	64	No	62	59	57	56	56	Yes
RA-56	53	53	62	No	61	58	57	56	56	No
RA-57	53	53	69	Yes	67	63	62	61	60	Yes
RA-58	53	53	68	Yes	66	63	61	60	59	Yes
RA-59	53	53	68	Yes	65	64	63	59	59	Yes
RA-60	56	56	69	Yes	67	63	62	61	61	Yes
RA-61	56	56	69	Yes	67	63	63	61	60	Yes
RA-62	56	56	69	Yes	67	63	62	61	60	Yes
RA-64	56	56	67	Yes	64	62	61	60	59	Yes
RA-65	52	52	70	Yes	67	64	63	62	61	Yes
RA-66	52	52	70	Yes	67	64	63	62	61	Yes
RA-67	52	52	69	Yes	66	63	63	62	61	Yes
RA-69	52	52	69	Yes	66	65	64	62	62	Yes
RA-70	52	52	69	Yes	66	65	64	64	63	Yes
RA-71	52	52	71	Yes	70	69	68	67	66	Yes
RA-72	52	52	72	Yes	71	70	68	67	67	Yes
RA-73	52	52	72	Yes	70	69	69	67	66	Yes
RA-74	52	52	72	Yes	70	69	68	67	66	Yes
RA-75	52	52	72	Yes	69	68	67	66	65	Yes
RA-76	52	52	68	Yes	64	64	63	62	61	Yes
RA-77	52	52	64	Yes	62	61	61	60	60	No

dBA: A-weighted decibels.
--: Not Evaluated
[1] - Receivers that are noise measurement sites that are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.
Source: Developed from the *Noise Study Report* 2013.

Table 3.34 Traffic Noise Impact Analysis – Alternative A State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-1	70	73	76	Yes	71	69	68	67	66	Yes
R58-2	68	71	75	Yes	70	68	67	66	65	Yes
R58-4	67	70	74	Yes	68	66	65	64	63	Yes
R58-5	60	63	67	Yes	64	63	62	62	61	Yes
R58-6	58	61	65	No	61	60	59	58	57	Yes
R58-7	67	70	74	Yes	68	67	66	65	64	Yes
R58-7A	61	64	67	Yes	64	63	62	62	61	Yes
R58-8	68	71	75	Yes	68	67	66	65	64	Yes
R58-9	65	70	75	Yes	67	65	64	62	62	Yes
R58-10	65	70	74	Yes	66	65	64	63	62	Yes
R58-11	67	70	70	Yes	68	68	65	65	65	Yes
R58-12	65	68	68	Yes	67	65	62	61	60	Yes
R58-13	65	66	67	Yes	65	64	61	60	60	Yes
R58-15	69	70	70	Yes	68	65	63	62	61	Yes
R58-16	71	72	73	Yes	69	68	65	63	62	Yes
R58-17	66	67	68	Yes	66	66	63	61	60	Yes
R58-18	67	70	74	Yes	68	66	65	64	63	Yes
R58-19	57	60	64	No	61	60	59	58	58	No
R58-20	62	65	71	Yes	64	64	63	62	62	Yes
R58-20A	65	68	75	Yes	67	67	65	64	64	Yes
R58-21	66	69	75	Yes	67	65	64	63	63	Yes
R58-22	59	62	66	Yes	63	62	61	60	60	Yes
R58-23	52	55	57	No	57	56	55	54	54	No
R58-24	56	59	61	No	60	60	59	59	58	No
R58-24A	65	68	71	Yes	66	65	65	64	63	Yes
R58-25	57	60	63	No	61	61	61	60	60	No
R58-26	57	60	63	No	61	61	60	60	60	No
R58-27	57	60	63	No	61	61	60	60	59	No
R58-28	66	69	71	Yes	66	65	65	64	63	No
R58-29	59	62	65	No	61	61	60	60	59	No
R58-30	58	61	62	No	58	57	57	56	56	No
R58-32	59	62	64	No	60	59	59	59	58	No
R58-33	71	74	76	Yes	68	67	67	66	66	Yes
R58-34	66	70	73	Yes	67	66	66	65	64	Yes
R58-35	66	70	74	Yes	67	66	66	65	64	Yes
R58-36	68	72	76	Yes	67	66	65	63	62	Yes
R58-37	58	58	59	No	56	55	54	54	53	No
R58-37A	71	71	74	Yes	67	66	65	65	64	Yes
R58-37B	69	69	71	Yes	66	65	64	63	63	Yes
R58-38	57	57	58	No	56	56	56	56	55	No
R58-39	63	63	65	No	60	59	59	59	59	Yes
R58-40	72	72	76	Yes	70	69	68	67	66	Yes

Table 3.34 Traffic Noise Impact Analysis – Alternative A State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-41	68	68	71	Yes	66	65	65	64	64	Yes
R58-42	62	62	65	No	62	62	61	61	61	No
R58-42A	58	58	61	No	60	60	60	59	59	No
R58-43	62	65	66	Yes	64	63	63	63	63	No
R58-44	62	65	67	Yes	64	64	64	64	64	No
R58-45	63	62	64	No	61	60	60	59	59	Yes
R58-46	65	64	66	Yes	62	61	61	60	59	Yes
R58-47	61	60	62	No	61	61	60	60	60	No
R58-48	65	64	66	Yes	63	62	61	61	60	Yes
R58-49	69	72	73	Yes	67	65	65	64	63	Yes
R58-50	68	71	71	Yes	68	67	66	65	65	Yes
R58-51	60	63	64	No	62	60	59	58	57	Yes
R58-52	65	68	68	Yes	66	63	62	61	60	Yes
R58-54	69	72	72	Yes	68	67	66	65	64	Yes
R58-55	64	67	67	Yes	65	62	61	60	59	Yes
R58-56	70	72	72	Yes	68	67	66	65	64	Yes
R58-57	70	72	73	Yes	68	67	66	65	65	Yes
R58-58	62	64	65	No	63	61	60	59	58	No
R58-59	69	71	72	Yes	67	66	65	64	64	Yes
R58-60	66	69	70	Yes	66	65	64	63	63	Yes
R58-61	71	71	73	Yes	68	67	66	65	64	Yes
R58-62	71	71	73	Yes	68	67	66	65	65	Yes
R58-63	72	72	73	Yes	69	67	67	66	65	Yes
R58-64	63	66	68	Yes	66	64	63	62	62	Yes
R58-65	67	70	72	Yes	69	67	66	65	65	Yes
R58-66	67	70	72	Yes	69	66	65	65	64	Yes
R58-67	66	68	70	--	--	--	--	--	--	--
R58-68[2]	43	45	46	No	--	--	--	--	--	--
R58-69	62	65	68	Yes	66	66	65	65	65	No
R58-71	61	64	67	Yes	64	64	64	64	64	No
R58-73	68	71	73	Yes	68	67	66	65	64	Yes
R58-74	67	70	73	Yes	70	68	66	64	63	Yes
R58-75	73	76	79	Yes	74	70	69	68	67	Yes
R58-76	69	72	74	Yes	71	68	66	65	64	Yes
R58-77	65	68	68	Yes	66	63	62	61	60	Yes
R58-78	66	69	69	Yes	66	65	63	61	60	Yes
R58-79	63	66	67	Yes	65	64	62	61	60	Yes
R58-80	70	70	70	Yes	68	65	64	63	62	Yes
R58-81	73	73	73	Yes	69	67	66	66	65	Yes
R58-82	64	64	65	No	63	60	59	59	58	Yes
R58-84	72	72	73	Yes	68	67	66	65	65	Yes
R58-85	72	72	73	Yes	68	67	66	65	64	Yes

Table 3.34 Traffic Noise Impact Analysis – Alternative A State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-86	64	64	66	Yes	64	61	60	59	59	Yes
R58-87	71	71	73	Yes	68	66	66	65	64	Yes
R58-88	68	68	70	Yes	65	63	62	61	60	Yes
R58-89	66	66	67	Yes	64	62	61	60	60	Yes
R58-90	67	67	68	Yes	67	64	63	62	61	Yes
R58-91	67	67	68	Yes	66	64	62	61	60	Yes
R58-92	71	71	73	Yes	67	66	65	65	64	Yes
R58-93	70	70	72	Yes	67	66	65	64	63	Yes
R58-94	69	69	70	Yes	68	65	63	62	61	Yes
R58-95	67	67	68	Yes	67	63	62	61	60	Yes
R58-96	72	72	73	Yes	68	67	66	65	64	Yes
R58-97	69	69	69	Yes	66	64	63	62	61	Yes
R58-98	74	74	74	Yes	70	68	67	66	65	Yes
R58-99	67	67	69	Yes	67	65	64	63	63	Yes
R58-100	66	66	67	Yes	65	64	63	62	62	Yes
R58-101	62	66	68	Yes	64	63	62	61	60	Yes
R58-102	70	74	77	Yes	69	67	66	65	64	Yes
R58-103	59	63	65	No	62	61	60	58	57	No
R58-104	62	66	68	Yes	64	63	62	61	60	Yes
R58-105	59	63	64	No	63	62	61	60	58	No
R58-106	75	78	79	Yes	72	70	67	65	64	Yes
R58-107	67	71	73	Yes	70	69	66	64	62	Yes
R58-108	72	75	77	Yes	72	72	68	66	65	Yes
R58-109	72	75	77	Yes	72	71	67	66	65	Yes
R58-110	66	70	72	Yes	70	69	66	64	62	Yes
R58-111	73	76	77	Yes	74	71	69	68	67	Yes
R58-112	72	75	77	Yes	71	69	68	67	66	Yes
R58-113	71	74	75	Yes	72	71	67	65	65	Yes
R58-114	70	73	75	Yes	73	69	67	66	65	Yes
R58-115	71	74	76	Yes	71	69	68	67	66	Yes
R58-116	70	73	75	Yes	73	69	67	66	65	Yes
R58-117	67	70	72	Yes	70	66	64	63	62	Yes
R58-118	70	73	75	Yes	70	68	67	66	65	Yes
R58-119	66	69	71	Yes	69	65	63	62	61	Yes
R58-120	66	69	72	Yes	69	65	63	62	62	Yes
R58-121	67	70	72	Yes	70	66	64	63	62	Yes
R58-122	70	73	74	Yes	70	68	67	66	65	Yes
R58-123	65	68	70	Yes	68	67	63	62	61	Yes
R58-124	66	69	71	Yes	69	68	64	63	62	Yes
R58-125	67	70	71	Yes	67	66	65	65	65	Yes
R58-126	65	68	70	Yes	69	64	63	63	62	Yes
R58-127	66	69	71	Yes	69	66	65	65	65	Yes

Table 3.34 Traffic Noise Impact Analysis – Alternative A State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-128	65	69	70	Yes	67	66	65	64	63	Yes
R58-129	59	63	64	No	64	63	63	63	63	No
R58-131	65	69	70	Yes	65	64	63	62	61	Yes
R58-132	57	61	62	No	59	58	58	56	56	No
R58-133	69	73	75	Yes	68	67	66	65	64	Yes
R58-134	70	74	75	Yes	69	69	67	66	65	Yes
R58-135	58	62	63	No	61	60	59	57	57	No
R58-136	70	72	74	Yes	68	66	65	64	63	Yes
R58-137	58	60	61	No	59	58	57	56	54	No
R58-138	63	65	67	Yes	65	64	61	62	58	Yes
R58-139	70	72	74	Yes	68	66	64	63	61	Yes
R58-140	74	76	78	Yes	72	70	67	65	64	Yes
R58-141	67	69	71	Yes	68	67	63	61	60	Yes
R58-142	66	68	70	Yes	68	67	64	62	61	Yes
R58-143	73	75	77	Yes	71	67	65	64	63	Yes
R58-144	70	72	73	Yes	70	69	65	63	62	Yes
R58-145	67	70	71	Yes	69	68	64	62	61	Yes
R58-146	64	67	69	Yes	67	66	63	61	60	Yes
R58-147	68	71	72	Yes	69	68	64	62	61	Yes
R58-148	70	72	73	Yes	71	67	65	64	63	Yes
R58-149	69	71	73	Yes	71	66	65	64	63	Yes
R58-150	67	69	71	Yes	69	67	63	62	61	Yes
R58-151	65	68	70	Yes	67	67	63	62	61	Yes
R58-152	69	71	72	Yes	68	66	65	64	63	Yes
R58-153	69	71	73	Yes	68	66	65	64	63	Yes
R58-154	69	71	73	Yes	67	66	65	64	63	Yes
R58-155	64	67	70	Yes	67	67	63	62	61	Yes
R58-156	65	68	70	Yes	66	65	62	61	60	Yes
R58-157	68	70	72	Yes	66	65	63	63	62	Yes
R58-158	67	69	70	Yes	69	64	63	62	61	Yes
R58-159	69	71	72	Yes	67	65	64	63	62	Yes
R58-160	65	68	70	Yes	67	66	62	61	60	Yes
R58-161	65	68	70	Yes	66	66	62	61	60	Yes
R58-162	65	68	69	Yes	66	66	62	61	60	Yes
R58-163	62	65	67	Yes	64	63	60	58	58	Yes
R58-164	68	70	72	Yes	67	65	64	63	62	Yes
R58-165	68	70	72	Yes	67	65	64	63	62	Yes
R58-166	63	66	68	Yes	65	63	61	60	59	Yes
R58-167	66	68	70	Yes	67	63	63	62	61	Yes
R58-168	66	68	70	Yes	66	63	63	62	61	Yes
R58-169	66	68	70	Yes	66	64	63	62	61	Yes
R58-170	66	68	70	Yes	66	64	63	62	61	Yes

Table 3.34 Traffic Noise Impact Analysis – Alternative A State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-171	67	69	70	Yes	68	65	64	63	62	Yes
R58-172	67	69	70	Yes	69	66	65	64	64	Yes

dBA: A-weighted decibels.
--: Not evaluated

Notes:
1 – Receivers that are noise measurement sites that are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.
2 – Representative of an interior noise level since there were no exterior outdoor use areas.

Source: Developed from the *Noise Study Report* 2013.

Table 3.35 Traffic Noise Impact Analysis – Alternative A State Route 99 South of State Route 58

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R99-1	59	63	63	No	62	62	62	62	62	No
R99-2	66	67	68	Yes	67	67	67	67	66	No
R99-3	58	59	59	No	57	56	56	56	56	No
R99-4	66	67	67	Yes	--	--	67	66	66	No
R99-5	65	66	66	Yes	--	--	66	65	65	No
R99-6	65	66	67	Yes	--	--	66	65	65	No
R99-7	66	67	67	Yes	--	--	66	64	64	No
R99-8	64	65	66	Yes	--	--	65	64	63	No
R99-9	62	63	63	No	--	--	--	--	--	--
R99-10	59	60	60	No	--	--	--	--	--	--
R99-10A	57	58	58	No	--	--	--	--	--	--
R99-11	60	63	67	Yes	62	62	62	62	61	No
R99-12	70	73	74	Yes	70	69	69	69	68	No
R99-13	68	71	74	Yes	69	69	68	68	68	No
R99-14	69	72	73	Yes	--	--	71	70	70	No
R99-15	62	65	68	Yes	--	--	68	68	68	No
R99-16	60	64	64	No	--	--	64	63	63	No
R99-17	64	68	68	Yes	--	--	67	66	65	No
R99-18	65	69	69	Yes	--	--	68	67	66	No
R99-19	65	68	69	Yes	--	--	68	67	66	No
R99-20	56	59	59	No	--	--	59	59	59	No
R99-20A	62	65	65	No	--	--	64	63	63	No
R99-21	58	61	62	No	--	--	--	61	60	No

Table 3.35 Traffic Noise Impact Analysis – Alternative A State Route 99 South of State Route 58

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R99-21A	61	64	67	Yes	--	--	--	64	64	No
R99-21B	65	68	69	Yes	--	--	--	67	67	No
R99-21C	61	64	65	No	--	--	--	64	64	No
R99-22	60	63	65	No	--	--	--	63	63	No
R99-23	62	65	72	Yes	68	68	67	67	67	No
R99-25	64	67	74	Yes	70	70	69	69	69	No
R99-26	61	66	68	Yes	--	--	68	68	68	No
R99-27	60	65	68	Yes	--	--	68	67	67	No
R99-28	61	66	66	Yes	--	--	66	65	65	No
R99-29	56	61	61	No	--	--	61	61	61	No
R99-30	57	62	62	No	62	62	61	61	60	No
R99-31	68	73	73	Yes	66	65	64	63	63	Yes
R99-32	68	73	71	Yes	66	65	64	63	62	Yes
R99-33	70	75	75	Yes	66	64	63	62	61	Yes
R99-34	62	67	67	Yes	63	62	61	60	59	Yes
R99-36	64	69	70	Yes	65	64	64	63	61	Yes
R99-37	68	73	74	Yes	67	65	64	63	62	Yes
R99-40	59	63	71	Yes	68	67	67	67	66	No
R99-41	58	62	70	Yes	66	66	65	65	65	No
R99-43	60	64	72	Yes	66	65	64	63	63	No
R99-43A	57	61	67	Yes	63	62	62	62	62	No

dBA: A-weighted decibels.

--: Not Evaluated

[1] - Receivers that are noise measurement sites that are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: Developed from the *Noise Study Report* 2013.

Alternative B

Tables 3.36 through 3.38 show the results of the traffic noise analysis for the project in 2038 with implementation of Alternative B. The analysis concluded that 484 outdoor use areas would be impacted by traffic noise levels. Figures 3-39 to 3-42, provided in Volume 2, show receiver locations.

Table 3.36 Traffic Noise Impact Analysis – Alternative B Centennial Corridor West of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
RB-1	58	58	65	No	--	--	--	--	--	--
RB-2	58	58	62	No	--	--	--	--	--	--
RB-3	58	58	64	No	--	--	--	--	--	--
RB-4	58	58	63	No	--	--	--	--	--	--
RB-5	58	58	75	Yes	70	70	67	66	66	Yes
RB-6	58	58	63	No	61	61	59	58	58	No
RB-7	53	53	66	Yes	62	61	60	59	58	Yes
RB-8	53	53	74	Yes	69	68	67	65	64	Yes
RB-9	53	53	62	No	60	59	58	57	56	No
RB-10	53	53	68	Yes	64	63	62	61	61	Yes
RB-11	53	53	75	Yes	69	68	66	65	66	Yes
RB-12	53	53	63	No	59	59	58	57	57	Yes
RB-13	53	53	60	No	58	58	58	57	57	No
RB-14	53	53	61	No	60	59	59	58	58	No
RB-15	53	53	66	Yes	63	63	62	62	61	Yes
RB-16	53	53	68	Yes	65	65	64	64	64	No
RB-17	53	53	63	No	62	62	62	61	61	No
RB-18	53	53	60	No	59	59	59	58	58	No
RB-19	51	51	65	Yes	60	59	58	58	57	Yes
RB-19A	53	53	65	Yes	61	61	60	60	59	Yes
RB-20	51	51	65	Yes	59	58	58	57	56	Yes
RB-21	51	51	62	No	60	60	59	58	58	No
RB-22	51	51	65	Yes	63	61	61	60	59	Yes
RB-23	51	51	72	Yes	67	65	64	63	62	Yes
RB-24	51	51	76	Yes	68	67	66	64	64	Yes
RB-25	51	51	67	--	66	65	63	61	60	--
RB-26	51	51	77	Yes	71	69	65	64	63	Yes
RB-27	51	51	73	Yes	70	69	66	64	63	Yes
RB-28	51	51	75	Yes	72	69	67	66	65	Yes
RB-30	51	51	68	Yes	66	66	63	63	63	Yes
RB-31	51	51	70	Yes	67	67	65	64	63	Yes
RB-32	51	51	72	Yes	70	67	65	65	64	Yes
RB-34	67	67	67	Yes	66	66	65	65	65	No
RB-35	69	69	70	Yes	69	69	69	69	69	No
RB-36	52	52	66	Yes	63	60	59	57	56	Yes
RB-37	52	52	64	Yes	62	62	59	58	58	Yes
RB-38	52	52	58	No	57	57	57	55	54	No
RB-39	52	52	74	Yes	69	68	64	63	61	Yes
RB-39A	52	52	76	Yes	70	70	66	65	64	Yes
RB-40	52	52	68	Yes	65	64	62	60	58	Yes
RB-41	52	52	64	Yes	62	61	60	59	59	Yes
RB-42	52	52	72	Yes	67	65	65	64	63	Yes

Table 3.36 Traffic Noise Impact Analysis – Alternative B Centennial Corridor West of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
RB-43	52	52	61	No	60	60	59	59	58	No
RB-44	52	52	70	Yes	65	65	64	63	63	Yes
RB-45	53	53	63	No	62	62	62	62	62	No
RB-46	53	53	67	Yes	66	66	66	66	66	No
RB-47	53	53	61	No	60	60	60	60	60	No
RB-48	51	51	62	No	61	61	60	60	60	No
RB-49	51	51	69	Yes	65	64	64	63	63	No
RB-50	51	51	66	Yes	62	62	61	61	60	No
RB-51	51	51	62	No	59	59	59	58	58	No
RB-52	51	51	62	No	60	59	59	58	57	No
RB-53	51	51	69	Yes	65	64	63	61	61	Yes
RB-54	51	51	76	Yes	69	68	67	65	64	Yes
RB-55	51	51	70	Yes	67	66	63	61	60	Yes
RB-57	51	51	67	Yes	65	64	62	61	60	Yes
RB-58	51	51	58	No	56	54	54	53	53	No
RB-59	51	51	71	Yes	66	64	63	62	62	Yes
RB-59A	51	51	74	Yes	69	67	66	65	65	Yes
RB-60	51	51	69	Yes	64	62	62	61	60	Yes
RB-61	62	62	66	Yes	61	60	59	59	58	Yes
RB-62	62	62	62	No	60	59	58	58	58	No
RB-63	62	62	64	No	63	63	63	62	62	No
RB-64	62	62	72	Yes	65	64	64	64	63	Yes
RB-65	62	62	71	Yes	68	68	68	67	67	No
RB-66	63	63	65	No	65	64	64	64	64	No
RB-67	63	63	66	Yes	65	65	65	65	65	No
RB-69	63	63	70	Yes	67	66	66	66	66	No
RB-70	63	63	68	Yes	64	64	63	63	63	Yes
RB-71	63	63	67	Yes	64	63	63	63	62	Yes
RB-73	63	63	69	Yes	64	63	63	62	62	Yes
RB-74	63	63	66	Yes	62	61	60	59	60	Yes
RB-75	52	52	65	Yes	61	59	59	58	58	Yes
RB-76	52	52	66	Yes	61	60	60	59	58	Yes
RB-77	52	52	65	Yes	61	60	60	59	58	Yes
RB-79	52	52	65	Yes	61	60	59	59	58	Yes
RB-80	52	52	65	Yes	61	60	60	59	59	Yes
RB-81	52	52	70	Yes	67	66	65	64	64	Yes
RB-82	52	52	71	Yes	66	65	65	63	63	Yes
RB-83	52	52	71	--	68	67	66	64	63	--
RB-84	52	52	71	Yes	69	67	66	65	63	Yes
RB-85	52	52	72	Yes	68	66	65	64	63	Yes

Table 3.36 Traffic Noise Impact Analysis – Alternative B Centennial Corridor West of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
RB-86	52	52	70	Yes	66	65	64	63	62	Yes
RB-87	52	52	66	Yes	63	63	63	62	61	Yes

dBA: A-weighted decibels.

--: Not Evaluated

[1] - Receivers that are noise measurement sites that are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: Developed from the *Noise Study Report* 2013.

Table 3.37 Traffic Noise Impact Analysis – Alternative B State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-1	70	73	76	Yes	72	69	68	67	66	Yes
R58-2	68	71	75	Yes	70	68	67	66	65	Yes
R58-4	67	70	74	Yes	68	67	65	64	63	Yes
R58-5	60	63	67	Yes	65	64	63	62	61	Yes
R58-6	58	61	65	No	61	60	59	59	58	Yes
R58-7	67	70	74	Yes	68	67	66	65	65	Yes
R58-7A	61	64	68	Yes	65	64	63	62	62	Yes
R58-8	68	71	75	Yes	69	67	66	65	64	Yes
R58-9	65	70	75	Yes	67	66	64	63	62	Yes
R58-10	65	70	74	Yes	66	65	64	63	62	Yes
R58-11	67	70	69	Yes	68	66	64	63	63	Yes
R58-12	65	68	69	Yes	66	64	62	61	60	Yes
R58-13	65	66	67	Yes	65	64	61	60	60	Yes
R58-15	69	70	70	Yes	67	64	63	62	61	Yes
R58-16	71	72	71	Yes	68	65	63	62	62	Yes
R58-17	66	67	68	Yes	66	65	62	61	60	Yes
R58-18	67	70	73	Yes	70	69	67	65	64	Yes
R58-19	57	60	65	No	62	61	60	59	58	Yes
R58-20	62	65	72	Yes	66	65	64	63	62	Yes
R58-20A	65	68	76	Yes	69	67	66	65	64	Yes
R58-21	66	69	76	Yes	67	66	65	64	63	Yes
R58-22	59	62	66	Yes	63	63	62	61	60	Yes
R58-23	52	55	58	No	57	56	56	55	55	No
R58-24	56	59	61	No	60	60	60	59	58	No
R58-24A	65	68	71	Yes	66	66	65	65	64	Yes

Table 3.37 Traffic Noise Impact Analysis – Alternative B State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-25	57	60	63	No	61	61	61	60	60	No
R58-26	57	60	63	No	61	61	60	60	60	No
R58-27	57	60	63	No	61	61	60	60	59	No
R58-28	66	69	71	Yes	66	65	65	64	63	No
R58-29	59	62	65	No	62	61	61	60	60	No
R58-30	58	61	62	No	58	57	57	57	56	No
R58-32	59	62	64	No	60	59	59	59	58	No
R58-33	71	74	76	Yes	68	67	67	66	66	Yes
R58-34	66	70	73	Yes	68	67	66	65	65	Yes
R58-35	66	70	74	Yes	68	67	66	65	65	Yes
R58-36	68	72	76	Yes	68	67	65	64	63	Yes
R58-37	58	58	59	No	56	55	55	54	54	No
R58-37A	71	71	74	Yes	67	66	66	65	64	Yes
R58-37B	69	69	71	Yes	66	65	64	64	63	Yes
R58-38	57	57	59	No	56	56	56	56	55	No
R58-39	63	63	65	No	60	60	60	60	60	Yes
R58-40	72	72	76	Yes	70	69	68	67	66	Yes
R58-41	68	68	71	Yes	66	65	65	64	64	Yes
R58-42	62	62	65	No	62	62	61	61	61	No
R58-42A	58	58	61	No	60	60	60	59	59	No
R58-43	62	65	66	Yes	64	63	63	63	62	No
R58-44	62	65	67	Yes	64	64	64	64	64	No
R58-45	63	62	64	No	61	60	60	59	59	Yes
R58-46	65	64	66	Yes	62	61	61	60	59	Yes
R58-47	61	60	62	No	61	61	60	60	59	No
R58-48	65	64	66	Yes	63	62	61	61	60	Yes
R58-49	69	72	73	Yes	67	65	65	64	63	Yes
R58-50	68	71	71	Yes	68	67	66	65	65	Yes
R58-51	60	63	64	No	62	60	59	58	57	Yes
R58-52	65	68	68	Yes	66	63	62	61	60	Yes
R58-54	69	72	72	Yes	68	67	66	65	64	Yes
R58-55	64	67	67	Yes	65	62	61	60	59	Yes
R58-56	70	72	72	Yes	68	67	66	65	64	Yes
R58-57	70	72	73	Yes	68	67	66	65	65	Yes
R58-58	62	64	65	No	63	61	60	59	58	No
R58-59	69	71	72	Yes	67	66	65	64	64	Yes
R58-60	66	69	70	Yes	66	65	64	63	63	Yes
R58-61	71	71	73	Yes	68	67	66	65	64	Yes
R58-62	71	71	73	Yes	68	67	66	65	65	Yes
R58-63	72	72	73	Yes	69	67	67	66	65	Yes
R58-64	63	66	68	Yes	66	64	63	62	62	Yes
R58-65	67	70	72	Yes	69	67	66	65	65	Yes

Table 3.37 Traffic Noise Impact Analysis – Alternative B State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-66	67	70	72	Yes	69	66	65	65	64	Yes
R58-67	66	68	70	--	--	--	--	--	--	--
R58-68[2]	43	45	46	No	--	--	--	--	--	--
R58-69	62	65	68	Yes	66	66	65	65	65	No
R58-71	61	64	67	Yes	64	64	64	64	64	No
R58-73	68	71	73	Yes	68	67	66	65	64	Yes
R58-74	67	70	73	Yes	70	68	66	64	63	Yes
R58-75	73	76	79	Yes	74	70	69	68	67	Yes
R58-76	69	72	74	Yes	71	68	66	65	64	Yes
R58-77	65	68	68	Yes	66	63	62	61	60	Yes
R58-78	66	69	69	Yes	66	65	63	61	60	Yes
R58-79	63	66	67	Yes	65	64	62	61	60	Yes
R58-80	70	70	70	Yes	68	65	64	63	62	Yes
R58-81	73	73	73	Yes	69	67	66	66	65	Yes
R58-82	64	64	65	No	63	60	59	59	58	Yes
R58-84	72	72	73	Yes	68	67	66	65	65	Yes
R58-85	72	72	73	Yes	68	67	66	65	64	Yes
R58-86	64	64	66	Yes	64	61	60	59	59	Yes
R58-87	71	71	73	Yes	68	66	66	65	64	Yes
R58-88	68	68	70	Yes	65	63	62	61	60	Yes
R58-89	66	66	67	Yes	64	62	61	60	60	Yes
R58-90	67	67	68	Yes	67	64	63	62	61	Yes
R58-91	67	67	68	Yes	66	64	62	61	60	Yes
R58-92	71	71	73	Yes	67	66	65	65	64	Yes
R58-93	70	70	72	Yes	67	66	65	64	63	Yes
R58-94	69	69	70	Yes	68	65	63	62	61	Yes
R58-95	67	67	68	Yes	67	63	62	61	60	Yes
R58-96	72	72	73	Yes	68	67	66	65	64	Yes
R58-97	69	69	69	Yes	66	64	63	62	61	Yes
R58-98	74	74	74	Yes	70	68	67	66	65	Yes
R58-99	67	67	69	Yes	67	65	64	63	63	Yes
R58-100	66	66	67	Yes	65	64	63	62	62	Yes
R58-101	62	66	68	Yes	64	63	62	61	60	Yes
R58-102	70	74	77	Yes	69	67	66	65	64	Yes
R58-103	59	63	65	No	62	61	60	58	57	No
R58-104	62	66	68	Yes	64	63	62	61	60	Yes
R58-105	59	63	64	No	63	62	61	60	58	No
R58-106	75	78	79	Yes	72	70	67	65	64	Yes
R58-107	67	71	73	Yes	70	69	66	64	62	Yes
R58-108	72	75	77	Yes	72	72	67	66	65	Yes
R58-109	72	75	77	Yes	72	71	67	66	65	Yes
R58-110	66	70	72	Yes	70	69	66	64	62	Yes

Table 3.37 Traffic Noise Impact Analysis – Alternative B State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-111	73	76	77	Yes	74	71	69	68	67	Yes
R58-112	72	75	77	Yes	71	69	68	67	66	Yes
R58-113	71	74	75	Yes	72	71	67	65	65	Yes
R58-114	70	73	75	Yes	73	69	67	66	65	Yes
R58-115	71	74	76	Yes	71	69	68	67	66	Yes
R58-116	70	73	75	Yes	73	69	67	66	65	Yes
R58-117	67	70	72	Yes	70	66	64	63	62	Yes
R58-118	70	73	75	Yes	70	68	67	66	65	Yes
R58-119	66	69	71	Yes	69	65	63	62	61	Yes
R58-120	66	69	72	Yes	69	65	63	62	62	Yes
R58-121	67	70	72	Yes	70	66	64	63	62	Yes
R58-122	70	73	74	Yes	70	68	67	66	65	Yes
R58-123	65	68	70	Yes	68	67	63	62	61	Yes
R58-124	66	69	71	Yes	69	68	64	63	62	Yes
R58-125	67	70	71	Yes	67	66	65	65	65	Yes
R58-126	65	68	70	Yes	69	64	63	63	62	Yes
R58-127	66	69	71	Yes	69	66	65	65	65	Yes
R58-128	65	69	70	Yes	67	66	65	64	63	Yes
R58-129	59	63	64	No	64	63	63	63	63	No
R58-131	65	69	70	Yes	65	64	63	62	61	Yes
R58-132	57	61	62	No	59	58	58	56	56	No
R58-133	69	73	75	Yes	68	67	66	65	64	Yes
R58-134	70	74	75	Yes	69	69	67	66	65	Yes
R58-135	58	62	63	No	61	60	59	57	57	No
R58-136	70	72	74	Yes	68	66	65	64	63	Yes
R58-137	58	60	61	No	59	58	57	56	54	No
R58-138	63	65	67	Yes	65	64	61	62	58	Yes
R58-139	70	72	74	Yes	68	66	64	63	61	Yes
R58-140	74	76	78	Yes	72	70	67	65	64	Yes
R58-141	67	69	71	Yes	68	67	63	61	60	Yes
R58-142	66	68	70	Yes	68	67	64	62	61	Yes
R58-143	73	75	77	Yes	71	67	65	64	63	Yes
R58-144	70	72	73	Yes	70	69	65	63	62	Yes
R58-145	67	70	71	Yes	69	68	64	62	61	Yes
R58-146	64	67	69	Yes	67	66	63	61	60	Yes
R58-147	68	71	72	Yes	69	68	64	62	61	Yes
R58-148	70	72	73	Yes	71	67	65	64	63	Yes
R58-149	69	71	73	Yes	71	66	65	64	63	Yes
R58-150	67	69	71	Yes	69	67	63	62	61	Yes
R58-151	65	68	70	Yes	67	67	63	62	61	Yes
R58-152	69	71	72	Yes	68	66	65	64	63	Yes
R58-153	69	71	73	Yes	68	66	65	64	63	Yes

Table 3.37 Traffic Noise Impact Analysis – Alternative B State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-154	69	71	73	Yes	67	66	65	64	63	Yes
R58-155	64	67	70	Yes	67	67	63	62	61	Yes
R58-156	65	68	70	Yes	66	65	62	61	60	Yes
R58-157	68	70	72	Yes	66	65	63	63	62	Yes
R58-158	67	69	70	Yes	69	64	63	62	61	Yes
R58-159	69	71	72	Yes	67	65	64	63	62	Yes
R58-160	65	68	70	Yes	67	66	62	61	60	Yes
R58-161	65	68	70	Yes	66	66	62	61	60	Yes
R58-162	65	68	69	Yes	66	66	62	61	60	Yes
R58-163	62	65	67	Yes	64	63	60	58	58	Yes
R58-164	68	70	72	Yes	67	65	64	63	62	Yes
R58-165	68	70	72	Yes	67	65	64	63	62	Yes
R58-166	63	66	68	Yes	65	63	61	60	59	Yes
R58-167	66	68	70	Yes	67	63	63	62	61	Yes
R58-168	66	68	70	Yes	66	63	63	62	61	Yes
R58-169	66	68	70	Yes	66	64	63	62	61	Yes
R58-170	66	68	70	Yes	66	64	63	62	61	Yes
R58-171	67	69	70	Yes	68	65	64	63	62	Yes
R58-172	67	69	70	Yes	69	66	65	64	64	Yes

dBA: A-weighted decibels.

--: Not evaluated

Notes:

1 – Receivers that are noise measurement sites that are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

2 – Representative of an interior noise level since there were no exterior outdoor use areas.

Source: Developed from the *Noise Study Report* 2013.

Table 3.38 Traffic Noise Impact Analysis – Alternative B State Route 99 South of State Route 58

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R99-1	59	63	63	No	62	62	62	62	62	No
R99-2	67	68	68	Yes	67	67	67	66	66	No
R99-3	58	59	59	No	57	56	56	56	56	No
R99-4	66	67	67	Yes	--	--	67	66	66	No
R99-5	65	66	66	Yes	--	--	66	65	65	No
R99-6	66	67	67	Yes	--	--	66	65	65	No

Table 3.38 Traffic Noise Impact Analysis – Alternative B State Route 99 South of State Route 58

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R99-7	66	67	67	Yes	--	--	66	64	64	No
R99-8	65	66	66	Yes	--	--	65	64	63	No
R99-9	62	63	63	No	--	--	--	--	--	--
R99-10	59	60	60	No	--	--	--	--	--	--
R99-10A	57	58	58	No	--	--	--	-	--	--
R99-11	60	63	67	Yes	62	62	62	62	61	No
R99-12	70	73	74	Yes	70	69	69	69	69	No
R99-13	68	71	74	Yes	69	69	68	68	68	No
R99-14	69	72	73	Yes	--	--	71	70	70	No
R99-15	62	65	69	Yes	--	--	68	68	68	No
R99-16	60	64	64	No	--	--	64	63	63	No
R99-17	64	68	68	Yes	--	--	67	66	65	No
R99-18	65	69	69	Yes	--	--	68	67	66	No
R99-19	65	68	69	Yes	--	--	68	67	67	No
R99-20	56	59	59	No	--	--	59	59	59	No
R99-20A	62	65	65	No	--	--	64	64	63	No
R99-21	58	61	62	No	--	--	--	61	60	No
R99-21A	61	64	67	Yes	--	--	--	65	64	No
R99-21B	65	68	69	Yes	--	--	--	67	67	No
R99-21C	61	64	65	No	--	--	--	64	64	No
R99-22	60	63	64	No	--	--	--	63	63	No
R99-23	62	65	72	Yes	69	68	68	67	67	No
R99-25	64	67	75	Yes	71	70	70	70	69	No
R99-26	61	66	69	Yes	--	--	68	68	68	No
R99-27	60	65	68	Yes	--	--	68	67	67	No
R99-28	61	66	66	Yes	--	--	66	65	65	No
R99-29	56	61	61	No	--	--	61	61	61	No
R99-30	57	62	62	No	62	61	61	61	60	No
R99-31	68	73	73	Yes	66	65	64	63	63	Yes
R99-32	68	73	70	Yes	65	64	63	63	62	Yes
R99-33	70	75	72	Yes	65	63	62	61	60	Yes
R99-34	62	67	62	No	61	60	60	58	57	No
R99-36	64	69	67	Yes	64	63	63	62	60	Yes
R99-37	68	73	72	Yes	66	64	63	62	61	Yes
R99-40	59	63	72	Yes	68	67	67	67	66	No
R99-41	58	62	73	Yes	68	67	66	66	65	No
R99-43C	58	62	75	Yes	68	67	66	65	65	No
R99-43A	57	61	70	Yes	65	65	64	64	63	No

dBA: A-weighted decibels.
–: .Not evaluated
[1] - Receivers that are noise measurement sites that are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.
Source: Developed from the *Noise Study Report* 2013.

Alternative C

Tables 3.39 through 3.41 show the results of traffic noise analysis for the project in 2038 with implementation of Alternative C. The analysis concluded that 401 outdoor use areas would be impacted by traffic noise levels. Figures 3-43 to 3-46, provided in Volume 2, show receiver locations.

Table 3.39 Traffic Noise Impact Analysis – Alternative C
State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative C (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-4	67	70	74	Yes	73	71	70	68	67	Yes
R58-5	60	63	70	Yes	69	68	68	67	67	No
R58-6	58	61	68	Yes	63	63	62	61	60	Yes
R58-7	67	70	76	Yes	69	67	66	65	64	Yes
R58-7A	61	64	70	Yes	66	65	64	63	62	Yes
R58-8	68	71	76	Yes	69	68	66	65	64	Yes
R58-9	65	70	74	Yes	67	65	64	62	61	Yes
R58-10	65	70	74	Yes	66	65	64	63	62	Yes
R58-11	67	70	70	Yes	68	65	64	63	63	Yes
R58-12	65	68	68	Yes	66	66	61	60	59	Yes
R58-13	65	66	66	Yes	65	64	62	61	59	Yes
R58-15	69	70	68	Yes	67	65	62	61	60	Yes
R58-16	71	72	70	Yes	67	65	63	62	61	Yes
R58-17	66	67	66	Yes	65	64	63	61	59	Yes
R58-18	67	70	69	Yes	65	64	63	63	62	Yes
R58-19	57	60	59	No	59	59	58	58	58	No
R58-20	62	65	63	No	62	62	61	61	61	No
R58-20A	65	68	65	No	64	64	63	63	63	No
R58-21	66	69	72	Yes	66	65	65	64	64	Yes
R58-22	59	62	64	No	63	62	62	61	61	No
R58-23	52	55	57	No	56	56	55	55	55	No
R58-24	56	59	61	No	60	60	59	59	58	No
R58-24A	65	68	71	Yes	67	66	65	65	64	Yes
R58-25	57	60	63	No	61	61	60	60	60	No
R58-26	57	60	62	No	61	60	60	60	59	No
R58-27	57	60	63	No	61	60	60	59	59	No
R58-28	66	69	72	Yes	66	65	64	63	63	No
R58-29	59	62	65	No	61	61	60	60	59	No
R58-30	58	61	62	No	58	57	56	56	56	No
R58-32	59	62	63	No	59	58	57	57	57	No
R58-33	71	74	76	Yes	67	66	65	64	64	Yes
R58-34	66	70	73	Yes	67	67	66	65	65	Yes
R58-35	66	70	73	Yes	68	67	66	65	65	Yes
R58-36	68	72	76	Yes	68	66	65	64	63	Yes
R58-37	58	58	59	No	56	55	55	54	54	No

Table 3.39 Traffic Noise Impact Analysis – Alternative C State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative C (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-37A	71	71	74	Yes	67	66	65	65	64	Yes
R58-37B	69	69	71	Yes	65	65	64	63	63	Yes
R58-38	57	57	58	No	56	55	55	55	55	No
R58-39	63	63	65	No	60	59	59	60	61	Yes
R58-40	72	72	74	Yes	70	69	67	66	65	Yes
R58-41	68	68	70	Yes	65	65	64	63	63	Yes
R58-42	62	62	64	No	62	61	60	60	59	No
R58-42A	58	58	60	No	59	59	59	59	58	No
R58-43	62	65	66	Yes	64	63	63	63	63	No
R58-44	62	65	67	Yes	65	64	64	64	64	No
R58-45	63	62	64	No	61	60	60	59	59	Yes
R58-46	65	64	66	Yes	62	61	61	60	59	Yes
R58-47	61	60	62	No	61	60	60	60	59	No
R58-48	65	64	66	Yes	63	62	61	60	60	Yes
R58-49	69	72	74	Yes	68	66	65	64	63	Yes
R58-50	68	71	73	Yes	68	66	65	64	63	Yes
R58-51	60	63	65	No	62	60	58	57	56	Yes
R58-52	65	68	70	Yes	66	63	62	61	60	Yes
R58-54	69	72	74	Yes	69	67	66	65	64	Yes
R58-55	64	67	68	Yes	65	62	61	59	59	Yes
R58-56	70	72	73	Yes	71	67	66	65	64	Yes
R58-57	70	72	73	Yes	69	67	66	65	64	Yes
R58-58	62	64	66	Yes	63	62	61	59	58	Yes
R58-59	69	71	72	Yes	69	66	65	64	63	Yes
R58-60	66	69	70	Yes	68	64	63	62	62	Yes
R58-61	71	71	73	Yes	68	67	66	65	64	Yes
R58-62	71	71	73	Yes	71	67	66	65	64	Yes
R58-63	72	72	74	Yes	72	67	66	65	64	Yes
R58-64	63	66	68	Yes	66	63	63	61	60	Yes
R58-65	67	70	72	Yes	69	68	66	63	62	Yes
R58-66	67	70	72	Yes	68	68	65	62	61	Yes
R58-67	66	68	70	--	--	--	--	--	--	--
R58-68[2]	43	45	47	No	--	--	--	--	--	--
R58-69	62	65	67	Yes	65	65	65	64	64	No
R58-71	61	64	66	Yes	64	64	64	64	64	No
R58-73	68	71	73	Yes	69	68	66	65	64	Yes
R58-74	67	70	72	Yes	70	69	66	64	63	Yes
R58-75	73	76	78	Yes	73	70	68	67	66	Yes
R58-76	69	72	74	Yes	70	69	66	64	63	Yes
R58-77	65	68	70	Yes	66	64	62	61	60	Yes
R58-78	66	69	69	Yes	67	65	63	63	60	Yes
R58-79	63	66	67	Yes	65	64	63	61	59	Yes

Table 3.39 Traffic Noise Impact Analysis – Alternative C State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative C (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-80	70	70	70	Yes	68	65	64	62	62	Yes
R58-81	73	73	73	Yes	69	67	66	65	65	Yes
R58-82	64	64	64	No	62	60	59	58	57	No
R58-84	72	72	73	Yes	68	67	66	65	64	Yes
R58-85	72	72	73	Yes	68	66	66	65	64	Yes
R58-86	64	64	65	No	63	61	60	59	58	No
R58-87	71	71	73	Yes	68	66	65	65	64	Yes
R58-88	68	68	69	Yes	64	63	62	61	60	Yes
R58-89	66	66	67	Yes	64	62	61	60	59	Yes
R58-90	67	67	68	Yes	67	63	62	61	60	Yes
R58-91	67	67	68	Yes	66	64	62	61	60	Yes
R58-92	71	71	73	Yes	68	66	65	64	64	Yes
R58-93	70	70	72	Yes	67	65	64	63	62	Yes
R58-94	69	69	69	Yes	68	65	63	62	61	Yes
R58-95	67	67	68	Yes	66	63	62	61	60	Yes
R58-96	72	72	73	Yes	68	67	66	65	64	Yes
R58-97	69	69	69	Yes	65	64	62	61	61	Yes
R58-98	74	74	75	Yes	70	68	67	66	65	Yes
R58-99	67	67	69	Yes	67	65	64	63	62	Yes
R58-100	66	66	68	Yes	65	64	63	62	62	Yes
R58-101	62	66	68	Yes	64	63	62	61	60	Yes
R58-102	70	74	77	Yes	69	67	66	65	64	Yes
R58-103	59	63	65	No	62	61	60	58	57	No
R58-104	62	66	68	Yes	64	63	62	61	60	Yes
R58-105	59	63	64	No	63	62	61	59	58	No
R58-106	75	78	79	Yes	72	70	67	65	64	Yes
R58-107	67	71	73	Yes	70	69	66	64	62	Yes
R58-108	72	75	77	Yes	72	72	67	66	65	Yes
R58-109	72	75	77	Yes	72	71	67	66	65	Yes
R58-110	66	70	72	Yes	70	69	66	64	62	Yes
R58-111	73	76	77	Yes	74	71	69	68	67	Yes
R58-112	72	75	77	Yes	71	69	68	67	66	Yes
R58-113	71	74	75	Yes	72	71	67	65	65	Yes
R58-114	70	73	75	Yes	73	69	67	66	65	Yes
R58-115	71	74	76	Yes	71	69	68	67	66	Yes
R58-116	70	73	75	Yes	73	69	67	66	65	Yes
R58-117	67	70	72	Yes	70	66	64	63	62	Yes
R58-118	70	73	75	Yes	70	68	67	66	65	Yes
R58-119	66	69	71	Yes	69	65	63	62	61	Yes
R58-120	66	69	72	Yes	69	65	63	62	62	Yes
R58-121	67	70	72	Yes	70	66	64	63	62	Yes
R58-122	70	73	74	Yes	70	68	67	66	65	Yes

Table 3.39 Traffic Noise Impact Analysis – Alternative C State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative C (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-123	65	68	70	Yes	68	67	63	62	61	Yes
R58-124	66	69	71	Yes	69	68	64	63	62	Yes
R58-125	67	70	71	Yes	67	66	65	65	64	Yes
R58-126	65	68	70	Yes	69	64	63	62	62	Yes
R58-127	66	69	71	Yes	69	66	65	65	65	Yes
R58-128	65	69	70	Yes	67	66	65	64	63	Yes
R58-129	59	63	64	No	64	63	63	63	63	No
R58-131	65	69	70	Yes	65	64	63	62	61	Yes
R58-132	57	61	62	No	59	58	58	56	56	No
R58-133	69	73	75	Yes	68	67	66	65	64	Yes
R58-134	70	74	75	Yes	69	69	67	66	65	Yes
R58-135	58	62	63	No	61	60	59	57	57	No
R58-136	70	72	74	Yes	68	66	65	64	63	Yes
R58-137	58	60	61	No	59	58	57	56	54	No
R58-138	63	65	67	Yes	65	64	61	62	58	Yes
R58-139	70	72	74	Yes	68	66	64	63	61	Yes
R58-140	74	76	78	Yes	72	70	67	65	64	Yes
R58-141	67	69	71	Yes	68	67	63	61	60	Yes
R58-142	66	68	70	Yes	68	67	64	62	61	Yes
R58-143	73	75	77	Yes	71	67	65	64	63	Yes
R58-144	70	72	73	Yes	70	69	65	63	62	Yes
R58-145	67	70	71	Yes	69	68	64	62	61	Yes
R58-146	64	67	69	Yes	67	66	63	61	60	Yes
R58-147	68	71	72	Yes	69	68	64	62	61	Yes
R58-148	70	72	73	Yes	71	67	65	64	63	Yes
R58-149	69	71	73	Yes	71	66	65	64	63	Yes
R58-150	67	69	71	Yes	69	67	63	62	61	Yes
R58-151	65	68	70	Yes	67	67	63	62	61	Yes
R58-152	69	71	72	Yes	68	66	65	64	63	Yes
R58-153	69	71	73	Yes	68	66	65	64	63	Yes
R58-154	69	71	73	Yes	67	66	65	64	63	Yes
R58-155	64	67	70	Yes	67	67	63	62	61	Yes
R58-156	65	68	70	Yes	66	65	62	61	60	Yes
R58-157	68	70	72	Yes	66	65	63	63	62	Yes
R58-158	67	69	70	Yes	69	64	63	62	61	Yes
R58-159	69	71	72	Yes	67	65	64	63	62	Yes
R58-160	65	68	70	Yes	67	66	62	61	60	Yes
R58-161	65	68	70	Yes	66	66	62	61	60	Yes
R58-162	65	68	69	Yes	66	66	62	61	60	Yes
R58-163	62	65	67	Yes	64	63	60	58	58	Yes
R58-164	68	70	72	Yes	67	65	64	63	62	Yes
R58-165	68	70	72	Yes	67	65	64	63	62	Yes

Table 3.39 Traffic Noise Impact Analysis – Alternative C State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative C (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-166	63	66	68	Yes	65	63	61	60	59	Yes
R58-167	66	68	70	Yes	67	63	63	62	61	Yes
R58-168	66	68	70	Yes	66	63	63	62	61	Yes
R58-169	66	68	70	Yes	66	64	63	62	61	Yes
R58-170	66	68	70	Yes	66	64	63	62	61	Yes
R58-171	67	69	70	Yes	68	65	64	63	62	Yes
R58-172	67	69	70	Yes	69	66	65	64	64	Yes

dBA: A-weighted decibels.
--: Not evaluated

Notes:
1 – Receivers that are noise measurement sites that are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.
2 – Representative of an interior noise level since there were no exterior outdoor use areas.

Source: Developed from the *Noise Study Report* 2013.

Table 3.40 Traffic Noise Impact Analysis – Alternative C State Route 99 South of State Route 58

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative C (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R99-1	59	63	63	No	62	62	62	62	62	No
R99-2	67	68	67	Yes	67	67	67	66	66	No
R99-3	58	59	59	No	56	56	56	55	55	No
R99-4	66	67	67	Yes	--	--	67	66	66	No
R99-5	65	66	66	Yes	--	--	66	65	64	No
R99-6	66	67	66	Yes	--	--	66	65	64	No
R99-7	66	67	67	Yes	--	--	65	64	63	No
R99-8	65	66	66	Yes	--	--	65	63	63	No
R99-9	62	63	63	No	--	--	--	--	--	--
R99-10	59	60	60	No	--	--	--	--	--	--
R99-10A	57	58	58	No	--	--	--	--	--	--
R99-11	60	63	64	No	62	62	61	61	61	No
R99-12	70	73	73	Yes	69	69	69	69	69	No
R99-13	68	71	72	Yes	69	68	68	68	68	No
R99-14	69	72	72	Yes	--	--	70	70	70	No
R99-15	62	65	66	Yes	--	--	66	66	66	No
R99-16	60	64	64	No	--	--	63	63	62	No
R99-17	64	68	68	Yes	--	--	67	66	65	No

Table 3.40 Traffic Noise Impact Analysis – Alternative C State Route 99 South of State Route 58

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative C (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R99-18	65	69	69	Yes	--	--	68	67	66	No
R99-19	65	68	68	Yes	--	--	67	67	66	No
R99-20	56	59	59	No	--	--	58	58	58	No
R99-20A	62	65	65	No	--	--	64	63	62	No
R99-21	58	61	61	No	--	--	--	59	59	No
R99-21A	61	64	67	Yes	--	--	--	64	64	No
R99-21B	65	68	68	Yes	--	--	--	67	66	No
R99-21C	61	64	64	No	--	--	--	63	63	No
R99-22	60	63	64	No	--	--	--	62	62	No
R99-23	62	65	73	Yes	68	68	67	67	67	No
R99-25A	64	67	72	Yes	68	68	67	67	66	No
R99-26	61	66	69	Yes	--	--	67	67	67	No
R99-27	60	65	69	Yes	--	--	67	67	67	No
R99-28	61	66	69	Yes	--	--	67	67	67	No
R99-29	56	61	61	No	--	--	61	61	61	No
R99-30	57	62	65	No	64	64	63	63	62	No
R99-31	68	73	73	Yes	67	66	65	64	64	Yes
R99-32	68	73	73	Yes	66	66	65	64	63	Yes
R99-33	70	75	75	Yes	67	65	63	62	61	Yes
R99-34	62	67	68	Yes	63	63	62	62	61	Yes
R99-36	64	69	68	Yes	64	63	63	61	60	Yes
R99-37	68	73	73	Yes	67	65	64	63	62	Yes
R99-40A	59	63	67	Yes	65	64	64	64	64	No
R99-41A	58	62	68	Yes	65	64	64	63	63	No
R99-43B	60	64	77	Yes	69	68	67	66	65	No
R99-43A	57	61	67	Yes	64	63	62	62	61	No
R99-69	61	65	74	Yes	67	66	65	64	64	Yes
R99-70	59	63	66	Yes	63	63	62	62	61	Yes
R99-71	60	64	71	Yes	66	65	65	64	64	Yes

dBA: A-weighted decibels.
–: Not evaluated.

[1] - Receivers that are noise measurement sites that are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: Developed from the *Noise Study Report* 2013.

Table 3.41 Traffic Noise Impact Analysis – Alternative C State Route 99 North of State Route 58

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative C (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R99-44	60	64	69	Yes	67	65	64	61	61	Yes
R99-45	60	64	69	Yes	66	64	64	62	61	Yes
R99-46	62	64	70	Yes	68	66	64	62	61	Yes
R99-47	61	63	71	Yes	68	65	64	63	62	Yes
R99-48	59	61	69	Yes	67	65	63	62	61	Yes
R99-49	60	62	72	Yes	68	65	64	63	63	Yes
R99-50	60	62	71	Yes	68	66	64	63	62	Yes
R99-51	59	61	69	Yes	67	65	64	61	60	Yes
R99-53	60	59	69	Yes	66	64	63	62	61	Yes
R99-54	60	59	68	Yes	64	63	63	62	61	Yes
R99-55	61	60	69	Yes	67	65	63	62	62	Yes
R99-56	60	59	69	Yes	67	66	65	65	64	Yes
R99-57	57	61	68	Yes	66	65	64	64	63	Yes
R99-58	56	60	66	Yes	--	--	--	--	64	No
R99-59	57	61	65	No	--	--	--	--	65	No
R99-60	59	63	63	No	--	--	--	--	--	--
R99-61	67	70	70	No	--	--	--	--	--	--
R99-62	64	67	71	Yes	71	71	71	71	70	No
R99-63	57	60	66	Yes	66	66	66	66	66	No
R99-64	59	62	68	Yes	68	68	68	68	68	No
R99-65	61	64	67	Yes	66	66	66	66	66	No
R99-66	62	65	70	Yes	70	69	69	69	69	No
R99-67	57	60	64	No	64	64	64	64	64	No
R99-68	60	63	68	Yes	68	68	68	68	68	No
R99-72	63	70	66	No	--	--	--	--	--	--
R99-73	68	74	74	Yes	68	68	66	65	65	No
R99-74	70	76	75	Yes	68	68	67	66	66	No
R99-75	69	75	75	Yes	69	68	68	68	67	No

dBA: A-weighted decibels.
--: Not evaluated

[1] - Receivers that are noise measurement sites that are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: Developed from the *Noise Study Report* 2013.

Westside Parkway (Segment 2)

A detailed noise study was done for Segment 2 of the Centennial Corridor project (Westside Parkway) in 2009, and a Noise Study Report was prepared in 2010. At the time of the traffic noise study analysis for Segment 1 of the Centennial Corridor Project, Segment 2 was under construction.

Traffic noise impact analysis for Westside Parkway used level-of-service C traffic volumes for each lane to predict the worst-case traffic noise impacts. In anticipation of the Centennial Corridor project, truck percentages from the Centennial Corridor project were used for the traffic noise impact analysis for Westside Parkway. There is the possibility that traffic noise would be slightly higher at some areas along the Westside Parkway due to the proposed Centennial Corridor alignment where an auxiliary lane would be added. Therefore, recommended heights of some of the soundwalls were raised by approximately 2 feet to provide additional traffic noise abatement for these areas. However, at locations where soundwalls were already 16 feet high, they were kept at that height. Soundwalls S335 and S314 were also extended 330 and 1,357 feet respectively to cover additional residences that were not impacted by traffic noise levels under the Westside Parkway project due to existing property walls.

The Westside Parkway traffic noise analysis used three general lanes in the westbound direction from Coffee Road to Calloway Drive. As part of the Centennial Corridor project, an auxiliary lane would be added to the westbound travel lanes of Westside Parkway from Coffee Road to Calloway Drive. Because soundwalls in this area were built at least 2 feet higher than what was needed to provide feasible abatement for the three general lanes, they would also be effective in providing abatement when an auxiliary lane is added as part of the Centennial Corridor project. Figure 3-47 in Volume 2 shows the area between Coffee Road to Calloway Drive where a new auxiliary lane would be added and shows where soundwalls are being built as part of the Westside Parkway project.

No-Build Alternative

Traffic noise impacts would occur along the various roadways even without project implementation, as shown in Tables 3.33 to 3.41 (“Predicted Noise Level with the No-Build Alternative” column) because traffic noise levels would approach or exceed Noise Abatement Criteria. However, no noise abatement would be considered without the project.

Avoidance, Minimization, and/or Noise Abatement Measures

Noise abatement is considered for locations where traffic noise levels would approach or exceed the noise abatement criterion or there is a noise level increase of 12 dB. A barrier must meet both the feasible and reasonable criteria to be built. Feasibility of noise abatement is an engineering concern. A minimum 5-decibel reduction in the future noise level must be achieved for an abatement measure to be considered feasible. The preliminary reasonableness determination is made first by achieving the noise reduction design goal. The design goal is that a barrier must be predicted to provide at least 7 dB of noise reduction at one or more benefited receptors for the barrier to be considered reasonable. Second, for a barrier to be considered reasonable, construction cost must be within the established allowance per benefited receptor. Finally, the viewpoints of benefitted receptors (including property owners and residents of the benefitted receptors) must be taken into account for a barrier to be considered reasonable.

There are six existing soundwalls along State Route 99 that are within the project limits. For areas where space is needed for the expansion of traffic lanes, in-kind replacement of some of the existing soundwalls would be required. In-kind replacement occurs when an existing soundwall must be removed, relocated, and replaced in-kind along the project alignment where space is needed for the proposed project's additional lanes and/or required safety features; such replacement (construction) is done regardless of cost. Existing soundwalls could be replaced only by higher soundwalls if an additional 5-decibel noise reduction can be achieved. In most cases, increasing the height of a 10- or 12-foot-high soundwall to the maximum height of 16 feet would not provide an additional 5-decibel noise reduction. This is the main reason the heights of some existing soundwalls were not increased but were replaced in-kind at a new location at the original height.

Based on the noise abatement study, 23 soundwalls identified under Alternative A would provide feasible abatement for 496 frequent outdoor use areas. Under Alternative B, 28 soundwalls would provide feasible abatement for 445 frequent outdoor use areas. Under Alternative C, 22 soundwalls would provide feasible abatement for 330 frequent outdoor use areas.

The following noise abatement would apply to the project:

N-1 Based on the studies completed, Caltrans intends to incorporate noise abatement in the form of soundwalls that meet the criteria for reasonableness and feasibility. The recommended soundwalls would reduce the traffic noise levels by at least 5 dB at the impacted receivers, would meet the design goal by providing a 7-decibel reduction for at least one receiver, and would cost less than the reasonableness cost allowance. If during final design, conditions have substantially changed, noise abatement may not be necessary. The final decision of the noise abatement will be made upon completion of the project design and the public involvement processes.

Prior to the formal selection of the Preferred Alternative and approval of the project, all property owners of the benefitted receptors located adjacent to each of the proposed soundwalls will be given an opportunity to vote if they want the soundwall to be constructed to abate the traffic noise in their area or not. For soundwalls located within state right-of-way, if more than 50 percent of the votes from responding benefitted receptors oppose the abatement, the abatement will not be considered reasonable and will not be built. If the soundwall is to be located on private property (or properties), 100 percent of the property owners must vote in favor of the soundwall for it to be constructed. However, at this time, none of the recommended soundwalls are on private property.

The *Noise Abatement Decision Report* (May 2013) determines the reasonableness of the feasible soundwalls presented in the *Noise Study Report*. When cost allows during the reasonableness determination, the minimum heights shown in the *Noise Study*

Report may be raised. Raising the heights of soundwalls may increase the number of benefited receivers. All benefited areas, even non-impacted areas, with feasible abatement contribute to the calculation of the reasonableness allowance of a feasible soundwall. Soundwalls that are reasonable are recommended for the project.

Based on the studies completed to date, Caltrans intends to incorporate noise abatement in the form of soundwalls ranging in height from 8 to 16 feet at 23 locations for Alternative A, 28 locations for Alternative B, and 22 locations for Alternative C. Soundwalls would have a total length of 37,997 feet, 38,014 feet, and 30,696 feet for Alternatives A, B, and C, respectively. Calculations based on preliminary design data indicate that the proposed soundwalls would reduce noise levels by at least 5 decibel and would meet design goal of 7 decibel reduction at least at one receiver per soundwall. The estimated cost of soundwalls for Alternative A is $11,850,500, Alternative B is $13,123,500, and Alternative C is $9,181,500. If conditions have substantially changed during final design, noise abatement may not be necessary. The final decision of the noise abatement will be made upon completion of the project design and the public involvement processes.

Soundwalls Unique to Each Build Alternative

Alternative A

Centennial Corridor West of State Route 99

Soundwall S469 (Alternative A–Area 1). Soundwall S469 is on the shoulder of westbound Centennial Corridor and would provide feasible traffic noise abatement for eight multi-family residences and one recreational area in the Creek Side Apartments complex in Alternative A-Area 1 (see Figure 3-35 in Volume 2; Receivers RA-1 through RA-4). Measurements taken in this area indicate that the existing noise levels are between 60 and 73 dBA. The future noise levels at these receivers without the project are predicted to be the same as the existing noise levels. The future traffic noise levels at these receivers with the project are predicted to be between 67 and 75 dBA. Since the predicted future noise levels exceed 67 dBA, the noise abatement criterion for residential uses, the multi-family residences represented by these receivers would be impacted by traffic noise levels. A 12-foot-high soundwall would provide a 5-decibel reduction in traffic noise levels; however, the design goal of a 7-decibel reduction in traffic noise levels would not be achieved by this soundwall. Since Soundwall S469 does not meet the design goal at any of the receivers, this soundwall is determined not reasonable and therefore not recommended.

Soundwall S474 (Alternative A–Area 2). Soundwall S474 is on the shoulder along eastbound Centennial Corridor and would provide feasible traffic noise abatement for nine single-family residences, 62 multi-family residences, and one recreational area between Truxtun and Lennox Avenues (see Figure 3-35 in Volume 2; Receivers RA-6 through RA-27) in Alternative A-Area 2. The existing noise levels in this area range from 50 to 52 dBA. The future noise levels at these locations without the project are predicted to be the same as the existing noise levels. The future traffic noise level at these locations with the project is predicted to range from 61 to 74 dBA.

The predicted future traffic noise levels for all receivers except for Receivers RA-9, RA-10, and RA-26 substantially exceed existing worst-hour noise levels with an increase of at least 12 dB; therefore, these receivers would be impacted by traffic noise levels. A 14-foot-high soundwall would be needed to achieve feasible and reasonable traffic noise abatement at Receivers RA-6 through RA-8 and RA-11 through RA-25. The total cost allowance for this soundwall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $3,960,000. The current estimated cost of the soundwall is $726,000. Therefore, this soundwall is recommended.

Soundwall S499 (Alternative A–Area 3). Soundwall S499 is on the shoulder along eastbound Centennial Corridor and would provide feasible traffic noise abatement for three single-family residences and 51 multi-family residences between California Avenue and Stockdale Highway (see Figure 3-35 in Volume 2; Receivers RA-28 through RA-39) in Alternative A-Area 3. The existing noise levels in this area range from 52 to 54 dBA. The future noise levels at these locations without the project are predicted to be the same as the existing noise levels. The future traffic noise level at these locations with the project is predicted to range from 62 to 72 dBA. The predicted future traffic noise levels for all receivers except for Receivers RA-33 through RA-35 substantially exceed existing worst-hour noise levels (increase of 12 dB or more); therefore, these receivers would be impacted by traffic noise levels. A 14-foot-high soundwall would be needed to achieve feasible and reasonable traffic noise abatement at Receivers RA-28 through RA32 and RA-36 through RA-39. The total cost allowance for this soundwall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $2,970,000. The current estimated cost of the soundwall is $400,000; therefore, this soundwall is recommended.

Soundwall S526 (Alternative A–Area 5). Soundwall S526 is on the shoulder along eastbound Centennial Corridor, the right-of-way line along the connector to southbound State Route 99, and between the existing infiltration basin and the residences it protects (see Figure 3-35 in Volume 2). Soundwall S526 would provide feasible traffic noise abatement for 43 single-family residences and three multi-family residences between Stockdale Highway and State Route 99 (Receivers RA-50 through RA-77) in Alternative A-Area 5. The existing noise levels in this area range from 52 to 56 dBA. The future noise levels at these locations without the project are predicted to be the same as the existing noise levels. The future traffic noise level at these locations with the project is predicted to range from 62 to 72 dBA. The predicted future traffic noise levels for all receivers except for Receivers RA-53, RA-55, and RA-56 either approach 67 dBA, the noise abatement criterion for residential uses, or substantially exceed the existing noise levels (increase of 12 dB or more). Therefore, these receivers would be impacted by traffic noise levels. A soundwall varying in height from 10 to 16 feet would be needed to achieve feasible and reasonable traffic noise abatement at the impacted receivers. The total cost allowance for this soundwall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $2,530,000. The current estimated cost of the soundwall is $1,752,000. Therefore, this soundwall is recommended.

Soundwall S531 (Alternative A–Area 4). Soundwall S531 is on the shoulder along westbound Centennial Corridor and would provide feasible traffic noise abatement for 11 single-family residences between Montclair Street and Stine Road in Alternative A-Area 4 (see Figure 3-35 in Volume 2; Receivers RA-41 through RA-49). The existing noise levels in this area range from 59 to 63 dBA. The future noise levels at these locations without the project are predicted to be the same as the existing noise levels. The future traffic noise level at these locations with the project is predicted to range from 69 to 71 dBA. Since the predicted future traffic noise levels for all receivers exceed 67 dBA, the noise abatement criterion for residential uses, these receivers would be impacted by traffic noise levels. A 12-foot-high soundwall would be needed to achieve feasible and reasonable traffic noise abatement at Receivers RA-41 through RA-47 and RA-49. The total cost allowance for this soundwall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $605,000. The current estimated cost of the soundwall is $497,000. Therefore, this soundwall is recommended.

State Route 99 South of State Route 58

Soundwall S656 (State Route 99–Area 3). Soundwall S656 is on the right-of-way line west of Wible Road and would provide feasible traffic noise abatement for two single-family residences and one motel between Belle Terrace and Ming Avenue in State Route 99-Area 3 (see Figure 3-36 in Volume 2; Receivers R99-11 through R99-13). Measurements taken in this area indicate that the existing traffic noise level at this location is between 60 and 70 dBA. The future traffic noise levels at these receivers without the project are predicted to be between 63 and 73 dBA. The future traffic noise levels at these receivers with the project are predicted to be between 67 and 74 dBA. Since the predicted future traffic noise level exceeds 67 dBA, the noise abatement criterion for residential uses and 72 dBA, the noise abatement criterion for motels, the single-family residences and motel represented by these receivers would be impacted by traffic noise levels. A 10-foot-high soundwall would provide a 5-decibel reduction in traffic noise levels; however, the design goal of a 7-decibel reduction in traffic noise levels would not be achieved by this soundwall. Since Soundwall S656 does not meet the design goal at any of the receivers, the soundwall is determined not reasonable. Therefore, it is not recommended.

Receivers R99-17 through R99-19. Traffic noise impacts would occur at outdoor use areas associated with five single-family residences along southbound State Route 99 north of Ming Avenue represented by Receivers R99-17 through R99-19 (State Route 99-Area 4; see Figure 3-36 in Volume 2). The portion of existing Soundwall SW2 in front of these residences would remain under Alternative A. The soundwall analysis from the *Noise Study Report* demonstrates that raising the height of the existing soundwall in this area would not provide an additional 5 dB or more of noise reduction at any of the impacted receivers, so a heightened soundwall would not provide feasible traffic noise abatement. Feasible traffic noise abatement cannot be attained because the existing soundwall already provides much of the noise reduction potential of a soundwall.

State Route 58 East of State Route 99

Soundwall S88 (State Route 58–Area 2). Soundwall S88 is on the edge of the shoulder along the State Route 99/State Route 58 northbound to eastbound connector and would provide feasible traffic noise abatement for 12 single-family residences near Stephens Drive in State Route 58-Area 2 (see Figures 3-36 and 3-37 in Volume 2; Receivers R58-11 through R58-17). The existing traffic noise levels in this area range from 65 to 71 dBA. The future traffic noise level at these locations without the project is predicted to range from 67 to 72 dBA. The future traffic noise level at these locations with the project is predicted to range from 67 to 73 dBA. Since the predicted future traffic noise levels at all receivers meet or exceed 67 dBA, the noise abatement criterion for residential uses, these receivers would be impacted by traffic noise levels. A 12-foot-high soundwall would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-11 through R58-17. The total cost allowance for this soundwall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $660,000. The current estimated cost of the soundwall is $435,000. Therefore, this soundwall is recommended.

Soundwall S106 (State Route 58–Area 2). Soundwall S106 is on the existing right-of-way along eastbound State Route 58 and would provide feasible traffic noise abatement for eight single-family residences and a recreational area near Hughes Lane in State Route 58-Area 2 (see Figure 3-37 in Volume 2; Receivers R58-18 through R58-24A). The existing traffic noise levels in this area range from 52 to 67 dBA. The future traffic noise level at these locations without the project is predicted to range from 55 to 70 dBA. The future traffic noise level at these locations with the project is predicted to range from 57 to 75 dBA, approaching or exceeding 67 dBA, the noise abatement criterion for residential uses. So, the receivers would be impacted by traffic noise levels. A soundwall varying in height from 8 to 12 feet would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-18 through R58-24A. The total cost allowance for this soundwall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $495,000. The current estimated cost of the soundwall is $471,000. Therefore, this soundwall is recommended.

Alternative B

Centennial Corridor West of State Route 99

Soundwalls S509 and S519 (Alternative B–Area 2). Soundwalls S509 and S519, working as a system, would be placed on the shoulder and right-of-way line, respectively, along the eastbound Centennial Corridor. Soundwalls in Alternative B-Area 2 would provide feasible traffic noise abatement for 14 single-family residences, 15 multi-family residences, and Stockdale Christian School between California Avenue and Marella Way (see Figure 3-39 in Volume 2; Receivers RB-36 through RB-44). The existing noise level in this area is 52 dBA. Future traffic noise levels at these locations, with the project, are predicted to range from 61 to 76 dBA. The predicted future traffic noise levels, with an increase of at least 12 dB for all receivers except Receivers RB-38 and RB-43, substantially exceed the existing worst-hour noise levels. So, these receivers would be impacted by traffic noise levels. A

14-foot-high soundwall would be needed to achieve feasible and reasonable traffic noise abatement for the effected receivers. The total cost allowance for this soundwall system, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $1,650,000. The current estimated cost of this soundwall system is $643,000. Therefore, this soundwall system is recommended.

Soundwall S518 (Alternative B–Area 1). Soundwall S518 is in the shoulder and right-of-way line on the westbound Centennial Corridor, and would provide feasible traffic noise abatement for 19 single-family residences between California Avenue and Marella Way in Alternative B-Area 1 (see Figure 3-39 in Volume 2; Receivers RB-5 through RB-18). Existing noise levels in this area range from 53 to 58 dBA. Future traffic noise levels at these locations, without the project, are predicted to range from 53 to 58 dBA. Future traffic noise levels at these locations, with the project, are predicted to range from 60 to 75 dBA. Predicted future traffic noise levels, with an increase of at least 12 dB, substantially exceed the existing worst-hour noise levels. A soundwall varying in height from 14 to 16 feet would be needed to achieve feasible and reasonable traffic noise abatement for the impacted receivers, except for two single-family residences represented by Receiver RB-16. The existing noise level at Receiver RB-16 is 53 dBA and would be 68 dBA with Soundwall S518. Failure to achieve 5 dBA in noise reduction at Receiver RB-16 is attributed to the absence of abatement at the Marella Way overcrossing, exposing the receiver to Centennial Corridor traffic. Total cost allowance for this soundwall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $1,045,000. The current estimated cost of the soundwall is $667,000. Therefore; this soundwall is recommended.

Soundwall S529 (Alternative B–Area 4). Soundwall S529 is on right-of-way line of the eastbound Centennial Corridor between Marella Way to La Mirada Drive in Alternative B-Area 4 and would provide feasible traffic noise abatement for three single-family residences and Centennial Park (see Figure 3-39 in Volume 2; Receivers RB-45 through RB-51). Measurements taken indicate that the existing noise level ranges from 51 to 53 dBA. Future traffic noise levels at these locations, without the project, are predicted to range from 51 to 53 dBA. Future traffic noise levels at these locations, with the project, are predicted to range from 61 to 69 dBA. Receivers for which the predicted future traffic noise level approaches or exceeds 67 dBA, the noise abatement criterion for residential and recreational uses, would be impacted by traffic noise levels. Receivers RB-45, RB-47, RB-48, and RB-51 are below the noise abatement criterion. To achieve a 5-decibel reduction at Receivers RB-46, RB-49, and RB-50, a soundwall varying in height from 8 to 12 feet would be needed. A 5-decibel reduction could not be achieved for RB-46.

Compared to the existing noise levels, with the proposed project, Centennial Park (represented by Receivers RB-45 to RB-47) would experience noise increases of 8 to 14 dB under Alternative B by 2038. The existing noise level at the park is 53 dBA (equal to a quiet urban daytime setting) and future predicted traffic noise levels would range from 61 to 67 dBA (similar to heavy traffic 300 feet away). Soundwall S529, with a height combination of 8 to 12 feet, was considered on the south side of the

proposed Centennial freeway between Marella Way and La Mirada Drive to provide traffic noise abatement for the park and several residences. This soundwall would provide a feasible 5-decibel noise reduction for three houses, but, due to the gap in the Marella Way soundwall, only a 1-decibel noise reduction at Centennial Park.

Even though Soundwall S529 was considered feasible, it was not considered reasonable under Caltrans noise abatement guidance. The wall could not provide a 7-decibel noise reduction for at least one receiver, a soundwall design goal. In addition, its construction cost would be more than the reasonable allowance, as established by Caltrans procedures. Based on these reasons, Soundwall S529 would have not been recommended. However, the Caltrans Highway Design Manual, May 2012, Section 1102.4[2], Gap Closures, notes that when short gaps exist between areas qualifying for a noise barrier, the closure of these gaps should be considered on a project-by-project basis. Not recommending Soundwall S529 at Centennial Park would create a 950-foot-wide gap south of the proposed freeway between Marella Way and La Mirada Drive. This is the only area along Alignment B where no traffic noise abatement would be provided for a frequent outdoor use area. The following areas would not receive noise abatement: about 1,700 feet north of the gap; about 4,200 feet south of the gap; and about 4,000 feet on the opposite side of the proposed freeway with no gaps but the street crossings.

The total cost allowance for this soundwall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $165,000. The current estimated cost of the soundwall is $328,000. Therefore, this soundwall was determined not reasonable. Considering that traffic noise abatement is recommended, however, for all the impacted frequent outdoor use areas along Alternative B west of State Route 99, with the exception of this area, it is recommended that Soundwall S529 be built to close the 950-foot gap. The gap closure would ensure soundwall continuity and minimize traffic noise impacts to frequent outdoor use areas at Centennial Park.

Soundwall S530 (Alternative B–Area 3). Soundwall S530 on the right-of-way line along the westbound Centennial Corridor and would provide feasible traffic noise abatement for eight single-family residences between Marella Way and La Mirada Drive in Alternative B-Area 3 (see Figure 3-39 in Volume 2; Receivers RB-19 through RB-20). The existing noise levels in this area range from 51 to 53 dBA. Future traffic noise levels at these locations with the project are predicted to be 65 dBA. With an increase of at least 12 dB, predicted future traffic noise levels would substantially exceed the existing worst-hour noise levels, adversely impacting the receivers. A soundwall varying in height from 10 to 12 feet would be needed to achieve feasible and reasonable traffic noise abatement at Receivers RB-19 through RB-20. The total cost allowance for this soundwall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $440,000. The current estimated cost of the soundwall is $379,000. Therefore, this soundwall is recommended.

Soundwalls S536, S544, and S552 (Alternative B–Area 3). Soundwalls S536, S544, and S552, working as a system, would be on the right-of-way line and shoulder along the westbound Centennial Corridor. The walls would provide feasible traffic noise

abatement for 19 single-family residences between La Mirada Drive and Stockdale Highway in Alternative B-Area 3 (see Figure 3-39 in Volume 2; Receivers RB-21 through RB-32). The existing noise level in this area is 51 dBA. Future traffic noise levels at these locations, without the project, are predicted to be the same as the existing noise level. Future traffic noise levels at these locations, with the project, are predicted to range from 62 to 77 dBA. With at least a 12-decibel increase, predicted future traffic noise levels for all receivers, except Receiver RB-21, substantially exceed existing worst-hour noise levels. A soundwall varying in height from 12 to 14 feet would be needed to achieve feasible and reasonable traffic noise abatement at Receivers RB-22 through RB-32. Total cost allowance for this soundwall system, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $1,045,000. The current estimated cost of the soundwall system is $616,000. Therefore, this soundwall system is recommended.

Soundwalls S537 and S555 (Alternative B–Area 4 and Area 5). Soundwalls S537 and S555 would work as a system. Soundwall S537 would be on the right-of-way line. Soundwall S555 would be partially on the shoulder along the eastbound Centennial Corridor, the right-of-way line along the connector to southbound State Route 99, as well as between the existing infiltration basin and residences the wall protects. Soundwalls S537 and S555 would provide feasible traffic noise abatement for 51 single-family residences between Stockdale Highway and State Route 99 in Alternative B-Area 4 and Area 5 (see Figure 3-39 in Volume 2; Receivers RB-52 through RB-87). Existing noise levels in this area range between 51 and 63 dBA. Future traffic noise levels at these locations, without the project, are predicted to range from 51 to 73 dBA. Future traffic noise levels at these locations, with the project, are predicted to range from 58 to 76 dBA. Receivers would be impacted by traffic noise levels when predicted future traffic noise levels either approach or exceed 67 dBA, the noise abatement criterion for residential uses, or exceed existing worst-hour noise levels with an increase of at least 12 dB. A soundwall varying in height from 12 to 16 feet would be needed to achieve feasible and reasonable traffic noise abatement at the impacted receivers, except for six single-family residences represented by Receivers RB-65, RB-67, and RB-69. Soundwall S555 on the edge of the shoulder would not provide 5 dB or more of traffic noise reduction at these receivers. The failure to achieve a 5-dB noise reduction at those receivers is attributed to their exposure to the high traffic volume on Stockdale Highway which hinders the efficiency of the shoulder soundwall. The total cost allowance for this soundwall system, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $2,805,000. The current estimated cost of the soundwall system is $1,774,000; therefore, this soundwall system is recommended.

Receivers RB-34 and RB-35. Traffic noise impacts would occur at the frequent outdoor use areas of four first-row single-family residences along the northbound side of the Centennial Corridor just north of Stockdale Highway in Alternative B-Area 3 (see Figure 3-40 in Volume 2). These impacts would occur despite the addition of Soundwalls S544 and S552 along the northbound shoulder of the Centennial Corridor and shoulder of the northbound State Route 99 connector. Because of high traffic volume on Stockdale Highway, the S544 and S552 soundwall system would not

provide 5 dB or more of traffic noise reduction for these single-family residences. Therefore, these soundwalls are not feasible.

State Route 99 South of State Route 58

Soundwall S656 (State Route 99–Area 3). Soundwall S656 is on the right-of-way line west of Wible Road by two single-family residences and one motel between Belle Terrace and Ming Avenue in State Route 99-Area 3 (see Figure 3-40 in Volume 2; Receivers R99-11 through R99-13). Measurements taken indicate that existing traffic noise levels at this location are 60 to 70 dBA. Future traffic noise levels at these receivers, without the project, are predicted to be 63 to 73 dBA. Future traffic noise levels at these receivers, with the project, are predicted to be 67 to 74 dBA. Since the predicted future traffic noise levels for receivers in this area exceed the noise abatement criteria (67 dBA for single-family residences and 72 dBA for motels), the single-family residences and motel represented by these receivers would be impacted by traffic noise levels. A 10-foot-high soundwall would provide a 5-decibel reduction in traffic noise levels; however, the design goal of a 7-decibel reduction in traffic noise levels would not be achieved by this soundwall. Since Soundwall S656 does not meet the design goal at any of the receivers, the soundwall is determined not reasonable. Therefore, this soundwall is not recommended.

Receivers R99-17 through R99-19. Traffic noise impacts would occur at outdoor use areas associated with five single-family residences along southbound State Route 99 north of Ming Avenue represented by Receivers R99-17 through R99-19 in State Route 99-Area 4 (see Figure 3-40 in Volume 2). The portion of existing Soundwall SW2 in front of these residences would remain under Alternative B. The soundwall analysis from the *Noise Study Report* indicates that raising the height of the existing soundwall in this area would not provide an additional 5 dB or more of noise reduction at any of the impacted receivers, so a higher soundwall would not provide feasible traffic noise abatement. Because the existing soundwall already achieves much of the noise reduction potential of a soundwall, feasible traffic noise abatement cannot be attained.

State Route 58 East of State Route 99

Soundwall S194 (State Route 58–Area 2). Soundwall S194 is on the edge of the shoulder along the State Route 99/State Route 58 northbound to eastbound connector and would provide feasible traffic noise abatement for 12 single-family residences near Stephens Drive in State Route 58-Area 2 (see Figure 3-41 in Volume 2; Receivers R58-11 through R58-17). Existing traffic noise levels in this area are 65 to 71 dBA. Future traffic noise levels at these locations, without the project, are predicted to be 66 to 72 dBA. Future traffic noise levels at these locations, with the project, are predicted to be 67 to 71 dBA. Since all predicted future traffic noise levels meet or exceed 67 dBA, the noise abatement criterion for residential uses, receivers in this area would be impacted by traffic noise levels. A 12-foot-high soundwall would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-11 through R58-17. The total cost allowance for this soundwall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is

$660,000. The current estimated cost of the soundwall is $447,000; therefore, this soundwall is recommended.

Soundwall S106 (State Route 58–Area 2). Soundwall S106 is on the existing right-of-way along eastbound State Route 58 and would provide feasible traffic noise abatement for 15 single-family residences and a recreational area near Hughes Lane in State Route 58-Area 2 (see Figure 3-41 in Volume 2; Receivers R58-18 through R58-24A). Existing traffic noise levels in this area are 52 to 66 dBA. Future traffic noise levels at these locations, without the project, are predicted to be 55 to 69 dBA. Future traffic noise levels, with the project, are predicted to be 58 to 76 dBA. Receivers in this area for which the predicted future traffic noise level approaches or exceeds 67 dBA, the noise abatement criterion for residential uses, would be impacted by traffic noise levels. A 14-foot-high soundwall would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-18 through R58-24A. The total cost allowance for this soundwall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $880,000. The current estimated cost of the soundwall is $628,000. The soundwall, therefore, is recommended.

Alternative C

Centennial Corridor West of State Route 99

Soundwall S561 (State Route 99–Area 7). Soundwall S561 is on the shoulder along the eastbound Centennial Corridor and would provide feasible traffic noise abatement for 21 single-family residences, four multi-family residences, and Saunders Park with three outdoor use areas between existing State Route 58 and California Avenue in State Route 99-Area 7 (see Figures 3-43 and 3-44 in Volume 2; Receivers R99-44 through R99-57). Existing traffic noise levels in this area are 57 to 62 dBA. Future traffic noise levels, without the project, are predicted to be 58 to 64 dBA. Future traffic noise levels, with the project, are predicted to be 68 to 72 dBA. Since predicted future traffic noise levels exceed 67 dBA, the noise abatement criterion for residential uses, receivers in this area would be impacted by traffic noise levels. A soundwall varying in height from 10 to 16 feet would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R99-44 through R99-57. Total cost allowance for this soundwall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $1,540,000. The current estimated cost of the soundwall is $1,017,000; therefore, this soundwall is recommended.

Soundwall S683 (State Route 99–Area 6). Soundwall S683 is on the right-of-way line along southbound State Route 99 and northern property line of an existing infiltration basin. This soundwall would provide feasible traffic noise abatement for one single-family residence and seven multi-family residences between Belle Terrace and existing State Route 58 in State Route 99-Area 6 (see Figure 3-44 in Volume 2; Receivers R99-69 through R99-71). Existing traffic noise levels in this area are 59 to 61 dBA. Future traffic noise levels, without the project, are predicted to be 63 to 65 dBA. Future traffic noise levels, with the project, are predicted to be 66 to 74 dBA. Since all predicted future traffic noise levels either approach or exceed 67 dBA, the noise abatement criterion for residential uses, receivers in this area would be

impacted by traffic noise levels. A 16-foot-high soundwall would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R99-69 through R99-71. The total cost allowance for this soundwall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $440,000. The current estimated cost of the soundwall is $366,000. The soundwall, therefore, is recommended.

Receivers R99-11 through R99-13. Traffic noise impacts would occur at outdoor use areas associated with two single-family residences and one motel along northbound State Route 99 between Ming Avenue and Belle Terrace (Receivers R99-11 through R99-13; see Figure 3-44 in Volume 2). The soundwall analysis from the Noise Study Report demonstrates that a soundwall at the right-of-way line would not provide feasible traffic noise abatement under Alternative C. Feasible traffic noise abatement cannot be achieved because a prospective soundwall could not provide at least 5 dB of noise reduction. The soundwall, therefore, is not feasible.

Receivers R99-17 through R99-19. Traffic noise impacts would occur at outdoor use areas associated with five single-family residences along southbound State Route 99 north of Ming Avenue in State Route 99-Area 4 (Receivers R99-17 through R99-19; see Figure 3-44 in Volume 2). Existing Soundwall SW2 in front of these residences would remain under Alternative C. The soundwall analysis from the *Noise Study Report* demonstrates that raising the height of the existing soundwall in this area would not provide an additional 5-decibel or more of noise reduction at any of the impacted receivers. Because the existing soundwall already achieves much of the noise reduction potential of a soundwall, a heightened soundwall would not provide feasible traffic noise abatement.

State Route 99 South of State Route 58

Soundwall S610 (State Route 58–Area 2). Soundwall S610 would be on the right-of-way line along eastbound State Route 58 between Dixon Avenue and Hughes Lane in State Route 58-Area 2 (Receivers R58-21 through R58-24A; see Figure 3-45 in Volume 2). Existing traffic noise levels in this area are 52 to 66 dBA. Future traffic noise levels, without the project, are predicted to be 55 to 69 dBA. Future traffic noise levels, with the project, are predicted to be 57 to 72 dBA. Since predicted future traffic noise levels exceed 67 dBA, the noise abatement criterion for residential uses, receivers in this area would be impacted by traffic noise levels. A 10-foot-high soundwall would be needed to achieve feasible and reasonable traffic noise abatement for three impacted single-family residences and the pool at The Villas at Hughes Lane Apartments. The total cost allowance for this soundwall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $220,000. The current estimated cost of the soundwall is $286,000. The soundwall was determined not reasonable and therefore not recommended.

State Route 99 North of State Route 58

Soundwall S815 (State Route 99–Area 11). Soundwall S815 is on the shoulder along southbound State Route 99 and the Rosedale Highway off-ramp and would provide feasible traffic noise abatement for two single-family residences between Rosedale

Highway and Gilmore Avenue in State Route 99-Area 11 (Receivers R99-73 and R99-74; see Figure 3-43 in Volume 2). Measurements taken within this area indicate that existing traffic noise levels are 68 to 70 dBA. Future traffic noise levels, without the project, are predicted to be 74 to 76 dBA. Future traffic noise levels at these locations, with the project, are predicted to be 74 to 75 dBA. Since the predicted future traffic noise levels exceed 67 dBA, the noise abatement criterion for residential uses, receivers in this area would be impacted by traffic noise levels. To achieve a 5-decibel reduction at Receivers R99-73 and R99-74, a 10-foot-high soundwall would be needed. Total cost allowance for this soundwall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $110,000. The current estimated cost of the soundwall is $206,000. This soundwall was determined not reasonable and therefore not recommended.

Soundwall S818 (State Route 99–Area 11). Soundwall S818 is on the shoulder of the Rosedale Highway northbound on-ramp by a motel between Rosedale Highway and Gilmore Avenue in State Route 99-Area 11 (Receiver R99-75; see Figure 3-43 in Volume 2). A measurement taken within this area indicates that the existing traffic noise level is 69 dBA. The future traffic noise level, without the project, is predicted to be 75 dBA. The future traffic noise level, with the project, is predicted to be 75 dBA. Since the predicted future traffic noise level exceeds 72 dBA, the noise abatement criterion for hotel uses, this receiver would be impacted by traffic noise levels. To achieve a 5-decibel reduction at Receiver R99-75, a 10-foot-high soundwall would be needed. Total cost allowance for this soundwall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $55,000. The current estimated cost of the soundwall is $203,000. This soundwall was determined not reasonable and therefore not recommended.

Receivers R99-62 to R99-66 and R99-68. Traffic noise impacts would occur at outdoor use areas associated with seven single-family residences and one motel along the northbound side of State Route 99 between Verde and Palm Streets in State Route 99-Area 8 (see Figures 3-43 and 3-44 in Volume 2). The Econolodge and various commercial properties along the east side of Oak Street depend on vehicular access and visibility from that street. The only potential location for a soundwall would be along the proposed retaining wall west of Oak Street under Alternative C. Because of the unabated influence of noise from Oak Street traffic, even with the considered soundwall, the *Noise Study Report* concluded that a soundwall would not provide feasible traffic noise abatement.

State Route 58 East of State Route 99

Soundwall S90 (State Route 58–Area 2). Soundwall S90 on the shoulder edge and existing right-of-way line along the State Route 99/State Route 58 northbound-to-eastbound connector would provide feasible traffic noise abatement for 13 single-family residences in State Route 58-Area 2 (see Figure 3-45 in Volume 2; Receivers R58-11 through R58-18). Existing traffic noise levels in this area are 65 to 71 dBA. Future traffic noise levels, without the project, are predicted to be 67 to 73 dBA. Future traffic noise levels, with the project, are predicted to be 66 to 70 dBA. Since predicted future traffic noise levels meet or exceed 67 dBA, the noise

abatement criterion for residential uses, receivers in this area would be impacted by traffic noise levels. A 12- to 14-foot-high soundwall would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-11 through R58-18. Total cost allowance for this soundwall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $715,000. The current estimated cost of the soundwall is $639,000. The soundwall, therefore, is recommended.

Soundwalls Common to All Build Alternatives

Soundwall S661 (State Route 99–Area 4). In Alternatives A and B, Soundwall S661 is on the new right-of-way line and would provide feasible traffic noise abatement for two single-family residences between Belle Terrace and Ming Avenue in State Route 99-Area 4 (see Figure 3-36 in Volume 2; Receivers R99-23 and R99-25). In Alternative C, this soundwall is on the right-of-way line. Measurements taken indicate that the existing traffic noise levels in this area are between 62 and 66 dBA for Alternative A. The future traffic noise levels at these receivers without the project are predicted to be between 65 and 69 dBA for Alternative A. The future traffic noise levels at these receivers with the project are predicted to be between 72 and 74 dBA. Measurements taken indicate that existing traffic noise levels at this location are 62 to 66 dBA for Alternative B. Future traffic noise levels at these receivers, without the project, are predicted to be 65 to 69 dBA. Future traffic noise levels at these receivers, with the project, are predicted to be 72 to 75 dBA. Measurements taken in this area indicate that existing traffic noise levels are 62 to 66 dBA for Alternative C. Future traffic noise levels at these receivers, without the project, are predicted to be 65 to 69 dBA. Future traffic noise levels at these receivers, with the project, are predicted to be 72 to 73 dBA.

Since the predicted future traffic noise level exceeds 67 dBA, the noise abatement criterion for residential uses, the single-family residences represented by these receivers would be impacted by traffic noise levels. A 12-foot-high soundwall would provide a 5-decibel reduction in traffic noise levels, but the design goal of a 7-decibel reduction in traffic noise levels would not be achieved by this soundwall. Since Soundwall S661 does not meet the design goal at any of the receivers, the soundwall is determined not reasonable and is not recommended.

Soundwall S676 (State Route 99–Area 5). Soundwall S676 is on the right-of-way line along northbound Wible Road and under Alternatives A and C would provide feasible traffic noise abatement for 13 single-family residences between Belle Terrace and State Route 58 in State Route 99-Area 5 (Receivers R99-30 through R99-37). Under Alternative B, nine single-family residences benefit (Receivers R99-30 through R99-37). For Alternative A, the existing traffic noise levels in this area range from 57 to 70 dBA. The future noise levels at these locations without the project are predicted to range from 62 to 75 dBA. The future traffic noise level at these locations with the project is predicted to range from 62 to 75 dBA. For Alternative B, existing traffic noise levels in this area are 57 to 70 dBA. Future traffic noise levels at these locations, without the project, are predicted to be 62 to 75 dBA. Future traffic noise levels at these locations, with the project, are predicted to be 62 to 73 dBA. Since all the predicted future traffic noise levels except for Receiver R99-30 approach or

exceed 67 dBA, the noise abatement criterion for residential uses, these receivers would be impacted by traffic noise levels. For Alternative C, existing traffic noise levels are 57 to 70 dBA. Future traffic noise levels, without the project, are predicted to be 62 to 75 dBA. Future traffic noise levels, with the project, are predicted to be 65 to 75 dBA. Except for Receiver R99-30, all predicted future traffic noise levels approach or exceed 67 dBA, the noise abatement criterion for residential uses.

In Alternatives A and C, a 10-foot-high soundwall would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R99-31 through R99-37. Predicted future traffic noise levels for all receivers in Alternative B, except for Receivers R99-30 and R99-34, approach or exceed 67 dBA, the noise abatement criterion for residential uses. Therefore, these receivers would be impacted by traffic noise levels. A 12- to 14-foot-high soundwall would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R99-31 through R99-33 and R99-35 through R99-37.

The total cost allowance for this soundwall under Alternative A, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $715,000. The current estimated cost of the soundwall is $370,000. Under Alternative B, the total cost allowance for this soundwall is $495,000. The current estimated cost of the soundwall is $426,000. Under Alternative C, the total cost allowance for this soundwall is $715,000. The current estimated cost of the soundwall is $375,000.Therefore, this soundwall is recommended.

Soundwall S669 (State Route 99–Area 6). Soundwall S669 is on the right-of-way line of southbound State Route 99 between Belle Terrace and State Route 99 in State Route 99-Area 6 (see Figure 3-36 in Volume 2; Receivers R99-40 through R99-43A). Measurements taken within this area indicate that the existing traffic noise levels range from 57 to 60 dBA for Alternative A. The future noise levels at these locations without the project are predicted to range from 61 to 64 dBA. The future traffic noise level at these locations with the project is predicted to range from 67 to 72 dBA. For Alternative B, existing traffic noise levels are 57 to 59 dBA. Future traffic noise levels, without the project, are predicted to be 61 to 63 dBA. Future traffic noise levels, with the project, are predicted to be 70 to 75 dBA. For Alternative C, existing traffic noise levels are 57 to 60 dBA. Future traffic noise levels, without the project, are predicted to be 61 to 64 dBA. Future traffic noise levels, with the project, are predicted to be 67 to 77 dBA. Since the predicted future traffic noise levels exceed 67 dBA, the noise abatement criterion for residential uses, these receivers would be impacted by traffic noise levels. To achieve a 5-decibel reduction at Receivers R99-40 through R99-43A, which represent a daycare center and four single-family residences, a soundwall varying in height from 10 to 16 feet would be needed. The design goal of a 7-decibel reduction is achieved at Receiver R99-43 by Soundwall S669. The total cost allowance for this soundwall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $275,000 for Alternative A. The current estimated cost of the soundwall is $441,000. For Alternative B, the total cost allowance for this soundwall is $275,000. The current estimated cost of the soundwall is $312,000. For Alternative C, the total cost allowance for this soundwall is

$165,000. The current estimated cost of the soundwall is $420,000. Therefore, this soundwall is not reasonable and therefore is not recommended.

Receiver R99-2. Traffic noise impacts would occur at an outdoor use area associated with one single-family residence along the northbound side of State Route 99 north of Wilson Road (State Route 99-Area 1; see Figure 3-36 in Volume 2). The soundwall analysis from the *Noise Study Report* found that a soundwall along the right-of-way line would not provide feasible traffic noise abatement because a prospective soundwall could not provide at least 5 dB of additional noise reduction beyond that already provided by the top of the cut along the northbound side of the freeway. The soundwall, therefore, is not feasible.

Receivers R99-4 through R99-8. Traffic noise impacts would occur at outdoor use areas associated with eight single-family residences, 14 multi-family units, and one shared recreation area within the same multi-family development along the southbound side of State Route 99 between Wilson Road and Ming Avenue (State Route 99-Area 2; see Figure 3-36 in Volume 2). The soundwall analysis from the *Noise Study Report* found that raising the height of the existing soundwall in this area would not provide an additional 5 dB or more of noise reduction at any of the impacted receivers; a heightened soundwall would not provide feasible traffic noise abatement because the existing soundwall already provides much of the noise reduction potential of a soundwall.

State Route 58 East of State Route 99

Soundwall S45 (State Route 58–Area 1). Soundwall S45 (also known as Soundwalls S103 and 109 in Alternative C) is on the right-of-way line along westbound State Route 58 and would provide feasible traffic noise abatement for 17 single-family residences and five multi-family residences in Alternatives A and B, and 14 single-family homes between Hughes Lane and State Route 99 in State Route 58-Area 1 (see Figures 3-36 and 3-37 in Volume 2; Receivers R58-1 through R58-10). The existing traffic noise levels for Alternatives A and B in this area range from 58 to 70 dBA. The future traffic noise level at these locations without the project is predicted to range from 61 to 73 dBA. The future traffic noise level at these locations with the project is predicted to range from 65 to 77 dBA. In Alternative C, existing traffic noise levels in this area are 58 to 68 dBA. Future traffic noise levels, without the project, are predicted to be 63 to 73 dBA. Future traffic noise levels, with the project, are predicted to be 68 to 76 dBA. Since all but one of the predicted future traffic noise levels approach or exceed 67 dBA, the noise abatement criterion for residential uses, these receivers, except Receiver R58-6, would be impacted by traffic noise levels.

A 12-foot-high soundwall would be needed to achieve feasible and reasonable traffic noise abatement in Alternative A at Receivers R58-1 through R58-10. Under Alternative B, a soundwall varying in height from 12 to 14 feet would be needed to achieve feasible and reasonable traffic noise abatement. Under Alternative C, Soundwall S109 with a height of 10 feet and Soundwall S013 with heights of 10 to 14 feet would be needed to achieve feasible and reasonable traffic noise abatement. The total cost allowance for this soundwall under Alternative A, calculated in

accordance with the Caltrans Traffic Noise Analysis Protocol, is $1,210,000. The current estimated cost is $978,000. In Alternative B, the total cost allowance for this soundwall is $1,210,000. The current estimated cost is $994,000. In Alternative C, the total cost allowance for this soundwall system is $770,000. The current estimated cost is $492,000. Therefore, this soundwall is recommended.

Soundwall S68 (State Route 58–Area 4). Soundwall S68 (also known as Soundwall S624 in Alternative C) is on the right-of-way line along eastbound State Route 58 and would provide feasible traffic noise abatement for 11 single-family residences and four multi-family residences between Hughes Lane and H Street in State Route 58-Area 4 (see Figure 3-37 in Volume 2; Receivers R58-34 through R58-42A). The existing traffic noise levels in this area under Alternatives A, B, and C range from 58 to 72 dBA. The future traffic noise level at these locations without the project is predicted to range from 58 to 72 dBA. The future traffic noise level at these locations with the project is predicted to range from 59 to 76 dBA. Receivers with predicted future traffic noise levels that approach or exceed 67 dBA, the noise abatement criterion for residential uses, would be impacted by traffic noise levels. An 8- to 10-foot-high soundwall would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-34 through R58-42A. The total cost allowance for this soundwall for all alternatives, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $825,000. The current estimated cost of the soundwall is $739,000. Therefore, this soundwall is recommended.

Soundwall S71A (State Route 58–Area 3). Soundwall S71A under Alternatives A and B, (also known as Soundwall S629A in Alternative C) is on the right-of-way line along westbound State Route 58 and would provide feasible traffic noise abatement for two single-family residences between Hughes Lane and H Street in State Route 58-Area 3 (see Figure 3-37 in Volume 2; Receivers R58-25 through R58-33). The existing traffic noise levels in this area for Alternatives A, B, and C range from 57 to 71 dBA. The future traffic noise level at these locations without the project is predicted to range from 60 to 74 dBA. The future traffic noise level at these locations with the project is predicted to range from 63 to 76 dBA. Predicted future traffic noise levels at Receiver R58-33 approach or exceed 67 dBA, the noise abatement criterion for residential uses, so the receivers would be impacted by traffic noise levels. An 8-foot-high soundwall would be needed to achieve feasible and reasonable traffic noise abatement at Receiver R58-33. The total cost allowance for this soundwall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $110,000. The current estimated cost of the soundwall is $54,000. Therefore, this soundwall is recommended.

Soundwall S93 (State Route 58–Area 5). Soundwall S93 (also known as Soundwall S649 in Alternative C) is on the right-of-way line along westbound State Route 58 and would provide feasible traffic noise abatement for seven single-family residences between Chester Avenue and Vernal Place in State Route 58-Area 5 (see Figure 3-37 in Volume 2; Receivers R58-45 through R58-48). The existing traffic noise levels under all the alternatives in this area range from 61 to 65 dBA. The future traffic noise level at these locations without the project is predicted to range from 60 to

64 dBA. The future traffic noise level at these locations with the project is predicted to range from 62 to 66 dBA. Predicted future traffic noise levels at Receivers R58-46 and R58-48 approach or exceed 67 dBA, which is the noise abatement criterion for residential uses, so the receivers would be impacted by traffic noise levels. A 16-foot-high soundwall would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-46 and R58-48. The total cost allowance for this soundwall under Alternatives A and B, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $385,000. The current estimated cost of the soundwall is $345,000. In Alternative C, the total cost allowance is $385,000. The current estimated cost is $192,000. Therefore, this soundwall is recommended.

Soundwall S107 (State Route 58–Area 5). Soundwall S107 (also known as Soundwall S663 in Alternative C) is on top of a retaining wall at the edge of the shoulder along the westbound State Route 58 and westbound Chester Avenue off-ramp and would provide feasible traffic noise abatement for 18 single-family residences in Alternatives A and B and 20 single-family homes in Alternative C between Vernal Place and P Street in State Route 58-Area 5 (see Figure 3-37 in Volume 2; Receivers R58-49 through R58-59). The existing traffic noise levels in this area in Alternatives A and B range from 60 to 70 dBA. The future traffic noise level at these locations without the project is predicted to range from 63 to 72 dBA. The future traffic noise level at these locations with the project is predicted to range from 64 to 73 dBA. In Alternative C, existing traffic noise levels in this area are 60 to 70 dBA. Future traffic noise levels, without the project, are predicted to be 63 to 72 dBA. Future traffic noise levels, with the project, are predicted to be 65 to 74 dBA. Receivers where the predicted future traffic noise level approaches or exceeds 67 dBA, the noise abatement criterion for residential uses, would be impacted by traffic noise levels.

A soundwall varying in height from 10 to 12 feet would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-49 through R58-59. Under Alternatives A and B, the total cost allowance for this soundwall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $990,000. The current estimated cost is $421,000. In Alternative C, the total cost allowance for this soundwall is $1,100,000. The current estimated cost of the soundwall is $592,000. Therefore, this soundwall is recommended.

Soundwall S108 (State Route 58–Area 6). Soundwall S108 (also known as Soundwall S664 in Alternative C) is on top of a retaining wall at the edge of the shoulder along the eastbound State Route 58 and eastbound Chester Avenue on-ramp. This soundwall would provide feasible traffic noise abatement for 34 single-family residences and 24 multi-family residences between Chester Avenue and Union Avenue in State Route 58-Area 6 (see Figures 3-37 and 3-38 in Volume 2; Receivers R58-71 through R58-100). The existing traffic noise levels in this area under Alternative A range from 61 to 74 dBA. The future traffic noise level at these locations without the project is predicted to range from 63 to 74 dBA. The future traffic noise level at these locations with the project is predicted to range from 65 to 79 dBA. In Alternative B, existing traffic noise levels in this area are 61 to 74 dBA. Future traffic noise levels at these locations, without the project, are predicted to be

63 to 76 dBA. Future traffic noise levels at these locations, with the project, are predicted to be 65 to 79 dBA. In Alternative C, existing traffic noise levels in this area are 61 to 74 dBA. Future traffic noise levels, without the project, are predicted to be 63 to 76 dBA. Future traffic noise levels, with the project, are predicted to be 64 to 78 dBA. Except for Receiver R58-82 in Alternatives A and B, all of the predicted future traffic noise levels approach or exceed 67 dBA, the noise abatement criterion for residential uses for receivers in this area. In Alternative C, except for Receivers R58-82 and R58-86, predicted future traffic noise levels approach or exceed 67 dBA, the noise abatement criterion for residential uses, so the receivers would be impacted by traffic noise levels.

Under Alternatives A and B, a soundwall varying in height from 12 to 14 feet would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-71 through R58-100. The total cost allowance for this soundwall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $3,190,000. The current estimated cost of the soundwall is $1,036,000. In Alternative C, a soundwall varying in height from 10 to 14 feet would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-71 through R58-100. Total cost allowance for this soundwall is $3,190,000. The current estimated cost is $1,000,000. Therefore, this soundwall is recommended.

Soundwall S119 (State Route 58–Area 5). Soundwall S119 (also known as Soundwall S667 in Alternative C), on the shoulder along westbound State Route 58, would provide feasible traffic noise abatement for 12 single-family residences between P Street and Union Avenue in State Route 58-Area 5 (see Figures 3-37 and 3-38 in Volume 2; Receivers R58-60 through R58-66). In Alternative A, the existing traffic noise levels in this area range from 63 to 72 dBA. The future traffic noise levels at these locations, without the project, are predicted to range from 65 to 72 dBA. Future traffic noise levels, with the project, are predicted to be 68 to 73 dBA. In Alternative B, existing traffic noise levels are 63 to 72 dBA. Future traffic noise levels at these locations, without the project, are predicted to be 66 to 72 dBA. Future traffic noise levels at these locations, with the project, are predicted to be 68 to 73 dBA. In Alternative C, existing traffic noise levels are 63 to 72 dBA. Future traffic noise levels, without the project, are predicted to be 66 to 72 dBA. Future traffic noise levels, with the project, are predicted to be 68 to 74 dBA. Since all the predicted future traffic noise levels exceed 67 dBA, the noise abatement criterion for residential uses, these receivers would be impacted by traffic noise levels.

A soundwall varying in height from 10 to 12 feet would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-60 through R58-66. The total cost allowance in Alternatives A and B for this soundwall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $660,000. The current estimated cost of the soundwall is $276,000. For Alternative C, the total cost allowance for this soundwall is $660,000. The current estimated cost of the soundwall is $340,000. Therefore, this soundwall is recommended.

Soundwall S144 (State Route 58–Area 8). Soundwall S144 (also known as Soundwall S702 in Alternative C) is on the right-of-way line along the eastbound State Route 58 Union Avenue on-ramp and would provide feasible traffic noise abatement for eight single-family residences between Bliss Street and Union Avenue in State Route 58-Area 8 (see Figure 3-38 in Volume 2; Receivers R58-128 through R58-139). In Alternative A, the existing traffic noise levels in this area range from 57 to 70 dBA. The future traffic noise levels at these locations, without the project, are predicted to range from 60 to 74 dBA. Future traffic noise levels at these locations, with the project, are predicted to range from 61 to 76 dBA. In Alternative B, existing traffic noise levels in this area are 57 to 70 dBA. Future traffic noise levels at these locations, without the project, are predicted to be 60 to 74 dBA. In Alternative C, existing traffic noise levels in this area are 58 to 70 dBA. Future traffic noise levels, without the project, are predicted to be 60 to 74 dBA. Future traffic noise levels, with the project, are predicted to be 61 to 75 dBA. Future traffic noise levels at these locations, with the project, are predicted to be 61 to 75 dBA. Receivers where the predicted future traffic noise levels approach or exceed 67 dBA, the noise abatement criterion for residential uses, would be impacted by traffic noise levels.

A soundwall varying in height from 10 to 12 feet would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-128 through R58-139. The total cost allowance for this soundwall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $440,000. The current estimated cost of the soundwall is $445,000; however, this soundwall is recommended because the estimated construction cost is only 1 percent higher than the total reasonable allowance, within the margin of error for the calculation.

Soundwalls S147 and S165 (State Route 58–Area 7). Soundwalls S147 and S165 (also known as Soundwalls 703 and 721 in Alternative C), working as a system, are on the right-of-way line on the Union Avenue off-ramp and the shoulder along westbound State Route 58. These soundwalls would provide feasible traffic noise abatement for 31 single-family residences, 10 multi-family residences, and 22 mobile homes between Liggett Street and Cottonwood Road in State Route 58-Area 7 (see Figure 3-38 in Volume 2; Receivers R58-101 through R58-127). In Alternatives A, B, and C, the existing traffic noise levels in this area range from 59 to 75 dBA. The future traffic noise levels at these locations, without the project, are predicted to range from 63 to 78 dBA. Future traffic noise levels at these locations, with the project, are predicted to range from 64 to 79 dBA. Except for Receivers R58-103 and R58-105, all predicted future traffic noise levels for the remaining receivers in this area exceed 67 dBA, the noise abatement criterion for residential uses, so the receivers would be impacted by traffic noise levels. A 10-foot-high soundwall (S147) and 12-foot-high soundwall (S165) would be needed to achieve feasible and reasonable traffic noise abatement for the effected receivers. The total cost allowance for this soundwall system for all alternatives, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $3,465,000. The current estimated cost of the soundwall is $1,540,500. Therefore, this soundwall system is recommended.

Soundwalls S164 and S184 (State Route 58–Area 8). Soundwalls S164 and S184 (also known as Soundwalls S722 and S742 in Alternative C), work as a system on the shoulder and right-of-way line, respectively, along eastbound State Route 58. These soundwalls would provide feasible traffic noise abatement for 67 single-family residences and four multi-family residences between Bliss Street and Cottonwood Road in State Route 58-Area 8 (see Figure 3-38 in Volume 2; Receivers R58-140 through R58-172). Under all alternatives, the existing traffic noise levels in this area range from 62 to 74 dBA. The future traffic noise levels at these locations, without the project, are predicted to range from 65 to 76 dBA. Future traffic noise levels at these locations, with the project, are predicted to range from 67 to 78 dBA. Since all the predicted future traffic noise levels exceed 67 dBA, the noise abatement criterion for residential uses, the receivers in this area would be impacted by traffic noise levels. In Alternatives A and B, a soundwall varying in height from 10 to 14 feet (S164) and a 12-foot-high soundwall (S184) would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-144 through R58-172. In Alternative C, a soundwall varying in height from 12 to 14 feet (S722) and a 12-foot-high soundwall (S742) would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-144 through R58-172. The total cost allowance for this soundwall system under all alternatives, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $3,905,000. The current estimated cost of the soundwall is $1,365,000. Therefore, this soundwall system is recommended.

Receivers R58-43 and R58-44. Traffic noise impacts would occur at the frequent outdoor use areas of one single-family residence and two multi-family residential units along westbound State Route 58 (State Route 58-Area 5; see Figure 3-37 in Volume 2). Because of local traffic contributions from the frontage road between South Chester Avenue and H Street, a soundwall placed in the right-of-way would not provide a 5-decibel or more traffic noise reduction at these residences. The soundwall, therefore, would not be feasible.

Receiver R58-69. Traffic noise impacts would occur at the frequent outdoor use areas of one single-family residence along eastbound State Route 58 (State Route 58-Area 6; see Figure 3-37 in Volume 2). Because of local traffic noise contributions from the frontage road between H Street and South Chester Avenue, a soundwall placed in the right-of way would not provide a 5-decibel or more of traffic noise reduction at this residence. The soundwall, therefore, would not be feasible.

Areas with Feasible but not Reasonable Abatement

Several soundwalls meet feasibility requirements, but were not reasonable, so they were not recommended as part of the project. Below is a list of these soundwalls and associated receivers:

- Soundwall S469 (Alternative A) – Located along the shoulder of westbound Centennial Corridor east of Truxtun Avenue. Receivers RA-1 through RA-4.

- Soundwall S610 (Alternative C) – Located on the right-of-way line along eastbound State Route 58 between Dixon Avenue and Hughes Lane. Receivers R58-21 through R58-24A.
- Soundwall S71 (Alternatives A, B) – Located on the right-of-way of westbound State Route 58 between Hughes Lane and H Street. Receiver R58-28.
- Soundwall S629 (Alternative C) – Located on the right-of-way of westbound State Route 58 between Hughes Lane and H Street. Receiver R58-28.
- Soundwall S656 (Alternatives A and B) – Located on the right-of-way of northbound State Route 99 between Belle Terrace and Ming Avenue. Receivers R99-11 through R99-13.
- Soundwall S661 (Alternatives A and B) – Located on the right-of-way of southbound State Route 99 between Belle Terrace and Ming Avenue. Receivers R99-23 and R99-25.
- Soundwall S669 (Alternatives A, B, and C) – Located on the right-of-way of southbound State Route 99 between Belle Terrace and State Route 99. Receivers R99-40 through R99-43A.
- Soundwall S815 (Alternative C) – Located on the shoulder along southbound State Route 99 and Rosedale Highway off-ramp. Receivers R99-73 and R99-74.
- Soundwall S818 (Alternative C) – Located on the shoulder of Rosedale Highway northbound on-ramp. Receiver R99-75.

Areas without Feasible or Reasonable Abatement

There were locations where it was not possible to provide feasible traffic noise abatement (a 5-decibel reduction). Most of these areas are located behind existing soundwalls. Below is a list of the receivers at these locations:

- Receivers RB-34 and RB-35 (Alternative B) – Four single-family residences along the northbound side of the Centennial Corridor just north of Stockdale Highway.
- Receiver R99-2 (Alternative A, B, and C) – One single-family residence along the northbound side of State Route 99 north of Wilson Road.
- Receivers R99-4 through R99-8 (Alternatives A, B, and C) – Eight single-family residences, 14 multi-family units, and one shared recreation area within the same multi-family development along the southbound side of State Route 99 between Wilson Road and Ming Avenue.
- Receivers R99-11 through R99-13 (Alternative C) – Two single-family residences and one motel along northbound State Route 99 between Ming Avenue and Belle Terrace.
- Receivers R99-17 through R99-19 (Alternatives A, B, and C) – Five single-family residences along southbound State Route 99 north of Ming Avenue.

- Receivers R99-62 to R99-66 and R99-68 (Alternative C) – Seven single-family residences and one motel along the northbound side of State Route 99 between Verde and Palm Streets.
- Receivers R58-43 and R58-44 (Alternatives A, B, and C) – One single-family residence and two multi-family residential units along westbound State Route 58 between South Chester Avenue and H Street.
- Receiver R58-69 (Alternatives A, B, and C) – One single-family residence along eastbound State Route 58 between H Street and South Chester Avenue.

Existing Soundwalls

Six existing soundwalls along State Route 99 are within the project limits:

- Soundwall SW1 (Receivers R99-4 through R99-10A) – Located on the right-of-way line of southbound State Route 99 and eastbound Ming Avenue on-ramp. Soundwall SW1 would remain as-is under all alternatives.
- Soundwall SW2 (Receivers R99-16 through R99-22) – Located on the shoulder of southbound State Route 99 between Wood Lane and Ming Avenue. Most of existing Soundwall SW2 would be demolished under all three alternatives because of widening along the southbound side of State Route 99. A portion of this soundwall would be rebuilt on top of a proposed retaining wall and would be considered a replacement in kind. However, the northern portion of the wall demolition would accommodate a substantial widening of the existing cut. As a result, houses now protected by the existing soundwall would be acquired. Therefore, an in-kind replacement soundwall cannot be considered for this area, so a new soundwall has been analyzed in this area. The portion of Soundwall SW2 that would be replaced in kind extends from Laverne Avenue (Alternative A) or north of Laverne Avenue (Alternatives B and C) to Wood Lane.
- Soundwall SW3 (Receivers R99-14 and R99-15) – Located along the west side of Wible Road south of Belle Terrace. Soundwall SW3 would be replaced in kind under Alternatives A and B because of widening along the northbound side of State Route 99. The existing soundwall would remain under Alternative C.
- Soundwall SW4 (Receivers RA-72 through RA-77) – Located within the southwest corner of the Centennial Corridor and State Route 99 interchange. Soundwall SW4 would be demolished under all alternatives because of the eastbound Centennial Corridor connector to southbound State Route 99.
- Soundwall SW5 (Receivers R99-26 through R99-29) – Located along the west side of Wible Road north of Belle Terrace. Soundwall SW5 would be replaced in kind under Alternatives A and B because of widening along the northbound side of State Route 99. The existing soundwall would remain under Alternative C.
- Soundwall SW6 (Receivers R99-58 through R99-60) – Located along the top of the retaining wall from the cul-de-sac at the south end of Oakdale Drive northward to just south of Verde Street. Soundwall SW6 would be replaced in kind under Alternative C because of encroachment by the eastbound Centennial

Corridor to the southbound State Route 99 connector and construction of a retaining wall. The existing soundwall would remain under Alternatives A and B.

3.2.8 Energy

Regulatory Setting

The National Environmental Policy Act (42 U.S. Code Part 4332) requires identification of all potentially significant impacts to the environment, including energy impacts. For the California Environmental Quality Act, Appendix F, Energy Conservation, in the California Environmental Quality Act Guidelines, states that environmental impact reports must include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy.

Affected Environment

Energy consumption associated with vehicular movement is almost entirely confined to the consumption of fossil fuel (gasoline and diesel). According to the California Energy Commission, California is the tenth largest worldwide energy consumer, and the state is ranked second in consumption in the United States. Of the overall energy consumed in the state, the transportation sector represents the largest portion at 46 percent, followed by the industrial sector at 31 percent, residential sector at 13 percent, and commercial sector at 10 percent. Petroleum (excluding natural gas) satisfies 54 percent of California's energy demand; natural gas, 33 percent; and electricity, 13 percent. Electric power and natural gas in California are generally consumed by stationary users, whereas gasoline and diesel consumption is generally accounted for by transportation-related energy use (U.S. Department of Transportation, 2008). Existing energy resources pertinent to this project and market conditions are described below.

Petroleum

Vehicles traversing the study area are primarily powered by gasoline and diesel fuel, with natural gas- and electric-powered vehicles representing a very small percentage of overall vehicular operations. Fuel is distributed across metropolitan Bakersfield by many methods, including pipelines, railroads, and trucks.

California's gasoline and diesel markets are characterized by increasing demands. As of 2012, California imports more than 60 percent of its crude oil. The state's dependence on this increasingly expensive energy resource continues to grow.

Energy consumption in California continues to be dominated by growth in passenger vehicles. According to the *Indicators of Climate Change in California*, published by the California Environmental Protection Agency, Office of Environmental Hazard Health Assessment (April 2009), California is the second largest consumer of transportation fuels in the world (behind the United States as a whole). More than 16 billion gallons of gasoline and 4 billion gallons of diesel fuel are consumed each year (California Environmental Protection Agency, 2009). California's rapid

population growth, with a projected population of more than 44 million by 2020, is expected to result in substantial increases in transportation fuel demand.

Environmental Consequences

This section addresses potential energy impacts during long-term operation of the Centennial Corridor project. Short-term energy impacts associated with construction of the project are addressed in Section 3.6, Construction Impacts.

Transportation energy consumption reflects the types and number of vehicles in use, the extent of their use (vehicle miles traveled), and their fuel economy (miles per gallon). Energy consumed in the operation of transportation systems is typically referred to as direct energy, which includes the fuel required for passenger vehicles (automobiles, vans, and light trucks), heavy trucks (three or more axles), and transit buses. Energy used to operate facilities such as gas stations and station amenities, maintenance shops, and yards is also a part of direct energy, but is a small percentage compared to the overall fuel consumption by automobiles.

Energy consumed in construction and maintenance is referred to as indirect energy. Indirect energy consumption includes three main components: (1) energy required to build the project; (2) energy required to manufacture vehicles that use the roads; and (3) energy required for maintenance/periodic rehabilitation of the infrastructure.

This analysis compares the energy consumption associated with the project in design year 2038 with the energy consumption for the No-Build Alternative in 2038. This comparison generally allows for an analysis of the relative impact of the project on energy consumption based on like assumptions about technology, fuels and vehicles.

Common to All Build Alternatives

The *Traffic Study Report for Centennial Corridor* analyzed life-cycle cost benefits of the build alternatives compared to the No-Build Alternative using a computer software product developed for the Federal Highway Administration, called Surface Transportation Efficiency Analysis Model (STEAM 2.0). Among other things, the analysis provided a quantitative measurement of energy usage (presented in British thermal units or Btu) and gallons of fuel used for each of the alternatives. Information for 2038 is shown in Table 3.42. Though some variation in the benefit between the alternatives is shown in Table 3.42, some fuel use reduction under each build alternative compared to the No-Build Alternative is also shown. These benefits come from motorists being able to shift routes to higher-speed facilities with less congestion and the benefit of increased network capacity. Fuel consumption decreases as a result of vehicles traveling at higher speeds.

Table 3.42 Centennial Corridor 2038 Energy Usage Data

Energy Use	No-Build Alternative	Alternative A	Alternative B	Alternative C
Annual vehicle miles traveled[a] (in millions miles)	9,951.4	9,994.3	10,004.0	10,006.8
Annual gallons of fuel used (in 1,000 gallons)[b]	490,911.3	488,715.5	489,141.6	488,885.5
Annual energy use (in million Btu)	62,185,713	61,907,562	61,961.538	61,929,097

BTU: British thermal units

[a] Projection of total combined vehicles annually through the project limits.
[b] Fuel consumption based on estimates of average fuel consumption for the Year 2007 obtained from the California Air Resources Board's Motor Vehicle Emission Inventory models
Source: *Traffic Study Report for the Centennial Corridor* (Volume I, Table 3-17) 2012.

No-Build Alternative

As shown in Table 3.42, the No-Build Alternative would result in fewer vehicle miles traveled, but due to stop-and-start conditions and frequent idling typically associated with driving on surface streets, it would increase long-term operational energy demand compared to the build alternatives. This is because motorists take the most direct and timely travel choice under both the no-build and build conditions. With the No-Build Alternative, the route is shorter. With the build alternatives, the route is more convenient, though typically a little bit longer, and faster. The end result is that, with the No-Build Alternative, the vehicle miles traveled are fewer, but the vehicle hours traveled and fuel usage are greater.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation is required.

3.3 Biological Environment

3.3.1 Natural Communities

This section of the document discusses natural biological communities of concern. The focus of this section is not on individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed in the Threatened and Endangered Species Section 3.3.5. Wetlands and other waters are discussed in Section 3.3.2.

Affected Environment

Information in this section comes from the *Natural Environment Study* (March 2013) for the project.

The following vegetation types occur in the biological study area: non-native grassland, riparian woodland/Great Valley cottonwood riparian forest, waterways, detention basin, agriculture, disturbed/ruderal, and developed/ornamental (see Figures 3-48 through 3-50 in Volume 2 and Figure 3-51 below). A description of each of these vegetation types is included in the *Natural Environment Study*.

Riparian woodland/Great Valley cottonwood riparian forest is the only natural community of concern that occurs in Segment 1 of the biological study area. Other vegetation types that could be affected are not discussed in this section because they are not natural communities of special concern.

Riparian woodland/Great Valley cottonwood riparian forest occurs along the banks of the Kern River. This vegetation type consists of an overstory of willows (*Salix* spp.) with occasional Fremont cottonwood (*Populus fremontii* ssp. *fremontii*). It is generally limited in extent. This community has a high potential to support special-status plant and wildlife species.

The Kern River is a regional wildlife corridor in the biological study area. It provides for wildlife movement through the Metropolitan Bakersfield Habitat Conservation Plan area and connects areas of open space between the northeastern reserve, the southwestern reserve, and the Kern Water Bank Habitat Conservation Plan reserve. Canals in the biological study area (Cross Valley Canal, Carrier Canal, Friant-Kern Canal, and Gooselake Slough) are also used for wildlife movement, especially in the highly urbanized portions.

Environmental Consequences

Common to All Build Alternatives

Riparian Woodland/Great Valley Cottonwood Riparian Forest

In total, 39.92 acres of riparian woodland/Great Valley cottonwood riparian forest occur in the biological study area. Some of these areas are under the jurisdiction of the U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and/or Regional Water Quality Control Board (see discussion of Wetlands and Other Waters, Section 3.3.2). The following analysis discusses impacts related to Segment 1.

The nature of the impacts for all three build alternatives is the same. What distinguishes the alternatives is the amount of impact, although the range of impacts is similar (ranging from 0.97 to 2.96 total acres of riparian woodland/Great Valley cottonwood riparian forest impact). These impact estimates are shown in Table 3.43. The riparian woodland/Great Valley cottonwood riparian forest that would be permanently and temporarily affected is shown in Figures 3-48 through 3-50 in Volume 2 and Figure 3-51 below.

Table 3.43 Acres of Vegetation Types and Other Areas that Would be Affected by the Project

Vegetation Types and Other Areas	Existing	Alternative A		Alternative B		Alternative C	
		Perm	Temp	Perm	Temp	Perm	Temp
Non-Native Grassland	405.41	19.19	46.91	5.82	45.17	4.73	40.44
Riparian Woodland/Great Valley Cottonwood Riparian Forest	39.92	0.35	3.19	0.00	1.06	0.00	1.42
Waterways	102.89	1.11	6.54	1.07	4.43	0.76	4.93
Detention Basin	47.32	0.64	0.08	0.84	0.04	0.00	0.75
Disturbed/Ruderal	151.84	3.09	13.42	3.49	14.05	4.69	13.91
Agriculture	143.81	0.06	0.80	0.06	0.80	0.06	0.80
Total	**891.19**	**24.44**	**70.94**	**11.28**	**65.55**	**10.24**	**62.25**

Note: All alternatives include the improvements at Stockdale Highway and State Route 43.
Perm=permanent; Temp=temporary
Source: *Natural Environment Study* 2013.

Wildlife Movement

The Kern River is a regional wildlife corridor that provides for wildlife movement through the Metropolitan Bakersfield Habitat Conservation Plan area. The project would bridge the Kern River and, therefore, maintain this regional wildlife movement corridor.

Canals are used for wildlife movement, especially in the urbanized portions of the biological study area. The Friant-Kern Canal would be bridged by the project, and wildlife movement would be maintained. However, the Cross Valley Canal and Carrier Canal would be converted from open channels to box culverts. This could disrupt wildlife movement when the canal is full of water. Animals may be forced to move out of the corridor and into developed areas to go around the box culvert.

Increased movement through developed areas could increase the number of animals killed on the roadways near these canals. Although animals are exposed to the traffic along existing roads, crossing a new road may increase the number of animals killed on the roadway. Urbanized areas contain limited wildlife habitat, and animals that are present are tolerant of the urban setting. Therefore, for most wildlife occurring in the biological study area, impacts on wildlife movement would be considered less than substantial. An option of providing a bridge over the Carrier Canal instead of converting to a box culvert is also under consideration. This would reduce potential limitations to the wildlife movement by providing greater openness, which would be more attractive to kit fox movement than a box culvert. Construction costs for the 190-foot-long bridge would be $10 million.

The intersection improvement at Stockdale Highway and State Route 43 would have limited effects on wildlife movement because it would not substantially change the nature of the roadway. Similarly, interim use of Stockdale Highway to connect with Interstate 5 would not alter wildlife movement because no changes to the existing facility are proposed.

No-Build Alternative

The No-Build Alternative would not change existing conditions, so there would be no impact on sensitive habitat or wildlife movement.

Avoidance, Minimization, and/or Mitigation Measures

The only sensitive natural community in the study area is riparian woodland/Great Valley cottonwood riparian forest, which is also considered Wetlands and Other Waters (discussed in Section 3.3.2). Applicable measures are included in that section. In addition, minimization measures have been included in Section 3.6, Construction Impacts, to reduce potential impacts on biological resources associated with construction. No additional measures are required for the portion of the project proposed for construction.

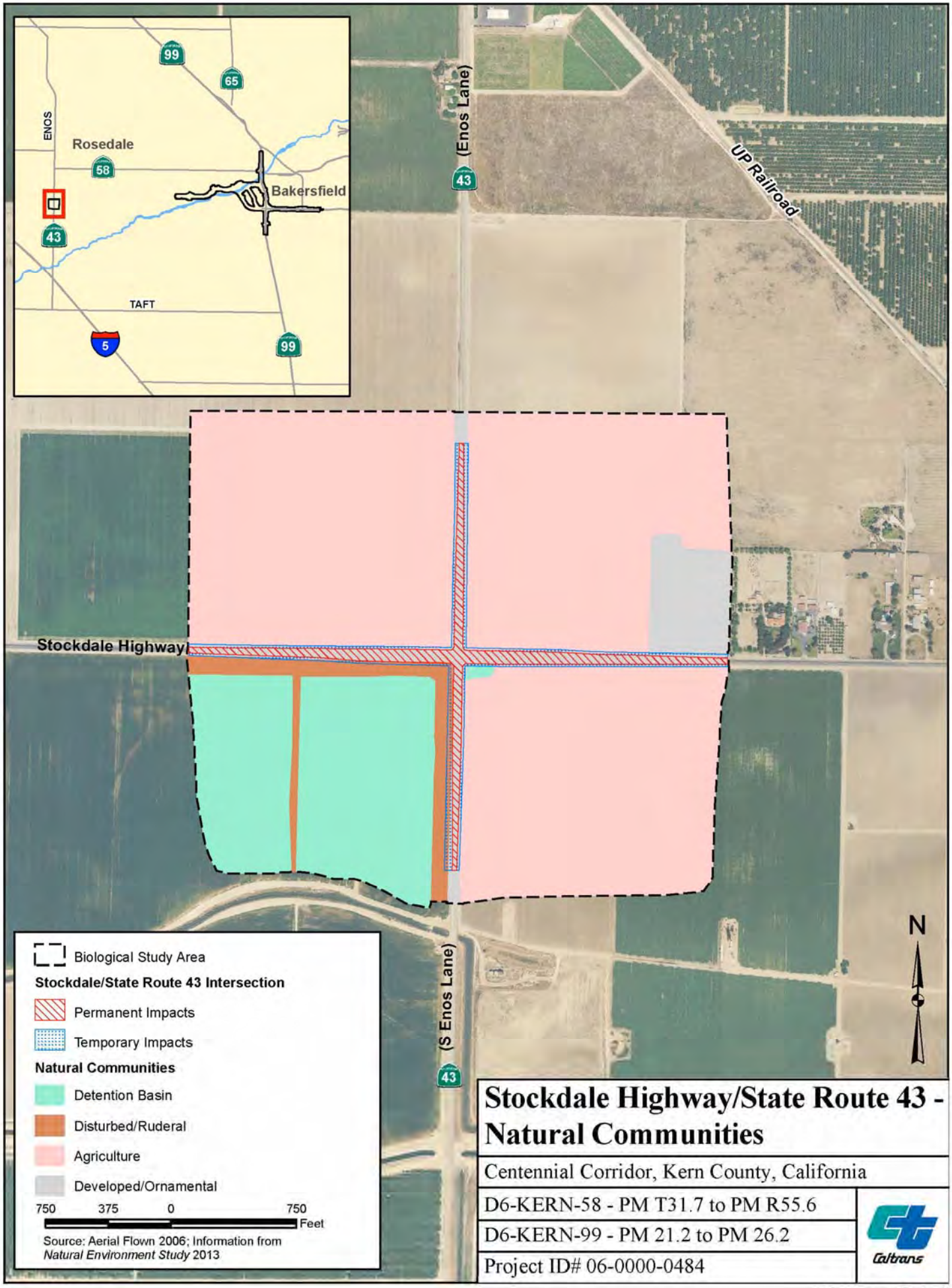
3.3.2 Wetlands and Other Waters

Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (33 U.S. Code 1344), is the main law regulating wetlands and surface waters. One purpose of the Clean Water Act is to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the Clean Water Act, a three-parameter approach is used that includes the presence of: hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the Clean Water Act.

Section 404 of the Clean Water Act establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers with oversight by the U.S. Environmental Protection Agency.

The U.S. Army Corps of Engineers issues two types of 404 permits: General and Standard permits. There are two types of General Permits: Regional permits and Nationwide permits. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effects. Nationwide permits are issued to authorize a variety of minor project activities with no more than minimal effects.



Stockdale Highway/State Route 43 - Natural Communities

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-51

There are two types of Standard permits: Individual permits and Letters of Permission. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of the U.S. Army Corps of Engineers' Standard permits. For Standard permits, the U.S. Army Corps of Engineers' decision to approve is based on compliance with U.S. Environmental Protection Agency's Section 404(b)(1) guidelines (U.S. Environmental Protection Agency 40 CFR Part 230), and whether permit approval is in the public interest. The Section 404(b)(1) guidelines were developed by the U.S. Environmental Protection Agency in conjunction with the U.S. Army Corps of Engineers and allow the discharge of dredged or fill material into the aquatic system (waters of the United States) only if there is no practicable alternative that would have less adverse effect. The guidelines state that the U.S. Army Corps of Engineers may not issue a permit if there is a least environmentally damaging practicable alternative to the proposed discharge that would have lesser effects on waters of the United States, and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, Executive Order 11890 states that a federal agency, such as the Federal Highway Administration and/or Caltrans, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: (1) that there is no practicable alternative to the construction and (2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated primarily by the California Department of Fish and Wildlife, the State Water Resources Control Board and the Regional Water Quality Control Board. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify the California Department of Fish and Wildlife before beginning construction. If the California Department of Fish and Wildlife determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. California Department of Fish and Wildlife jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the U.S. Army Corps of Engineers may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the California Department of Fish and Wildlife.

Regional Water Quality Control Boards were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The Regional Water Quality Control Boards also issue water quality certifications for impacts to wetlands and waters in compliance with Section 401 of the Clean Water Act. See the Water Quality section for more details.

Affected Environment

Information in this section comes from the *Natural Environment Study* (March 2013), which includes a *Jurisdictional Delineation* (Appendix E of the *Natural Environment Study*, March 2013). A Jurisdictional Determination from the U.S. Army Corps of Engineers has not yet been requested.

The Kern River is in the biological study area. Areas within the river that consist of open sandy wash with no vegetation or very little vegetation were mapped as waterways. Riparian woodland/Great Valley cottonwood riparian forest occurs along the banks of the Kern River. The main value of the Kern River is its importance as a regional wildlife movement corridor.

Canals in the biological study area (Arvin-Edison Canal, Calloway Canal, Carrier Canal, Central Branch Kern Island Canal, Cross Valley Canal, Friant-Kern Canal, Kern Island Canal, Pioneer Canal, and Stine Canal) were mapped as waterways. The Arvin-Edison Canal and the Friant-Kern Canal are lined with concrete; the other canals are unlined with varying amounts of upland vegetation. The canals are within the jurisdiction of the U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and Regional Water Quality Control Board and provide water conveyance and wildlife movement. Canals that are lined with concrete provide no live-in habitat value. Unlined canals either lack vegetation or are vegetated with non-native grasses, providing limited cover for use by wildlife.

A series of fenced, bermed fields generally located on or near established canals function as temporary water-holding areas or detention basins for several Kern County water storage districts. These basins are periodically maintained by mowing or disking. Several smaller basins constructed as flood control or water catchment basins associated with residential developments or other urban infrastructure were mapped as detention basins. Vegetation within these basins varies from a sparse cover of native species common in wetland habitats such as cattail (*Typha* spp.) and wild heliotrope (*Heliotropium curassavicum*) to dense stands of Russian thistle (*Salsola tragus*), a weedy species. At the time of the survey, some basins had standing water and some of them were dry. Detention basins are also within the jurisdiction of the California Department of Fish and Wildlife and provide for water recharge and wildlife habitat. The value of the detention basins varies depending on the type of habitat present (native or weedy) and the level of disturbance (frequency of mowing and disking). Some of the basins are known to be used for denning by kit fox (e.g., the debris basin south of Truxtun Avenue and north of the Carrier Canal) and have a very high habitat value.

The Kern River, various canals, and detention basins show evidence of hydrology sufficient to document that the ordinary high water mark meets the criteria for waters of the United States. In total, 141.68 acres of waters of the United States are present in Segment 1 of the biological study area and the intersection of Stockdale Highway and State Route 43. A portion of the Kern River and a small detention basin at Stockdale Highway and State Route 43 contained the three parameters (hydrophytic vegetation, hydric soils, and wetland hydrology) needed to be considered wetland-

waters of the United States. In total, 0.19 acre of wetland-waters of the United States lies within the biological study area (0.11 acre at the Kern River and 0.08 acre at Stockdale Highway and State Route 43). Figures 3-52a through 3-52c in Volume 2 show the locations of these jurisdictional resources.

The California Department of Fish and Wildlife's jurisdictional limits are defined by the top of the bank or the dripline of riparian vegetation. In total, 184.44 acres of California Department of Fish and Wildlife jurisdictional waters of the State are present in Segment 1 of the biological study area and at the intersection of Stockdale Highway and State Route 43. Figures 3-53a through 3-53c in Volume 2 show the locations of these jurisdictional resources.

Environmental Consequences

Common to All Build Alternatives

The following analysis discusses impacts related to Segment 1 and the improvements at the intersection of Stockdale Highway and State Route 43. No impacts related to the minor improvements in Segment 2 would occur because construction would occur within the existing right-of-way, which was previously disturbed for the construction of the Westside Parkway.

The impacts for all three build alternatives are similar. What distinguishes the alternatives is the amount of impact, although the range of impacts is similar (ranging from 0.74 to 1.20 acres of permanent impact on waters of the United States; 0.95 to 4.67 acres of permanent structural impact on waters of the State; and 3.27 to 9.69 acres of permanent shade impact on waters of the State). These impact estimates are shown in Tables 3.44 and 3.45. Impacts to jurisdictional areas were determined by comparing engineering plans with maps of jurisdictional resources.

Each of the build alternatives includes a bridge over the Kern River, including structures that would be placed in the river. The bridge structure would cause permanent impacts by casting a shadow that could prevent vegetation from growing under the bridge. This effect would not be considered substantial since the river is composed mostly of open sandy wash. The bridge structures would not interrupt its wildlife movement function. Temporary impacts would affect the area needed to build the bridge, including access to and within the construction area and areas for storage of construction equipment.

Each of the build alternatives would bridge the Friant-Kern Canal. However, the build alternatives would convert the Cross Valley Canal and Carrier Canal from open channels to box culverts.

Most of the detention basins would be avoided by the project; however, one basin southwest of State Route 58 and State Route 99 would be affected. Some detention basins are within the jurisdiction of the California Department of Fish and Wildlife, provide for water recharge and are considered jurisdictional resources. Therefore, they are discussed in the "Wetlands or other waters" section which describes impacts

to jurisdictional resources. Each of the build alternatives would also construct new basins.

The jurisdictional resources that would be permanently and temporarily affected by each alternative are quantified in Tables 3.44 and 3.45. The jurisdictional resources that would be affected by each alternative are shown in Figures 3-52a through 3-52c and 3-53a through 3-53c in Volume 2. Alternative A would affect about 7.23 acres of waters of the United States and 17.60 acres of waters of the State; Alternative B would affect about 5.54 acres of waters of the United States and 7.74 acres of waters of the State; and Alternative C would affect about 7.42 acres of waters of the United States and 10.26 acres of waters of the State. Intersection improvements at Stockdale Highway and State Route 43 would not affect waters of the United States or waters of the State.

The Water Quality Control Plan for the Tulare Lake Basin (Regional Water Quality Control Board 2004) lists the following beneficial uses for the portion of the Kern River below the Southern California Edison Kern River Powerhouse No. 1: municipal and domestic supply; agricultural supply; industrial service supply; industrial process supply; hydropower generation; water contact recreation; non-contact water recreation; warm freshwater habitat; wildlife habitat; rare, threatened, or endangered species habitat; and groundwater recharge. Although the project would affect warm freshwater habitat, wildlife habitat, and rare, threatened or endangered species habitat (kit fox), the project is not expected to substantially alter the functions and values listed above.

The project requires the following permits:

- U.S. Army Corps of Engineers Section 404 Permit
- Regional Water Quality Control Board Section 401 Water Quality Certification
- California Department of Fish and Game Section 1602 Streambed Alteration Agreement

No-Build Alternative

Since the No-Build Alternative does not propose any improvements, there would be no impacts to wetlands and other waters from this alternative.

Table 3.44 Build Alternatives' Impacts on Waters of the U.S. Under the Jurisdiction of the U.S. Army Corps of Engineers

Waters of the U.S.	Existing (Acres)	Permanent Structural Impact (Acres)[a]			Temporary Construction Impact (Acres)[b]			Total Impacts (Acres)		
		Alternative A	Alternative B	Alternative C	Alternative A	Alternative B	Alternative C	Alternative A	Alternative B	Alternative C
Kern River										
Wetlands	0.11	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.00
Other Waters	68.75	0.14	0.01	0.02	3.54	2.12	4.31	3.68	2.13	4.33
Arvin-Edison Canal										
Other Waters	0.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Calloway Canal										
Other Waters	2.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Carrier Canal										
Other Waters	6.79	0.36	0.45	0.39	0.05	0.01	0.15	0.41	0.46	0.54
Central Branch Kern Island Canal										
Other Waters	0.94	0.00	0.00	0.00	0.04	0.04	0.04	0.04	0.04	0.04
Cross Valley Canal										
Other Waters	11.22	0.30	0.22	0.20	1.52	0.82	0.65	1.82	1.04	0.85
Friant-Kern Canal										
Other Waters	3.06	0.00	0.07	0.00	0.41	0.26	0.33	0.41	0.33	0.33
Kern Island Canal										
Other Waters	1.05	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.02
Stine Canal										
Other Waters	3.25	0.40	0.24	0.13	0.44	1.26	0.21	0.84	1.50	0.34
Detention Basins										
Other Waters	4.41	0.00	0.01	0.00	0.00	0.00	0.97	0.00	0.01	0.97
Stockdale Highway and State Route 43										
Wetlands	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Waters	38.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	***141.68***	***1.20***	***1.00***	***0.74***	***6.03***	***4.54***	***6.68***	***7.23***	***5.54***	***7.42***

[a] Temporary impacts refer to construction access and staging areas; the temporary impact for the Kern River and Friant-Kern Canal includes the area under the bridge that will be accessed during construction.

[b] Permanent structural impacts are due to proposed structures.

Source: *Natural Environment Study* 2013.

Table 3.45 Build Alternatives' Impacts on Waters of the State Under the Jurisdiction of the California Department of Fish and Wildlife

Waters of the State	Existing (Acres)	Temporary Construction Impact (Acres)[a]			Permanent Structural Impact (Acres)[b]			Permanent Shade Impact (Acres)[c]			Total Impacts (Acres)		
		Alt. A	Alt. B	Alt. C	Alt. A	Alt. B	Alt. C	Alt. A	Alt. B	Alt. C	Alt. A	Alt. B	Alt. C
Kern River	96.05	9.27	3.01	5.64	3.33	0.01	0.03	9.27	3.01	5.64	12.60	3.02	5.67
Arvin-Edison Canal	1.16	0.00	0.00	0.00	0.00	0.00	0.00	N/A	N/A	N/A	0.00	0.00	0.00
Calloway Canal	3.63	0.00	0.00	0.00	0.00	0.00	0.00	N/A	N/A	N/A	0.00	0.00	0.00
Carrier Canal	8.15	0.09	0.01	0.20	0.41	0.51	0.45	N/A	N/A	N/A	0.50	0.52	0.65
Central Branch Kern Island Canal	1.03	0.05	0.05	0.05	0.00	0.00	0.00	N/A	N/A	N/A	0.05	0.05	0.05
Cross Valley Canal	19.10	2.47	1.42	1.06	0.49	0.36	0.32	N/A	N/A	N/A	2.96	1.78	1.38
Friant-Kern Canal	3.26	0.42	0.26	0.33	0.00	0.07	0.00	0.42	0.26	0.33	0.42	0.33	0.33
Kern Island Canal	1.16	0.02	0.02	0.02	0.00	0.00	0.00	N/A	N/A	N/A	0.02	0.02	0.02
Stine Canal	3.96	0.56	1.52	0.25	0.44	0.29	0.15	N/A	N/A	N/A	1.00	1.81	0.40
Detention Basins	7.85	0.02	0.00	1.73	0.00	0.18	0.00	N/A	N/A	N/A	0.02	0.18	1.73
Stockdale Highway/State Route 43 Detention Basin	39.09	0.03	0.03	0.03	0.00	0.00	0.00	N/A	N/A	N/A	0.03	0.03	0.03
Total	**184.44**	**12.93**	**6.32**	**9.31**	**4.67**	**1.42**	**0.95**	**9.69**	**3.27**	**5.97**	**17.60**	**7.74**	**10.26**

[a] Temporary impacts refer to construction access and staging areas; the temporary impact for the Kern River and Friant-Kern Canal includes the area under the bridge that will be accessed during construction.

[b] Permanent structural impacts are due to proposed structures.

[c] Permanent shade impacts are included for the Kern River and Friant-Kern Canal; this impact is not applicable (N/A) to all other areas. This impact represents the area under the bridge shaded at noon and is equivalent to the temporary impacts. Therefore, the "Total Impacts" column is the sum of the Temporary Construction Impact and the Permanent Structural Impact columns.

Source: *Natural Environment Study* 2013.

Avoidance, Minimization, and/or Mitigation Measures

The project was designed to avoid and minimize effects on jurisdictional areas to the extent practicable. The number of columns in the river was minimized in order to minimize the area of jurisdictional resources that would be affected. Additionally, the Kern River bridge crossing was placed in the same location where the Westside Parkway bridge crosses the river so that the footprint of development along the river was minimized; thereby minimizing indirect effects (e.g., traffic noise, night lighting, and human activity) on animals using the river. In addition to the minimization measure listed below, other minimization measures would reduce impacts to wetlands and other waters during construction. The construction measures are discussed in Section 3.6, Construction Impacts.

Mitigation Measure

B-1 Prior to initiation of construction, Caltrans shall coordinate with and obtain necessary permits from the U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and Regional Water Quality Control Board regarding compensation for impact to jurisdictional habitat. Due to the small effect of the alternatives on jurisdictional areas, replacement habitat shall be incorporated into the jurisdictional habitat replacement plan developed for the Westside Parkway project. The mitigation approach will be negotiated with the resource agencies and will consist of a combination of the following: 1) purchase of credits at a jurisdictional resources mitigation bank; 2) enhancement of jurisdictional resources; 3) restoration of jurisdictional resources; or 4) purchase of existing jurisdictional resources and placing a conservation easement over it.

3.3.3 Plant Species

Regulatory Setting

The U.S. Fish and Wildlife Service and California Department of Fish and Wildlife have regulatory responsibility for the protection of special-status plant species. Special-status species are selected for protection because they are rare and/or subject to population and habitat declines. “Special-status” is a general term for species that are afforded varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act and/or the California Endangered Species Act. See the Threatened and Endangered Species section (Section 3.3.5) for information on these species.

This section of the document discusses all other special-status plant species, including California Department of Fish and Wildlife species of special concern, U.S. Fish and Wildlife Service candidate species, and California Native Plant Society rare and endangered plants.

Regulatory requirements for the Federal Endangered Species Act can be found at 16 U.S. Code, Section 1531, et seq. See also 50 CFR Part 402. The regulatory

requirements for the California Endangered Species Act can be found at California Fish and Game Code, Section 2050, et seq. Caltrans projects are also subject to the Native Plant Protection Act, found at Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act, Public Resources Code, Sections 2100-21177.

Affected Environment

Twenty-five non-listed special-status plant species are known to occur in the project region and were evaluated in the *Natural Environment Study* (March 2013). A complete list of non-listed special-status plant species can be found in Appendix I in Volume 2 and in Table 2 of the *Natural Environment Study*.

Ferris' goldfields (*Lasthenia ferrisiae*) was seen in Segment 1 of the biological study area during surveys in 2009. Ferris' goldfields is a California Native Plant Society List 4.2 species (this is a "watch list" for plants that have limited distribution in California and are fairly endangered but have not currently been designated as federally or state threatened or endangered species). Two large populations totaling about 3,500 individuals were seen in a flood-control basin on oil refinery land just north of the Kern River. The remaining 24 non-listed special-status plant species are not expected to occur in Segment 1 of the biological study area because they were not seen during focused surveys. Figure 3-54 in Volume 2 shows the location of Ferris' goldfields in the biological study area.

Surveys in Segment 3 were limited to the intersection improvements at Stockdale Highway and State Route 43 because this is the only location where improvements are proposed.

Environmental Consequences

Common to All Build Alternatives

Improvements at Stockdale Highway and State Route 43 would not affect non-listed special-status plant species. The improvements in Segment 2 would not affect special-status plant species because all construction would be within the right-of-way and no habitat would be affected.

Alternative A

In Segment 1, Alternative A would affect both populations of Ferris' goldfields. This impact would be considered substantial based on the large number of individuals that would be affected.

Alternatives B and C

In Segment 1, Alternatives B and C would not affect the two populations of Ferris' goldfields.

No-Build Alternative

The No-Build Alternative would not result in any changes from existing conditions, so there would be no impact on plant species.

Avoidance, Minimization, and/or Mitigation Measures

Mitigation Measure

The following measure would apply to Alternative A in Segment 1:

B-2 If Alternative A is selected as the preferred alternative and the two populations of Ferris' goldfields cannot be avoided, Caltrans shall develop a mitigation and monitoring program to compensate for the loss of Ferris' goldfields before this species is affected. The mitigation program shall include preservation and/or enhancement of occupied habitat for this species or it shall include seed collection within the impact area and planting within a suitable mitigation site. The mitigation and monitoring plan shall be prepared by a qualified biologist and shall contain appropriate performance criteria.

3.3.4 Animal Species

Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service, the National Oceanic and Atmospheric Administration's National Marine Fisheries Service, and the California Department of Fish and Wildlife are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the state or federal Endangered Species Acts. Species listed or proposed for listing as threatened or endangered are discussed in Section 3.3.5. All other special-status animal species are discussed here, including California Department of Fish and Wildlife fully protected species and species of special concern, and U.S. Fish and Wildlife Service or National Oceanic and Atmospheric Administration Fisheries Service candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act
- Sections 1600–1603 of the Fish and Game Code
- Sections 4150 and 4152 of the Fish and Game Code

Affected Environment

Information in this section comes from the *Natural Environment Study* (March 2013). Twenty-one non-listed special-status wildlife species are known to occur in the project region and were evaluated in the *Natural Environment Study*.

Listed special-status wildlife species are discussed in Section 3.3.5. Many of these non-listed special-status wildlife species are associated with particular habitat types that are absent from the biological study area.

Habitat for 14 non-listed special-status wildlife species occurs in Segment 1 of the biological study area (see Appendix I in Volume 2 of this environmental document and Table 3 in the *Natural Environment Study*).

Habitat for non-listed special-status wildlife species was not evaluated for Segment 2 because there would be no impact on habitat related to improvements to the Westside Parkway.

Habitat for 12 non-listed special-status wildlife species occurs at the intersection of Stockdale Highway and State Route 43 (see Appendix I in Volume 2 of this environmental document and Table 3 in the *Natural Environment Study*).

The burrowing owl, a California Species of Special Concern, was not seen along the Kern River during focused surveys, but several burrows that could be used by owls were found. This species was seen during pre-construction surveys for the Westside Parkway north of the Kern River and west of Mohawk Street during the wintering season. An individual was seen on December 10 and 11, 2008, but it was gone during follow-up surveys and considered to be a transient owl. This species may occur throughout the biological study area for foraging and nesting. Figure 3-54 in Volume 2 shows where burrowing owls were seen in the biological study area, as well as potential burrow locations.

The Loggerhead shrike, a California Species of Special Concern, was seen in Segment 1 of the biological study area. This species is expected to occur throughout the biological study area for foraging and nesting.

Environmental Consequences

Common to All Build Alternatives

The following analysis discusses impacts for Segment 1 and the improvements at the intersection of Stockdale Highway and State Route 43. There would be no impacts for Segment 2 because the improvements are within the existing right-of-way or areas previous disturbed by construction of the Westside Parkway and no habitat would be removed.

The nature of the impacts (habitat removal) for all three build alternatives is the same. What distinguishes the alternatives is the amount of impact. Acreage impacts are shown in Table 3.45. Each of the build alternatives would affect habitat that could be used by special-status wildlife species. The project would contribute to the ongoing loss of habitat in the project region (the 10-mile radius surrounding the biological study area). The loss of habitat for non-listed special-status wildlife species would be limited relative to the availability of similar habitat in the region. Therefore, the effect would be considered adverse, but less than substantial. The amount of habitat loss

within Segment 1, as well as the intersection improvements at Stockdale Highway and State Route 43, for each special-status wildlife species is quantified in Table 3.46.

Table 3.46 Potential Habitat Affected for Non-listed Animal Species

Species	Suitable Habitat	Alternative A (acres)	Alternative B (acres)	Alternative C (acres)
Western Spadefoot, Western Pond Turtle	Riparian Woodland/Great Valley Cottonwood Riparian Forest, Waterways, Detention Basin	11.91	7.44	7.86
Silvery Legless Lizard	Riparian Woodland/Great Valley Cottonwood Riparian Forest, Waterways, Detention Basin	11.91	7.44	7.86
Coast Horned Lizard	Non-Native Grassland	66.10	50.99	45.17
Golden Eagle, Northern Harrier, White-tailed Kite, American Peregrine Falcon, Burrowing Owl, Loggerhead Shrike, Western Mastiff Bat	Non-Native Grassland, Riparian Woodland/Great Valley Cottonwood Riparian Forest, Waterways, Detention Basin, Disturbed/Ruderal, Agriculture	95.38 (foraging habitat only)	76.83 (foraging habitat only)	72.49 (foraging habitat only)
Mountain Plover, Tricolored Blackbird, Yellow-headed Blackbird	Non-Native Grassland, Waterways, Detention Basin, Disturbed/Ruderal, Agriculture	91.84 (foraging habitat only)	75.77 (foraging habitat only)	71.07 (foraging habitat only)

Source: *Natural Environment Study* 2013.

The project could directly affect nesting birds or raptors if vegetation were removed during the nesting season, and it could indirectly affect nesting raptors if work occurred next to large trees during the raptor nesting season. Although nesting birds and raptors have different nesting seasons, one nesting bird period that encompasses both periods was used rather than two separate time periods to avoid confusion during implementation. Therefore, the peak bird and raptor nesting season is February 1 to August 31.

Night lighting during construction or operation of the project could spill over into the adjacent open space, especially along the Kern River, and could have adverse effects on the foraging activities of nocturnal species (such as the burrowing owl, bats, and other small mammals) and may also increase predation on small mammals.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance or minimization efforts are necessary for the golden eagle, northern harrier, American peregrine falcon, mountain plover, tricolored blackbird, and yellow-headed blackbird because the impacts would be considered less than substantial.

Measures to reduce impacts on other species during construction are discussed in Section 3.6, Construction Impacts.

3.3.5 Threatened and Endangered Species

Regulatory Setting

The main federal law protecting threatened and endangered species is the Federal Endangered Species Act: 16 U.S. Code, Section 1531, et seq. See also 50 CFR Part 402. This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration, are required to consult with the U.S. Fish and Wildlife Service and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service to ensure that they are not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take statement, a Letter of Concurrence, and/or documentation of a no effect finding. Section 3 of the Federal Endangered Species Act defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act, California Fish and Game Code, Section 2050, et seq. The California Endangered Species Act emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Wildlife is the agency responsible for implementing the California Endangered Species Act. Section 2081 of the Fish and Game Code prohibits take of any species determined to be an endangered species or a threatened species. "Take" is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California Endangered Species Act allows for take incidental to otherwise lawful development projects; for these actions, an incidental take permit is issued by the California Department of Fish and Wildlife. For species listed under both the Federal Endangered Species Act and the California Endangered Species Act requiring a Biological Opinion under Section 7 of the Federal Endangered Species Act, the California Department of Fish and Wildlife may also authorize impacts to California Endangered Species Act species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

Affected Environment

Information in this section comes from the *Natural Environment Study* (March 2013), the Biological Assessment (March 2013), and the Biological Opinion (December 2013). A species list was obtained from the U.S. Fish and Wildlife Service on September 18, 2013 (see Appendix I, Volume 2).

Twenty-four threatened or endangered plant and wildlife species are known to occur in the project region and were evaluated in the *Natural Environment Study*. Many of these listed species are associated with particular habitat types that are absent from the biological study area.

Plant Species

No threatened or endangered plants were found during focused surveys in Segment 1 of the biological study area. Focused surveys were done at the intersection of Stockdale Highway and State Route 43 in spring/summer 2012. No special-status plant species were seen, but the results of surveys were inconclusive for two species due to lack of adequate rainfall in the winter of 2011 to 2012 and winter 2012 to 2013. Surveys for these species—California jewelflower (*Caulanthus californicus*) and San Joaquin woollythreads (*Monolopia congdonii* [*Lembertia c.*])—would be repeated before construction to confirm their absence.

No critical habitat for threatened or endangered plant or wildlife species is present in the biological study area.

Wildlife Species

No suitable habitat for the blunt-nosed leopard lizard (*Gambelia sila*, federally endangered, state endangered, fully protected) is present along Segment 1 of the biological study area or at the intersection of Stockdale Highway and State Route 43.

The Swainson's hawk (*Buteo swainsoni*, state threatened) was not seen during focused surveys of Segment 1 of the biological study area in 2009. Suitable foraging habitat for this species is found throughout the biological study area. This species was not seen nesting, but it has limited potential to nest along the Kern River. No suitable nesting habitat occurs in Segment 3 at the intersection of Stockdale Highway and State Route 43 in the biological study area.

The San Joaquin kit fox (*Vulpes macrotis mutica*, federally endangered, state threatened) is known to occur throughout the biological study area. Focused surveys for this species were done in Segment 1 of the biological study area. One sighting was made, and multiple dens were found, including one with fresh tracks and scat. Figure 3-54 shows the location of potential den locations in the biological study area.

Several dens of the San Joaquin kit fox were seen along the Kern River near Mohawk Street and adjacent grasslands, in City Basin 143 during focused surveys of the biological study area in 2008, and during pre-construction surveys for the Westside Parkway in 2009. In addition, kit foxes were documented south of Truxtun Avenue, in the landscaped Kern River Parkway, along the Carrier Canal and BNSF Railway

corridor, and in the City maintenance facility and basins (City of Bakersfield and Caltrans 2009). No potential dens were found at Stockdale Highway and State Route 43.

Areas of kit fox activity or movement were reported at the Calloway Canal, Friant-Kern Canal, northwest of State Route 43 and Interstate 5, near Coffee Road, near State Route 99 and State Route 58 (Rosedale Highway), and near Interstate 5 and Rosedale Highway. San Joaquin kit foxes are also known near the biological study area at the Sundale Country Club, Quailwood Park, Seven Oaks Country Club, and the California State University, Bakersfield campus (City of Bakersfield and Caltrans 2009). This species is expected to occur throughout the biological study area.

No suitable habitat for the Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*, federally endangered, state endangered) is present in Segment 1 of the biological study area. No suitable habitat is present for this species at the intersection of Stockdale Highway and State Route 43.

No suitable habitat for the giant kangaroo rat (*Dipodomys ingens*, federally endangered, state endangered) or Nelson's (San Joaquin) antelope squirrel (*Ammospermophilus nelsoni*, state threatened) is present in Segment 1 of the biological study area. No suitable habitat is present for these species at the intersection of Stockdale Highway and State Route 43.

No critical habitat for threatened or endangered wildlife species is present in the biological study area.

Environmental Consequences

Common to All Build Alternatives

Plant Species

No threatened or endangered plant species occur in Segments 1 and 2; therefore, there would be no effect.

The Stockdale Highway/State Route 43 portion of the project was added to the project limits after project focused surveys were conducted. Focused surveys for this additional area have been attempted the last two springs (2012 and 2013); however, rainfall was not adequate to conduct the surveys that would conclusively determine absence or presence of these species. Assuming adequate rainfall is received in winter 2013-2014 (as verified by blooming plants at the reference populations), the surveys could be conducted in approximately April/May of 2014. Habitat conditions are marginally suitable for 1.07 acres and it is expected that these species are likely absent from this area. Therefore, a no effect determination for these species has been made for Segment 3.

Wildlife Species

Suitable habitat for the following species is not present in the biological study area: blunt-nosed leopard lizard, Tipton kangaroo rat, giant kangaroo rat, and Nelson's (San Joaquin) antelope squirrel. Therefore, there would be no effect.

The nature of the impacts for all three build alternatives is the same. What distinguishes the alternatives is the amount of acres or number of dens affected (see Table 3.47).

Table 3.47 Potential Habitat Affected for Listed Animal Species

Species	Suitable Habitat	Alternative A (acres)	Alternative B (acres)	Alternative C (acres)
Swainson's Hawk	Non-Native Grassland, Riparian Woodland/Great Valley Cottonwood Riparian Forest, Waterways, Detention Basin, Disturbed/Ruderal, Agriculture	95.38 (foraging habitat only)	76.83 (foraging habitat only)	72.49 (foraging habitat only)
San Joaquin Kit Fox	Non-Native Grassland, Riparian Woodland/Great Valley Cottonwood Riparian Forest, Waterways, Detention Basin, Disturbed/Ruderal, Agriculture	95.38 1 active den	76.83 3 potential dens	72.49 1 potential den

Note: Alternatives include the improvements at Stockdale Highway and State Route 43, which have been included in the total acreage.
Source: *Natural Environment Study* 2013.

Swainson's hawk: No Swainson's hawks were seen during the 2009 survey, but this species could forage in undeveloped vegetation types in the biological study area. The project would contribute to the ongoing loss of raptor foraging habitat in the project region (the 10-mile radius surrounding the biological study area). The loss of foraging habitat for this species would be limited relative to the availability of similar habitat in the region. This impact would be considered adverse, but less than substantial.

The Swainson's hawk could nest in trees in the biological study area, most likely along the Kern River. Tree removal and/or nearby construction could adversely affect nesting efforts for this species. Construction during the breeding season could disturb nesting activities, possibly resulting in nest abandonment, loss of young, and reduced health and vigor of eggs and/or nestings. Direct effects on an active Swainson's hawk nest would be considered a violation of the California Endangered Species Act, the California Fish and Game Code (Sections 3503, 3503.5, and 3513), and the Migratory

Bird Treaty Act. Any impact on an active nest (direct or indirect) during the Swainson's hawk breeding season (March 1-July 15) would be considered substantial.

San Joaquin kit fox: This species could forage and den in undeveloped vegetation in the biological study area. Loss of habitat could also reduce prey availability. The project would contribute to the ongoing loss of foraging/denning habitat in the project region (the 10-mile radius surrounding the biological study area).

The project would affect existing detention basins used by the kit fox, but the detention basins would be replaced as part of the project, and new detention basins would be added. Alternative A includes 7 basins. Alternative B would include 8 basins. Alternative C would include 11 basins. The addition of basins in kit fox activity areas may be considered a beneficial impact of the project if they are located in areas that were previously developed.

Night lighting would be used during construction and also during operation of the finished roadway. Spillover of light into the adjacent open space could have an adverse impact on foraging activities by the kit fox, which is a nocturnal species. This may result in reduced health and vigor of kit foxes and/or their young.

Vehicle strikes are considered an indirect effect as a result of the project. Currently, the San Joaquin kit fox is exposed to traffic along existing roadways. Crossing a new larger roadway may result in an unintentional increase in vehicle-related death. Several kit fox road kills have been reported within the biological study area.

Kit foxes in Bakersfield have been found to move along linear habitat features (canals, railway rights-of-way, the Kern River corridor, roads), going from one area of open space to another. Some existing movement corridors along existing linear habitat features, such as the Kern River and Friant-Kern Canal would be maintained. Other canals would be converted from open channels to box culverts under the roadway; the project would extend existing box culverts in some of these locations. In areas of kit fox activity (such as the Carrier Canal and Cross Valley Canal), this extension of the box culvert could disrupt kit fox movement when the canal is full of water. With a longer culvert to follow, kit foxes may choose to move out of the corridor and into developed areas to go around the box culvert, where they could be struck by cars and killed.

Therefore, this project may affect and is likely to adversely affect this species.

No-Build Alternative

There would be no change from existing conditions with the No-Build Alternative. Therefore, there would be no impacts to threatened and endangered species.

Avoidance, Minimization, and/or Mitigation Measures

Kit foxes in Bakersfield have been found to move along linear habitat features (canals, railway rights-of-way, the Kern River corridor, roads), going from one area

of open space to another. Maintaining existing movement corridors along existing linear habitat features, such as the Kern River and Friant-Kern Canal, would be a minimization measure.

Measures to reduce potential impacts to the Swainson's hawk and San Joaquin kit fox during construction are discussed in Section 3.6, Construction Impacts. The following mitigation measures would apply to all alternatives.

Mitigation Measures

B-3 Special Status Plant Species: Prior to project groundbreaking, a U.S. Fish and Wildlife-approved biologist(s) shall conduct updated protocol-level botanical surveys within the project footprint during the appropriate blooming periods for the following four species: the California jewelflower, the Kern mallow, the San Joaquin woollythreads, and the Bakersfield cactus. Surveys shall be conducted in accordance with the most current protocols accepted by the U.S. Fish and Wildlife Service.

To the greatest extent practicable, efforts shall be made to avoid the species during project design. If one of these species is observed within the impact area at Stockdale Highway and State Route 43 and it cannot be avoided, Caltrans shall obtain a take authorization from the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife before impacts to this species. Caltrans shall consult with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife to determine the appropriate conservation measures to mitigate for impacts on this species. The mitigation shall include payment to an in-lieu fee program; preservation or enhancement of occupied habitat for the species; or collection of seed within the impact area and planting within a mitigation site with the appropriate microhabitat for this species. A detailed mitigation and monitoring program shall be prepared by a qualified biologist and approved by the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife.

B-4 S*an Joaquin kit fox:* Measures have been developed from standard recommendations described in the *USFWS Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011b). In addition, project design changes have been identified to reduce impacts on the kit fox and have been incorporated into the design plans for the project. The main objective of project design changes is to maintain opportunities for kit foxes to cross over the road surface while reducing the potential for unintentional vehicle strikes. Construction of the new roadway would also incorporate several features to allow continued kit fox movement, including maintaining existing movement corridors along existing linear habitat features. These features include:

- Permeable fencing shall be installed along the proposed right-of-way in all areas where there is known San Joaquin kit fox activity and lower traffic speeds/volumes. Permanent exclusionary fencing shall be installed along the proposed right-of-way in high-density residential areas and/or in areas with higher traffic speeds/volumes. In areas in need of new permeable fencing, at least one design option featured below shall be adopted to provide the San Joaquin kit fox with passage and movement opportunities, and to minimize the potential to disrupt species movement and habitat fragmentation of the project area:
  (1) elevate the bottom of the fence 5 inches above ground to allow unobstructed movement by San Joaquin kit fox under the fence;
  (2) install ground-level 8-inch-wide by 8-inch-wide gaps no more than 100 feet apart along the length of the fence to allow for San Joaquin kit fox movement at regular intervals along the right-of-way; and
  (3) install fencing with a minimum mesh size of 3½ by 7 inches, preferably 5 by 12 inches, to allow unlimited movement through the fence.

- Curbed medians shall be used as part of the project design and their height shall be no greater than ten inches. Either 6-inch-high curbed medians with low vegetation (that is, less than 6 inches) or 10-inch-high unvegetated curbed medians shall be constructed so as not to obstruct the visual field of the San Joaquin kit fox near the roadway. Curbed medians less than 10 inches in height and which require landscaping shall be planted with low-level vegetation (i.e., less than 6 inches tall at maturity), or be mowed frequently to prevent overgrowth and provide an unobstructed line of sight for the species, or shall have gaps installed measuring no less than 4-feet-wide every 12 feet in areas landscaped with trees and shrubs. If required, landscaping shall be designed in conjunction with the curbed median design in order to allow unobstructed visibility to the San Joaquin kit fox and to maintain and/or enhance opportunities for movement across the roadway. Median barriers will be required in some areas of the project for the purpose of public safety. The Caltrans-designed modified median barrier type 60/S shall be used. Caltrans type 60/S design previously has been utilized in other projects (e.g., reinitiated Biological Opinion for the State Route 99 Goshen to Kingsburg 6-Lane Project, in Tulare and Fresno Counties; Service File number 81420-2009-F-0752) and includes 9-inch radius openings (semi-circular openings 9 inches high by 18 inches) spaced every 150 feet to allow passage by the San Joaquin kit fox. Maintaining permeability in this manner shall also reduce the potential to disrupt species movement and connectivity in the project area.

- In areas of known San Joaquin kit fox activity and high traffic volumes and/or speeds, existing San Joaquin kit fox movement corridors like the canal channels and the Kern River, as well as railroad right-of-

ways (e.g., BNSF), shall be preserved through the use of bridges and/or culverts to facilitate crossings. Some segments of the canals under the new roadways shall be converted from trapezoidal channels to box culverts; other segments of the canals with existing box culverts shall be extended. Toe-of-road fill and bridge support walls shall be maintained and new walls will be designed no less than 20 feet from the centerlines of canal access roads and railroad.

  - An elevated bridge currently exists at the location where the Westside Parkway crosses the trapezoidal channel of the Friant-Kern Canal. Species access will continue to be provided along an elevated access road located parallel to the canal.
  - An above-grade bridge will be constructed over the trapezoidal channel of the Stine Canal. This will allow the species to move freely below the roadway.
  - An above-grade bridge (westbound Mohawk St. off-ramp) will be constructed over the Cross Valley Canal, which exists as a double box culvert. The Kern River corridor is located proximate to the canal and so it provides existing access for the species in the area; no additional crossing features are proposed at this canal site.

- Two design options are proposed for the location where the new roadway will cross the Carrier Canal: (1) box culvert – if this design is chosen, a crossing structure (with proposed 5 x 5 inch mesh size and 10 inch diameter escape pipes within a 60 inch diameter crossing culvert) will be installed to connect the access roads on the north side of the canal; (2) bridge – if this design is chosen, no additional crossing features will be necessary since the elevated bridge above the trapezoidal canal will allow the species to move freely below the roadway.
- Caltrans shall verify that the City compensates for the permanent loss of 11.28 acres and temporary disturbance to 65.55 acres of habitat consisting of non-native grassland, riparian woodland/Great Valley cottonwood riparian forest, ruderal/disturbed areas, desiccated waterways, detention basins, and agricultural land suitable for the San Joaquin kit fox by purchasing 105.95 acres (using a 3:1 compensation ratio for permanent effects and 1.1:1 compensation ratio for temporary effects) through the Metropolitan Bakersfield Habitat Conservation Plan. Prior to construction, the limits of affected habitat acreage by vegetation type shall be verified and delineated on a map, and submitted for approval to the U.S. Fish and Wildlife Service. This shall be done prior to its submittal to the City Planning Department for fee payment.

Project design changes, when implemented together, are expected to reduce the potential for adverse effects on the kit fox. Project design shall

be re-evaluated and adjusted as appropriate during the final project design phase and if changes are made plans shall be submitted for review and approval to the U.S. Fish and Wildlife Service.

The actions to be applied during construction are identified in Section 3.6, Construction Impacts, as part of Mitigation Measure CI-25. Mitigation CUM-1, provided in the Cumulative Impacts discussion, also addresses the San Joaquin kit fox.

3.3.6 Invasive Species

Regulatory Setting

On February 3, 1999, President Bill Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration guidance issued August 10, 1999 directs the use of the State's invasive species list, currently maintained by the California Invasive Species Council to define the invasive plants that must be considered as part of the National Environmental Policy Act analysis for a project.

Affected Environment

Information in this section came from the *Natural Environment Study* (March 2013) for the project.

Although non-native species (non-native grasses and ornamental species) occur throughout the biological study area, invasive species are not prevalent within the biological study area. One listed noxious weed species from the California Department of Food and Agriculture Noxious Weed List (2010) and five listed invasive weed species from the California Invasive Plant Council List (2006) were identified in the biological study area: wild turnip (*Brassica toumefortii*), foxtail chess (*Bromus madritensis* ssp. *rubens*), cheat grass (*Bromus tectorum*), halogeton (*Halogeton glomeratus*), English ivy (*Hedera helix*), and Mediterranean tamarisk (*Tamrix ramosissima*). No species on the Federal Weed List (U.S. Department of Agriculture Natural Resource Conservation Service 2010) were identified within the biological study area.

Environmental Consequences

Build Alternatives

Common to All Build Alternatives

Invasive species can be introduced into an area through the type of landscaping plants used or from remnants of plant materials (seeds or portions of plants) on construction equipment. As a standard practice, Caltrans has a biologist review the list of plants that are proposed for erosion control and landscaping to ensure the list does not

include any species on the California list of invasive species. Additionally, all equipment and materials are inspected for the presence of invasive species.

No-Build Alternative

There would be no change from existing conditions with the No-Build Alternative.

Avoidance, Minimization, and/or Mitigation Measures

The standard condition to minimize invasive species during construction is identified in Section 3.6, Construction Impacts.

3.4 Relationship Between Local Short-Term Uses of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity

Common to All Build Alternatives

The project would provide freeway/roadway improvements that have been identified in state and city planning that considered the need for present and future traffic requirements with the context of present and future land use developments in the metropolitan Bakersfield area, the region, and the state. Local short-term impacts and the use of resources to build the project would support the long-term productivity of the metropolitan Bakersfield area.

The build alternatives would have similar impacts and are discussed separately only if an impact would not apply to all three build alternatives. The following local short-term impacts are expected from the project:

- ***Displacement of Households and Businesses.*** Relocation of these uses would be required, resulting in disruption of residents, neighborhoods and businesses. This would result in changes to community character and potential impacts to neighborhood cohesion.
- ***Construction Traffic Impacts.*** Construction impacts related to travel lane closures and traffic detours would result in temporary inconveniences and lost productivity due to delays.
- ***Construction Air Quality and Noise Impacts.*** Areas next to construction activities would be exposed to construction emissions and increased noise levels.
- ***Temporary Natural Habitat Displacement.*** Construction activities would displace natural habitat that is used by both common and sensitive species; long-term adverse effects are not expected.
- ***Increased Energy Usage During Construction.*** Energy use would be higher than normal from the use of construction equipment and manufacture/fabrication of construction materials.
- ***Parkland Impacts.*** Permanent displacement of 6.28 acres of the Kern River Parkway would occur with Alternative A associated with construction of the

bridge viaduct structures. Alternative C would result in the permanent displacement of 1.95 acres of the developed portion and 1.32 acres of the undeveloped portion of Saunders Park. Replacement parkland and facilities would be provided at Saunders Park.

- ***Visual and Aesthetic Impacts.*** Construction activities could generate visual and aesthetic images that are generally visually disruptive and may be undesirable to some affected individuals or groups. Demolition of acquired properties before the roadway is built could result in vacant lots interspersed in business areas and neighborhoods. However, long-term effects from construction activities and vacant parcels are not expected.

Compliance with standard conditions and implementation of minimization and mitigation measures would help to reduce these impacts. These measures, which are identified in each section and summarized in Appendix F, Volume 2, include the phased acquisition of property, development of a Traffic Management Plan, and compliance with regulations designed to reduce construction-related impacts. Though the impacts would be considered short term when compared to the long-term productivity of the project, the duration of construction (about 30 months) may be viewed as a prolonged inconvenience to the residents and businesses in the immediate area of construction.

Short-term benefits would also result from the project. This would include an increase in jobs and revenue in the local economy from the construction activities.

The following long-term impacts are expected from the project:

- ***Displacement of Households and Businesses***. All of the build alternatives would result in the displacement of homes and businesses. In addition, Alternatives A and B would result in substantial long-term disruption to the established Westpark neighborhood; Alternative C would not have this effect.
- ***Long-Term Loss of Habitat for Sensitive Species.*** The project would remove habitat used by the San Joaquin kit fox and burrowing owl.
- ***Change in Visual Character.*** The project would introduce a major transportation corridor, including elevated structures and retaining walls, in areas that currently do not have this element. This would be more pronounced with Alternatives A and B.
- ***Potential Impact to Archaeological and Paleontological Resources.*** Construction activities could destroy buried resources.
- ***Increased Noise.*** Before abatement, noise levels next to the roadway would be louder than what now exists in these locations due to the increased traffic volumes.

The project would provide long-term benefits both in and beyond the metropolitan Bakersfield area. The following long-term benefits are expected from the project:

- ***Improved Traffic Circulation.*** The project would reduce congestion and decrease travel times through the urbanized areas of Bakersfield. The project would provide an additional east-west connection that crosses the Kern River, allowing for better distribution of traffic on the roadway network. This would benefit the community and support the circulation demands of future development in the project area. Traffic volumes on the shared portion of State Route 58 and State Route 99 would be less than what would occur under the No-Build Alternative.
- ***Reduce Truck Trips on Local Roadways.*** With a high-speed freeway, the Centennial Corridor would attract truck traffic that currently uses local roadways, such as the Rosedale Highway portion of State Route 58. This would improve operation of the local roadways.
- ***Improve Interregional Goods Movement.*** State Route 58 provides a link to other state routes and interstate roadways that are used by trucks transporting goods beyond the local area. Providing an improved route would allow for more efficient goods movement.

No-Build Alternative

The No-Build Alternative would not have construction impacts or use local resources, nor would it enhance long-term productivity. This alternative would not provide long-term benefits. Congestion would increase as the population of Bakersfield grows.

3.5 Irreversible and Irretrievable Commitments of Resources that Would be Involved in the Proposed Project

Common to All Build Alternatives

The impacts of the build alternatives would be similar to each other because they are all providing similar types of improvements. Construction would require the commitment of natural, physical, human, and fiscal resources.

The build alternatives would demolish existing residential and non-residential buildings. Loss of existing developed properties and use of the land that would be acquired and added into the freeway/roadway right-of-way would be an irreversible and long-term commitment of this resource. As discussed in Section 3.1.4.2, Relocation and Property Acquisition, the demolished uses (both residential and business uses) would likely be relocated within the metropolitan Bakersfield area. Adequate replacement opportunities are available, but this would result in a commitment of available resources as replacement opportunities. And, though the number of replacement structures needed is a very small percentage of the projected long-term growth for the region, the relocated uses would reduce the amount of available inventory. New development would be needed to serve the projected growth for the region, so the loss of the current inventory may encourage new development, which would also require a commitment of similar non-renewable resources.

Construction of the build alternatives would also require use of fossil fuels, water, and construction materials such as concrete cement, aggregates (sand and gravel), asphalt, reinforcement bars, paint, fencing, pipes, and other materials. These materials are generally not retrievable once they have been used to build a road. These same resources are also used in other types of development, such as residential and commercial developments. Aggregates used for building the roads are a non-renewable resource. The California Department of Conservation's California Geological Survey estimates the 50-year demand for aggregate resources in California and the amount of resources permitted for mining. In 2006, it was estimated that about 32 percent of the 50-year demand was currently permitted. In the Bakersfield region, about 46 percent of the 50-year demand was provided for based on current permits. Though it is a commitment of non-renewable resources, the project would require a very small amount compared to the resources available.

Labor would be needed to make construction materials, demolish existing structures and infrastructure, and build the proposed improvements. Labor is not in short supply, and use of this labor would not have an adverse effect upon its continued availability in the city of Bakersfield or Kern County.

The project would also require a substantial one-time expenditure of local, state, and federal funds; the funds are not retrievable. Anticipated savings in energy consumption by vehicles, travel time, and a reduction in accidents would offset the financial commitment. In addition to the costs of construction and right-of-way acquisition, the project would also incur the costs for roadway maintenance, including pavement, roadside landscaping, litter/sweeping, signs and markers, electrical and storm maintenance. This long-term commitment would be balanced by the transportation benefits of the project.

Commitment of these resources would benefit residents and businesses in the metropolitan Bakersfield area, the Central Valley, and the state through an improved transportation system. These benefits would consist of improved accessibility, which is expected to outweigh the irreversible and irretrievable commitment of resources.

No-Build Alternative

The No-Build Alternative would require no commitment of resources because no changes to the existing environment would occur.

3.6 Construction Impacts

Affected Environment

To understand the temporary construction impacts associated with the Centennial Corridor build alternatives, a typical construction sequence is provided.

Construction Sequence

Project construction would commence after the City of Bakersfield and County of Kern complete acquisition of all the right-of-way for the project. The construction

sequence would begin with site clearing of all improvements, which includes demolition of buildings and structures, followed by utility relocation, roadway construction, and landscaping/finishing work. A construction schedule of about 30 months is expected to complete the project, as shown in Table 3.48. The construction schedule is currently expected to extend from 2016 to 2018.

A Traffic Management Plan would be developed to reduce the impacts of traffic congestion and detours during construction. Except for short-term closures to install bridge falsework (temporary supports while the bridge is being built), most of the arterial roadways and most secondary streets crossing the construction corridor would remain open during construction. BNSF Railway operations would not be interrupted or delayed during construction. Some nighttime work would be planned on busy thoroughfares to minimize traffic disruption, especially when temporary lane or road closures are required.

The typical construction sequence for a project of this type and scale is described below for the purpose of impact assessment. The actual construction process would be determined by the contractor in accordance with requirements of the construction contract. Construction would likely be done in phases to minimize impacts to local residents and businesses. The timing of construction in certain areas, such as in the vicinity of active bird nests, would have to be scheduled in accordance with the seasonal restrictions, as described below under *Avoidance, Mitigation and Minimization Measures*.

The contractor would require temporary laydown and staging areas for field trailers, storage and equipment, and construction-related activities within the vicinity of the project corridor. The contractor may propose to set up temporary rock-crushing equipment on the construction site to recycle concrete and asphalt rubble for use as base material to be placed under the street pavement. The contractor may also propose to set up and operate an on-site batch plant to prepare Portland cement concrete or hot-mix asphalt. Soil disposal would be undertaken according to the regulatory requirements. In the event the borrow/fill is needed, the contractor would identify the borrow sites.

Step 1: Mobilization and Staging

The first step in the construction process involves contractor preparation of the site for construction activities. This would be done after all required preconstruction surveys are conducted and permits are obtained.

Step 2: Site Clearing and Demolition

Under this step, the roadway alignment would be cleared of conflicting structures and vegetation to prepare the site for construction. Asphalt and concrete from roadways, parking lots, and walkways would be removed and disposed.

Table 3.48 Typical[1] Construction Sequencing

Step	Activity	Months																												
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Mobilization and Staging																														
2	Site Clearing and Demolition																														
3	Utility Relocation																														
4	Roadway Construction (including structures)																														
5	Landscaping and Finish Work																														

1. Actual construction process to be determined by the contractor in accordance with requirements of the construction contract.
Source: Caltrans, 2013.

Step 3: Utility Relocation

Electrical transmission towers, oil wells, canal culverts, and other existing utilities that would interfere with construction would be removed and relocated, or encased for continuing service, by the utility provider or their contractors. Each utility would be restored or replaced in accordance with design plans, and within close proximity to its former location to allow access in conjunction with the new highway facility. Not all utility relocations would occur at the beginning of the project; some could be done at a later stage of construction, as appropriate.

Step 4: Roadway Construction

Roadway construction activities would involve site excavation, grading, and pavement installation. Bridges, overcrossings, undercrossings, soundwalls, and retaining walls along the roadway alignment would be built in parallel with the roadway construction. Traffic signals would also be installed.

Step 5: Landscaping and Finish Work

Work under this step would include installation of irrigation systems and plant materials, lane striping, signage installation, and removal of all temporary structures.

Environmental Consequences

Impacts to various environmental resources as a result of project construction are discussed below. Unless noted, the impacts identified would be the same for all three build alternatives. Applicable measures to reduce these potential impacts are provided below under Avoidance, Minimization and/or Mitigation Measures.

Parks and Recreation

With Alternative A, indirect impacts associated with noise may diminish the enjoyment of park use next to construction activities at the Kern River Parkway, including the Kern River Multi-Use Trail, Hoey Trail, and equestrian trails. These impacts would be inconveniences, but would not substantially alter the use of the park.

Alternative B would result in indirect effects (such as noise) on Centennial Park and along the Kern River Multi-Use Trail, Hoey Trail and equestrian trails on the south and north sides of the Kern River during construction, but would not substantially alter use of the park.

Alternative C would result in indirect noise and air emission impacts that would affect the Kern River Multi-Use Trail, Hoey Trail and equestrian trails on the south and north sides of the Kern River during construction. These impacts would be inconveniences and would not substantially alter the use of the park.

Alternative C would provide replacement parkland and recreational improvements at Saunders Park. Though the improvements would be made before there would be any displacement of park uses, there would be some potential disruption from construction activities when the new park facilities are being built and the old

facilities are being cleared. Indirect impacts associated with noise may diminish the enjoyment of park use next to construction activities at Saunders Park. These impacts would be inconveniences, but would not substantially alter use of the park.

Farmlands

Intersection improvements at Stockdale Highway and State Route 43 for any alternative would result in temporary construction impacts to about 4 acres of Prime Farmland and to about 0.5 acre of 1 parcel under a Williamson Act contract. The parcel under a Williamson Act contract is located to the southwest of the intersection. A temporary construction easement is required for the temporary construction impacts which include construction equipment staging and relocating irrigation lines. Areas affected by the temporary construction impacts would be restored and usable when the improvements are completed.

Community Impacts

During construction of the Centennial Corridor, detours and delays would be experienced by local residents, particularly to those living in neighborhoods next to the selected build alternative. Access within the study area and other parts of Bakersfield would be maintained so no area would be isolated by construction activity. At times, this may mean that local traffic may have to use alternate routes to avoid construction zones, forcing residents of the area to use less direct routes to reach their preferred destination. These impacts would be temporary.

Although access to some neighborhoods would be disrupted and detoured for short periods during construction, access would continue to be available to all businesses and residences, except in cases where such buildings would be displaced by the project and would be acquired as part of the right-of-way needs.

Construction impacts would include temporary increases in noise and dust, visual changes, and traffic congestion related to temporary road closures or detours. These impacts would be temporary and would not disproportionately affect a low-income or minority population because everyone in the project area would experience these impacts.

With implementation of community impacts standard conditions (SC-CI-1 through SC-CI-4) identified under Avoidance, Minimization, and Mitigation Measures – Community Impacts, Standard Conditions (see page 348), adverse impacts would be minimized.

Utilities/Emergency Services

Utilities

Several utility facilities and lines would be removed and relocated during project construction. This would be done through standard engineering practices to avoid service interruptions. With implementation of standard conditions (SC-CI-5 and SC-CI-6) identified under Avoidance, Minimization, and Mitigation Measures –

Utilities and Emergency Services, Standard Conditions (see page 349), adverse impacts would be minimized.

Emergency Services

The build alternatives would result in short-term construction impacts to emergency services; occasional travel delays would occur due to traffic detours, off-peak lane closures, shoulder closures, and lane shifts.

Emergency vehicle access for police, fire protection, and emergency services would be maintained at all times. Law enforcement, fire, and emergency services could experience slightly increased response times because of construction-related road closures, temporary detours, and increased traffic congestion. It is not expected that temporary road closures would result in more than 1 mile of out-of-direction travel because nearby alternative routes would be maintained and identified as part of the detour plans.

With implementation of construction utilities/emergency services standard conditions (SC-CI-5 through SC-CI-7) identified under Avoidance, Minimization, and Mitigation Measures - Utilities and Emergency Services, Standard Conditions (see page 349), adverse impacts would be avoided or minimized.

Traffic and Transportation/Pedestrian and Bicycle Facilities

The project would temporarily affect motoring vehicular, bicycle, and pedestrian traffic during construction. The potential for traffic disruption would mostly exist where bridge crossings would be built, at connections to existing road and highway facilities, and where ramp work would be done, including ramp closure work. The duration of construction travel-time delays could be expected to last from a few days to more than a year in various construction zones and may require motorists to adjust their schedules to accommodate longer travel times. Based on the temporary nature of the roadway closures, implementation of a Traffic Management Plan and public outreach program (see Standard Conditions SC-CI-8 and SC-CI-9 (see page 349), under the Avoidance, Minimization, and Mitigation Measures heading) would minimize impacts related to increased travel time and distance.

Construction within the public right-of-way would also affect transit service on a temporary basis, from delays due to traffic detours and work zone operations. Some bus routes would also be affected, and coordination would be necessary to arrange for temporary relocation to nearby locations.

Temporary construction easements would be required at various roadway segments under construction to accommodate construction activities. Access in and out of any residential homes and local businesses would not be blocked, and obstructions would be minimized to the extent possible. A listing of the temporary construction easements is provided in Appendix G, Volume 2. About 10 percent of the overall parking space acquisitions described in Section 3.1.6, Traffic and Transportation/ Pedestrian and Bicycle Facilities, of this document would be temporarily required for construction easement purposes and would be restored after construction.

On-street parking would be restricted in and surrounding work areas to accommodate construction equipment and materials. Where it exists, on-street parking would be restored after construction is completed.

Short-term bicycle and pedestrian detours, likely to include bike lane re-routing on affected arterials, would occur during construction. Implementation of both the Traffic Management Plan and public outreach program throughout the construction period would minimize impacts in this regard.

With implementation of standard conditions (SC-CI-8 through SC-CI-10) identified under Avoidance, Minimization, and Mitigation Measures - Traffic and Transportation/Pedestrian and Bicycle Facilities, Standard Conditions (see page 350), impacts during project construction would be minimized and not considered adverse.

Visual/Aesthetics

Construction activities would temporarily alter the visual and aesthetic environment from the vantage point of homes and other properties surrounding the construction site. These images, including the presence and operation of construction equipment (such as heavy trucks, cranes, or excavators), would generally be visually disruptive and may be undesirable to some affected individuals or groups.

During right-of-way acquisition, which is expected to take about two years, buildings and homes would be acquired and demolished by the City of Bakersfield. To minimize safety, graffiti and vagrancy problems associated with vacant buildings, a strategy for handling the acquired properties would be developed to include the following options: 1) rent the homes and businesses on a month-to-month basis to keep them occupied as long as possible in advance of demolition; or 2) demolish each building as soon as feasible after acquisition. This latter option would result in vacant lots interspersed in business areas and neighborhoods. With either option, proper management of acquired property is a key consideration with regard to avoiding a visual impacts to the remaining uses. Temporary visual impacts would be minimized by adhering to Caltrans Standard Specifications for construction, such as the use of opaque temporary fencing around construction staging areas. Also, soundwalls would be constructed first, wherever possible, to partially or fully obstruct views from surrounding properties.

Cultural Resources

Though there are no known archaeological sites in the project area, construction activities have the potential of disturbing or destroying unknown sites that are currently buried. Implementation of standard conditions (SC-CI-11 and SC-CI-12) and Minimization Measures CI-1 and CI-2), identified under Avoidance, Minimization, and Mitigation Measures – Cultural Resources (see pages 350 and 351), will help minimize impacts to cultural resources during construction. Should a previously unidentified and/or unevaluated archaeological resource or resource segment that meets any of the eligibility criteria for the National Register of Historic Places be discovered or impacted during project activities and adverse effects pursuant to 36 CFR 800.5 cannot be avoided, actions shall be taken in compliance

with 36 CFR 800.13 and the terms of the First Amended Programmatic Agreement (2014).

Hydrology and Floodplain

The project would include design components intended to minimize hydrological and floodplain impacts during construction. For example, the existing drainage flow pattern would be retained to the extent feasible. During rough grading, infiltration basins would be excavated to provide controls for temporary storm water runoff. Also at this stage of construction, culvert drainage facilities would be installed underneath alignment embankments, where required, to maintain existing stormwater runoff patterns in the study area. Stormwater runoff from the construction site would be controlled within the site so that construction-related drainage would not overflow onto adjacent properties or public streets and would not adversely affect existing drainage systems. Following work within the Kern River channel, river bottom contours would be restored to pre-existing conditions.

The project would use appropriate best management practices designed to provide temporary erosion and sediment control as well as control for potential pollutants other than sediment. These include the following construction-related best management practices for roadway projects: soil stabilization, sediment control, wind erosion control, tracking control, non-stormwater management, and waste management and materials pollution control. As a result, these best management practices would minimize stormwater and non-stormwater impacts during construction. Site-specific best management practices would be evaluated in the Storm Water Pollution Prevention Plan. Best management practices would also need to be implemented to keep excavation work outside the channel area with flowing water. If flowing water in the Kern River needs to be channelized so the water does not interfere with excavation work, a Surface Water Diversion Plan for approval by the Regional Water Quality Control Board and U.S. Army Corps of Engineers would be necessary.

Compliance with existing regulations would apply to project design and construction that would minimize construction impacts to floodplains as presented in Section 3.2.1, Hydrology and Floodplain (Standard Condition SC-FP-1).

Water Quality and Storm Water Runoff

Construction activities could contribute pollutants to receiving water bodies (see Figure 3-29) from runoff and discharges. Pollutants that could be generated by construction activities include vehicle fluids (oils, grease, and coolant), cement and masonry products, landscaping-related products, and excavation materials. Some pollutants can lead to turbidity (cloudiness), which blocks light transmission and penetration, reduces oxygen levels, affects the food chain, and creates changes in water temperature. Pollutants in stormwater could also cause chemical degradation and aquatic toxicity in the receiving waters, adversely affecting the survival of plant and animal species, their populations, and the ecosystem structure.

Compliance with the Construction General Permit (Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ), would minimize construction water quality impacts. In addition, construction site best management practices that would be included in the Storm Water Pollution Prevention Plan would be implemented to minimize pollutants in the stormwater during project construction.

A risk analysis was done for the project based on characteristics of the project area, construction dates, and receiving waters. The analysis showed that the Kern Delta watershed sediment risk factor is low and the receiving water risk factor is low. The combined risk level of the project is ranked as Level 1, which requires the discharger to prepare and implement a Storm Water Pollution Prevention Plan and conduct monitoring and record keeping.

With implementation of standard conditions (SC-CI-13 through SC-CI-18) listed under Avoidance, Minimization, and Mitigation Measures - Water Quality and Storm Water Runoff, Standard Conditions (see pages 351 and 352), water quality and storm runoff construction impacts would not be adverse.

Geology/Soils/Seismic/Topography

As described in Section 3.2.3, the soils encountered in the borings indicate that the upper subsurface materials are susceptible to caving during construction. Though soils have the potential to cave, standard construction practices would protect the construction crew from the collapse of slopes within excavation areas and trenches. This would apply for all areas where trenching is required. These practices are stipulated by the Occupational Safety and Health Administration's Safety and Health regulations for construction. No other adverse impacts associated with geology, soils, seismic, or topography are anticipated.

Paleontology

Construction-related earth-moving activities have a high potential to adversely affect paleontological resources where the project area is underlain by Pleistocene Nonmarine Sedimentary Deposits and, at depths at least 3 feet below current grade, Recent Alluvial Fan Deposits of the Great Valley, Recent Basin Deposits of the Great Valley, and Recent River and Major Stream Channel Deposits of the Great Valley. Such earth-moving activities would include excavation for those segments of roadways that would be below current grade, excavation of retention basins, and trenching for pipelines and culverts.

Excavation activities could reach depths up to 40 feet below the current ground surface. Potentially affected resources could include previously unrecorded fossil remains, the respective fossil localities, associated specimen data and corresponding geologic and geographic locality data, and the fossil-bearing strata. The disturbance or loss of these resources would be an adverse environmental impact.

The maximum depth of excavation for Alternative A is 40 feet. This would occur near State Route 58 between Stephens Drive and H Street to accommodate the widened ramps. On State Route 99, the maximum excavation would be about

18.5 feet and would occur between Belle Terrace and Ming Avenue. Seven drainage basins would be placed throughout the study area to retain stormwater runoff for water quality improvement purposes.

The maximum depth of excavation for Alternative B is 40 feet. This would occur near State Route 58 between Stephens Drive and H Street to accommodate the widened ramps and, between California Avenue and Ford Avenue, where the freeway would be built below the existing grade. On State Route 99, the maximum excavation would be about 18.5 feet, between Belle Terrace and Ming Avenue. Eight drainage basins would be placed throughout the study area to retain stormwater runoff for water quality improvement purposes.

The maximum depth of excavation for Alternative C is 30 feet. This would occur near State Route 58 between Stephens Drive and H Street to accommodate the widened ramps. On State Route 99, the maximum excavation would be about 18.5 feet and be located between Belle Terrace and Brundage Lane. Eleven drainage basins would be placed throughout the study area to retain stormwater runoff for water quality improvement purposes.

The potential impact of earth-moving activities would be greatest under Alternative B, in which the most sediment in the Recent Alluvial Fan Deposits of the Great Valley would be disturbed, particularly with regard to excavation for roadways that would be below current grade. Correspondingly, the impact of such excavation would be less with Alternative C and least for Alternative A. Adverse impacts on paleontological resources, particularly fossil remains and associated locality data, would be reduced with implementation of Mitigation Measures CI-3 through CI-16 identified under the Avoidance, Minimization, and Mitigation Measures (see pages 352 through 354). There would be no impact on paleontological resources under the No-Build Alternative.

Hazardous Waste or Materials

During demolition and construction phases of the project, there is a limited risk of accidental release of hazardous materials such as gasoline, oil or other fluids in the operation and maintenance of construction equipment. As a result of construction activities, asbestos, lead-based paint, and/or aerially-deposited lead may also be encountered. Standard condition SC-CI-19, identified under Avoidance, Minimization, and Mitigation Measures – Hazardous Waste and Materials, involves developing a Health and Safety Contingency Plan to address emergency procedures to be implemented in the event of accidental release or other emergency involving hazardous waste and materials to ensure public safety and to minimize the potential impact on the environment. Compliance with federal, state, and local regulations would also address worker safety handling such materials. During construction, oil wells within the proposed right-of-way may be encountered. Implementation of the standard condition SC-U-1 identified in Section 3.1.5, Utilities/Emergency Services, would address construction impacts to oil wells.

Air Quality

Criteria Pollutants

Construction of the project has the potential to create air quality impacts through the use of heavy-duty construction equipment within the construction site and through vehicle trips generated from haul trucks and construction workers traveling to and from the project site. In addition, fugitive dust emissions would result from earthwork (such as grading, excavation) and onsite construction activities. Off-road (onsite) mobile source emissions, primarily nitrogen oxides and carbon monoxide, would result from use of construction equipment such as excavators, bulldozers and loaders. During the finishing phase, paving operations and application of architectural coatings and other building materials would release reactive organic compounds and off-gassing products (paints and asphalt, for example). Construction emissions can vary substantially from day to day, depending on the level of activity, the specific mix of construction equipment and, for dust, the prevailing weather conditions.

Methodology

As recommended by the San Joaquin Valley Air Pollution Control District and approved by Caltrans, construction-related emissions of criteria pollutants were estimated using the *Road Construction Emission Model, Version 7.1.4* (the latest version, which was released in August 2013). The model was developed for the Sacramento Metropolitan Air Quality Management District and approved by the California Air Resources Board.

Construction Emissions

Construction emissions were estimated using the Sacramento Metropolitan Air Quality Management District's *Road Construction Emissions Model, Version 7.1.4*. Table 3.49 shows the calculated mass daily emissions for each phase of construction and the annual emissions (in tons) during each year of construction for comparison with the San Joaquin Valley Air Pollution Control District's significance criteria. As shown, construction emissions of reactive organic gases and inhalable particulate matters less than 10 microns in diameter (PM_{10}) do not exceed the district's criteria. Nitrogen oxides emissions would potentially exceed the 2 tons per year criterion established by the district's Rule 9510; therefore, these emissions need to be reduced to 20 percent of the state fleet average, as required by the rule. Reductions need to be achieved either by onsite mitigation measures or through payment of an offsite mitigation fee, as required by Rule 9510. Compliance with the standard conditions (SC-CI-20 through SC-CI-22) listed under Avoidance, Minimization, and Mitigation Measures - Air Quality, Standard Conditions (see pages 354 through 356), would reduce construction emissions.

Table 3.49 Estimate of Unmitigated Construction Emissions

Construction Stage (Duration)	Total or Onsite	Construction Daily Emissions (pounds per day)							
		Reactive Organic Gases	Carbon Monoxide	Nitrogen Oxides	Inhalable Particulate Matter (PM_{10})		Fine Particulate Matter ($PM_{2.5}$)		Carbon Dioxide
					Exhaust	Total	Exhaust	Total	
Site Clearing/Demolition (2.5 months)	Total	5.1	23.8	28.2	1.6	51.6	1.5	11.9	3,719
	Onsite	*4.8*	*21.0*	*27.9*	*1.6*	*51.6*	*1.4*	*11.8*	*3,120*
Grading/Excavation (12 months)	Total	15.9	77.1	314.5	9.6	59.6	7.3	17.7	55,395
	Onsite	*11.3*	*53.7*	*100.4*	*5.1*	*55.1*	*4.7*	*15.1*	*10,045*
Utilities/Subgrade (10.5 months)	Total	9.7	49.7	75.0	4.2	54.2	3.8	14.2	9,073
	Onsite	*9.3*	*45.5*	*74.6*	*4.1*	*54.1*	*3.7*	*14.1*	*8,074*
Paving/Finish Work (5 months)	Total	5.1	29.4	31.4	2.0	2.0	1.8	1.8	4,840
	Onsite	*4.8*	*26.1*	*31.0*	*1.9*	*1.9*	*1.8*	*1.8*	*3,991*
Maximum Daily	Total	15.9	77.1	314.5	9.6	59.6	7.3	17.7	55,395
	Onsite	*11.3*	*53.7*	*100.4*	*5.1*	*55.1*	*4.7*	*15.1*	*10,045*
Construction Year		**Construction Annual Emissions (tons per year)**							
Year 1	Total	1.88	8.71	33.64	1.04	7.64	0.80	2.18	5,344.25
	Onsite	1.32	6.19	**11.26**	0.58	7.18	0.53	1.90	1,030.15
Year 2	Total	1.45	7.31	16.49	0.70	7.30	0.60	1.97	2,242.05
	Onsite	1.28	6.23	**10.56**	0.56	7.16	0.52	1.89	1,016.04
Year 3	Total	0.38	2.16	2.55	0.16	0.71	0.14	0.26	332.04
	Onsite	0.36	1.94	**2.53**	0.15	0.70	0.14	0.25	279.71
San Joaquin Valley Air Pollution Control District Significance Criteria (tons/year)		10.0	–	2.0	2.0	–	–	–	–

Notes:

- Emissions were estimated using the Sacramento Metropolitan Air Quality Management District's Road Construction Model, version 7.1.4(2009).
- Exceedances of the criteria are shown in **bold**. Note that the criteria are set for onsite emissions from equipment exhaust gases.
- Annual carbon dioxide data are in metric tons.
- Copies of the model sheets are provided in the *Air Quality Study Report.*
- Large particulate matter: Particulate Matter less than 10 microns in diameter (PM_{10}); Fine particulate matter: Particulate Matter less than 2.5 microns in diameter ($PM_{2.5}$).

Source: Air Quality Study Report 2013.

Air Toxics and Asbestos

Potential for air toxics emissions during construction would be related to diesel particulate matter emissions associated with heavy equipment operations. However, the health effects from carcinogenic air toxics at sensitive receptors would be considered less than significant because the risk posed by these pollutants is based on long-term (70-year lifetime) exposure. Given the construction schedule of 2.5 years, the project would not result in a long-term (that is, 70 years) substantial source of air toxics emissions. Potential impacts related to air toxics emissions during construction would not be substantial, and no mitigation measures are required.

According to the California Division of Mines and Geology (2003), Kern County is not among areas listed as containing naturally occurring asbestos (Governor's Office

of Planning and Research 2000). Therefore, the potential for construction activities to disturb naturally occurring asbestos is low. Mitigation measures are not required.

Odors

During project construction, objectionable odors would be related mainly to operation of diesel-powered equipment and to off-gas emissions during road-building activities, such as paving and asphalting. District Rule 4601 (Architectural Coatings) limits the amount of reactive organic gas emissions from paving, asphalt, concrete curing, and cement coating operations. Construction of the project would be performed in compliance with the San Joaquin Valley Air Pollution Control District rules.

While construction equipment onsite would generate some objectionable odors (mainly from diesel exhaust), these emissions would generally be limited to the project site and would be temporary. Most potential sensitive receptors are far enough from the project site so that odors would not affect a substantial number of people. No mitigation measures would be required.

Valley Fever

Construction of the project would occur in an endemic area where the fungi *Coccidioides immitis* have been known to naturally occur. Coccidioidomycosis, also known as Valley Fever, is a common cause of pneumonia in the endemic areas in which the fungus occurs, such as Kern County. Because the spores of *Coccidioides immitis* can become airborne during soil disturbance, all persons residing or traveling through Kern County are susceptible to the disease. Temporary soil disturbance during construction grading activities could cause fungal spores (if present) to become airborne, potentially putting construction personnel, residents, and wildlife at risk of contracting Valley Fever. However, there are a number of preventive and precautionary measures that can be undertaken to reduce exposure and which include the use of dust masks when conducting outdoor activities, such as field studies or performing construction activities in the winter months; seeking prompt medical treatment if flu-like or respiratory illness occurs during or within a few weeks following fieldwork or construction activities; getting a coccidioidin skin test to determine susceptibility to the disease; and educating all members of the field party and construction crew about the possibilities and consequences of infection. Compliance with Avoidance and Minimization Measure SC-CI-21 (see pages 355 and 356), would control dust during project construction. As a result, those measures would reduce the potential for contact with *Coccidioides immitis* spores, and as such, the potential for health impacts during construction of the project associated with Valley Fever would be minimized.

Noise and Vibration

Noise from construction activities may intermittently dominate the environment in the immediate area of construction. Table 3.50 shows noise levels produced by construction equipment commonly used on roadway construction projects.

Table 3.50 Construction Equipment Noise

Equipment	Maximum Noise Level (dBA at 50 feet)
Scrapers	89
Bulldozers	85
Heavy Trucks	88
Backhoes	80
Pneumatic Tools	85
Concrete Pumps	82

dBA: A-weighted decibels

Source: *Federal Transit Administration* 2006.

Equipment involved in construction is expected to generate noise levels ranging from 80 to 89 dBA at a distance of 50 feet. Noise produced by construction equipment would be reduced over distance at a rate of about 6 dB per doubling of distance. More precise construction noise levels cannot be calculated at this time because some of the necessary data such as the type of equipment, effective usage factor, and number of each equipment type have not yet been designated.

Construction noise varies greatly depending on the construction process, type, and condition of equipment used, as well as layout of the construction site. Many of these factors are traditionally left to the contractor's discretion, which makes it difficult to accurately estimate levels of construction noise. Temporary construction noise impacts would be unavoidable at areas right next to the project alignment.

The noise level requirement specified here shall apply to the equipment on the job or related to the job, including but not limited to trucks, transit mixers, or transient equipment that may or may not be owned by the contractor.

Sound control shall conform to the provisions in Section 14-8.02, "Noise Control," of the Standard Specifications and Section 14-8.02, "Noise Control," of the Standard Special Provisions. According to requirements of these specifications, construction noise cannot exceed 86 dBA at 50 feet from the job site activities from 9:00 in the evening to 6:00 in the morning.

It is possible that certain construction activities could cause intermittent localized concern from vibration in the project area. During certain construction phases, processes such as earth moving with bulldozers, the use of vibratory compaction rollers, impact pile driving, demolitions, or pavement braking may cause construction-related vibration impacts such as human annoyance or, in some cases, building damages. It may be necessary to use this type of equipment close to residential buildings. Implementation of minimization measure CI-17 (see page 358) would eliminate or minimize vibration impacts during construction activities.

Mitigation techniques for control of equipment noise and vibration plus administrative measures, when properly implemented, can provide the most effective means to minimize the effects of construction activity impacts. These standard conditions (SC-CI-23 through SC-CI-25) are listed under Avoidance, Minimization, and Mitigation Measures – Noise and Vibration, Standard Conditions (see pages 357 and 358).

Energy

The project would result in one-time non-recoverable energy costs associated with construction activities. Fuel use during construction activities is the largest source of energy usage for construction. Table 3.51 shows the calculated energy use by construction year based on the estimates of fuel use that would be used during construction.

Table 3.51 Centennial Corridor Calculated Construction Energy Use

Year	Btu (in million Btu)
Year 1	72.26
Year 2	30.31
Year 3	4.49
Total	107.06
Btu: British thermal units * Assumes diesel fuel is used during construction Source: Source data from *Air Quality Study Report* 2013.	

In addition to direct energy expenditures, such as preparing the ground surface and building the highway, there would also be indirect energy consumption such as the manufacture of building materials. Temporarily increased traffic congestion on local roads during construction would also result in additional energy consumption. Short-term use of oil, gas, and electricity for construction would minimally reduce the overall amount of global fossil fuels available for consumption. However, this use should be considered within the context of substantial energy savings over the design life of the project, as described in Section 3.2.8, Energy. In addition, standard condition SC-CI-26, listed on page 359), under Avoidance, Minimization, and Mitigation Measures – Energy, would reduce energy use during construction.

Biological Environment

Construction of the project would include use of heavy equipment to clear vegetation and grade the project site. This activity would create noise, dust, and vibration that could adversely affect animals within and next to the construction site. This disturbance could cause animals to move away from construction. Habitat next to the construction site may not be used by species sensitive to construction noise, dust, and vibration effects. Vibration could collapse the burrows or dens of burrowing animals.

Silt runoff from the project site or improper disposal of petroleum and chemical products from construction equipment could adversely affect water quality during

construction. Adverse effects on water quality could affect plants, animals, and habitats downstream of construction areas, including areas along the Kern River.

Night lighting during construction of the project could spill over into the adjacent open space and could adversely affect foraging activities of nocturnal species (such as the San Joaquin kit fox, burrowing owl, bats, and other small mammals) and may also increase predation of small mammals. Therefore, the project's night lighting may affect nocturnal wildlife, especially along the Kern River.

If construction limits are not clearly marked, construction operators could inadvertently remove habitat that should not be removed. Because the project includes sensitive habitat along the Kern River, this effect could be potentially substantial.

Compliance with the standard condition SC-CI-27 and minimization and mitigation measures CI-18 through CI-25 (see pages 359 through 363) and B-1 through B-4 provided in Section 3.3 Biological Environment, would reduce construction impacts.

Avoidance, Minimization, and Mitigation Measures

Standard conditions and minimization and mitigation measures would reduce construction-related impacts to various resources described in the previous sections.

Community Impacts

Standard Conditions

SC-CI-1 To the extent practical, street closures required during construction shall be scheduled to occur during nighttime hours. This requirement will be addressed in the Traffic Management Plan to be prepared during the final design phase of project development.

SC-CI-2 To the extent practical, the contractor shall avoid blocking or limiting access to businesses during construction during normal business hours. Businesses will be contacted and advised of nearby construction activities before their commencement.

SC-CI-3 Caltrans shall notify emergency service providers, such as fire, police, and ambulance services in advance of construction of the timing, location, and duration of construction activities and the locations of detours and lane closures.

SC-CI-4 During the final design phase, the City of Bakersfield and Caltrans in coordination with affected facility owners or operators shall develop and implement access plans for highly sensitive land uses such as police and fire stations, transit stations, hospitals, and schools.

Utilities and Emergency Services

Standard Conditions

SC-CI-5 Caltrans and the City of Bakersfield shall coordinate with all affected private and public service utilities in advance of the construction. Per Caltrans requirements, all linear underground utilities within Caltrans' right-of-way will be encased from right-of-way to right-of-way in either steel or concrete.

SC-CI-6 In accordance with the requirements in the California Code of Regulations, prior to the initiation of construction, the contractor shall coordinate and notify the operators of underground or overhead utility and service lines prior to any excavation activities. This coordination would avoid damage to existing utility lines and would limit disruption to existing utility services to the existing developments near the proposed alignments.

The following standard conditions would avoid and/or minimize adverse effects of the Centennial Corridor on emergency services:

SC-CI-7 The contractor shall conduct construction activities in accordance with the approved Traffic Management Plan for the project and Caltrans' Manual of Uniform Traffic Control Devices to reduce impacts to emergency services and response. Coordination of roadway closures with appropriate emergency services would be addressed in the Transportation Management Plan.

Traffic and Transportation/Pedestrian and Bicycle Facilities

Standard Conditions

SC-CI-8 Caltrans shall require the design team to develop a Traffic Management Plan to offset the effects of access restrictions and traffic congestion during construction of the freeway, ramps, and on local streets. The Traffic Management Plan will consider methods such as adjustment of signal timing and/or signal coordination to increase roadway efficiency; turn restrictions at intersections and roadways necessary to reduce congestion and improve safety; and parking restrictions on detour routes during work hours to increase capacity, reduce traffic conflicts, and improve access. The Traffic Management Plan will include a traffic contingency plan with procedures to be implemented for possible unforeseen circumstances and emergencies.

SC-CI-9 Caltrans shall require the contractor to provide motorist alert and awareness information during construction, as appropriate for the conditions, to include the following options: changeable message signs, stationary ground-mounted signs, traffic radio announcements, and the Caltrans Highway Information Network.

SC-CI-10 Caltrans, in coordination with the City of Bakersfield, shall coordinate with Golden Empire Transit and other affected transit providers to request and comply with applicable procedures for any required temporary bus stop relocations or other disruptions to transit service during construction.

Visual/Aesthetics

Measure V-1 presented in Section 3.1.7, Visual/Aesthetics would minimize visual impacts during construction.

Cultural Resources

In addition to the standard conditions and minimization measures listed below, Mitigation Measure CR-2 provided in Section 3.1.8, Cultural Resources, would reduce indirect adverse vibration effects to contributing elements of Rancho Vista Historic District, associated with the construction of Alternative A.

Standard Conditions

SC-CI-11 In accordance with Caltrans standard specifications, if cultural materials are discovered during construction, all earth-moving activities within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find. If human remains are discovered, Section 7050.5 of the State Health and Safety Code states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the county coroner shall be contacted. Pursuant to Section 5097.98 of the Public Resources Code, if the remains are thought to be Native American, the coroner will notify the Resident Engineer and the Native American Heritage Commission, who will then notify the Most Likely Descendent. At this time, the Resident Engineer will contact the District 6 Environmental Branch so that staff may work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of Section 5097.98 of the Public Resources Code are to be followed as applicable.

SC-CI-12 It is Caltrans' policy to avoid cultural resources whenever possible. Further investigation may be needed if resources cannot be avoided by the project. Additional survey(s) will be required if the project changes to include areas not previously surveyed.

Minimization Measures

CI-1 Prior to finalization of the environmental document, Caltrans shall conduct Stage II of the archaeological sensitivity model to field-check the preliminary buried site sensitivity model and to further analyze the areas believed to have high and very high archaeological sensitivity. Phase II subsurface testing, will focus on those locations along the selected alternative that require excavation into native sediments that are identified as high and very high sensitivity.

Pursuant to Caltrans' policy regarding Native American monitoring during construction activities in areas where there is a high probability of buried resources, and to ensure that Native American concerns are considered, Caltrans shall retain a Native American monitor from the Santa Rosa Rancheria Tachi Yokut Tribe, or other tribe expressing interest in the project, to monitor all subsurface testing related to Stage II of the buried site sensitivity model.

CI-2 Before starting construction activities in the areas identified as a result of the Stage II of the archaeological sensitivity model, Caltrans shall retain a qualified archaeologist and Native American representative to observe grading activities and to salvage and catalogue archaeological resources, as necessary. The archaeologist and Native American representative shall also:

- Be present at the pre-construction conference.
- Establish areas of archaeological sensitivity that would need archaeological resource surveillance based on data gathered from the field survey and the Extended Phase I Geoarchaeological Study.
- In cooperation with the Caltrans Resident Engineer, establish procedures for temporarily halting or redirecting work (including sampling, identification, and evaluation) to be followed in the event artifacts are discovered.

Water Quality and Storm Water Runoff

Standard Conditions

SC-CI-13 The project shall conform to the requirements of the Caltrans' National Pollutant Discharge Elimination System Statewide Storm Water Permit (Order No. 2012-0011-DWQ, NPDES No. CAS000003), adopted by the State Water Resources Control Board on July 1, 2013, and any subsequent permit in effect at the time of construction. In addition, the contractor shall comply with the requirements of the General National Pollutant Discharge Elimination System Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002, as amended by 2010-0014-DWQ), also referred to as the Construction General Permit, as well as implementation of the best management practices specified in the Caltrans Storm Water Management Plan, to be prepared during the final design of the project.

SC-CI-14 The contractor shall develop an acceptable Storm Water Pollution Prevention Plan containing proven best management practices to minimize storm water pollution that have the potential to affect water quality. All construction site best management practices would follow the latest edition of the Storm Water Quality Handbooks and the Construction Site Best Management Practices Manual. In addition, the Storm Water

Pollution Prevention Plan shall include implementation of specific stormwater effluent monitoring requirements based on the project's risk level to ensure water quality standards are met.

SC-CI-15 During construction, when dewatering is required, the contractor shall fully conform to the requirements specified in Order No. R5-00-175, General Waste Discharge requirements for Discharges to Surface Water which Pose an Insignificant (De Minimus) Threat to Water Quality, from the Central Valley Regional Water Quality Control Board.

SC-CI-16 The contractor shall comply with all requirements of the Section 404 Permit issued by the U.S. Army Corps of Engineers for the discharge of dredged or fill material into waters of the United States.

SC-CI-17 The contractor shall comply with all requirements of the Section 401 Certification issued by the Regional Water Quality Control Board to ensure that all discharges comply with applicable federal and state effluent limitations and water quality standards.

SC-CI-18 The contractor shall comply with all requirements of the Streambed Alteration Agreement per Section 1602 of the California Fish and Game Code.

Paleontology

Mitigation Measures

A Paleontological Mitigation Plan will be prepared prior to project construction. The plan would include the following mitigation measures:

CI-3 Specifications for paleontological mitigation shall be included in the construction contract special provisions section for this project to advise the construction contractor of the requirement to cooperate with the salvage of paleontological resources, particularly fossil remains and associated locality data.

CI-4 A qualified principal paleontologist approved by Caltrans shall prepare a detailed Paleontological Mitigation Plan before the start of construction. The paleontologist must have a Master of Science/Arts (M.S./M.A.) or Doctor of Philosophy (Ph.D.) degree in paleontology or geology and will be familiar with paleontological salvage or mitigation procedures and techniques. All geological work will be performed under the supervision of a California Professional Geologist.

CI-5 Caltrans will perform paleontological monitoring and salvage during construction-related excavation and other earth-moving activities. Within the boundaries of the project area, no earth-moving activity shall be allowed without written authorization of the Resident Engineer. Caltrans will provide a Paleontological Salvage Team consisting of a qualified

Principal Paleontologist and Paleontological Monitors. The Resident Engineer will make arrangements for the Paleontological Salvage Team to be at the job site.

CI-6 If unanticipated fossils are discovered in an area of the project site not being actively monitored, the remains shall not be disturbed. The Resident Engineer shall direct that all work within a 60-foot radius of the discovery be stopped and that the area be protected. The Resident Engineer, in consultation with the paleontologist, will investigate and modify the dimensions of the protected area, if necessary. Paleontological resources will not be removed from the project site without authorization. Work will not resume within the specified radius of the discovery until authorized by the Resident Engineer.

CI-7 The Paleontological Salvage Team will be notified 15 days in advance of the start of excavation or any other earth-moving activity.

CI-8 The construction contractor shall attend a pre-construction meeting with the Paleontological Salvage Team and the Resident Engineer to establish procedures for cooperation in the event fossil remains are encountered and to provide for worker safety during monitoring and salvage activities. The Principal Paleontologist and the Caltrans paleontology coordinator will be present at pre-grading meetings to consult with grading and excavation contractors.

CI-9 Before any earth-moving activity, the Principal Paleontologist shall conduct an employee environmental awareness training session for all persons involved in that earth-moving activity.

CI-10 Before the start of earth-moving activities, the Paleontological Salvage Team will conduct a pre-construction field survey of the project area, and any exposed fossil remains will be recovered. A qualified Paleontological Monitor, under the direction of the Principal Paleontologist, will be onsite to inspect cuts and debris piles to allow for the discovery and recovery of larger fossil remains. Monitoring will be conducted at all times during original grading in areas underlain by highly important rock units. If necessary, additional personnel will be assigned to recover an unusually large or numerous fossil occurrence.

CI-11 The Paleontological Salvage Team will salvage fossil remains exposed by excavation and other earth-moving activities. The Resident Engineer, at the request of the Paleontological Salvage Team, may temporarily divert or stop such activities in the vicinity of a fossil locality to avoid disturbing the locality pending removal of the remains. When fossil remains are discovered, the Paleontological Monitor will recover them and contact a Principal Paleontologist for assistance, if necessary. Earth-moving

activities in these areas shall be halted or diverted to allow for the recovery of the remains in a timely manner.

CI-12 Bulk sediment or rock samples will be recovered from fossiliferous horizons and processed to allow for the recovery of microvertebrate and other microfossil remains, as determined necessary by the Principal Paleontologist.

CI-13 Fossil remains collected as a result of monitoring and salvage or sample processing will be cleaned, prepared, sorted, curated, and cataloged. Recovered specimens will be identified by appropriate paleontological specialists.

CI-14 Prepared fossils, along with copies of all pertinent field notes, photographs, and maps, shall then be deposited in a Caltrans-approved museum repository with paleontological collections and made available for future scientific study.

CI-15 A final report shall be completed by the Principal Paleontologist. The report shall outline the results of the mitigation program and will be signed by the Principal Paleontologist and Professional Geologist. A copy of the report will be supplied to the museum repository and to Caltrans.

CI-16 At the completion of the project, the Caltrans paleontological coordinator will prepare a paleontological stewardship summary with a list of any long-term commitments. The list will be provided to both Maintenance and Operations staff, including the Encroachment Permits office.

Hazardous Waste or Materials

Standard Condition

SC-CI-19 A Health and Safety Contingency Plan shall be prepared as part of the standard engineering design process.

Air Quality

Standard Conditions

SC-CI-20 Caltrans shall incorporate requirements into the contract specifications requiring that the contractor comply with the San Joaquin Valley Air Pollution Control District's Rule 9510 (Indirect Source Review). This rule applies to transportation or transit projects with construction exhaust emissions of at least 2 tons of nitrogen oxides or 2 tons of particulate matter (PM_{10}) per year. These projects are required to reduce their construction exhaust emissions of nitrogen oxides and particulate matter (PM_{10}), by 20 and 45 percent, respectively, compared to the statewide average for construction equipment. If, after implementation of all feasible onsite mitigation measures, the required emission reduction is not achieved, the rule provides a mechanism by which Caltrans can pay an

offsite mitigation fee to the district. Methods of calculating the offsite emission reduction fee are provided in Section 7.1.1 of Rule 9510 and the District's Rule 3180. District Rule 3180 establishes a 4 percent administration fee to cover the district's cost of operating an offsite emission reduction program.

Achieving a 20 percent nitrogen oxides reduction in exhaust emissions compared to the statewide fleet average can be met by implementing one or more of the following measures:

- Operate equipment with engines newer than 1996.
- Retrofit the existing equipment with control devices (e.g., exhaust oxidation catalyst).
- Use cleaner fuels such as liquid natural gas, compressed natural gas, or aqueous diesel fuel, where feasible.
- Prohibit truck idling in excess of 10 minutes, whenever practical.
- Use only well-maintained equipment; use proper planning to reduce rework and multiple handling of earth materials.
- Pay a mitigation fee to the air district to obtain reductions through incentive and other programs.

SC-CI-21 Caltrans shall incorporate requirements into the contract specifications requiring that the contractor comply with the San Joaquin Valley Air Pollution Control District's Regulation VIII (Fugitive PM_{10} Prohibitions) and shall implement all applicable control measures included in the District's Guide for Assessing and Mitigating Air Quality Impacts, specifically those measures listed in Table 6-2 (Regulation VIII Control Measures) and Table 6-3 (Enhanced and Additional Control Measures) of the document. Applicable mitigation measures as listed in these tables include the following:

- All disturbed areas, including storage piles that are not being actively used for construction purposes shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant, or they shall be covered with a tarp, another suitable cover, or vegetative ground cover.
- All onsite unpaved roads and offsite unpaved access roads shall be effectively stabilized of dust emissions using water or a chemical stabilizer/suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions by applying water or by pre-soaking.

- With the demolition of buildings up to six stories in height, all exterior surfaces of the building shall be wetted during demolition.
- When materials are transported offsite, all material shall be covered or effectively wetted to limit visible dust emissions, and at least 6 inches of freeboard space from the top of the container shall be maintained.
- All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.
- Within urban areas, an owner/operator shall prevent carryout and trackout, or immediately remove carryout and trackout when it extends 50 feet or more from the nearest unpaved surface exit point of the site.
- Any construction site with 150 or more vehicle trips per day shall prevent carryout and trackout.
- The following measures shall be implemented at construction sites with high emissions of fugitive dust:
    - Limit traffic speed on unpaved roads to 15 miles per hour.
    - Install sandbags or other erosion-control measures to prevent silt runoff to public roadways from sites with a slope greater than 1 percent.
- The following measures shall be implemented at large construction sites near sensitive receptors:
    - Install wheel washers for all exiting trucks, or wash off tires of trucks and equipment leaving the site.
    - Install wind breaks at windward side(s) of construction areas.
    - Suspend excavation and grading activities when wind exceeds 20 miles per hour.
    - Limit areas subject to excavation, grading, and other earthwork activity at any one time.

SC-CI-22 Caltrans shall incorporate requirements into the contract specifications requiring that the contractor comply with the limitations of the National Emissions Standards for Hazardous Air Pollutants regulations as listed in the CFR requiring notification and inspection for the construction activities that are involved with demolition, renovation, or removal of asbestos-containing materials. Before starting any demolition or renovation of any building, Caltrans shall require the contractor to consult with the San Joaquin Valley Air Pollution Control District's Compliance Division to determine inspection and compliance requirements.

Noise and Vibration

In addition to the standard conditions and minimization measures listed below, Mitigation Measure CR-2 provided in Section 3.1.8, Cultural Resources, would reduce indirect adverse vibration effects to contributing elements of Rancho Vista Historic District, associated with the construction of Alternative A.

Standard Conditions

SC-CI-23 The contractor shall be required to adhere to the following equipment noise-control measures:

- Each internal combustion engine used for any purpose on the job or related to the job shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the job site without an appropriate muffler.
- Construction methods or equipment that will provide the lowest level of noise and ground vibration impact (for example, avoid impact pile driving near residences and consider alternative methods that are also suitable for the soil condition) shall be used.
- Idling equipment shall be turned off.
- Construction activities shall be coordinated to build recommended permanent soundwalls during the first phase of construction to protect sensitive receivers from subsequent construction noise, dust, light, glare, and other impacts, to the extent feasible.
- Temporary noise barriers shall be used and relocated, as needed, to protect sensitive receptors against excessive noise from construction activities involving large equipment and by small items such as compressors, generators, pneumatic tools, and jackhammers. Noise barriers can be made of heavy plywood, moveable insulated sound blankets, or other best available control techniques.
- Newer equipment with improved noise muffling shall be used, and all equipment items shall have the manufacturers' recommended noise-abatement measures (such as mufflers, engine covers, and engine vibration isolators) intact and operational. Newer equipment will generally be quieter in operation than older equipment. All construction equipment shall be inspected at periodic intervals to ensure proper maintenance and presence of noise-control devices (such as mufflers and shrouding).
- Construction activities shall be minimized to the extent possible in residential areas during evening, nighttime, weekend, and holiday periods. Noise impacts are typically minimized when construction activities are performed during daytime hours. However, nighttime construction may be desirable (such as in commercial areas where businesses may be disrupted during daytime hours) or necessary to

avoid major traffic disruption. Coordination with the City or County shall occur before construction can be performed in noise-sensitive areas between 9:00 in the evening and 6:00 in the morning.

- Construction lay-down or staging areas shall be selected in industrially zoned districts. If industrially zoned areas are not available, commercially zoned areas may be used, or locations that are at least 100 feet from any noise-sensitive land use (such as residences, hotels, and motels).

SC-CI-24 The contractor shall be required to adhere to the following administrative noise control measures:

- Once details of the construction activities become available, the contractor shall work with local authorities to develop an acceptable approach to minimize interference with the business and residential communities, traffic disruptions, and the total duration of the construction.
- Good public relations shall be maintained with the community to minimize objections to unavoidable construction impacts. Frequent activity updates of all construction activities shall be provided. A construction noise monitoring program to track sound levels and limit the impacts shall be implemented.
- In case of construction noise complaints by the public, the Resident Engineer shall coordinate with the construction manager, and the specific noise-producing activity may be changed, altered, or temporarily suspended, if necessary.

SC-CI-25 The contractor shall be required to adhere to the following vibration-control measures:

- Restrict the hours of vibration-intensive equipment or activities such as vibratory rollers so that impacts to residents are minimal (e.g., weekdays during daytime hours only when as many residents as possible are away from home.
- The owner of a building close enough to a construction vibration source that damage to that structure due to vibration is possible would be entitled to a pre-construction building inspection to document the pre-construction condition of that structure.
- Conduct vibration monitoring during vibration-intensive activities.

Minimization Measure

CI-17 The contractor shall prepare a Noise and Vibration Monitoring and Mitigation Plan by a qualified Acoustical Engineer and submit it for approval. The plan must outline noise- and vibration-monitoring

procedures at predetermined noise- and vibration-sensitive sites as well as historic properties. The plan also must include calculated noise and vibration levels for various construction phases and mitigation measures that may need to meet the project specifications. The contractor shall not start any construction work or operate any noise-generating construction equipment at the construction site before approval of the plan. The plan must be updated every three months or sooner if there are any changes to the construction activities.

Energy

Standard Conditions

SC-CI-26 The contractor shall identify specific measures that reduce the amount of refuse generated by construction of the proposed project, consistent with the waste reduction requirements established by the California Integrated Waste Management Act of 1989.

Biological Environment

Standard Conditions

SC-CI-27 ***Invasive Species:*** In compliance with the Executive Order on Invasive Species (Executive Order 13112) and subsequent guidance from the Federal Highway Administration, Caltrans shall not use species listed as invasive as part of landscaping erosion control measures. In areas of particular sensitivity, extra precautions shall be taken if invasive species are found in or adjacent to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur. To adhere to this requirement, any landscape designs shall be submitted to Caltrans for review and approval by a qualified biologist during the project design phase. The review shall verify that no noxious weeds/invasive exotic plant species are in the proposed landscaping plan. If the plan contains noxious weeds/invasive species, the reviewing biologist shall recommend suitable substitutes.

Minimization Measures

CI-18 ***Wetlands and Other Waters:*** Before starting any grading and/or construction-related activity within 50 feet of areas under the jurisdiction of the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and/or California Department of Fish and Wildlife, the contractor shall install fencing, flagging, lath and rope, or another device to delineate the jurisdictional areas that would not be affected by the project. The purpose of the fencing is to protect the jurisdictional areas from inadvertent disturbance. Placement of the fencing shall be done under the supervision of a qualified biological monitor.

CI-19 ***Western Spadefoot, Western Pond Turtle, Coast Horned Lizard, Silvery Legless Lizard:*** A pre-construction survey for western spadefoot, western

pond turtle, coast horned lizard, and silvery legless lizard shall be conducted by a qualified biologist within the proposed impact area before construction. If these species are observed on or adjacent to the impact area and are in imminent danger from construction activities, a qualified biologist shall capture and relocate individuals to an appropriate location outside the impact area. Suitable habitat (such as pools for western spadefoot tadpoles or pond turtles) into which to relocate the individuals will be identified by the biologist and approved by the California Department of Fish and Wildlife before individuals are translocated. The biologist conducting the surveys shall hold necessary permits to handle the species. If animals are not in imminent danger, they shall be allowed to leave the impact area on their own.

CI-20 ***White-tailed Kite:*** A pre-construction survey for nesting raptors shall be done by a qualified biologist within the limits of project disturbance and shall be repeated annually. Any active nest found during survey efforts shall be mapped on the construction plans. If nesting activity is present, the active site shall be protected until nesting activity ends to ensure compliance with Section 3503.5 of the *California Fish and Game Code.*

Nesting activity for raptors in the region normally occurs from February 1 to August 31. If no active nests are found, no further mitigation would be required. Results of the surveys shall be provided to the California Department of Fish and Wildlife.

To protect any white-tailed kite nest site, the following restrictions on construction would be required between February 1 and August 31 (or until nests are no longer active, as determined by a qualified biologist): (1) clearing limits shall be established a minimum of 600 feet in any direction from any occupied nest; (2) access and surveying shall be restricted within 600 feet of any occupied nest; and (3) full-time biological monitoring shall be required when construction is within 600 feet of an active nest. Any encroachment into the buffer area around the known nest shall be allowed only if it is determined by a qualified biologist that the proposed activity shall not disturb the nest occupants. Construction during the non-nesting season can occur only at the sites if a qualified biologist determines that fledglings have left the nest.

CI-21 ***Burrowing Owl****:* A pre-construction survey shall be conducted by a qualified biologist in accordance with the survey requirements detailed in the California Department of Fish and Game's March 7, 2012 *Staff Report on Burrowing Owl* no less than 14 days before initial ground-disturbing activities (California Department of Fish and Game 2012) and shall be repeated annually. Any active burrow found during pre-construction survey efforts shall be mapped and provided to the construction foreman. If no active burrows are found, no further mitigation shall be required.

No disturbance shall occur within buffers around burrows determined to be occupied. Recommended buffer distances are based on time of year and level of disturbance.

Time of Year	Level of Disturbance		
	Low	**Medium**	**High**
April 1 – August 15	656 feet	1,640 feet	1,640 feet
August 16 – October 15	656 feet	656 feet	1,640 feet
October 16 – March 31	164 feet	328 feet	1,640 feet
Source: *Staff Report on Burrowing Owl* (California Department of Fish and Game 2012).			

If owls must be moved away from the disturbance area, passive relocation is preferable to trapping. Relocation shall be implemented only during the non-breeding season by a qualified biologist and would occur in coordination with the California Department of Fish and Wildlife. Owls shall be excluded from burrows in the immediate impact zone by installing one-way doors in burrow entrances. One-way doors shall be left in place for 48 hours to ensure owls have left the burrow before excavation.

An effort shall be made to preserve foraging habitat contiguous with occupied burrow sites for each pair of breeding burrowing owls or for every single unpaired resident bird.

Compensatory mitigation for the San Joaquin kit fox (discussed below) shall also mitigate for the loss of burrowing owl habitat. Additional compensatory mitigation for burrowing owls shall be required only if burrowing owls found within buffer distances specified above during pre-construction surveys cannot be avoided during construction. In this event, potential compensatory mitigation may include purchase of suitable habitat through the payment of fees to the Metropolitan Bakersfield Habitat Conservation Plan Trust Group for this species or construction of artificial burrows in city sumps similar to the City Sump Habitat Program for the San Joaquin kit fox.

CI-22 ***Loggerhead Shrike**:* A qualified biologist shall survey annually within the limits of project disturbance for the presence of any nesting locations. Any active nest found during survey efforts shall be mapped and provided to the construction foreman. If no active nests are found, no further mitigation would be required.

If nesting activity is present, the active site shall be protected until nesting activity has ended to ensure compliance with Section 3503.5 of the California Fish and Game Code. Nesting activity for birds in the region normally occurs from February 1 to August 31. To protect any nest site, the following restrictions on construction are required between February 1 to August 31 (or until nests are no longer active, as determined by a qualified biologist): (1) clearing limits shall be established a minimum of

300 feet in any direction from any occupied nest and (2) access and surveying shall be restricted within 200 feet of any occupied nest. Any encroachment into the 300-/200-foot buffer area around the known nest shall be allowed only if a qualified biologist determines that the proposed activity will not disturb the nest occupants.

CI-23 ***Western Mastiff Bat:*** During construction, when nightwork is required, lighting during the early evening twilight hours (i.e., two hours before sunrise and two hours after sunset) adjacent to open space areas shall be minimized or avoided to the greatest extent possible. Permanent night lighting for the project shall be directed away from natural open space areas.

CI-24 ***Swainson's Hawk****:* Tree removal within 500 feet of non-native grassland, agricultural areas, and detention basins shall occur outside the Swainson's hawk nesting season. An updated focused survey (5 visits) for Swainson's hawk nests shall be conducted during the breeding season before construction activities. A qualified biologist shall survey within the limits of the biological study area and within a 0.5-mile radius around the biological study area for the presence of an active nest in accordance with the Swainson's Hawk Technical Advisory Committee's *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California, Central Valley.* Any active nest found during survey efforts shall be mapped and provided to the construction foreman. If a Swainson's hawk is nesting within 0.5 mile of the proposed impact area, the California Department of Fish and Wildlife shall be consulted to evaluate the potential for disturbance of the nesting birds during construction and to approve measures that would avoid impacts on the active nest; authorization to proceed shall be obtained before work starts. The active site shall be protected until nesting activity has ended to ensure compliance with Section 3503.5 of the California Fish and Game Code and the California Endangered Species Act. If no active nests are found, no further mitigation would be required. Results of the surveys shall be provided to the California Department of Fish and Wildlife.

A pre-construction survey (5 visits from March15 to April 30) shall be conducted annually before construction activities. To protect an active Swainson's hawk nest site, the following restrictions on construction are required between February 1 and August 31 (or until nests are no longer active, as determined by a qualified biologist): (1) clearing limits shall be established a minimum of 600 feet in any direction from any occupied Swainson's hawk nest; (2) access and surveying shall be restricted within 600 feet of any occupied Swainson's hawk nest; and (3) full-time biological monitoring shall be required when construction is within 600 feet of an active nest. Any encroachment into the 600-foot buffer area around the known nest shall be allowed only if the qualified biologist determines that the proposed activity will not disturb the nest occupants.

Mitigation Measures

CI-25 **S*an Joaquin Kit Fox:*** The following measures shall be implemented before and during construction:

- Construction activities shall adhere to the standard construction and operational requirements, as described in the U.S. Fish and Wildlife Service's *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011b).
- No less than 30 but no more than 60 days prior to road construction, a U.S. Fish and Wildlife Service-approved biologist(s) shall conduct pre-construction surveys for San Joaquin kit fox dens both in the project footprint and within 200 feet of the footprint (project footprint plus temporary construction zone), inclusive of any utilities relocations. A letter report and map of known and potential kit fox dens shall be submitted to the U.S. Fish and Wildlife Service prior to the start of ground disturbance and/or construction activities. Repeat clearance surveys shall be conducted no more than 14 days before construction or after any delays in construction of over 2 weeks. Any new known or potential San Joaquin kit fox dens identified in the interim shall be reported to the U.S. Fish and Wildlife Service in a letter report and map. If no new known or potential San Joaquin kit fox dens are identified, an internal record shall be maintained that includes the survey date, the designated biologist conducting the survey, and the general survey findings. The records will be submitted to the U.S. Fish and Wildlife Service upon request.
- Disturbance to all San Joaquin kit fox dens shall be avoided to the maximum extent possible. If known or potential dens are identified within the project footprint during 60-day and/or 14-day pre-construction surveys, Caltrans shall request to monitor and excavate those dens that are expected to be affected directly by the project and cannot be avoided. Active dens shall not be excavated during the natal season (January 1–June 30). The U.S. Fish and Wildlife Service-approved biologist(s) shall monitor potential dens for three consecutive nights using tracking medium and/or a remote sensor camera, shall submit monitoring results in a letter report to the U.S. Fish and Wildlife Service, and also shall oversee the hand excavation of dens that have been determined to be vacant following approval by the U.S. Fish and Wildlife Service. The U.S. Fish and Wildlife Service-approved biologist(s) also shall submit results of the den excavation and exclusion activities in a letter report to the agencies. The following measures shall be applied to dens that are not excavated:
    - Dens that are identified during pre-construction surveys of the project footprint boundary and a 200-foot area outside of the

project footprint shall be monitored and protected by an exclusion zone around dens, as measured outward from the entrance or cluster of entrances of each den. Potential and atypical dens within 50 feet of the project footprint shall be protected with a 50-foot zone delineated by flagged stakes. Known dens within 100 feet of the project footprint shall be protected with a 100-foot zone. To ensure protection, the exclusion zone shall be demarcated by fencing/flagging that does not prevent access to the den by the San Joaquin kit fox. Acceptable designs shall have openings for San Joaquin kit fox ingress/egress but shall keep humans and equipment out, e.g., wooden posts connected with caution tape; orange construction cones; orange construction fencing with a mesh size less than 2 inches in diameter (to prevent the San Joaquin kit fox from becoming entangled in the fencing) with gaps every 50 feet. Fencing/flagging shall be maintained until all construction-related disturbances have been terminated. At that time, all fencing/flagging shall be removed to avoid attracting subsequent attention at the dens.

- If natal/pupping dens are discovered either within the project footprint or within 200 feet of the project footprint, Caltrans shall immediately notify the U.S. Fish and Wildlife Service.

- The U.S. Fish and Wildlife Service-approved biologist(s) shall conduct a worker environmental awareness program for all construction crews prior to ground-disturbing activities, with the purpose of informing all crew members of the potential for the San Joaquin kit fox to occur on site, the effects on the species from construction activities, how to minimize effects to the species, and the penalties for non-exempted take. The training shall be repeated to all new crew members working in San Joaquin kit fox habitat. Crew members shall sign an attendance sheet and confirm that they understand the protection measures and construction restrictions. Training materials and records of attendees shall be submitted to the U.S. Fish and Wildlife Service.
- The U.S. Fish and Wildlife Service-approved biologist(s) shall monitor road construction on a daily basis and shall verify that construction complies with the measures laid out in the Biological Opinion. The U.S. Fish and Wildlife Service-approved biologist(s) shall maintain a log of daily monitoring notes that can be summarized and transmitted to the U.S. Fish and Wildlife Service by request.
- Upon completion of project construction, all areas subject to temporary ground disturbance, including storage and staging areas, shall be restored to original grade and contour. Appropriate methods and plant species used to revegetate shall be determined on a site-specific basis in consultation with revegetation experts.

- To minimize opportunistic predatory effects to the San Joaquin kit fox, the City and Caltrans shall condition contracts with contractors to require that trash be removed at least once daily from project areas and disposed of off site so as not to attract predator species like coyotes (*Canis latrans*) and bobcats (*Lynx rufus*) to the project area.
- The City and Caltrans shall condition contracts with contractors to require that contained water sources, which are inaccessible to the San Joaquin kit fox (e.g., elevated water trucks), be used for dust control and other construction water activities.

3.7 Cumulative Impacts

Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of this project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor, but collectively substantial, impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive types of agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

California Environmental Quality Act Guidelines Section 15130 describes when a cumulative impact analysis is warranted and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts, under the California Environmental Quality Act, can be found in Section 15355 of the California Environmental Quality Act Guidelines. Briefly, a cumulative impact is when the impact of two or more projects “when considered together, are considerable or which compound or increase other environmental impact.” The definition of cumulative impacts, under the National Environmental Policy Act, which can be found in 40 CFR, Section 1508.7 of the Council on Environmental Quality Regulations, states, a cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Affected Environment

Cumulative impacts identified for the Centennial Corridor are those impacts that result from past, present, and reasonably foreseeable future actions occurring in the metropolitan Bakersfield area, combined with the impacts of building the Centennial Corridor via alignment Alternative A, B, or C. The study area for each of the resources potentially affected by the cumulative projects is defined below. The affected environment for each of these resources has been previously discussed in their respective portions of Chapter 3.

Reasonably Foreseeable Projects

The list of reasonably foreseeable projects is based on known projects identified on the cumulative projects map maintained by the City of Bakersfield. Long-term growth projections are also considered because they help to identify future actions that could contribute to potential cumulative impacts; the project design year (2038) is used as the planning horizon for considering future projects and actions.

Table 3.52 summarizes the reasonably foreseeable projects considered in the cumulative impact analysis of this project. Note that both the Thomas Roads Improvement Program projects and other projects assumed under the Regional Traffic Impact Fee Program are included in the cumulative analysis. The Regional Traffic Impact Fee Program, which requires new development to pay a proportionate share of the cost for new and expanded transportation facilities, includes a range of local street improvements designed to relieve traffic congestion in the study area, which would be built through 2035.

Table 3.52 Cumulative Projects List

Project Name	Description	Status
Bakersfield Commons	A 255-acre project east and west of Coffee Road between Brimhall Road and Rosedale Highway. Allows 1,400,000 square feet of retail commercial, 600,000 square feet of office commercial, 345 multi-family homes, and 80 single-family homes.	Approved in August 2010, but no current construction.
Stockdale Ranch	On the south side of Stockdale Highway near Heath Road. Allows 3,583 residential units and 941,700 square feet of commercial/ business park uses on a 564-acre site.	Approved in June 2010, but no current construction. Two tentative subdivision maps have been submitted to the City.
Saco Ranch Commercial Center	Southeast and southwest of the Coffee Road/7th Standard Road intersection. Allows 1,459,500 square feet of retail commercial, 332,000 square feet of office uses, and 1,376,496 square feet of industrial uses. The center is a 327-acre project.	Approved in August 2010, but no current construction.
Crossroads Plaza Commercial Center	On the west side of Gosford Road between Panama Lane and Harris Road. Allows retail development (138,621 square feet) and a community retail center (605,008 square feet). The Crossroads Plaza project is a 69.84 acre project.	Approved December 2010. No current construction.

Table 3.52 Cumulative Projects List

Project Name	Description	Status
South Mill Creek Retail, Entertainment, and Housing Project	A commercial village of 5.5 acres proposed west of Mill Creek Linear Park in downtown Bakersfield. Creek View Villas (36 condos) and City Place (70-unit apartment), with Mill Creek Courtyard Apartments planned.	14 units of the Creekview Villas have been placed on the market for sale.
Maya Cinemas; Additional Commercial Businesses	16-screen movie theater; 25,000 square feet of retail and commercial space planned in downtown Bakersfield.	Theater complete; remaining commercial enterprises not yet developed.
San Joaquin Community Hospital Avenue	Community hospital to be located at 2620 Chester Avenue, downtown Bakersfield.	The medical office building at 2620 Chester Avenue has been built and is occupied. 60,000-square-foot medical facility at 2700 Chester Avenue is currently under construction.
Regional Traffic Impact Fee Program	Local street improvements throughout the metropolitan Bakersfield area. Improvements would be built as funds are available.	Construction ongoing through 2035.
California High-Speed Rail	The proposed system is composed of nine segments. The first segment proposed for construction would be in the Central Valley from Fresno to Bakersfield.	The final environmental document for the Fresno-Bakersfield segment is being prepared. A contractor for the design-build contract for the initial phase of the project (Merced to Fresno) has been selected. The system from San Francisco to Los Angeles is expected to be constructed by 2029.
State Route 178/ Fairfax Road Interchange	Built an interchange at State Route 178 and Fairfax Road; widened State Route 178.	Project was completed in 2009.
Mohawk Street Extension	Built a six-lane, north-south arterial from Rosedale Highway to Truxtun Avenue with bridges over BNSF Railway, Westside Parkway, and the Kern River, plus a box culvert over the Cross Valley Canal.	Project was completed in 2011.

Table 3.52 Cumulative Projects List

Project Name	Description	Status
State Route 99/ 7th Standard Road	Widened 7th Standard Road, modified the interchange, and built an overpass for 7th Standard Road over the Union Pacific Railroad.	Project was completed in 2010.
North Beltway	Widening 7th Standard Road from 2 to 4 lanes from the Meadows Field Airport to Interstate 5. Includes a new interchange at State Route 99, a grade separation at the Union Pacific Railroad and construction of new bridges over Calloway, Friant-Kern, and Lerdo Canals, and a grade separation at the BNSF Railway near Santa Fe Way. The project is being built in five phases. Only the last phase has not been built—widening from the grade separation at Santa Fe Way to Interstate 5.	Final phase will be built when funding becomes available.
24th Street Project	Project would improve the Oak Street/24th Street intersection and widen 24th and 23rd streets from State Route 99 to M Street. The final environmental document was completed in 2014.	Construction to begin in 2015.
Hageman Flyover Project	Project would provide a roadway across State Route 99 to connect Hageman Road with State Route 204 (Golden State Avenue). The final environmental document to be completed in 2013.	Construction will occur when funding is available.
State Route 178 at Morning Drive Interchange	Project would build a new interchange at State Route 178 and Morning Drive and widen State Route 178 to four lanes for about 1.5 miles. Final design is underway.	Construction began in 2013.
State Route 178 Widening Project	Project would widen State Route 178 to six lanes from Canteria Drive to Masterson Street, and to four lanes from Masterson Street to Miramonte Drive.	Construction to begin in 2014.
State Route 58 (Rosedale Highway) Widening	The project would widen Rosedale Highway to a six-lane facility from Allen Road to State Route 99. The environmental document includes clearance for a grade separation at the railroad crossing near Landco Drive. Final design is underway.	Widening to begin in 2014; grade separation to occur in 2025.
West Beltway	Project would build a six-lane, north-south facility that extends from State Route 119 to 7th Standard Road with 10 potential intersections/ interchanges.	Construction will occur when funding is available.
Westside Parkway (Segment 2 of the Centennial Corridor)	A new east-west freeway extending from Truxtun Avenue on the east to Heath Road on the west. A six-lane freeway would be built from Mohawk Street to Heath Road (about 6.25 miles), with full interchanges at Mohawk Street, Coffee Road, Calloway Drive, and Allen Road.	Construction of the final segment will be completed in 2014.
State Route 58 Gap Closure	The project would widen State Route 58 from 4 to 6 lanes within the median of the freeway between State Route 99 and Cottonwood Street.	Construction began in 2013.

Table 3.52 Cumulative Projects List

Project Name	Description	Status
Kern 99 8-Lane Widening Project	Additional lanes would be built on State Route 99 within the existing right-of-way, which would widen the existing six-lane freeway to eight lanes from the State Route 99 and State Route 204 connector to the Beardsley Canal (post miles 27.0 to 28.4). The project also proposes an auxiliary lane in the northbound direction between the northbound State Route 204 and State Route 99 connector and the northbound Olive Drive interchange.	The project is under construction and is expected to be completed in late 2014.
South Bakersfield 8-Lane Widening Project	The project will widen State Route 99 from State Route 119 to Wilson Road (post miles 17.0 to 22.1) from three to four lanes in each direction. In addition two bridge structures within the project limits, the Pacheco Road Undercrossing and the South Bakersfield Overcrossing that spans the BNSF Railway would be widened.	The project is under construction and is expected to be completed in mid-2014.
Beltway Operational Improvements Project	Project would construct operational improvement features along segments of State Route 99 and State Route 58, including (1) construction of auxiliary lanes, (2) ramp interchange improvements, (3) soundwalls, and (4) retaining walls to accommodate auxiliary lanes and other operational improvements.	Environmental document completed in January 2014.

Environmental Consequences

This section discusses potential impacts to various resources that could occur as a result of the Centennial Corridor project together with the other related projects listed in Table 3.52.

For hazardous materials and waste, the concern would not be from contamination caused by the project, but rather from materials that are currently present in the environment, and hazardous materials transported on the areawide roadway system on a daily basis. Federal, state, and local management and disposal requirements address the handling of these materials. There would be an incremental increase in the generation of hazardous materials in the study area during construction; however, long-term operational impacts of the Centennial Corridor would not contribute to the generation of hazardous materials. The project would serve to remediate (clean up) existing concerns that exist in the corridor. Also, for trucks and other vehicles traveling through Bakersfield carrying hazardous materials, freeways generally have a lower accident rate than surface streets. This would be a cumulative benefit rather than an impact.

The long-range analysis (year 2038) assumptions for the traffic, air quality, and noise (in Sections 3.1.6, 3.2.6, and 3.2.7, respectively) all reflect the growth projections approved by the Kern Council of Governments for 2038. Therefore, from a land use and circulation perspective, the approved long-range growth projections include the cumulative projects identified in Table 3.52. As a result, the project long-range analysis for traffic, air quality and noise also generally reflects the cumulative

projects. An exception is that the project analysis does not assume the California High-Speed Rail project, which has been identified as a cumulative project. From a cumulative perspective, the California High-Speed Rail project could result in cumulative traffic and air quality benefits by providing an alternative mode of transportation. But, it could result in potential cumulative noise impacts, discussed later in this section.

If multiple projects are built during the same general time frame, it would likely result in increased localized construction-related traffic congestion and construction air emissions and noise impacts. The State Route 58 Widening project (Rosedale Highway), widening of 24th Street, and the California High-Speed Rail project are examples of other actions that would occur near the Centennial Corridor and have the potential to contribute to cumulative construction impacts. Construction of both the State Route 58 Widening project (Rosedale Highway) and widening of 24th Street should be completed by the time construction for the Centennial Corridor starts. The City of Bakersfield and Caltrans would work together to ensure overlapping construction from multiple projects in the same vicinity would be managed to avoid or lessen cumulative impacts.

Timing of the California High-Speed Rail project (which would, if and when built, cross State Route 99 between California and Truxtun Avenues next to the existing BNSF Railway railroad tracks) is uncertain at this time. If the High-Speed Rail project were to be in construction at the same time as the Centennial Corridor, there would be cumulative impacts for construction air quality, noise, and traffic. Both projects would generate these types of impacts and, because the construction areas overlap, the surrounding areas would experience the impacts of both projects at the same time.

The analysis concludes that there may be cumulative impacts for several resources:

- Community resources, including land use (such as farmland and parkland), community cohesion, relocation, environmental justice, and growth
- Cultural resources
- Visual resources
- Hydrology and floodplain
- Water quality
- Noise
- Biological resources

Analysis of cumulative impacts for these resources is presented below. The affected environment for each of these resources has been previously discussed in its respective portion of Chapter 3. Analysis focuses on the cumulative impacts of the build alternatives in Segment 1.

Community Resources

Resource Study Area

The Centennial Corridor project is in the metropolitan Bakersfield area, which includes the city of Bakersfield and adjacent unincorporated county land. The effects on community cohesion were considered by looking at specific resources (such as parks and recreational facilities) within half a mile of the project build alternatives.

Current Condition and Historical Context

The city of Bakersfield is one of the fastest growing cities in the nation, but it remains a major agricultural and oil producer. Existing land uses in the metropolitan Bakersfield area include a mix of urban land, outlying agricultural areas, and oil well production areas north of the Kern River. Surrounding the Centennial Corridor are various residential, commercial, industrial, recreational, agricultural, resource/utility, undeveloped/vacant, and government uses.

Bakersfield has been subject to the same stagnation in the economy that has affected the entire state of California, resulting in lower housing values, increasing pressure on monthly rent payments, residential and commercial vacancy rates higher than normal, and lack of widespread employment opportunities. Land development has been steady, until the past few years, when projects have been put on hold, pending an upturn in the local economy. Agricultural land continues to be highly valued.

Project Impacts

Construction of the Centennial Corridor project would result in conversion of existing land uses to transportation uses due to right-of-way acquisitions, resulting in neighborhood disruption, loss of community cohesion, and residential and business displacements. A detailed discussion of land use and community impacts is presented in Sections 3.1.1 and 3.1.2 of this document.

Reasonable Foreseeable Actions

New development in the metropolitan Bakersfield area will lead to changes in land use and an increase in development projects in the area. Planned roadway and infrastructure projects would also change existing land uses as a more developed roadway system is built. Roadway and infrastructure projects that require right-of-way acquisition could also lead to potential demolition and displacement.

Cumulative Impacts

Land Use

Cumulative projects and planned growth in the metropolitan Bakersfield area will lead to changes in land use and an increase in development intensity in the area. With this growth, there would be pressure for urbanized areas to expand to vacant lands and agricultural lands next to existing urban development. Historically, this has happened in the Bakersfield area. But, future development would be managed to be consistent with adopted General Plans, which encourage development in the urbanized portions of the city.

The project, which is one of the planned infrastructure improvements of the approved Regional Transportation Plan, would provide support to the existing and planned developments. Several of the cumulative projects would extend into areas that are or recently have been agricultural areas. In approving these projects, the local jurisdictions have determined that the land use conversion impacts associated with cumulative projects would remain unsubstantial. Construction of the Centennial Corridor improvements would result in the conversion of about 6 acres of land adjacent to the roadway at Stockdale Highway and State Route 43 that are designated as Prime Farmland. But, the project would not cumulatively contribute to considerable cumulative land use impacts.

Parks

A review of cumulative projects indicates that planned projects that are mainly related to transportation would not result in new demand for recreational services, but would instead facilitate access to recreational facilities. Residential land uses and, to a lesser extent, mixed-use projects identified on the cumulative projects list would create additional demand for recreational services. As required by the Quimby Act, future land development projects would be required to provide additional parkland based on the population generated by the project. Implementation of the project would affect some parkland, but mitigation—in the form of replacement park acreage, improved facilities and improvements at new sites—would be provided, resulting in full restoration and potentially expanded facilities. Therefore, the project would not contribute to cumulative effects on parkland.

Growth

The programwide *Thomas Roads Improvement Program Growth Inducement Analysis Report* (2009) documents the results of a growth-related impact analysis of a sample of residential areas in the Bakersfield area. The analysis estimates that Thomas Roads Improvement Program projects would create substantial time savings for commute trips to jobs in the core or across town.

Based only on changes in access to jobs, the growth analysis estimates that Thomas Roads Improvement Program projects would cumulatively increase growth pressures—in northwest Bakersfield to a moderate extent and slightly in west-central Bakersfield. Other areas in Bakersfield are expected to have a relative decrease in growth pressure. Given the existing level of growth pressure due to the ongoing migration of population to Bakersfield and continuing traffic congestion, construction of the proposed Thomas Roads Improvement Program projects is judged unlikely to have a substantial effect on actual residential growth in the area.

Community Character and Cohesion

The right-of-way acquisition for the California High-Speed Rail project would have the potential to affect community cohesion. As with the Centennial Corridor, the California High-Speed Rail project could alter travel patterns of residents due to changes in the local street system. This may disrupt access to nearby facilities and services. However, engineering designs are being developed to keep the local

circulation network intact by building underpasses and overpasses and depressing or elevating facilities.

In the long term, the project would improve the operational efficiency of State Route 58, and it would relieve traffic congestion from area roadways in the resource study area, which would have a positive effect on residents living nearby. The impact from project implementation would be beneficial on a cumulative basis.

Relocation and Property Acquisition

Implementation of any of the build alternatives would result in property acquisitions, ranging from 133 to 356 residential units and between 121 to 198 non-residential properties. Other cumulative projects expected to result in relocations and property acquisition include: (1) the California High-Speed Rail project, which would likely eventually relocate over 200 households and about 280 businesses within the Bakersfield metropolitan area; (2) 24th Street, which would relocate 25 homes; (3) the rail grade-separation portion of the State Route 58 (Rosedale Highway) Widening project, which would relocate 1 home and 14 businesses (the grade-separation is projected to be built in 2025); (4) the West Beltway, which would displace 29 to 72 homes, depending on the alternative selected; and (5) the Hageman Flyover Project, which would displace 1 business.

It is possible that other roadway improvements identified in the Regional Transportation Impact Fee Program may result in a few displacements, but that is unknown at this time because the engineering design for all the projects included in this program has not been completed. None of the projects in the Regional Transportation Impact Fee Program are expected to require a large number of relocations.

Based on current schedules for these projects, only the relocations for Centennial Corridor and the High-Speed Rail project would be expected to occur in the same time period. Relocations for 24th Street would be completed before the start construction of the Centennial Corridor. The relocations associated with Rosedale Highway, Hageman Flyover, and the West Beltway would not occur until several years after the completion of the Centennial Corridor.

Compliance with the California Relocation Assistance Act, the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act, and the City of Bakersfield's Relocation Assistance Program regarding fair compensation and relocation assistance for displaced individuals and businesses would minimize cumulative impacts as a result of right-of-way acquisition. But, combined, these projects would add to the demand for residential units and business properties in Bakersfield. Construction of new housing stock and business properties is continuing throughout Bakersfield and the surrounding area. The long-range growth forecast identifies substantial growth in the area to provide replacement opportunities. The timing of the property acquisition process for the Centennial Corridor and California High-Speed Rail projects would be important in phasing the impact on replacement housing.

Job losses associated with the business displacement are not expected because most businesses would likely be relocated to an area within the city of Bakersfield.

Right-of-way acquisition required for the Centennial Corridor project would slightly diminish the property tax base of Bakersfield, resulting in minor losses of property tax revenue. Several public projects listed above would also result in the acquisition of private property, further diminishing the local property tax base. Taken altogether, however, this potential cumulative impact would likely be offset by the ongoing and expanding residential, industrial, and commercial property development identified in the cumulative projects list.

Cultural Resources

Resource Study Area

Cultural resource impacts can extend beyond the immediate and direct construction footprint of the specific project and include areas within the Area of Potential Effects, often extending adjacent to and one property beyond and within the viewshed of the project. Therefore, the resource study area includes the overall area from which the build alternatives would be potentially visible.

Current Condition and Historical Context

A number of historic properties in the form of buildings with historic or architectural significance have been identified to be located in the metropolitan Bakersfield area, although an exact number is unknown due to a lack of an area-wide comprehensive local preservation survey meeting Office of Historic Preservation (OHP) standards. As of January 10, 2014, seven properties within Bakersfield were listed on the National Register of Historic Places. Many others have been found to be potentially eligible as part of Section 106, though lacking a formal process the exact number is not known. The City of Bakersfield also has a local Register of Historical Places, which as of January 2014, includes an additional fourteen properties. Another City of Bakersfield historic landmarks designation is made in the category of Locations of Historic Interest for which there are seventeen listings. While development sometimes removes certain historic properties, additional properties are identified and placed on registers as an appreciation for history and architecture expands among the local populace. In addition, there are more buildings that meet the 50 year threshold for consideration as time progresses. Windshield surveys conducted by professional historians and architectural historians have identified a number of local neighborhoods within the Bakersfield city limits that could form potential historic districts, containing both residential and commercial properties, if the neighborhoods wished to do so.

Project Impacts

Changes to existing views would occur under build Alternative A due to the introduction of bridge structures, retaining walls, soundwalls into the Rancho Vista Historic District, as well as splitting the historic district and demolition of more than half of the existing residential properties determined to be eligible for the National Register as district contributors.

Reasonable Foreseeable Actions

New development proposed in the metropolitan Bakersfield area, along with several transportation projects planned throughout the area, may have the further effect of reducing certain historic properties from the existing inventory. However, as the vast majority of historic properties tend to be privately-owned, decisions to maintain those properties with historic and architectural character lie not with government actions, but with the individual.

Cumulative Impacts

Construction activities may cause the loss or impairment of National Register or California Register built environment properties. These include demolition or relocation, as well as increases in vibration and the introduction of new visual elements out of character with the setting of the historic property. Development and other changes induced over time may eliminate or reduce the number of certain types of built environment properties which represent Bakersfield's rich architectural and historical past. However, based on both formal and informal surveys, the inventory of significant properties within the metropolitan Bakersfield area would remain vast.

For cumulative impacts to occur to historic properties, important examples of period architecture property types would have to be permanently removed from the existing inventory of Bakersfield. Neither the Centennial Corridor project, nor the 24th Street Improvement project, which anticipates an adverse effect on one historic property, the South of 24th Street Historic District, with potential relocation or demolition of between 7 and 10 district contributors, would cause the complete removal of any one period architectural style from the entire inventory of residential properties in Bakersfield. The California High-Speed Rail project, if built, is not expected to require demolition of historic properties in metropolitan Bakersfield. Regardless, under Section 106, adverse effects to historic properties are in part mitigated by means of carrying out stipulations as part of Memorandums of Agreement (MOA). Therefore, cumulative impacts related to historic properties is not expected to be substantial.

Visual/Aesthetics

Resource Study Area

Visual impacts can extend beyond the immediate area of the project site and include areas within the viewshed of the project. So, the resource study area includes the overall area from which the build alternatives would be potentially visible.

Current Condition and Historical Context

Landscape in the metropolitan Bakersfield area is characterized by relatively flat topography. The Kern River is an important visual and recreational corridor that runs through the project area and is visible from all build alternatives. The regional landscape, except for the northwestern portion, consists of a mix of residential, commercial, industrial, and recreational land uses.

Existing views are typical of a developed urban setting. Distant mountains, the Kern River, and scattered parks provide visual relief from the urban setting. The nearest naturally elevated features are the Greenhorn Mountains, about 10 miles northeast of the project area. As time goes on, it is likely that the viewshed in metropolitan Bakersfield would become more urbanized.

Project Impacts

Changes to existing views would occur under the build alternatives due to the introduction of bridge structures, bridge supports, retaining walls, soundwalls, signs, lights, ramps, and other accessory structures, demolition of existing residential, commercial, and industrial buildings, and other structures and improvements. Obstruction of views of the Kern River would also occur.

Reasonable Foreseeable Actions

New structures and infrastructure would be introduced by residential and non-residential developments that have been proposed in the metropolitan Bakersfield area, along with several transportation projects throughout the area.

Future development in the metropolitan Bakersfield area would add to the increasing intensity and density of urban development in the project area through the construction of new buildings and infrastructure systems, including roadways.

Cumulative Impacts

Future development would expand the urbanized area, but the metropolitan Bakersfield area would continue to be surrounded by agricultural land or low-density uses in the outlying areas, thereby maintaining a semi-rural character.

For cumulative aesthetic impacts to occur, elements of cumulative projects would need to be close to each other or within the same view. The State Route 58 Widening project (Rosedale Highway) would widen the roadway from four to six lanes. As part of a final phase in the year 2025, a grade separation is proposed over the San Joaquin Valley Railroad line. The State Route 58 Gap Closure project would widen the freeway from Cottonwood Road to State Route 99. Both of these projects would be visible from spots along the Centennial Corridor and would incrementally add to the urbanized nature of the area, but would not change the visual character of the area.

The Westside Parkway project would be incorporated into the Centennial Corridor. Design of Segment 1 of the Centennial Corridor would be done to maintain an aesthetic design theme that is compatible with the Westside Parkway project; to preserve mature trees, as feasible; and to make stormwater management improvements aesthetically pleasing. Therefore, cumulative impacts related to visual and aesthetic resources are not expected to be substantial.

The California High-Speed Rail project, if built, would further add to the urban character of the study area. Design elements and timing for construction of this project are unknown.

When evaluating cumulative aesthetic impacts, it is important to note that the context in which a project is being viewed would also influence the significance of the aesthetic impact. If most of an area becomes or is already urbanized, as is the case with the project area, the contrast with the natural surroundings would be less because the project would not stand out.

So, while the project, when combined with the cumulative projects, would contribute to the ongoing urbanization of the metropolitan Bakersfield area, it is this urban context that would minimize the cumulative visual impact.

Design review of individual projects by the City and County would ensure that the visual quality of proposed structures is consistent with adopted policies and design guidelines. Cumulative impacts would not be significant, and no additional measures would be required.

Hydrology and Floodplain

Resource Study Area

The Centennial Corridor is within the Kern River watershed. The cumulative resource study area is the portion of the Kern River watershed within metropolitan Bakersfield. The Kern River serves as the main drainage channel for the project area. This river flows south through the Sequoia National Forest and enters Lake Isabella. From Lake Isabella, the river flows southwest into the San Joaquin Valley through the city of Bakersfield and empties into the normally dry Kern Lake. Groundwater resources are found within the San Joaquin groundwater basin, which underlies the project area.

Current Condition and Historical Context

The Kern River poses flood hazards to adjacent areas, although levees along the river, bridges, diversion structures, and canals provide flood protection for abutting properties. The natural and beneficial uses of the Kern River and the adjacent floodplain include wildlife foraging, migration, and breeding, flood-flow conveyance and storage, groundwater recharge, and recreational activities, which would be maintained into the foreseeable future.

Project Impacts

Ground disturbance under the build alternatives would change the directional flows and volume of stormwater. The three build alternatives would include bridges over the Kern River, and the bridge columns that would be built in the river would raise the surface water elevation. However, the calculated increase in water surface would be minor, and this encroachment would not be substantial. Impacts on natural and beneficial floodplain values would be minor, and the project would not support incompatible floodplain development.

Reasonable Foreseeable Actions

A number of roadway projects under the Regional Traffic Impact Fee Program would be near the Kern River. Also, the Mohawk Street Extension, the West Beltway, and the 24th Street projects would cross the river, similar to the project.

Cumulative Impacts

Future development within the Kern River watershed would increase impermeable surfaces and decrease water percolation areas. An increase in impervious surfaces would reduce recharge, but since individual development sites are not designated as groundwater recharge areas and existing recharge basins are expected to remain in use, reduction in percolation areas from the project would not have cumulative adverse impacts on groundwater recharge.

The increase in runoff volumes from future development would increase overall stormwater volumes and flow rates in local drainage channels and the Kern River. Under the County/City National Pollutant Discharge Elimination System Permit, new developments must provide onsite improvements (including stormwater infiltration facilities or other stormwater runoff controls) and/or storm drainage system upgrades to prevent the creation of flood hazards at downstream areas. So, no cumulative adverse impacts related to flood hazards or inadequate storm drainage would occur.

Proposed river crossings may increase the surface water elevation of the Kern River. The hydraulic assessment for the project incorporates other proposed bridges into the analysis. The results reveal no adverse impacts to the hydrologic conditions of the Kern River with standard conditions and minimization measures incorporated.

Water Quality and Stormwater Runoff

Resource Study Area

Surface water resources within the Kern Delta hydrologic area include the Kern River and several canals that divert water from the Kern River for use in agricultural irrigation and as municipal water supplies for the surrounding areas. Groundwater resources are within the San Joaquin groundwater basin, which underlies the project area. The resource study area for the analysis of cumulative impacts related to water quality is the metropolitan Bakersfield portion of the lower segment of the Kern River watershed.

Current Condition and Historical Context

The Kern River receives stormwater runoff from developments in the project area through sheet flow and a system of drainage pipes, canals, retention basins, cross culverts, pump stations, and landscaped areas. Surface water quality in the Kern River and other surface water bodies within the Tulare Lake basin are generally good.

Groundwater is the main source of domestic water supplies in the Bakersfield area, with the Kern River water and imported water as supplemental sources. Aside from the river channel, there are recharge ponds along the river, recharge facilities, ground percolation programs, canal seepage, spreading/banking projects, and wastewater reclamation that contribute to local groundwater recharge. Groundwater quality in the Tulare Lake hydrologic region is suitable for most urban and agricultural uses, with some exceptions. No water body in the project area has been identified as “impaired” under Section 303(d) of the Clean Water Act.

Project Impacts

Construction of any build alternative would contribute pollutants to receiving water bodies from uncontrolled runoff and discharges. But, existing and proposed stormwater infiltration basins built as part of the project would minimize impacts to surface water quality of the receiving waters within the watershed.

Reasonable Foreseeable Actions

Private development projects and infrastructure projects planned in the project area would require construction, generate vehicle trips, and involve outdoor operations that may generate stormwater pollutants.

Cumulative Impacts

Future development in the Kern River watershed would generate new sources for urban pollutants, which could affect water quality of surface water and groundwater resources. Construction activities would lead to increases in stormwater runoff and pollutants in the runoff from new impervious areas and a reduction in groundwater recharge. Construction could also result in erosion, which could degrade water quality in receiving waters.

New development would have to comply with existing regulations regarding construction practices that minimize risks of erosion and runoff. Among the various regulations are the applicable provisions of Caltrans Statewide National Pollutant Discharge Elimination System Permit, the Construction General Permit, County and City regulations related to the protection of stormwater quality for new development and significant redevelopment; municipal grading permits, and other National Pollutant Discharge Elimination System permits. This would minimize degradation of water quality at individual project construction sites. Consequently, cumulative impacts would not be considered substantial.

Vehicle use of planned highway/roadway improvement projects would contribute pollutants that could degrade stormwater quality in the Kern Delta hydrologic area. Compliance with applicable State Water Resources Control Board and Regional Water Quality Control Board regulations would ensure that water quality objectives are met and that beneficial uses are maintained. Therefore, direct or indirect impacts associated with water quality from the project would not be considered substantial, and the project would not have a cumulatively considerable contribution to the cumulative effects related to water quality.

Since groundwater impacts associated with the Centennial Corridor project would not be substantial, the project would not have a cumulatively considerable contribution to cumulative effects on groundwater.

Noise

Resource Study Area

The resource study area is the same as the study area evaluated in the *Noise Study Report.* As summarized in Section 3.2.7, Noise, and discussed in the *Noise Technical*

Study, various land uses sit next to the Centennial Corridor project in the study area: single-family and multi-family residences, schools, parks, hotels and motels, churches, and outside dining areas. The analysis evaluated the effects of noise on affected receivers next to the build alternatives.

Current Condition and Historical Context

The project study area is an urban area that includes major roadways, freeways (State Routes 58 and 99) and a rail line. Based on the short-term noise measurements taken in the study area, the existing outdoor equivalent hourly average noise levels in the study area range from 50 to 73 dB, consistent with an urban area. The health effects on the population at the study area would be considered average.

Project Impacts

Each of the build alternatives would result in affected receivers being exposed to traffic noise levels that would approach or exceed the Caltrans Noise Abatement Criteria where abatement would not be provided because it was determined not to be feasible and/or reasonable.

Reasonable Foreseeable Actions

Reasonably foreseeable actions include construction of additional residential uses, which would result in an increase in the number of receptors that may be exposed to traffic noise associated with the Centennial Corridor Project, and generation of additional traffic that would use the Centennial Corridor and other roadway projects identified in Table 3.52, Cumulative Projects List.

A portion of the California High-Speed Rail project would be within the resource study area. Based on current studies, the High-Speed Rail alignment would be between Truxtun and California Avenues on the east side of State Route 99. From west of State Route 99 to Coffee Road, the rail alignment would generally be in the vicinity of the Westside Parkway. Around Coffee Road, the rail alignment would veer northwesterly, away from the Centennial Corridor study area.

Cumulative Impacts

The project long-range analysis (year 2038) reflected the growth projections approved by the Kern Council of Governments. As a result, the 2038 noise analysis of traffic noise reflects the anticipated population growth and traffic that would be associated with cumulative projects. Therefore, except for the California High-Speed Rail project, cumulative noise levels would be the same as those evaluated for the project. The noise impacts associated with the High-Speed Rail project would occur only as the train is passing the affected receivers. As a result, the extent of the impacts would depend on the number and timing of the trips. The High-Speed Rail project also proposed noise abatement to reduce the impacts associated with the rail activity. However, even with abatement, there would still be increased noise levels for those receptors that are exposed to noise levels of both the Centennial Corridor and the California High-Speed Rail project.

Biological Resources

Resource Study Area

The resource study area for biological resources is metropolitan Bakersfield, which is the same area that is under the Metropolitan Bakersfield Habitat Conservation Plan.

Current Condition and Historical Context

Historical development in the metropolitan Bakersfield area has led to the loss of biological resource habitat over time, which has compromised the value of the natural habitat. The project area is highly urbanized and disturbed. Much of the habitat in metropolitan Bakersfield is a mix of native and non-native species. In response to this, the current strategy for maintaining habitat is to secure large contiguous blocks of habitat to support core populations and to serve as corridors between core areas (U.S. Fish and Wildlife Service 1998). The Metropolitan Bakersfield Habitat Conservation Plan was designed to implement this strategy focusing on 11 special-status plant species and seven special-status wildlife species. Mitigation fees paid for each project are used to purchase and maintain habitat reserves.

Project Impacts

The project would have impacts to sensitive plant and animal species and their habitats, including the Swainson's hawk, San Joaquin kit fox, and Ferris' goldfields. The project would also affect riparian habitats and wetlands found in the Kern River and in various canals in the area.

Reasonable Foreseeable Actions

Future development and planned transportation projects would result in permanent and temporary loss of habitat for plant and wildlife species in the area. Additionally, habitat fragmentation can result from the following: development of 1,200 acres of open space; construction and widening of roads for the Thomas Roads Improvement Program projects; and other infrastructure projects, as listed above.

Cumulative Impacts

The disturbance of plant and animal species and loss of habitat that would accompany future development and infrastructure and roadway projects in the metropolitan Bakersfield area would adversely affect sensitive species found in the area. The development of the projects listed in Table 3.52 would require mitigation for the cumulative loss of habitat through payment into the Metropolitan Bakersfield Habitat Conservation Plan of an in-lieu mitigation fee.

The project and cumulative projects could also indirectly affect adjacent habitat during construction or operation. During construction, noise or vibration could affect burrowing animals or nesting raptors. Runoff from the construction sites or operational roadways could affect water quality next to the project sites, which could degrade habitat quality. Night lighting during construction or operation of the projects could interfere with typical foraging or predation of nocturnal species in adjacent open space areas, increasing the potential for some wildlife to avoid these areas.

To avoid or offset potential cumulative effects on biological resources, avoidance, individual projects would implement minimization, and/or mitigation measures. These measures include, but are not limited to, pre-construction biological surveys, biological monitoring, best management practices, construction contract standard provisions, contract non-standard provisions, environmental awareness training, and habitat compensation to mitigate for potential effects to federally and state-listed species.

Implementation of the project and cumulative projects would result in permanent and temporary cumulative impacts on San Joaquin kit fox habitat, including contributing to the regional loss of habitat and fragmentation. Through consultation with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife, it has been determined that the Thomas Roads Improvement Program projects, which includes the Centennial Corridor Project, would have a cumulative effect on the San Joaquin kit fox. The new roadways could disrupt movement corridors, reducing the probability that kit foxes could safely move from one area of suitable habitat to another in search of denning and foraging habitat. Areas of undeveloped kit fox habitat, which are already highly fragmented in Bakersfield, could be sufficiently degraded by construction of new and expanded roadways and associated infrastructure so that they would no longer function as suitable habitat. Reduced habitat connectivity associated with construction and use of these roadways and infrastructure could force kit foxes to use different areas for movement that could result in greater exposure to potential predators and risk of injury by vehicles.

New development, highway projects, and the Thomas Roads Improvement Program projects could permanently or temporarily affect kit fox dens. Dens within the individual project sites could be destroyed by earth-moving activities during project grading and construction. Dens in the immediate vicinity of roads might be damaged or destroyed by vibration from construction activities. Loss of dens could result in the displacement of kit foxes.

In addition to the project-specific avoidance, minimization, and compensatory mitigation measures described in Section 3.3 of this document, the project would mitigate cumulative effects of the Thomas Roads Improvement Program projects by implementing the Sump Habitat Program, which would provide long-term habitat conservation for the urban kit fox population. On balance, and taking into account mitigation and compensation to be provided for the Thomas Roads Improvement Program, of which the Centennial Corridor is part, there would not be a net adverse cumulative impact on biological resources (see measure CUM-1 below).

Avoidance, Minimization, and/or Mitigation Measures

Avoidance, minimization, and/or mitigation measures identified in each topical section in this document would serve to minimize cumulative impacts to the extent feasible. As each project is evaluated for environmental impacts, project-specific mitigation measures would apply, which would reduce the cumulative impact.

All of the Thomas Roads Improvement Program projects would be providing mitigation for cumulative loss of habitat by payment of the Metropolitan Bakersfield Habitat Conservation Plan in-lieu mitigation fee. Individual projects would also comply with regulations of the California Department of Fish and Wildlife, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and the Central Valley Regional Water Quality Control Board, as they relate to the preservation and protection of sensitive plant and animal species and their habitats.

In addition, the Sump Habitat Program described below in Mitigation Measure CUM-1 will provide long-term habitat conservation for the urban San Joaquin kit fox population in the metro-Bakersfield area by focusing on sumps (i.e. stormwater drainage basins); sumps in Bakersfield are a functional habitat type for the species and many sumps are either currently known to support San Joaquin kit fox dens or offer potential denning opportunities. The City, in coordination with Caltrans, proposed to utilize the Sump Habitat Program to minimize collective effects to the San Joaquin kit fox engendered by all six Thomas Roads Improvement Program road improvement projects. Conservation measures of the Sump Habitat Program include the installation of artificial dens in selected sumps, the enhancement of San Joaquin kit fox habitat by controlling vegetation in and around dens, the increase of San Joaquin kit fox accessibility to sumps through installation of fence/gate openings (with proposed dimensions of 6 x 6 inches to exclude predators like coyotes and medium- to large-sized dogs), and the reduction in the potential for effects to the species associated with regular maintenance activities and predation. The City provided a letter of commitment to the Service, dated August 10, 2010, fully supporting and providing assurance of the implementation and management of the Sump Habitat Program and its conservation efforts.

CUM-1 The basic conceptual framework for the Sump Habitat Program is described in the September 2010 Draft Sump Habitat Program Plan, which addresses five core conservation goals in detail that are integral to the implementation and success of the Sump Habitat Program: 1) the selection of sumps that maintain San Joaquin kit fox accessibility and/or habitat (i.e. those of high/medium conservation priority based on the relative potential for minimizing program-level effects); 2) the installation and maintenance of San Joaquin kit fox enhancement features (i.e. fence/gate gaps, artificial dens, conservation zones, signs, and enhancement maintenance and repair); 3) the management of sump vegetation compatible with San Joaquin kit fox presence and/or use (i.e. performance of routine maintenance outside the San Joaquin kit fox natal season and the use of hand tools in conservation zones and new active dens); 4) the biological monitoring and reporting of results (i.e. pre-maintenance surveys; den monitoring and supervised den excavation; environmental awareness training; maintenance monitoring; annual enhancement inspection; annual San Joaquin kit fox sump use monitoring; and annual reporting); and 5) the provision of long-term conservation assurances (i.e. individual conservation easements for each sump; a perpetual non-wasting endowment for management, maintenance, and monitoring costs

associated with ongoing implementation; and a Service-approved Long-Term Management Plan. The proposed easement and endowment holder(s) will be Service-approved third-party organizations). Further details in regards to these five core measures can be found in the Draft Sump Habitat Program Plan.

a. The Sump Habitat Program will continue to be updated, refined, and ultimately finalized through an ongoing collaborative consultation process involving Caltrans, the City, Parsons/Thomas Roads Improvement Program, and the Service over the course of the final remaining Thomas Roads Improvement Program project.

b. The finalized Sump Habitat Program will be established and implemented within one year of the approval of the Final Environmental Document for the last of the six Thomas Roads Improvement Program projects; the City will fully fund the Sump Habitat Program within one year of this approval. Caltrans and the City will share responsibility for the Sump Habitat Program; Caltrans will adhere to the proposed avoidance and minimization measures and terms and conditions of this biological opinion and will be responsible for the overall implementation of the Sump Habitat Program, while the City will be responsible for enhancing sumps and conducting long term management of the Sump Habitat Program. A Service-approved third-party will be responsible for administering endowment funds and providing compliance oversight with the terms of the conservation easements for each sump in the Sump Habitat Program.

Chapter 4 California Environmental Quality Act Evaluation

4.1 Determining Significance under the California Environmental Quality Act

The project is subject to federal and state environmental review requirements because Caltrans and the City of Bakersfield propose the use of federal funds and/or the project requires a federal approval action. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act and the National Environmental Policy Act. Caltrans is the project proponent and the lead agency under the California Environmental Quality Act. The Federal Highway Administration's responsibility for environmental review, consultation, and any other action required in accordance with the National Environmental Policy Act and other applicable federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S. Code 327.

One of the main differences between the National Environmental Policy Act and the California Environmental Quality Act is the way significance is determined. Under the National Environmental Policy Act, significance is used to determine whether an Environmental Impact Statement, or some lower level of documentation, will be required. The National Environmental Policy Act requires that an Environmental Impact Statement be prepared when the proposed federal action (project) *as a whole* has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under the California Environmental Quality Act may not be of sufficient magnitude to be determined significant under the National Environmental Policy Act. Under the National Environmental Policy Act, once a decision is made regarding the need for an Environmental Impact Statement, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. The National Environmental Policy Act does not require that a determination of significant impacts be stated in the environmental documents.

The California Environmental Quality Act, on the other hand, does require Caltrans to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an Environmental Impact Report must be prepared. Each and every significant effect on the environment must be disclosed in the Environmental Impact Report and mitigated if feasible. In addition, the California Environmental Quality Act Guidelines list a number of mandatory findings of significance, which also require the preparation of an Environmental Impact Report. There are no types of actions under the National Environmental Policy Act that parallel the findings of mandatory significance of the California Environmental

Quality Act. This chapter discusses the effects of this project and the California Environmental Quality Act significance.

4.2 Discussion of Significant Impacts

With the absence of timberland (forest land), coastal zones, mineral resources, and wild and scenic rivers in or near the project area, the project would have no impacts on these resources. No further discussion of these issues is provided in this chapter. In addition, there would be no transportation/traffic impacts except temporary delays during construction. The project would have beneficial effects on circulation. Transportation/traffic is discussed in Section 3.1.6 of this Environmental Impact Report/Environmental Impact Statement.

Questions on the California Environmental Quality Act environmental checklist (Appendix A, Volume 2) have been addressed based on the discussions in Chapter 3 and below. The discussion below applies to all three build alternatives, unless specifically noted otherwise. As previously discussed in Chapter 3, the environmental baseline for the project is 2008 because that is the year the Notice of Preparation was filed.

4.2.1 Less than Significant Effects of the Project

All three build alternatives have the potential for environmental impacts on resources in the area, as analyzed in Chapter 3 above. However, with standard conditions and minimization measures incorporated, the following impacts would have a less than significant effect on the environment (see Chapter 3 for further information):

Common to All Build Alternatives

- Agriculture (discussed in Section 3.1.3 Farmland)
- Air quality
- Archaeological resources (discussed in Section 3.1.8 Cultural Resources)
- Hydrology and water quality (discussed in Section 3.2.1 Hydrology and Floodplain and Section 3.2.2 Water Quality and Stormwater Runoff)
- Geology and soils (discussed in Section 3.2.3 Geology/Soils/ Seismic/Topography)
- Hazards and hazardous materials (discussed in Section 3.2.5 Hazardous Waste and Materials)
- Population and housing (discussed in 3.1.4 Community Impacts)
- Paleontological resources (discussed in Section 3.2.4 Paleontology)
- Public services, other than parks (discussed in Section 3.1.5 Utilities/Emergency Services)

- Utilities and service systems (discussed in Section 3.1.5 Utilities/Emergency Services)

Alternative B

- Recreation (discussed in Section 3.1.1.3 Parks and Recreation)

Alternatives B and C

In addition to the impact areas identified above, with standard conditions incorporated, Alternatives B and C would have less than significant effects on the following area:

- Historical resources for the purposes of the California Environmental Quality Act

No-Build Alternative

The No-Build Alternative would not lead to any physical changes in the existing environment, in the following areas:

- Aesthetics
- Air quality (construction emissions)
- Agriculture
- Biological resources
- Cultural resources
- Geology and soils
- Hazards and hazardous materials
- Hydrology and water quality
- Land use and planning
- Population and housing
- Public services
- Recreation
- Utilities and service systems

4.2.2 Significant Environmental Effects of the Project

Common to all Build Alternatives

Significant adverse impacts before mitigation measures would occur with the build alternatives in the following resource areas:

- AestheticsBiological resources

Analyses of these topics are provided in Chapter 3. Additional analysis of mobile source air toxics pursuant to the California Environmental Quality Act is also provided.

Mobile Source Air Toxics Contaminants

The following analysis assesses project operational emissions of mobile source air toxics contaminants for comparison with the base year (year 2008). The analysis uses the projected traffic data, including local roadway traffic volumes, vehicle miles traveled, vehicle mix, traffic diversion data, average speed, and the associated changes in mobile source air toxics contaminants for the project alternatives.

Project Setting

The varied existing land uses within the Centennial Corridor study area include low-density residential, commercial, industrial, utilities, and recreational uses. The project area contains several well-established residential neighborhoods and commercial lands mainly situated along Stockdale Highway, California Avenue, and next to State Route 99. Stockdale Highway serves many local retail shops and commercial enterprises, interspersed with small offices providing various community services. Health-related offices, houses of worship, educational facilities, and neighborhood-serving businesses and services are intermingled in residential areas. Multi-family residences, including condominium and apartment complexes, sit throughout the study area.

Land uses along Rosedale Highway (north of the project alignments) are commercial, industrial, open space, public facilities, and residential uses. Residential uses with a mix of commercial uses are mostly west of Calloway Drive. Most land uses include industrial, resource, and commercial land from Calloway Drive to State Route 99. No neighborhoods with an environmental justice population exist along Rosedale Highway within the project vicinity.

Industrial land uses are mostly on the north side of the Kern River. Recreational land uses are spread throughout the study area in the form of neighborhood parks, as noted in Section 2.3. The proposed uses of the Kern River Parkway include primary river channel, natural open space, landscaped areas, existing and proposed recreational areas, access points, parking areas, bridge crossings, and other similar designations. Utilities and transportation facilities are found throughout the study area. Little remaining open space/vacant land exists within the study area. Public facilities are largely concentrated within downtown Bakersfield. The Kern County government is the largest employer within Bakersfield.

Based on demographic data reported by the 2010 U.S. Census, the build alternative alignments pass through 17 census block groups. Thirteen of these 17 census block groups contain a number of minority populations, lower than the city and county averages.

Only four block groups (out of 17) for the Alternatives A and C alignments and three block groups (out of 11) for the Alternative B alignments (see Figures 3-9a through 3-9c in Volume 2) contain minority populations that are higher than the city and county averages. One of these block groups (Census Tract 20 Block Group 3) is also considered a low-income community because the average income of residents is below the federal poverty level.

Table 4.1 shows the number of residences residing within 500 feet of each build alternative alignment delineated by census block groups that pass through the project alignments. See Figures 3-9a through 3-9c for census tract maps.

Table 4.1 Number of Residences Within 500 Feet of Project Alignments

Tract	Block	Alternative A	Alternative B	Alternative C
5.07	1	0	0	0
18.01	1	N/A	N/A	250
18.01	2	N/A	313	N/A
18.01	3	92	372	N/A
18.02	1	330	0	0
18.02	3	75	N/A	N/A
19.01	2	28	28	30
19.01	3	17	17	75
19.02	3	46	46	46
20.00	**3**	116	116	116
26.00	**3**	46	46	46
27.00	1	52	52	52
27.00	4	165	165	165
27.00	**5**	150	150	150
28.12	1	273	271	80
28.12	2	210	210	N/A
28.12	**3**	40	N/A	N/A
28.13	1	95	95	95
Total		1735	1881	1105

N/A: not applicable.
Note: The bold face signifies block groups with an environmental justice population.
Source: Developed from the right-of-way maps 2012

Numerous sensitive receptors to air pollutants, such as schools, hospitals, medical facilities and childcare centers, sit in the vicinity of the proposed alignments as shown in Table 4.2. Note that not all medical facilities listed in Table 4.2 are inpatient facilities and so are not considered a sensitive receptor to air pollutants.

Table 4.2 Schools and Medical Facilities Within Vicinity of Project Alignments

Community Facility	Approximate Distance (feet) from Alternative Alignments		
	Alternative A	**Alternative B**	**Alternative C**
Schools and Daycare			
Van Horn (Wayne) Elementary School	1,000	N/A	N/A
Roosevelt Elementary School	1,200	1,200	1,200
Little Red School House	N/A	0	1,900
Harris (Caroline) Elementary School	N/A	800	1,900
Stockdale Christian School	1,700	1,000	N/A
Sunshine Center	1,100	1,100	1,100
First United Methodist Church/First Experiences Preschool Assembly Manor	700	700	N/A
Millie Munsey Elementary School	1,400	1,400	1,400
Noah's Ark Pre-School	1,400	1,400	1,400
Vista High School	1,800	1,800	1,800
Claude Richardson Child Development Center	900	900	900
Sequoia Middle School	1,700	1,700	1,700
Stine Headstart	800	1,000	N/A
Day Care Center at Central California Economic Development	1,000	1,000	N/A
Child Haven Preschool	500	500	1,000
Caring Corner Day Care Center	300	300	300
Medical Facilities			
Stockdale Podiatry	200	150	N/A
Kaiser Permanente - Stockdale Medical Offices	0	0	550
Brundage Medical Center	550	550	550
Houchin Blood Bank	800	N/A	N/A
DaVita Dialysis	1,980	1,000	1,980
Kern Radiology	N/A	N/A	1,320
Bakersfield Veteran's Affairs Community Clinic	N/A	N/A	1,980
Arthritis Association/Adaptive Aquatic Center	N/A	N/A	1,980
Lifehouse Parkview Healthcare Center	N/A	1,800	930
Truxtun Surgery Center	N/A	N/A	1,000
Healthsouth Bakersfield Rehabilitation Center	N/A	500	1,400
Bakersfield Family Medical	N/A	500	1,900
Kaiser Permanente Medical Care	900	1,400	N/A
First Choice Medical	800	650	1,800
Child and Adolescent Psychology Center	600	N/A	N/A

Note: Facilities sitting beyond 2,000 feet of the build alternatives are listed as not applicable (N/A). Facilities directly affected by a build alternative are identified with the number 0.

Source: *Community Impact Assessment* 2013

Results of Mobile Source Air Toxics Analysis

Please refer to the Mobile Source Air Toxics analysis in the Air Quality Section 3.2.6. Based on the mobile source air toxics emission calculation results, no significant impact from mobile source air toxics is expected to occur based on comparison of mobile source air toxics emissions of project alternatives with the existing condition (2008) as the baseline for the California Environmental Quality Act.

As far as the health effect of mobile source air toxics is concerned, there are 1,735 (Alternative A), 1,881 (Alternative B), and 1,105 (Alternative C) residences within 500 feet of the build alignments (see Table 4.1). There are also numerous sensitive receptors such as schools, hospitals, and childcare centers near the proposed alignments (see Table 4.2). These residences and sensitive receptors would be exposed to the mobile source air toxics as a result of the existing and proposed new roadway operations.

Research into the health impacts of mobile source air toxics is ongoing. For different emission types, various studies show that some are associated with adverse health outcomes through epidemiological studies (frequently based on emissions levels found in occupational settings); others indicate that animals demonstrate adverse health outcomes when exposed to large doses.

Other studies have addressed mobile source air toxics health impacts on humans in proximity to roadways. The Health Effects Institute, which is a nonprofit organization funded by U.S. Environmental Protection Agency, Federal Highway Administration, and the automotive industry, has undertaken a major series of studies to research near-roadway mobile source air toxics hot spots, the health implications of the entire mix of mobile source pollutants, and other topics. The final summary of the series is not expected for several years.

Alternative A

In addition to the impact areas identified above, Alternative A would have significant adverse impacts before incorporation of mitigation measures in the following areas:

- Historical Resources for the purposes of the California Environmental Quality Act
- Public Services – Parks—Kern River Parkway

Alternative B

Alternative B would not have any significant impacts beyond those listed under the Common to All Build Alternatives heading above.

Alternative C

In addition to the impact areas identified above, Alternative C would have significant adverse impacts before incorporation of mitigation measures in the following area:

- Public Services – Parks—Saunders Park

No-Build Alternative

The following would have a significant impact with the No-Build Alternative:

- Transportation/Traffic
- Air Quality (plan consistency)
- Noise

4.2.3 Unavoidable Significant Environmental Effects

Measures have been proposed to mitigate the potentially significant adverse impacts of the build alternatives. However, the following impacts would remain significant and unavoidable.

- Aesthetics (Visual) (Alternatives A and B)
- Land Use and Planning (Consistency with Planning Programs—all alternatives)
- Community Impacts—Alternatives A and B
- Noise (all alternatives)

These are discussed below.

Common to All Build Alternatives

Land Use and Planning

As discussed in Section 3.1.1.2, none of the build alternatives would be able to fully meet all the goals outlined in the *Metropolitan Bakersfield General Plan*. The remaining inconsistencies pertain to minimizing impacts from truck traffic on noise-sensitive uses; retaining existing residential neighborhoods and allowing in-fill development that is compatible with the character of the surrounding neighborhood; and protecting access to the Kern River (this last point only applies to Alternative A). The project has been designed to minimize these inconsistencies with local plans and programs to the extent feasible. However, these impacts cannot be fully reduced to less than significant.

Noise

All the build alternatives would have sensitive noise receptors that would be exposed to traffic noise increases in excess of 12 dB even after abatement measures. The noise analysis in accordance with the California Environmental Quality Act is presented below.

California Environmental Quality Act Noise Analysis

When determining whether a noise impact is significant under the California Environmental Quality Act, a comparison is made between the existing noise level (baseline) and the build alternative noise levels. The California Environmental Quality Act noise analysis is independent of the National Environmental Policy Act analysis, which is centered on noise abatement criteria. Under the California Environmental Quality Act, the assessment looks at the setting of the noise impact

and then how large or perceptible any noise increase would be in the given area. The following are key considerations: uniqueness of the setting, sensitive nature of the noise receptor(s), magnitude of the noise increase, number of residences affected, and project noise level.

If a proposed project is determined to have a significant noise impact under the California Environmental Quality Act, then the act dictates that mitigation measures must be incorporated into the project unless such measures are not feasible.

It is generally accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments, and that a 5-decibel increase is perceived as a distinctly noticeable increase. A 10-decibel increase is generally perceived as a doubling of loudness. Therefore, a doubling of sound energy, such as doubling the volume of traffic on a highway that would result in a 3-decibel increase in sound would generally be perceived as barely detectable.

Frequent outdoor use areas of residences and other noise-sensitive areas affected by the project can be divided into two distinct groups. The first group is receivers that are located along State Route 58, along State Route 99 south of State Route 58, and along the east side of State Route 99 north of State Route 58; these receivers are presently exposed to traffic noise from a freeway. The second group consists of frequent outdoor use areas that are not presently exposed to freeway traffic noise, but are located along proposed Alternatives A and B west of State Route 99, as well as receivers along the west side of Alternative C north of State Route 58.

A two-tier impact criterion for traffic noise significance analysis is used for the California Environmental Quality Act. A 5-decibel increase from existing noise levels is considered an impact for areas presently exposed to the freeway traffic noise; a 12-decibel increase is used for areas that presently are not exposed to the freeway traffic noise. This allows less noise increase for areas that are along the existing freeway because the areas are already exposed to high traffic noise levels. The reasoning for this two-tier approach is that people already exposed to high levels of noise should be expected to tolerate a small increase in the amount of noise in their community. In contrast, if the existing noise levels are quite low, it is reasonable to allow a greater change in the community noise for the equivalent difference in annoyance. Typically, a 5-decibel noise increase in a noisy environment is more annoying and intruding than a similar noise increase in a quieter environment.

Because a decibel, which is used to report noise levels, is a logarithm, the required energy to increase 1 decibel is much less when the noise level is 50 dBA versus when it is 70 dBA. An increase of 5 dB from 67 to 72 dBA requires approximately 4.5 times more energy than required to increase 52 dBA by 12 dB to 64 dBA. Therefore, an increase of 12 dB at a lower noise level will not cause more energy exposure than an increase of 5 dB at a higher noise level. The higher increase for areas that presently have low background noise levels would bring their noise levels about the same as the areas along the existing freeways.

A project is considered to have a significant noise impact when it causes an adopted noise standard to be exceeded at a sensitive receptor and when it substantially increases noise exposure.

At noise receiver locations, the existing baseline traffic noise level was compared to the future build traffic noise level for each of the build alternatives. Feasible traffic noise abatement was considered at locations where a significant noise impact was identified. Because of the constrained configuration and suburban location of the project, construction of noise barriers was considered the only practical traffic noise abatement measure. For the purposes of the California Environmental Quality Act, Caltrans considers the reasonableness and feasibility of noise abatement the same as previously discussed in Section 3.2.7, Noise, and as determined in the *Noise Abatement Decision Report.*

Land uses along the alignment of the project consist of single- and multi-family residences, commercial and light industrial establishments, hotels and motels, office buildings, parks, churches, mobile homes, recreational outdoor use areas, and schools and daycare centers. Most of the frequent outdoor use areas consist of residential areas. Soundwalls would serve as abatement to bring down the noise levels along several segments of the freeway, but some areas would continue to experience noise increases of 5 or 12 dB or more. Noise impacts at these locations would remain significant and unavoidable.

Alternative A

There are 157 frequent outdoor use areas west of State Route 99 that would have more than a 12-decibel noise increase and 27 frequent outdoor use areas along State Route 58 and State Route 99 that would have more than a 5-decibel noise increase. Alternative A proposes 23 soundwalls to cover the entire study area, but only 19 meet the feasibility and reasonableness criteria. Refer to Section 3.2.7, Noise, for details. Future predicted traffic noise levels with the recommended abatement measures would range from 56 to 74 dBA. There would be 13 affected frequent outdoor use areas for which noise abatement is not recommended, and 171 frequent outdoor use areas would still be affected even with the recommended soundwalls.

Tables 4.3 through 4.5 show the change in traffic noise levels at each receiver location and indicate whether an impact is a significant impact.

Table 4.3 Traffic Noise Impact Analysis – Alternative A (West of State Route 99)

Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Recommended Soundwall	Future Conditions with Alternative A minus Existing Conditions (2011)	Noise Reduction (dBA)	Increase/ Decrease from Existing Noise Level	Impact
RA-6	52	52	71	S474	19	6	13	Significant/Unavoidable
RA-7	52	52	69	S474	17	6	11	Less than Significant
RA-8	52	52	66	S474	14	5	9	Less than Significant
RA-9	52	52	63	S474	11	4	7	Less than Significant
RA-10	52	52	62	S474	10	3	7	Less than Significant
RA-11	52	52	64	S474	12	5	7	Less than Significant
RA-12	52	52	72	S474	20	10	10	Less than Significant
RA-12A	52	52	72	S474	20	8	12	Significant/Unavoidable
RA-13	52	52	71	S474	19	5	14	Significant/Unavoidable
RA-13A	52	52	74	S474	22	8	14	Significant/Unavoidable
RA-14	52	52	73	S474	21	8	13	Significant/Unavoidable
RA-15	52	52	69	S474	17	8	9	Less than Significant
RA-16	52	52	68	S474	16	7	9	Less than Significant
RA-17	52	52	71	S474	19	8	11	Less than Significant
RA-18	52	52	69	S474	17	7	10	Less than Significant
RA-18A	52	52	73	S474	21	7	14	Significant/Unavoidable
RA-19	52	52	66	S474	14	5	9	Less than Significant
RA-20	52	52	69	S474	17	6	11	Less than Significant
RA-21	52	52	69	S474	17	6	11	Less than Significant
RA-22	50	50	67	S474	17	5	12	Significant/Unavoidable
RA-23	50	50	68	S474	18	5	13	Significant/Unavoidable
RA-24	50	50	65	S474	15	6	9	Less than Significant
RA-25	50	50	62	S474	12	5	7	Less than Significant
RA-26	50	50	61	S474	11	4	7	Less than Significant
RA-27	50	50	62	S474	12	1	11	Less than Significant
RA-28	54	54	66	S499	12	5	7	Less than Significant
RA-29	54	54	70	S499	16	8	8	Less than Significant
RA-30	54	54	67	S499	13	7	6	Less than Significant
RA-31	54	54	69	S499	15	5	10	Less than Significant
RA-32	54	54	67	S499	13	7	6	Less than Significant
RA-33	54	54	65	S499	11	5	6	Less than Significant
RA-34	54	54	63	S499	9	6	3	Less than Significant
RA-35	54	54	62	S499	8	6	2	Less than Significant
RA-36	52	52	72	S499	20	8	12	Significant/Unavoidable
RA-37	52	52	68	S499	16	7	9	Less than Significant
RA-38	52	52	69	S499	17	7	10	Less than Significant
RA-39	52	52	68	S499	16	6	10	Less than Significant
RA-41	63	63	70	S531	7	5	2	Less than Significant
RA-42	63	63	71	S531	8	6	2	Less than Significant
RA-43	63	63	70	S531	7	6	1	Less than Significant
RA-44	59	59	70	S531	11	7	4	Less than Significant

Table 4.3 Traffic Noise Impact Analysis – Alternative A (West of State Route 99)

Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Recommended Soundwall	Future Conditions with Alternative A minus Existing Conditions (2011)	Noise Reduction (dBA)	Increase/ Decrease from Existing Noise Level	Impact
RA-45	59	59	69	S531	10	6	4	Less than Significant
RA-46	63	63	69	S531	6	6	0	Less than Significant
RA-47	63	63	69	S531	6	6	0	Less than Significant
RA-49	63	63	70	S531	7	5	2	Less than Significant
RA-50	53	53	66	S526	13	5	8	Less than Significant
RA-51	53	53	68	S526	15	6	9	Less than Significant
RA-53	53	53	59	S526	6	3	3	Less than Significant
RA-54	53	53	69	S526	16	7	9	Less than Significant
RA-55	53	53	64	S526	11	5	6	Less than Significant
RA-56	53	53	62	S526	9	4	5	Less than Significant
RA-57	53	53	69	S526	16	6	10	Less than Significant
RA-58	53	53	68	S526	15	5	10	Less than Significant
RA-59	53	53	68	S526	15	5	10	Less than Significant
RA-60	56	56	69	S526	13	6	7	Less than Significant
RA-61	56	56	69	S526	13	6	7	Less than Significant
RA-62	56	56	69	S526	13	6	7	Less than Significant
RA-64	56	56	67	S526	11	5	6	Less than Significant
RA-65	52	52	70	S526	18	6	12	Significant/Unavoidable
RA-66	52	52	70	S526	18	6	12	Significant/Unavoidable
RA-67	52	52	69	S526	17	6	11	Less than Significant
RA-69	52	52	69	S526	17	5	12	Significant/Unavoidable
RA-70	52	52	69	S526	17	5	12	Significant/Unavoidable
RA-71	52	52	71	S526	19	5	14	Significant/Unavoidable
RA-72	52	52	72	S526	20	5	15	Significant/Unavoidable
RA-74	52	52	72	S526	20	6	14	Significant/Unavoidable
RA-75	52	52	72	S526	20	6	14	Significant/Unavoidable
RA-76	52	52	68	S526	16	5	11	Less than Significant
RA-77	52	52	64	S526	12	3	9	Less than Significant

dBA: A-weighted decibels

Note:
1 - Receivers that are noise measurement sites which are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: Developed from the *Noise Study Report* 2013.

Table 4.4 Traffic Noise Impact Analysis – Alternative A (State Route 99 South of State Route 58)

Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Recommended Soundwall	Future Conditions with Alternative A minus Existing Conditions (2011)	Noise Reduction (dBA)	Increase/ Decrease from Existing Noise Level	Impact
R99-11	60	63	67	--	7	0	7	Significant/Unavoidable
R99-12	70	73	74	--	4	0	4	Less than Significant
R99-13	68	71	74	--	6	0	6	Significant/Unavoidable
R99-14	69	72	73	SW3	4	2	2	Less than Significant
R99-15	62	65	68	SW3	6	0	6	Significant/Unavoidable
R99-20	56	59	59	SW2	3	0	3	Less than Significant
R99-20A	62	65	65	SW2	3	0	3	Less than Significant
R99-21	58	61	62	SW2	4	0	4	Less than Significant
R99-21A	61	64	67	SW2	6	0	6	Significant/Unavoidable
R99-21B	65	68	69	SW2	4	0	4	Less than Significant
R99-21C	61	64	65	SW2	4	0	4	Less than Significant
R99-22	60	63	65	SW2	5	0	5	Significant/Unavoidable
R99-23	62	65	72	--	10	5	5	Significant/Unavoidable
R99-25	64	67	74	--	10	5	5	Significant/Unavoidable
R99-26	61	66	68	SW5	7	0	7	Significant/Unavoidable
R99-27	60	65	68	SW5	8	0	8	Significant/Unavoidable
R99-28	61	66	66	SW5	5	0	5	Significant/Unavoidable
R99-29	56	61	61	SW5	5	0	5	Significant/Unavoidable
R99-30	57	62	62	S676	5	0	5	Significant/Unavoidable
R99-31	68	73	73	S676	5	8	-3	Less than Significant
R99-32	68	73	71	S676	3	6	-3	Less than Significant
R99-33	70	75	75	S676	5	11	-6	Less than Significant
R99-34	62	67	67	S676	5	5	0	Less than Significant
R99-36	64	69	70	S676	6	6	0	Less than Significant
R99-37	68	73	74	S676	6	9	-3	Less than Significant
R99-40	59	63	71	--	12	0	12	Significant/Unavoidable
R99-41	58	62	70	--	12	0	12	Significant/Unavoidable
R99-43	60	64	72	--	12	0	12	Significant/Unavoidable
R99-43A	57	61	67	--	10	0	10	Significant/Unavoidable

dBA: A-weighted decibels

Note:
1 - Receivers that are noise measurement sites which are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: Developed from the *Noise Study Report* 2013.

Table 4.5 Traffic Noise Impact Analysis – Alternative A (State Route 58)

Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Recommended Soundwall	Future Conditions with Alternative A minus Existing Conditions (2011)	Noise Reduction (dBA)	Increase/ Decrease from Existing Noise Level	Impact
R58-43	62	65	66	--	4	0	4	Less than Significant
R58-44	62	65	67	--	5	0	5	Significant/Unavoidable
R58-69	62	65	68	--	6	0	6	Significant/Unavoidable

dBA: A-weighted decibels

Note:
1 - Receivers that are noise measurement sites which are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: Developed from the *Noise Study Report* 2013.

Alternative B

There are 49 frequent outdoor use areas west of State Route 99 that would have more than a 12-decibel noise increase and 21 frequent outdoor use areas along State Route 58 and State Route 99 that would have more than a 5-decibel noise increase. Alternative B proposes 28 soundwalls to cover the entire study area, but only 24 meet the feasibility and reasonableness criteria; one that was not reasonable was recommended for gap closure. Refer to Section 3.2.7, Noise, for details.

Future predicted traffic noise levels with the recommended abatement measures would range from 54 to 75 dBA. There would be 11 affected frequent outdoor use areas for which noise abatement is not recommended, and 58 frequent outdoor use areas would still be affected even with the recommended soundwalls.

Tables 4.6 through 4.8 show the change in traffic noise levels at each receiver location and whether an impact is a significant impact.

Table 4.6 Traffic Noise Impact Analysis – Alternative B (West of State Route 99)

Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Recommended Soundwall	Future Conditions with Alternative B minus Existing Conditions (2011)	Noise Reduction (dBA)	Increase/ Decrease from Existing Noise Level	Impact
RB-5	58	58	75	S518	17	8	9	Less than Significant
RB-6	58	58	63	S518	5	4	1	Less than Significant
RB-7	53	53	66	S518	13	6	7	Less than Significant
RB-8	53	53	74	S518	21	7	14	Significant/Unavoidable

Table 4.6 Traffic Noise Impact Analysis – Alternative B (West of State Route 99)

Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Recommended Soundwall	Future Conditions with Alternative B minus Existing Conditions (2011)	Noise Reduction (dBA)	Increase/ Decrease from Existing Noise Level	Impact
RB-9	53	53	62	S518	9	4	5	Less than Significant
RB-10	53	53	68	S518	15	7	8	Less than Significant
RB-11	53	53	75	S518	22	9	13	Significant/Unavoidable
RB-12	53	53	63	S518	10	6	4	Less than Significant
RB-13	53	53	60	S518	7	3	4	Less than Significant
RB-14	53	53	61	S518	8	3	5	Less than Significant
RB-15	53	53	66	S518	13	5	8	Less than Significant
RB-16	53	53	68	S518	15	4	11	Less than Significant
RB-17	53	53	63	S518	10	2	8	Less than Significant
RB-18	53	53	60	S518	7	2	5	Less than Significant
RB-19	51	51	65	S530	14	5	9	Less than Significant
RB-19A	53	53	65	S530	12	5	7	Less than Significant
RB-20	51	51	65	S530	14	7	7	Less than Significant
RB-21	51	51	62	S536 & S544	11	3	8	Less than Significant
RB-22	51	51	65	S536 & S544	14	5	9	Less than Significant
RB-23	51	51	72	S536 & S544	21	8	13	Significant/Unavoidable
RB-24	51	51	76	S536 & S544	25	10	15	Significant/Unavoidable
RB-26	51	51	77	S536 & S544	26	12	14	Significant/Unavoidable
RB-27	51	51	73	S536 & S544	22	7	15	Significant/Unavoidable
RB-28	51	51	75	S536 & S544	24	8	16	Significant/Unavoidable
RB-30	51	51	68	S536 & S544	17	5	12	Significant/Unavoidable
RB-31	51	51	70	S536 & S544	19	5	14	Significant/Unavoidable
RB-32	51	51	72	S536 & S544	21	7	14	Significant/Unavoidable
RB-34	67	67	67	--	0	0	0	Less than Significant
RB-35	69	69	70	--	1	0	1	Less than Significant
RB-36	52	52	66	S509 & S519	14	7	7	Less than Significant
RB-37	52	52	64	S509 & S519	12	5	7	Less than Significant
RB-38	52	52	58	S509 & S519	6	1	5	Less than Significant
RB-39	52	52	74	S509 & S519	22	11	11	Less than Significant
RB-39A	52	52	76	S509 & S519	24	11	13	Significant/Unavoidable
RB-40	52	52	68	S509 & S519	16	8	8	Less than Significant
RB-41	52	52	64	S509 & S519	12	5	7	Less than Significant
RB-42	52	52	72	S509 & S519	20	8	12	Significant/Unavoidable
RB-43	52	52	61	S509 & S519	9	1	8	Less than Significant
RB-44	52	52	70	S509 & S519	18	5	13	Significant/Unavoidable
RB-45	53	53	63	S529	10	1	9	Less than Significant
RB-46	53	53	67	S529	14	1	13	Significant/Unavoidable
RB-47	53	53	61	S529	8	1	7	Less than Significant
RB-48	51	51	62	S529	11	1	10	Less than Significant
RB-49	51	51	69	S529	18	5	13	Significant/Unavoidable
RB-50	51	51	66	S529	15	5	10	Less than Significant
RB-51	51	51	62	S529	11	3	8	Less than Significant

Table 4.6 Traffic Noise Impact Analysis – Alternative B (West of State Route 99)

Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Recommended Soundwall	Future Conditions with Alternative B minus Existing Conditions (2011)	Noise Reduction (dBA)	Increase/ Decrease from Existing Noise Level	Impact
RB-52	51	51	62	S537 & S555	11	3	8	Less than Significant
RB-53	51	51	69	S537 & S555	18	6	12	Significant/Unavoidable
RB-54	51	51	76	S537 & S555	25	9	16	Significant/Unavoidable
RB-55	51	51	70	S555	19	7	12	Significant/Unavoidable
RB-57	51	51	67	S555	16	5	11	Less than Significant
RB-58	51	51	58	S555	7	4	3	Less than Significant
RB-59	51	51	71	S555	20	7	13	Significant/Unavoidable
RB-59A	51	51	74	S555	23	8	15	Significant/Unavoidable
RB-60	51	51	69	S555	18	7	11	Less than Significant
RB-61	62	62	66	S555	4	6	-2	Less than Significant
RB-62	62	62	62	S555	0	3	-3	Less than Significant
RB-63	62	62	64	S555	2	1	1	Less than Significant
RB-64	62	62	72	S555	10	8	2	Less than Significant
RB-65	62	62	71	S555	9	3	6	Less than Significant
RB-66	63	63	65	S555	2	1	1	Less than Significant
RB-67	63	63	66	S555	3	1	2	Less than Significant
RB-68	59	59	67	S555	8	3	5	Less than Significant
RB-69	63	63	70	S555	7	4	3	Less than Significant
RB-70	63	63	68	S555	5	5	0	Less than Significant
RB-71	63	63	67	S555	4	5	-1	Less than Significant
RB-73	63	63	69	S555	6	7	-1	Less than Significant
RB-74	63	63	66	S555	3	6	-3	Less than Significant
RB-75	52	52	65	S555	13	6	7	Less than Significant
RB-76	52	52	66	S555	14	6	8	Less than Significant
RB-77	52	52	65	S555	13	5	8	Less than Significant
RB-79	52	52	65	S555	13	5	8	Less than Significant
RB-80	52	52	65	S555	13	5	8	Less than Significant
RB-81	52	52	70	S555	18	5	13	Significant/Unavoidable
RB-82	52	52	71	S555	19	6	13	Significant/Unavoidable
RB-84	52	52	71	S555	19	5	14	Significant/Unavoidable
RB-85	52	52	72	S555	20	7	13	Significant/Unavoidable
RB-86	52	52	70	S555	18	8	10	Less than Significant
RB-87	52	52	66	S555	14	5	9	Less than Significant

dBA: A-weighted decibels

Note:
1 - Receivers that are noise measurement sites which are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: *Noise Study Report,* 2013.

Table 4.7 Traffic Noise Impact Analysis – Alternative B (State Route 99 South of State Route 58)

Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Recommended Soundwall	Future Conditions with Alternative B minus Existing Conditions (2011)	Noise Reduction (dBA)	Increase/ Decrease from Existing Noise Level	Impact
R99 11	60	63	67	--	7	0	7	Significant/Unavoidable
R99 12	70	73	74	--	4	0	4	Less than Significant
R99 13	68	71	74	--	6	0	6	Significant/Unavoidable
R99 14	69	72	73	--	4	2	2	Less than Significant
R99 15	62	65	69	--	7	0	7	Significant/Unavoidable
R99 23	62	65	72	--	10	5	5	Significant/Unavoidable
R99 25	64	67	75	--	11	5	6	Significant/Unavoidable
R99 26	61	66	69	--	8	1	7	Significant/Unavoidable
R99 27	60	65	68	--	8	0	8	Significant/Unavoidable
R99 28	61	66	66	--	5	0	5	Significant/Unavoidable
R99 29	56	61	61	--	5	0	5	Significant/Unavoidable
R99 40	59	63	72	--	13	0	13	Significant/Unavoidable
R99 41	58	62	73	--	15	0	15	Significant/Unavoidable
R99 43C	58	62	75	--	17	0	17	Significant/Unavoidable
R99 43A	57	61	70	--	13	0	13	Significant/Unavoidable

dBA: A-weighted decibels

Note:
1 - Receivers that are noise measurement sites which are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: Developed from the *Noise Study Report* 2013.

Table 4.8 Traffic Noise Impact Analysis – Alternative B (State Route 58)

Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Recommended Soundwall	Future Conditions with Alternative B minus Existing Conditions (2011)	Noise Reduction (dBA)	Increase/ Decrease from Existing Noise Level	Impact
R58-43	62	65	66	--	4	0	4	Less than Significant
R58-44	62	65	67	--	5	0	5	Significant/Unavoidable
R58-69	62	65	68	--	6	0	6	Significant/Unavoidable

dBA: A-weighted decibels

Note:
1 - Receivers that are noise measurement sites which are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: Developed from the *Noise Study Report,* 2013.

According to Caltrans procedures, traffic noise impact analysis and recommending noise abatement measures must be based on the highest traffic noise that a roadway can generate. Normally, the highest traffic noise is generated when traffic speed is at the posted speed and traffic volume is at the capacity. This situation is referred to as level of service C.

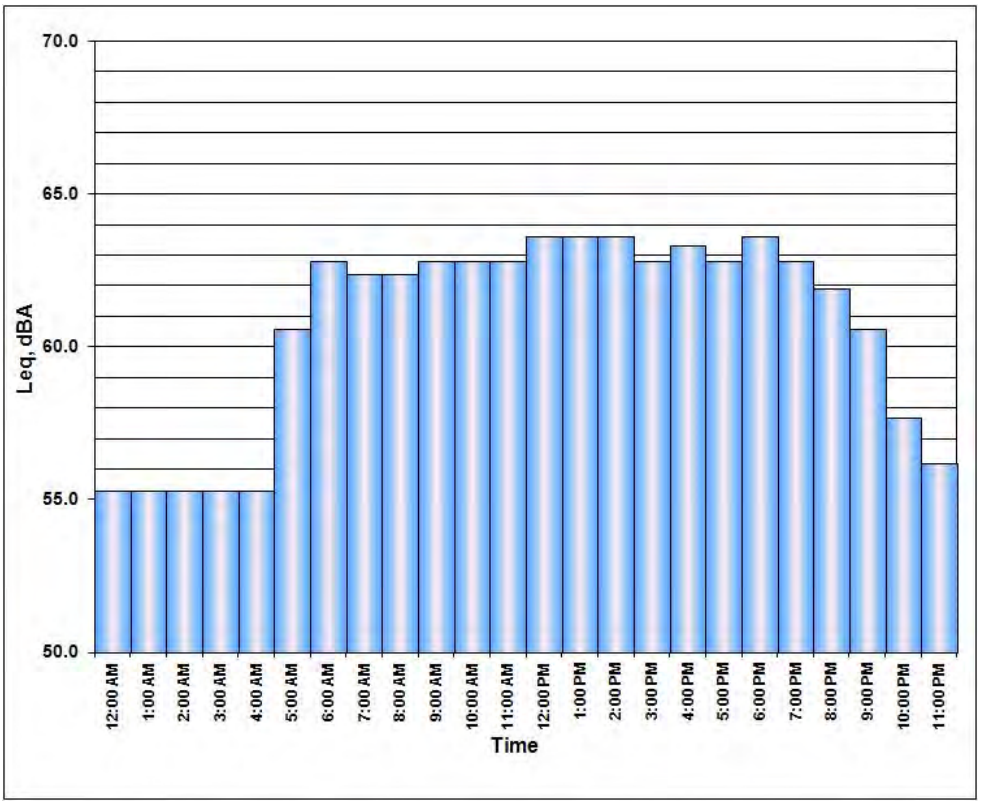
The future predicted highest traffic noise levels from the freeway would range between 61 and 67 dBA (similar to heavy traffic at 300 feet–see Figure 3-33–Noise Levels of Common Activities). These levels are based on a total hourly traffic volume of 11,800, but the highest forecasted total hourly traffic volume for year 2038 is less than 6,000. This means that, by year 2038, the freeway would not be producing the highest traffic noise levels yet. But, noise abatement measures must be designed for the worst possible future traffic noise levels.

Results of the worst-case traffic noise impact analysis indicated that there would be traffic noise impacts at Centennial Park because there would be up to 14-decibel noise increases in the future compared to existing noise levels. The *Noise Study Report* had concluded that a soundwall would not provide feasible abatement to the Centennial Park and nearby residences; therefore, no further evaluation was needed. However, during the environmental process it was decided to add Soundwall S529 for gap closure purposes. The existing peak noise level at the park is 53 dBA (quiet urban daytime–see Figure 3-33–Noise Levels of Common Activities). But, for Centennial Park, hourly traffic noise levels were calculated using forecasted traffic distribution of a typical day in 2038.

Figure 4-1 shows the results of the calculations. Results indicated that traffic noise levels in Centennial Park would be within a 1-decibel range for the daylight hours (7 a.m. to 7 p.m.) when the park is in use. Traffic noise levels would drop during late night and early morning hours, but the park is not used during those hours.

The predicted hourly traffic noise levels for 2038 during the daylight hours with the existing hourly noise levels measured at a nearby long-term noise measurement site (LT7) indicate that future noise levels would be higher than existing noise levels by 9 to 12 dB. The highest differential may increase by 2 to 3 dB once traffic reaches level of service C conditions in the future.

Figure 4.1: Hourly Traffic Noise Levels at Centennial Park in 2038



Source: Section 4(f) Evaluation 2014.

Alternative C

There are no frequent outdoor use areas west of State Route 99 that would have more than a 12-decibel noise increase. There are 40 frequent outdoor use areas along State Route 58 and State Route 99 that would have more than a 5-decibel noise increase. Alternative C proposes 23 soundwalls to cover the entire study area, but only 17 meet the feasibility and reasonableness criteria. Refer to Section 3.2.7, Noise, for details.

The future predicted traffic noise levels with the recommended abatement measures would range from 61 to 76 dBA. There would be 21 affected frequent outdoor use areas for which noise abatement is not recommended and 19 frequent outdoor use areas that would still be affected even with the recommended soundwalls. Tables 4.9 through 4.12 show the change in traffic noise levels at each receiver location and whether an impact is a significant impact.

Table 4.9 Traffic Noise Impact Analysis – Alternative C (State Route 99 South of State Route 58)

Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative C (dBA)	Recommended Soundwall	Future Conditions with Alternative C minus Existing Conditions (2011)	Noise Reduction (dBA)	Increase/ Decrease from Existing Noise Level	Impact
R99-25A	64	67	72	--	8	0	8	Significant/Unavoidable
R99-26	61	66	69	--	8	0	8	Significant/Unavoidable
R99-27	60	65	69	--	9	0	9	Significant/Unavoidable
R99-28	61	66	69	--	8	0	8	Significant/Unavoidable
R99-29	56	61	61	--	5	0	5	Significant/Unavoidable
R99-30	57	62	65	S676	8	1	7	Significant/Unavoidable
R99-31	68	73	73	S676	5	7	-2	Less than Significant
R99-32	68	73	73	S676	5	7	-2	Less than Significant
R99-33	70	75	75	S676	5	10	-5	Less than Significant
R99-34	62	67	68	S676	6	5	1	Less than Significant
R99-36	64	69	68	S676	4	5	-1	Less than Significant
R99-37	68	73	73	S676	5	8	-3	Less than Significant
R99-40A	59	63	67	--	8	0	8	Significant/Unavoidable
R99-41A	58	62	68	--	10	0	10	Significant/Unavoidable
R99-43B	60	64	77	--	17	0	17	Significant/Unavoidable
R99-43A	57	61	67	--	10	0	10	Significant/Unavoidable

dBA: A-weighted decibels

Note:
1 - Receivers that are noise measurement sites which are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: Developed from the *Noise Study Report* 2013.

Table 4.10 Traffic Noise Impact Analysis – Alternative C (State Route 99 North of State Route 58)

Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative C (dBA)	Recommended Soundwall	Future Conditions with Alternative C minus Existing Conditions (2011)	Noise Reduction (dBA)	Increase/ Decrease from Existing Noise Level	Impact
R99-61	67	70	70	--	3	0	3	Less than Significant
R99-62	64	67	71	--	7	0	7	Significant/Unavoidable
R99-63	57	60	66	--	9	0	9	Significant/Unavoidable
R99-64	59	62	68	--	9	0	9	Significant/Unavoidable
R99-65	61	64	67	--	6	0	6	Significant/Unavoidable
R99-66	62	65	70	--	8	0	8	Significant/Unavoidable
R99-67	57	60	64	--	7	0	7	Significant/Unavoidable
R99-68	60	63	68	--	8	0	8	Significant/Unavoidable
R99-73	68	74	74	--	6	0	6	Significant/Unavoidable
R99-74	70	76	75	--	5	0	5	Significant/Unavoidable
R99-75	69	75	75	--	6	0	6	Significant/Unavoidable

dBA: A-weighted decibels

Note:
1 - Receivers that are noise measurement sites which are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: Developed from the *Noise Study Report* 2013.

Table 4.11 Traffic Noise Impact Analysis – Alternative C (State Route 58)

Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative C (dBA)	Recommended Soundwall	Future Conditions with Alternative C minus Existing Conditions (2011)	Noise Reduction (dBA)	Increase/ Decrease from Existing Noise Level	Impact
R58-4	67	70	74	S103 & S109	7	6	1	Less than Significant
R58-5	60	63	70	S103 & S109	10	3	7	Significant/Unavoidable
R58-6	58	61	68	S103 & S109	10	5	5	Significant/Unavoidable
R58-7	67	70	76	S103 & S109	9	9	0	Less than Significant
R58-7A	61	64	70	S103 & S109	9	5	4	Less than Significant
R58-8	68	71	76	S103 & S109	8	8	0	Less than Significant
R58-9	65	70	74	S103 & S109	9	9	0	Less than Significant
R58-10	65	70	74	S103 & S109	9	9	0	Less than Significant
R58-43	62	65	66	--	4	0	4	Less than Significant
R58-44	62	65	67	--	5	0	5	Significant/Unavoidable
R58-69	62	65	67	--	5	0	5	Significant/Unavoidable

dBA: A-weighted decibels

Note:
1 - Receivers that are noise measurement sites which are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: Developed from the *Noise Study Report* 2013.

Alternatives A and B

Aesthetics

Alternatives A and B would add a major new transportation corridor in the Westpark community, dividing the existing neighborhood and creating a substantial permanent change in the visual environment. Portions of Alternative B (between California Avenue and Ford Avenue) would be built below grade, which would minimize the aesthetic impacts, but there would be new soundwalls and retaining walls. Segments of the freeway would be built at grade with the existing surrounding developments. Elevated segments would be built over existing roadways and the Kern River. Existing residential, commercial, and industrial structures would be demolished and replaced to accommodate the freeway construction, resulting in moderately high adverse changes to the visual character and quality of the site and its surroundings.

Mitigation measures V-1 through V-5, which include landscaping and aesthetic treatment of freeway elements (such as bridges), would be implemented to reduce the significant adverse aesthetic impacts of the build alternatives. Even with mitigation measures, visual impacts would remain significant and unavoidable under Alternatives A and B.

Land Use and Planning (Community Impacts)

As noted above, Alternatives A and B would permanently convert certain land uses and introduce a major new transportation corridor into the Westpark community, which would divide an existing neighborhood. The Centennial Corridor would segment and isolate portions of the neighborhood and alter circulation patterns because of changes to the internal roadway network, even with proposed mitigation. As discussed in Chapter 3, impacts to community cohesiveness generally depend on whether a project is likely to create a barrier effect or otherwise disrupt the existing connectivity of a community. Either of these can be a result of disruptions in access, or substantial residential and commercial property acquisitions; to accommodate a new freeway segment, Alternatives A and B do both.

All property acquisition and relocations would be handled in accordance with the Uniform Relocation Act of 1970, as amended, which mandates certain relocation services and payments by Caltrans be made available to eligible residents, businesses, and nonprofit organizations displaced by Caltrans projects. Design refinements to avoid or minimize impacts to existing land uses related both to temporary construction use and/or permanent acquisition of properties would be incorporated in the final engineering design of the selected build alternative to the extent practical. If, however, displaced residents are required to relocate outside of their immediate neighborhood or sub-community, existing supportive family and community relationships may be severed for those leaving, as well as for those remaining behind. Neighbors, friends, and family, as discussed earlier, often provide emotional support that cannot be easily replicated. These characteristics of a cohesive community cannot be completely mitigated and are unavoidable. Concerning non-residential displacements, several types of businesses that may be difficult to relocate as a result of the project have been identified. The severity of non-residential property impacts

would vary with the type of business displaced. Certain businesses typically experience a greater challenge to find a suitable replacement site, such as automotive repair garages and gasoline service stations, among others, because these types of businesses traditionally serve localized market areas.

Despite measures required by the Uniform Relocation Act, no available reasonable mitigation measures would reduce all community impacts in their entirety. Impacts would remain significant and unavoidable. Therefore, Alternatives A and B would have unavoidable significant impacts on the community.

4.3 Significant Irreversible Environmental Changes

As discussed in Section 3.5, the impacts of the build alternatives would be similar to each other and construction would require the commitment of natural, physical, human, and fiscal resources. The loss of existing developed properties and use of the land that would be acquired and added into the freeway/roadway right-of-way would be an irreversible and long-term commitment of this resource. Construction would also require use of fossil fuels, water, and construction materials such as concrete cement, aggregates (sand and gravel), asphalt, reinforcement bars, paint, fencing, pipes, and other materials that are generally not retrievable once they have been used to build a road. Labor would be needed to make construction materials, demolish existing structures and infrastructure, and build the proposed improvements. However, the project would result in a beneficial impact to labor resources based on the labor availability in the city of Bakersfield or Kern County. But, labor is not in short supply and would not have an adverse effect upon its continued availability in the city of Bakersfield or Kern County.

Lastly, the project would require a substantial one-time expenditure of local, state, and federal funds, which are not retrievable. However, commitment of these resources would benefit residents and businesses in the metropolitan Bakersfield area, the Central Valley, and the state through an improved transportation system. These benefits would consist of improved accessibility, which is expected to outweigh the irreversible and irretrievable commitment of resources.

4.4 Minimization and Mitigation Measures for Significant Impacts under the California Environmental Quality Act

Impacts are avoided or minimized through implementation of standard conditions, minimization measures, and mitigation measures (identified at the end of each topic in Chapter 3). Implementation of the standard conditions is assumed prior to making the determination if an impact is significant, since these are regulatory requirements or practices that Caltrans routinely applies to all projects. Other mitigation measures would reduce impacts identified as significant. Mitigation measures are listed below with a cross reference to the section where the mitigation measure can be found. In addition, all of the mitigation measures and standard conditions are listed in Appendix F, Volume 2. No mitigation measures would apply to the No-Build Alternative because no improvements would be made.

Aesthetics

- V-1 see Section 3.1.7 for the full mitigation measure.
- V-2 see Section 3.1.7 for the full mitigation measure.
- V-3 see Section 3.1.7 for the full mitigation measure.
- V-4 see Section 3.1.7 for the full mitigation measure.
- V-5 see Section 3.1.7 for the full mitigation measure.

Biological Resources

- B-1 see Section 3.3.2 for the full mitigation measure.
- B-2 see Section 3.3.2 for the full mitigation measure (Alternative A only).
- CI-18 see Section 3.6 for the full mitigation measure.
- B-3 see Section 3.3.3 for the full mitigation measure.
- B-4 see Section 3.3.3 for the full mitigation measure.
- CI-19 see Section 3.6 for the full mitigation measure.
- CI-20 see Section 3.6 for the full mitigation measure.
- CI-21 see Section 3.6 for the full mitigation measure.
- CI-22 see Section 3.6 for the full mitigation measure.
- CI-23 see Section 3.6 for the full mitigation measure.
- CI-24 see Section 3.6 for the full mitigation measure.
- CI-25 see Section 3.6 for the full mitigation measure.
- CUM-1 see Section 3.7 for the full mitigation measure.

Cultural Resources

- CI-1 see Section 3.6 for the full mitigation measure.
- CI-2 see Section 3.6 for the full mitigation measure.
- CR-1 see Section 3.1.8 for the full mitigation measure (Alternative A only).
- CR-2 see Section 3.1.8 for the full mitigation measure (Alternative A only).

Paleontological Resources

- CI-3 see Section 3.6 for the full mitigation measure.
- CI-4 see Section 3.6 for the full mitigation measure.
- CI-5 see Section 3.6 for the full mitigation measure.
- CI-6 see Section 3.6 for the full mitigation measure.
- CI-7 see Section 3.6 for the full mitigation measure.
- CI-8 see Section 3.6 for the full mitigation measure.
- CI-9 see Section 3.6 for the full mitigation measure.
- CI-10 see Section 3.6 for the full mitigation measure.
- CI-11 see Section 3.6 for the full mitigation measure.
- CI-12 see Section 3.6 for the full mitigation measure.
- CI-13 see Section 3.6 for the full mitigation measure.
- CI-14 see Section 3.6 for the full mitigation measure.
- CI-15 see Section 3.6 for the full mitigation measure.
- CI-16 see Section 3.6 for the full mitigation measure.

Hazards and Hazardous Materials

- H-1 see Section 3.2.5 for full minimization measure.
- H-2 see Section 3.2.5 for full minimization measure.
- H-3 see Section 3.2.5 for full minimization measure.
- H-4 see Section 3.2.5 for full minimization measure.

Noise

- N-1 see Section 3.2.7 for the full abatement measure.
- CI-17 see Section 3.6 for the full mitigation measure.

Public Services – Parks (Recreation)

- PR-1 see Section 3.1.1.3 for the full mitigation measure.
- PR-2 see Section 3.1.1.3 for the full mitigation measure (Alternative C only).

4.5 Climate Change under the California Environmental Quality Act

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gases, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change by the United Nations and World Meteorological Organization in 1988, has led to increased efforts devoted to greenhouse gas emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of greenhouse gases related to human activity that include carbon dioxide, methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2 tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of greenhouse gas emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light duty trucks, other trucks, buses, and motorcycles) make up the largest source (second to electricity generation) of greenhouse gas emitting sources. The dominant greenhouse gas emitted is carbon dioxide, mostly from fossil fuel combustion.

Typically, two terms are used when discussing the impacts of climate change. "Greenhouse gas mitigation" is a term for reducing greenhouse gas emissions to reduce or "mitigate" the impacts of climate change. "Adaptation" refers to the effort of planning for and adapting to impacts due to climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels).[1]

There are four primary strategies for reducing greenhouse gas emissions from transportation sources: 1) improving the transportation system and operational efficiencies, 2) reducing travel activity, 3) transitioning to lower greenhouse gas-emitting fuels, and 4) improving vehicle technologies/efficiency. To be most effective, all four strategies should be pursued collectively.[2]

4.5.1 Regulatory Setting

State

With the passage of several pieces of legislation including State Senate and Assembly Bills and Executive Orders, California launched an innovative and proactive approach to dealing with greenhouse gas emissions and climate change.

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1 http://climatechange.transportation.org/ghg_mitigation/

2 http://www.fhwa.dot.gov/environment/climate_change/mitigation/

Assembly Bill 1493 (AB 1493), Pavley. *Vehicular Emissions: Greenhouse Gases, 2002*: This bill requires the California Air Resources Board to develop and implement regulations to reduce automobile and light truck greenhouse gas emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year.

Executive Order S-3-05. The goal of this order is to reduce California's greenhouse gas emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by 2020; and (3) 80 percent below year 1990 levels by 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32.

Assembly Bill 32, Núñez and Pavley, the Global Warming Solutions Act of 2006: Núñez and Pavley: This bill sets the same overall greenhouse gas emissions reduction goals outlined in Executive Order S-3-05, while further mandating that California Air Resources Board create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases."

Executive Order S-20-06 (October 18, 2006): This order establishes the responsibilities and roles of the Secretary of the California Environmental Protection Agency (Cal/EPA) and state agencies with regard to climate change.

Executive Order S-01-07 (January 18, 2007): This order set forth the low carbon fuel standard for California. Under this order, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020.

Senate Bill 97, (Chapter 185, 2007), Greenhouse Gas Emissions: This bill required the Governor's Office of Planning and Research to develop recommended amendments to the State's California Environmental Quality Act Guidelines for addressing greenhouse gas emissions. The amendments became effective on March 18, 2010.

Senate Bill 375 (SB 375), Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires the California Air Resources Board to set regional emissions reduction targets from passenger vehicles. The Metropolitan Planning Organization for each region must then develop a "Sustainable Communities Strategy" that integrates transportation, land-use, and housing policies to plan for the achievement of the emissions target for their region.

Senate Bill 391 (SB 391) Chapter 585, 2009 California Transportation Plan: This bill requires the State's long-range transportation plan to meet California's climate change goals under Assembly Bill 32.

Federal

Although climate change and greenhouse gas reduction are a concern at the federal level, currently no legislation or regulation has been enacted specifically addressing greenhouse gas emissions reductions and climate change at the project level. Neither the U.S. Environmental Protection Agency nor the Federal Highway Administration

has issued explicit guidance or methods to conduct project-level greenhouse gas analysis.[3] Federal Highway Administration supports the approach that climate change considerations should be integrated throughout the transportation decision-making process, from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will facilitate decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project-level decision-making. Climate change considerations can be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

The four strategies set forth by the Federal Highway Administration to lessen climate change impacts do correlate with efforts that the state is undertaking to deal with transportation and climate change; these strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and a reduction in travel activity.

Climate change and its associated effects are being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the "National Clean Car Program" and Executive Order 13514- *Federal Leadership in Environmental, Energy and Economic Performance*.

Executive Order 13514 (October 5, 2009) is focused on reducing greenhouse gases internally in federal agency missions, programs and operations, but also directs federal agencies to participate in the Interagency Climate Change Adaptation Task Force, which is engaged in developing a national strategy for adaptation to climate change.

The U.S. Environmental Protection Agency's authority to regulate greenhouse gas emissions stems from the U.S. Supreme Court decision in *Massachusetts v.* U.S. Environmental Protection Agency (2007). The Supreme Court ruled that greenhouse gases meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, U.S. Environmental Protection Agency finalized an endangerment finding in December 2009. Based on scientific evidence it found that six greenhouse gases constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing Act and the Environmental Protection Agency's assessment of the scientific evidence that form the basis for Environmental Protection Agency's regulatory actions. U.S. Environmental Protection Agency in conjunction with the National Highway Traffic Safety Administration issued the first of a series of greenhouse gas emission standards for new cars and light-duty vehicles in April 2010.[4]

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[3] To date, no national standards have been established regarding mobile source GHGs, nor has U.S. EPA established any ambient standards, criteria or thresholds for GHGs resulting from mobile sources.

[4] http://www.c2es.org/federal/executive/epa/greenhouse-gas-regulation-faq

The U.S. Environmental Protection Agency and the National Highway Traffic Safety Administration are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced greenhouse gas emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever greenhouse gas regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle greenhouse gas regulations.

The final combined standards that make up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards implemented by this program are expected to reduce greenhouse gas emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

On August 28, 2012, U.S. Environmental Protection Agency and the National Highway Traffic Safety Administration issued a joint Final Rulemaking to extend the National Program for fuel economy standards to model year 2017 through 2025 passenger vehicles. Over the lifetime of the model year 2017-2025 standards this program is projected to save approximately four billion barrels of oil and two billion metric tons of greenhouse gas emissions.

The complementary U.S. Environmental Protection Agency and the National Highway Traffic Safety Administration standards that make up the Heavy-Duty National Program apply to combination tractors (semi trucks), heavy-duty pickup trucks and vans, and vocational vehicles (including buses and refuse or utility trucks). Together, these standards will cut greenhouse gas emissions and domestic oil use significantly. This program responds to President Barack Obama's 2010 request to jointly establish greenhouse gas emissions and fuel efficiency standards for the medium- and heavy-duty highway vehicle sector. The agencies estimate that the combined standards will reduce carbondioxide emissions by about 270 million metric tons and save about 530 million barrels of oil over the life of model year 2014 to 2018 heavy duty vehicles.

4.5.2 Project Analysis

An individual project does not generate enough greenhouse gas emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its incremental contribution combined with the contributions of all other sources of greenhouse gas.[5] In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable." See (California

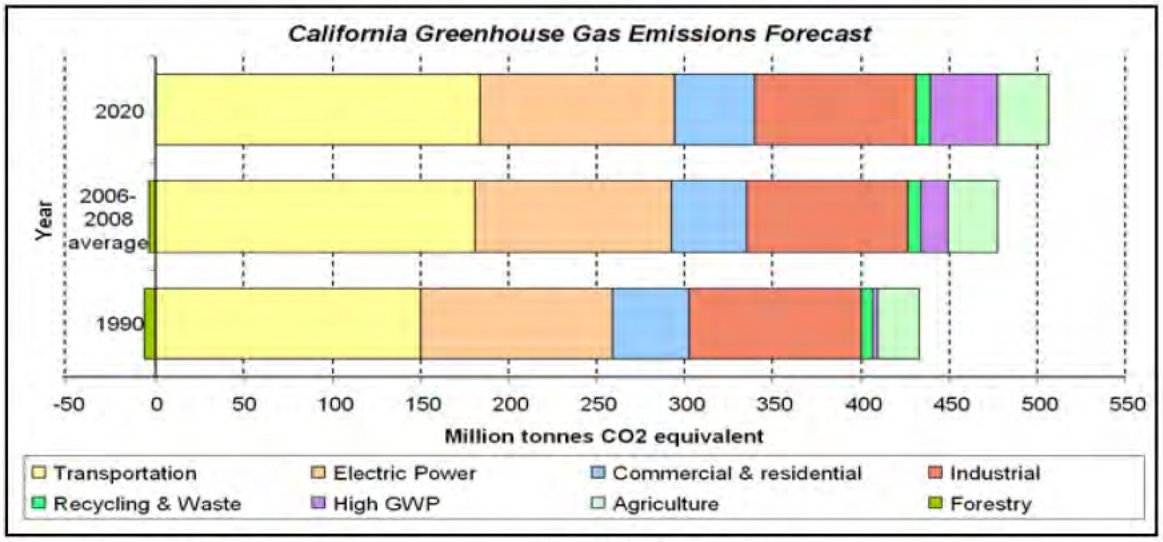
[5] This approach is supported by the Association of Environmental Professionals: Recommendations by the *Association of Environmental Professionals on How to Analyze [Greenhouse Gas] Emissions and Global Climate Change in [California Environmental Quality Act] Documents* (March 5, 2007), as well as the South Coast Air Quality Management District (Chapter 6: The CEQA Guide, April 2011) and the U.S. Forest Service (Climate Change Considerations in Project Level National Environmental Policy Act Analysis, July 13, 2009).

Environmental Quality Act Guidelines Sections 15064(h)(1) and 15130). To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects to make this determination is a difficult, if not impossible, task.

The Assembly Bill 32 Scoping Plan mandated by Assembly Bill 32 includes the main strategies California will use to reduce greenhouse gas emissions. As part of its supporting documentation for the Draft Scoping Plan, the California Air Resources Board released the greenhouse gas inventory for California (forecast last updated: October 28, 2010). The forecast is an estimate of the emissions expected to occur in the year 2020 if none of the foreseeable measures included in the scoping plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the greenhouse gas inventory for 2006, 2007, and 2008.

Figure 4-2 shows the total greenhouse gas emissions for California for 1990, 2006-2008 average, and projected 2020.

Figure 4-2 California Greenhouse Gas Forecast



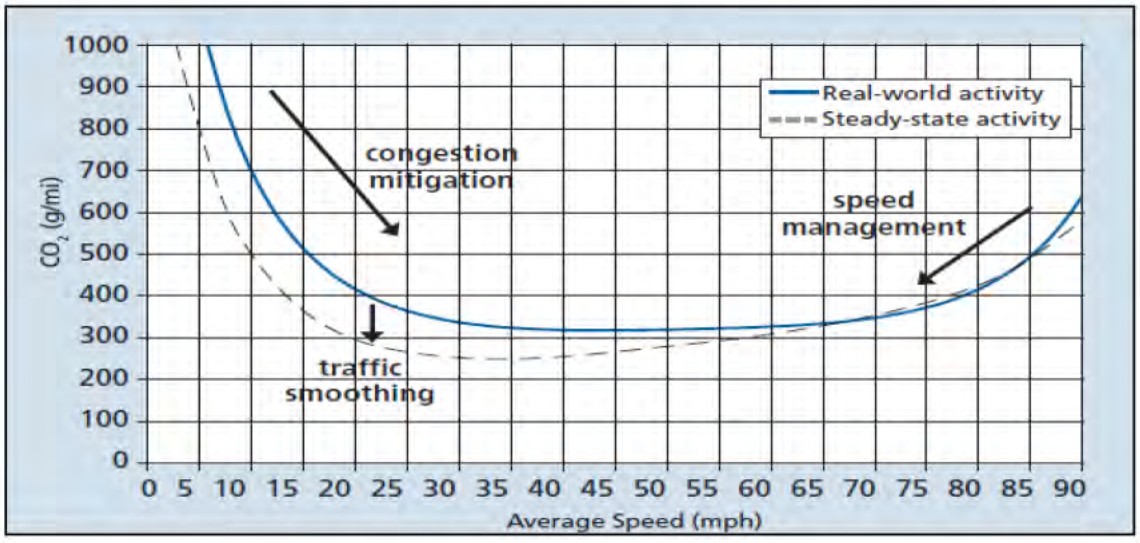
Source: http://www.arb.ca.gov/cc/inventory/data/forecast.htm

Caltrans and its parent agency, the Transportation Agency, have taken an active role in addressing greenhouse gas emission reduction and climate change. Recognizing that 98 percent of California's greenhouse gas emissions are from the burning of fossil fuels and 40 percent of all human-made greenhouse gas emissions are from

transportation, Caltrans has created and is implementing the *Climate Action Program at Caltrans*, published in December 2006.[6]

One of the main strategies in Caltrans' Climate Action Program to reduce greenhouse gas emissions is to make California's transportation system more efficient. The highest levels of carbon dioxide from mobile sources, such as automobiles, occur at stop-and-go speeds (0 to 25 miles per hour) and speeds over 55 miles per hour; the most severe emissions occur from 0 to 25 miles per hour (see Figure 4-3 below). To the extent that a project relieves congestion by enhancing operations and improving travel times in high congestion travel corridors greenhouse gas emissions, particularly carbondioxide, may be reduced.

Figure 4-3 Possible Effect of Traffic Operations Strategies in Reducing On-road Carbon Dioxide (CO_2) Emissions



Relieving congestion by enhancing operations and improving travel times in high congestion travel corridors will lead to an overall reduction in greenhouse gas emissions. A stated project objective is to reduce congestion and improve traffic operations, which is consistent with the objectives of the Climate Action Program.

The purpose of the Centennial Corridor project is to make improvements that will provide interregional and regional connectivity for east-west traffic traveling within metropolitan Bakersfield and Kern County and continuity for State Route 58 in Kern County. State Route 58 is a critical link in the state transportation network used by interstate travelers, commuters, and a large number of trucks. State Route 58 lacks

[6] Caltrans Climate Action Program is located at the following Web address: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf

continuity in central Bakersfield, which results in severe traffic congestion and reduced levels of service on adjoining highways and local streets.

The project is expected to improve local east-west circulation; facilitate congestion management; and reduce commercial and regional commute time through a major freight corridor. Implementation of the project would help to reduce regional greenhouse gas emissions by promoting vehicle operational efficiency through reduced congestion and shorter vehicle trips and reduced vehicle miles traveled by offering more direct roadway connections through the corridor. Note that the vehicle miles traveled (VMT) for various years (2008, 2018, and 2038) used for air pollutant emission calculations can be found in Appendix A-2 of the Air Quality Study Report.

Quantitative Analysis

Greenhouse gas emissions for transportation projects can be divided into emissions produced during construction and those produced during operations.

Construction Emissions

Construction greenhouse gas emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions would be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases. Table 4.12 below estimates that the Project's construction would result in a total of 7,183.40 metric tons of carbon dioxide over the three year construction period.

Table 4.12 Estimate of Annual Carbon Dioxide Emissions During Construction

		Construction Annual Emissions (Metric Tons of CO_2 per year)
Year 1	Total	4,848.22
	Onsite	934.54
Year 2	Total	2,033.95
	Onsite	921.74
Year 3	Total	301.22
	Onsite	253.75
Project Total		7,183.40
Source: *Air Quality Study Report* 2013.		

Operational Emissions

The project is a transportation facility; therefore, the greenhouse gas emissions would include operational greenhouse gas emissions from vehicle traffic along the project corridor. Greenhouse gas emissions from vehicle traffic along the affected roadways (with the No-Build Alternative and with the build alternatives) were calculated using

the emission factors for on-road mobile sources using the EMFAC2011 model, annual vehicle miles traveled along the project roadways.

Tables 4.13, 4.14, and 4.15 summarize the annual operational greenhouse gas emissions associated with vehicle traffic along the studied roadways for Alternatives A, B, and C, respectively. Vehicle traffic is quantified in terms of vehicle miles traveled (VMT). The VMT used to calculate the operational emissions can be found in Appendix A-2 of the Air Quality Study Report, prepared for this project. Greenhouse gas emissions are estimated for baseline year 2008 (existing conditions), opening year 2018, and design year 2038 for the No-Build Alternative and for the build alternative scenarios. Sources considered in the emission calculations are the same as those analyzed for criteria pollutants. Carbon dioxide emissions for the baseline year (2008) was estimated at 234,846 metric tons per year. Carbon dioxide emissions are the main greenhouse gas of concern, as vehicle operation does not result in appreciable amounts of other greenhouse gases (such as methane, nitrous oxides, etc.), and thus only carbon dioxide emissions were calculated and presented.

In addition to providing the emissions by year and build scenario, the data in the bottom portion of Tables 4.13, 4.14, and 4.15 present estimates of operational emissions of greenhouse gases reflecting implementation of two important California rules/standards [Assembly Bill 1439 (Pavley) and Assembly Bill 32 via the Low Carbon Fuels Standard], which establish stricter standards to reduce greenhouse gas emissions from passenger cars and light duty trucks (see Section 4.5.1). These emissions were estimated using the EMFAC2011 Model, which includes data for carbon dioxide emissions for the fleet mix with implementation of these new standards.

It should be noted that, while the carbon dioxide emissions factor does assume certain reductions in vehicle emissions due to future vehicle models operating more efficiently, additional reductions in vehicle emissions would also occur in response to new and stricter legislated standards as they become implemented. Therefore, the numbers are not an accurate reflection of what the true carbon dioxide emissions will be and may actually overstate the expectations because carbon dioxide emissions depend on other factors that are not part of the model representation, such as fuel mix; rate of acceleration; and the aerodynamics and efficiency of the vehicles themselves.

Alternative A

Table 4.13 shows that, in the two future year scenarios, annual operational emissions of greenhouse gas (mainly carbon dioxide) would increase relative to the 2008 baseline. This is due to the regional population and economic growth, and the associated increase in the daily traffic.

For future studied years, the build alternatives' operational emissions of greenhouse gases, combined for all studied roadway segments, show a relatively small increase when compared with the No-Build Alternative of the same year (less than 4 percent for opening year 2018 and about 9 percent for design year 2038), as shown in Table 4.13. This small increase is attributable mainly to the availability of the new 9-mile-long (four

lane) Westside Parkway, proposed new alignment, which provides a connection between two highway segments (the Westside Parkway and State Route 58 East) and new freeway-to-freeway connectors as well as to the widening of a portion of State Route 58 between State Route 99 and Cottonwood Road (a total of 27.8 lane miles of additional travel lane pavement would be created). As Table 4.13 shows, under Assembly Bill 1439 (Pavley) and Assembly Bill 32 via the Low Carbon Fuels Standard, an average of about 21 percent reduction of vehicular emissions of greenhouse gases of the build alternative would be achieved in 2018 and an average of about 33 percent reduction of the build alternative would be anticipated in 2038.

Alternative B

The annual operational emissions of greenhouse gas emissions (mainly carbon dioxide) associated with proposed Alternative B estimated for opening year 2018 and horizon year 2038 are shown in Table 4.14.

Data in Table 4.14 indicate a trend very similar to the data for Alternative A (see Table 4.13). Project operational emissions of carbon dioxide in future analyzed years would increase relative to the 2008 baseline due to an increase in daily traffic and vehicle miles traveled associated with regional development and population growth. A comparison of operational emissions of greenhouse gases from Alternative B with the No-Build Alternative scenario shows slight increases in total emissions in opening year 2018 and in horizon year 2038. This small increase is about 7 percent for 2018 and about 12 percent for 2038 from the respective no-build conditions, for the same reasons described under Alternative A. Total greenhouse gas operational emissions under build scenarios are estimated to be only about 3 percent higher than those estimated for Alternative A.

Alternative C

The annual operational emissions of greenhouse gas emissions (mainly carbon dioxide) associated with Alternative C, estimated for opening year 2018 and horizon year 2038, are shown in Table 4.15.

Similar to Alternatives A and B, the project operational emissions of carbon dioxide in future analyzed years would increase relative to the 2008 baseline due to an increase in daily traffic and vehicle miles traveled associated with regional development and population growth. This increase is about 8 percent for 2018 and about 12 percent for 2038 from the respective no-build conditions. A comparison of operational emissions of greenhouse gases from Alternative C with Alternatives A and B shows that Alternative C is similar to Alternative B, and the total greenhouse gas emission is less than 1 percent above the emission estimate for Alternative B and 2 to 4 percent higher than estimated emissions for Alternative A.

Table 4.13 Annual Operational Carbon Dioxide Emissions from Operation of Build Alternative A (Metric tons/year)

Roadway Segment	Existing Baseline 2008 (A)	Opening Year 2018		Horizon Year 2038	
		No Build (B)	Build (C)	No Build (E)	Build (F)
Rosedale Highway – Allen Road to State Route 99	34,626	43,942	32,558	51,634	41,657
Stockdale Highway/Brundage Lane – Allen Road to H Street	34,144	25,965	19,606	34,040	23,108
California Avenue – Stockdale Highway to State Route 99	7,460	8,157	7,681	9,305	8,099
Westside Parkway – Allen Road to State Route 99	0 [a]	47,401	85,057	78,788	149,836
State Route 58 – State Route 99 to Cottonwood Road	32,817	52,065	53,549	67,325	72,895
State Route 99 – Airport Drive to White Lane	112,911	151,284	141,742	187,887	172,897
Mohawk Street – California Avenue to Rosedale Highway	4,076	6,907	5,640	10,167	8,070
Real Road – Stockdale Highway to California Avenue	2,170	1,660	2,311	1,831	2,427
Freeway to Freeway Connectors [b]	6,644	8,360	10,701	10,779	12,765
Total – All studied roadways	234,849	345,741	358,845	451,757	491,754
Carbon dioxide emissions with implementation of Pavley I [c] and Low Carbon Fuel Standard [d]					
Rosedale Highway – Allen Road to State Route 99	34,626	35,820	26,587	36,287	29,483
Stockdale Highway/Brundage Lane – Allen Road to H Street	34,144	20,584	15,562	22,772	15,512
California Avenue – Stockdale Highway to State Route 99	7,460	6,457	6,093	6,219	5,436
Westside Parkway – Allen Road to State Route 99	0 [a]	37,999	68,207	53,861	102,636
State Route 58 – State Route 99 to Cottonwood Road	32,817	42,040	42,981	46,336	50,133
State Route 99 – Airport Drive to White Lane	112,911	123,238	115,415	130,904	120,876
Mohawk Street – California Avenue to Rosedale Highway	4,076	5,473	4,469	6,809	5,416
Real Road – Stockdale Highway to California Avenue	2,170	1,302	1,813	1,203	1,596
Freeway to Freeway Connectors [b]	6,644	6,889	8,804	7,753	9,173
Total – All studied roadways	234,849	279,802	289,931	312,144	340,262
Emissions reduction due to Pavley I [b] and Low Carbon Fuel Standard [c]		18% to 22%		29% to 34%	

[a] Roadway segment did not exist in 2008 and was constructed after Base Year 2008.

[b] Studied freeway-to-freeway connectors include: State Route 99 northbound connectors to State Route 58 eastbound and westbound, State Route 99 southbound connectors to State Route 58 eastbound and westbound, State Route 58 westbound connectors to State Route 99 northbound and southbound.

[c] Assembly Bill 1493, also known as Pavley I, includes stricter standards to reduce greenhouse gas emissions from automobiles and light trucks, model years 2017-2025.

[d] California Assembly Bill AB 32 calls for a reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020.

Actual emissions would generally be smaller for certain roadways and the overall project than reported in this table because the predicted truck volumes on parts of the Westside Parkway and State Route 58 are smaller than those used in this regional analysis which represents the worst case.

Source: *Air Quality Study Report* 2013.

Table 4.14 Annual Operational Carbon Dioxide Emissions from Operation of Build Alternative B (Metric tons/year)

Roadway Segment	Existing Baseline 2008 (A)	Opening Year 2018		Horizon Year 2038	
		No Build (B)	Build (C)	No Build (E)	Build (F)
Rosedale Highway – Allen Road to State Route 99	34,626	43,942	31,873	51,634	41,407
Stockdale Highway/Brundage Lane – Allen Road to H Street	34,144	25,965	18,767	34,040	22,304
California Avenue – Stockdale Highway to State Route 99	7,460	8,157	7,181	9,305	7,440
Westside Parkway – Allen Road to State Route 99	0 [a]	47,401	98,144	78,788	161,796
State Route 58 – State Route 99 to Cottonwood Road	32,817	52,065	53,568	67,325	74,349
State Route 99 – Airport Drive to White Lane	112,911	151,284	140,168	187,887	170,898
Mohawk Street – California Avenue to Rosedale Highway	4,076	6,907	7,242	10,167	10,556
Real Road – Stockdale Highway to California Avenue	2,170	1,660	2,228	1,831	2,434
Freeway to Freeway Connectors [b]	6,644	8,360	10,596	10,779	12,754
Total – All studied roadways	234,849	345,741	369,768	451,757	503,939
Carbon dioxide emissions with implementation of Pavley I [c] and Low Carbon Fuel Standard [d]					
Rosedale Highway – Allen Road to State Route 99	34,626	35,820	26,033	36,287	29,317
Stockdale Highway/Brundage Lane – Allen Road to H Street	34,144	20,584	14,896	22,772	14,974
California Avenue – Stockdale Highway to State Route 99	7,460	6,457	5,696	6,219	4,995
Westside Parkway – Allen Road to State Route 99	0 [a]	37,999	78,838	53,861	111,043
State Route 58 – State Route 99 to Cottonwood Road	32,817	42,040	42,986	46,336	50,950
State Route 99 – Airport Drive to White Lane	112,911	123,238	114,154	130,904	119,445
Mohawk Street – California Avenue to Rosedale Highway	4,076	5,473	5,739	6,809	7,027
Real Road – Stockdale Highway to California Avenue	2,170	1,302	1,748	1,203	1,601
Freeway to Freeway Connectors [b]	6,644	6,889	8,720	7,753	9,174
Total – All studied roadways	234,849	279,802	298,811	312,144	348,526
Emissions reduction due to Pavley I [b] and Low Carbon Fuel Standard [c]		18% to 22%		29% to 34%	

[a] Roadway segment did not exist in 2008 and was constructed after Base Year 2008.

[b] Studied freeway-to-freeway connectors include: State Route 99 northbound connectors to State Route 58 eastbound and westbound, State Route 99 southbound connectors to State Route 58 eastbound and westbound, State Route 58 westbound connectors to State Route 99 northbound and southbound.

[c] Assembly Bill 1493, also known as Pavley I, includes stricter standards to reduce greenhouse gas emissions from automobiles and light trucks, model years 2017-2025.

[d] California Assembly Bill AB 32 calls for a reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020.

Actual emissions would generally be smaller for certain roadways and the overall project than reported in this table because the predicted truck volumes on parts of the Westside Parkway and State Route 58 are smaller than those used in this regional analysis which represents the worst case.

Source: *Air Quality Study Report* 2013.

Table 4.15 Annual Operational Carbon Dioxide Emissions from Operation of Build Alternative C (Metric tons/year)

Roadway Segment	Existing Baseline 2008 (A)	Opening Year 2018		Horizon Year 2038	
		No Build (B)	Build (C)	No Build (E)	Build (F)
Rosedale Highway – Allen Road to State Route 99	34,626	43,942	31,831	51,634	41,498
Stockdale Highway/Brundage Lane – Allen Road to H Street	34,144	25,965	17,862	34,040	22,116
California Avenue – Stockdale Highway to State Route 99	7,460	8,157	7,076	9,305	7,075
Westside Parkway – Allen Road to State Route 99	0 [a]	47,401	96,631	78,788	160,289
State Route 58 – State Route 99 to Cottonwood Road	32,817	52,065	54,734	67,325	78,823
State Route 99 – Airport Drive to White Lane	112,911	151,284	139,685	187,887	168,023
Mohawk Street – California Avenue to Rosedale Highway	4,076	6,907	8,879	10,167	10,421
Real Road – Stockdale Highway to California Avenue	2,170	1,660	2,259	1,831	2,500
Freeway to Freeway Connectors [b]	6,644	8,360	13,978	10,779	16,009
Total – All studied roadways	234,849	345,741	372,936	451,757	506,753
Carbon dioxide emissions with implementation of Pavley I [c] and Low Carbon Fuel Standard [d]					
Rosedale Highway – Allen Road to State Route 99	34,626	35,820	25,999	36,287	29,378
Stockdale Highway/Brundage Lane – Allen Road to H Street	34,144	20,584	14,178	22,772	14,848
California Avenue – Stockdale Highway to State Route 99	7,460	6,457	5,613	6,219	4,750
Westside Parkway – Allen Road to State Route 99	0 [a]	37,999	77,652	53,861	110,128
State Route 58 – State Route 99 to Cottonwood Road	32,817	42,040	44,096	46,336	54,152
State Route 99 – Airport Drive to White Lane	112,911	123,238	113,642	130,904	115,293
Mohawk Street – California Avenue to Rosedale Highway	4,076	5,473	7,305	6,809	6,986
Real Road – Stockdale Highway to California Avenue	2,170	1,302	1,774	1,203	1,645
Freeway to Freeway Connectors [b]	6,644	6,889	11,360	7,753	11,214
Total – All studied roadways	234,849	279,802	301,620	312,144	348,393
Emissions reduction due to Pavley I [b] and Low Carbon Fuel Standard [c]		18% to 22%		29% to 34%	

[a] Roadway segment did not exist in 2008 and was constructed after Base Year 2008.

[b] Studied freeway-to-freeway connectors include: State Route 99 northbound connectors to State Route 58 eastbound and westbound, State Route 99 southbound connectors to State Route 58 eastbound and westbound, State Route 58 westbound connectors to State Route 99 northbound and southbound.

[c] Assembly Bill 1493, also known as Pavley I, includes stricter standards to reduce greenhouse gas emissions from automobiles and light trucks, model years 2017-2025.

[d] California Assembly Bill AB 32 calls for a reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020.

Actual emissions would generally be smaller for certain roadways and the overall project than reported in this table because the predicted truck volumes on parts of the Westside Parkway and State Route 58 are smaller than those used in this regional analysis which represents the worst case.

Source: *Air Quality Study Report* 2013.

Limitations and Uncertainties with Modeling

EMFAC

Although EMFAC can calculate carbon dioxide (CO_2) emissions from mobile sources, the model does have limitations when it comes to accurately reflecting changes in carbon dioxide emissions due to impacts on traffic. According to the National

Cooperative Highway Research Program report, *Development of a Comprehensive Modal Emission Model* (April 2008) and a 2009 University of California study,[7] brief but rapid accelerations, such as those occurring during congestion, can contribute significantly to a vehicle's carbon dioxide emissions during a typical urban trip. Current emission-factor models are insensitive to the distribution of such modal events (i.e., cruise, acceleration, deceleration, and idling) in the operation of a vehicle and instead estimate emissions by average trip speed. This limitation creates an uncertainty in the model's results when compared to the estimated emissions of the various alternatives with baseline in an attempt to determine impacts. Although work by the U.S. Environmental Protection Agency and the California Air Resources Board is underway on modal-emission models, neither agency has yet approved a modal emissions model that can be used to conduct this more accurate modeling.

California Air Resources Board is currently not using EMFAC to create its inventory of greenhouse gas emissions. It is unclear why the California Air Resources Board has made this decision. Their website only states:

> REVISION: Both the EMFAC and OFFROAD Models develop carbon dioxide ($CO_{2)}$ and methane (CH_4) emission estimates; however, they are not currently used as the basis for [California Air Resources Board's] official [greenhouse gas] inventory which is based on fuel usage information. http://www.arb.ca.gov/cc/inventory/inventory.htm. However, Air Resources Board is working towards reconciling the emission estimates from the fuel usage approach and the models.[8]

Other Variables

With the current science, project-level analysis of greenhouse gas emissions has limitations. Although a greenhouse gas analysis is included for this project, there are numerous key greenhouse gas variables that are likely to change dramatically during the design life of the proposed project and would thus dramatically change the projected carbon dioxide emissions.

First, vehicle fuel economy is increasing. The U.S. Environmental Protection Agency's annual report, "Light-Duty Automotive Technology and Fuel Economy Trends: 1975 through 2012,"[9] which provides data on the fuel economy and technology characteristics of new light-duty vehicles including cars, minivans, sport utility vehicles, and pickup trucks, confirms that average fuel economy has improved each year beginning in 2005, and is now at a record high. Corporate Average Fuel Economy (CAFE) standards remained the same between model years 1995 and 2003 and subsequently began setting increasingly higher fuel economy standards for future vehicle model years. The U.S. Environmental Protection Agency estimates that light

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7 Matthew Bartha, Kanok Boriboonsomsin. 2009. Energy and emissions impacts of a freeway-based dynamic eco-driving system. Transportation Research Part D: Transport and Environment Volume 14, Issue 6, August 2009, Pages 400–410

8 http://www.arb.ca.gov/msei/offroad.htm

9 http://www.epa.gov/oms/fetrends.htm

duty fuel economy rose by 16 percent from 2007 to 2012. Table 4.16 shows the increases in required fuel economy standards for cars and trucks between Model Years 2012 and 2025 as available from the National Highway Traffic Safety Administration for the 2012-2016 and 2017-2025 Corporate Average Fuel Economy Standards.

Table 4.16 Average Required Fuel Economy (mpg)

	2012	2013	2014	2015	2016	2018	2020	2025
Passenger Cars	33.3	34.2	34.9	36.2	37.8	41.1-41.6	44.2-44.8	55.3-56.2
Light Trucks	25.4	26	26.6	27.5	28.8	29.6-30.0	30.6-31.2	39.3-40.3
Combined	29.7	30.5	31.3	32.6	34.1	36.1-36.5	38.3-38.9	48.7-49.7
Source: EPA 2013, http://www.epa.gov/fueleconomy/fetrends/1975-2012/420r13001.pdf								

Second, near zero carbon vehicles will come into the market during the design life of this project. According to the 2013 Annual Energy Outlook (AEO2013):

> "LDVs [light duty vehicles] that use diesel, other alternative fuels, hybrid-electric, or all-electric systems play a significant role in meeting more stringent greenhouse gas emissions and Corporate Average Fuel Economy Standards standards over the projection period. Sales of such vehicles increase from 20 percent of all new LDV sales in 2011 to 49 percent in 2040 in the Annual Energy Outlook 2013 Reference case."[10]

The greater percentage of alternative fuel vehicles on the road in the future will reduce overall greenhouse gas emissions as compared to scenarios in which vehicle technologies and fuel efficiencies do not change.

Third, California has recently adopted a low-carbon transportation fuel standard in 2009 to reduce the carbon intensity of transportation fuels by 10 percent by 2020. The regulation became effective on January 12, 2010 (codified in title 17, California Code of Regulations, Sections 95480-95490). Beginning January 1, 2011, transportation fuel producers and importers must meet specified average carbon intensity requirements for fuel in each calendar year.

Lastly, driver behavior has been changing as the U.S. economy and oil prices have changed. In its January 2008 report, "Effects of Gasoline Prices on Driving Behavior and Vehicle Market,"[11]**Error! Hyperlink reference not valid.** the Congressional Budget Office found the following results based on data collected from California: 1) freeway motorists adjust to higher gas prices by making fewer trips and driving more slowly; 2) the market share of sports utility vehicles is declining; and 3) the average prices for larger, less-fuel-efficient models declined from 2003 to 2008 as average prices for the most-fuel-efficient automobiles have risen, showing an increase in

[10] http://www.eia.gov/forecasts/aeo/pdf/0383(2013).pdf
[11] http://www.cbo.gov/ftpdocs/88xx/doc8893/01-14-GasolinePrices.pdf

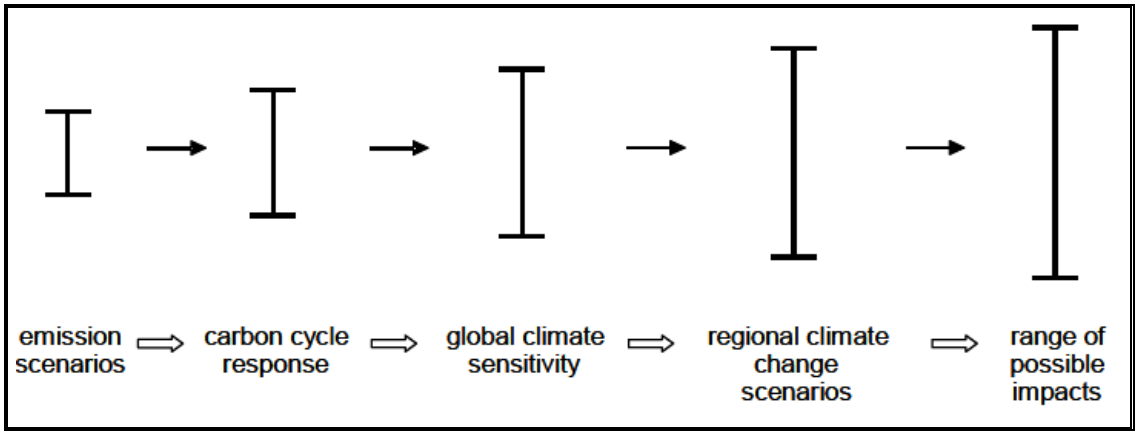
demand for the more fuel efficient vehicles. More recent reports from the Energy Information Agency[12] and Bureau of Economic Analysis[13] also show slowing re-growth of vehicle sales in the years since its dramatic drop in 2009 due to the Great Recession as gasoline prices continue to climb to $4 per gallon and beyond.

Limitations and Uncertainties with Impact Assessment

Taken from p. 5-22 of the National Highway Traffic Safety Administration Final Environmental Impact Statement for Mid-year 2017–2025 Corporate Average Fuel Economy Standards (July 2012), Figure 4-4 illustrates how the range of uncertainties in assessing greenhouse gas impacts grows with each step of the analysis:

"Moss and Schneider (2000) characterize the "cascade of uncertainty" in climate change simulations Figure 4-4). As indicated in Figure 4-4, the emission estimates used in this EIS have narrower bands of uncertainty than the global climate effects, which are less uncertain than regional climate change effects. The effects on climate are, in turn, less uncertain than the impacts of climate change on affected resources (such as terrestrial and coastal ecosystems, human health, and other resources […] Although the uncertainty bands broaden with each successive step in the analytic chain, all values within the bands are not equally likely; the mid-range values have the highest likelihood."[14]

Figure 4-4 Cascade of Uncertainties



Much of the uncertainty in assessing an individual project's impact on climate change surrounds the global nature of the climate change. Even assuming that the target of meeting the 1990 levels of emissions is met, there is no regulatory or other framework in place that would allow for a ready assessment of what any modeled

12 http://www.eia.gov/oiaf/aeo/tablebrowser/aeo_query_server/?event=ehExcel.getFile&study=AEO2013 &region=0-0&cases=ref2013-d102312a&table=114-AEO2013&yearFilter=0

13 Historical Vehicle Sales: www.bea.gov/national/xls/gap_hist.xls

14 http://www.nhtsa.gov/staticfiles/rulemaking/pdf/cafe/FINAL_EIS.pdf. page 5-22

increase in carbon dioxide emissions would mean for climate change given the overall California greenhouse gas emissions inventory of approximately 430 million tons of carbon dioxide equivalent. This uncertainty only increases when viewed globally. The Intergovernmental panel on Climate Change (IPCC) has created multiple scenarios to project potential future global greenhouse gas emissions as well as to evaluate potential changes in global temperature, other climate changes, and their effect on human and natural systems. These scenarios vary in terms of the type of economic development, the amount of overall growth, and the steps taken to reduce greenhouse gas emissions. Non-mitigation IPCC scenarios project an increase in global greenhouse gas emissions by 9.7 up to 36.7 billion metric tons carbon dioxide from 2000 to 2030, which represents an increase of between 25 and 90 percent.[15]

The assessment is further complicated by the fact that changes in greenhouse gas emissions can be difficult to attribute to a particular project because the projects often cause shifts in the locale for some type of greenhouse gas emissions, rather than causing "new" greenhouse gas emissions. It is difficult to assess the extent to which any project level increase in carbon dioxide emissions represents a net global increase, reduction, or no change; there are no models approved by regulatory agencies that operate at the global or even statewide scale.

California Environmental Quality Act Conclusion

Although the project includes a new highway segment and widening of a portion of an existing highway, both components accommodating more traffic volume and enhanced capacity, the redistribution of traffic because of the project is such that the resultant greenhouse gas emissions, for all alternatives, show between a 4 to 12 percent increase when compared with the no-build Alternative scenario.

Both the future with project and future no build show increases in carbon dioxide emissions over the existing levels; the future build carbon dioxide emissions are higher than the future no-build emissions for Alternatives A, B, and C. In addition, as discussed above, there are also limitations with EMFAC and with assessing what a given carbon dioxide emissions increase means for climate change. Therefore, it is Caltrans determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and California Environmental Quality Act significance, it is too speculative to make a determination regarding significance of the project's direct impact and its cumulative contribution to climate change. However, Caltrans is firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the following section.

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[15] Intergovernmental Panel on Climate Change (IPCC). February 2007. Climate Change 2007: The Physical Science Basis: Summary for Policy Makers. http://www.ipcc.ch/SPM2feb07.pdf.

4.5.3 Greenhouse Gas Reduction Strategies

Assembly Bill 32 Compliance

Caltrans continues to be actively involved on the Governor's Climate Action Team as the California Air Resources Board works to implement Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in Assembly Bill 32. Many of the strategies Caltrans is using to help meet the targets in the bill come from Former Governor Arnold Schwarzenegger's Strategic Growth Plan for California. The Strategic Growth Plan targeted a significant decrease in traffic congestion below 2008 level and a corresponding reduction in greenhouse gas emissions, while accommodating growth in population and the economy. The Strategic Growth Plan relies on a complete systems approach to attain carbon dioxide reduction goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements as shown in Figure 4-5.

Figure 4-5 Mobility Pyramid

Caltrans is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, transit-oriented communities, and high-density housing along transit corridors. Caltrans works closely with local jurisdictions on planning activities but does not have local land use planning authority. Caltrans also assists efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks; Caltrans is doing this by supporting ongoing research efforts at universities, supporting legislative efforts to increase fuel economy, and participating on the Climate Action Team. It is important to note, however, that the control of the fuel economy standards is held by the U.S. Environmental Protection Agency and California Air Resources Board.

Caltrans is also working towards enhancing the State's transportation planning process to respond to future challenges. Similar to requirements for regional transportation plans under Senate Bill (SB) 375 (Steinberg 2008), Senate Bill 391(Liu 2009) requires the State's long-range transportation plan to meet California's climate change goals under Assembly Bill (AB) 32.

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce greenhouse gas emissions. The California Transportation Plan defines performance-based goals, policies, and strategies to achieve our collective vision for California's future, statewide, integrated, multimodal transportation system.

The purpose of the California Transportation Plan is to provide a common policy framework that will guide transportation investments and decisions by all levels of government, the private sector, and other transportation stakeholders. Through this policy framework, the California Transportation Plan 2040 will identify the statewide transportation system needed to achieve maximum feasible greenhouse gas emission reductions while meeting the State's transportation needs.

Table 4.17 summarizes Caltrans' and statewide efforts that it is implementing to reduce greenhouse gas emissions. More detailed information about each strategy is included in the Climate Action Program at Caltrans (December 2006).

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012): is intended to establish a Department policy that will ensure coordinated efforts to incorporate climate change into Departmental decisions and activities.

Caltrans Activities to Address Climate Change (April 2013)[16] provides a comprehensive overview of activities undertaken by Caltrans statewide to reduce greenhouse gas emissions resulting from agency operations.

The following measures would also be included in the project to reduce greenhouse gas emissions and potential climate change impacts from the project:

- Caltrans and the California Highway Patrol are working with regional agencies to implement Intelligent Transportation Systems to help manage the efficiency of the existing highway system. An Intelligent Transportation System commonly consists of electronics, communications, or information processing used singly or in combination to improve the efficiency or safety of a surface transportation system.

[16] http://www.dot.ca.gov/hq/tpp/offices/orip/climate_change/projects_and_studies.shtml

Table 4.17 Climate Change/Carbon Dioxide Reduction Strategies

Strategy	Program	Partnership		Method/Process	Estimated Carbon Dioxide Savings (million miles traveled)	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review	Caltrans	Local Governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies and other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	0.975	7.8
Operational Improvements and Intelligent Transportation System Deployment	Strategic Growth Plan	Caltrans	Regions	State Intelligent Transportation System; Congestion Management Plan	0.07	2.17
Mainstream Energy and Greenhouse Gases into Plans and Projects	Office of Policy Analysis and Research; Division of environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational and Information Program	Office of Policy Analysis and Research	Interdepartmental, California Environmental Protection Agency, California Air Resource Board, California Energy Commission		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening and Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement B20 B100	0.0045	0.0065 0.045 0.0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	0.117	0.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries		2.5% limestone cement mix 25% fly ash cement mix > 50% fly ash/slag mix	1.2 0.36	4.2 3.6
Goods Movement	Office of Goods Movement	California Environmental Protection Agency, California Air Resource Board, Business, Transportation, and Housing, Metropolitan Planning Organizations		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.72	18.18

Source: *Air Quality Study Report* 2013.

- Landscaping reduces surface warming and, through photosynthesis, decreases carbon dioxide. The project proposes planting in the intersection slopes, drainage channels, and seeding in areas next to frontage roads and planting a variety of different-sized plant material and scattered skyline trees where appropriate but not to obstruct the view of the mountains. Caltrans has committed to planting a minimum of 40 trees. These trees would help offset any potential carbon dioxide emissions increase. Based on a formula from the Canadian Tree Foundation[17], it is anticipated that the planted trees would offset between 7 and 10 tons of carbon dioxide per year.
- According to Caltrans Standard Specification Provisions, idling time for lane closure during construction is restricted to 10 minutes in each direction. In addition, the contractor must comply with San Joaquin Valley Air Pollution Control District's rules, ordinances, and regulations in regard to air quality restrictions, including idling restrictions for trucks at the construction sites.
- Consistent with the greenhouse gas mitigation measures of the Kern Council of Government 2011 Regional Transportation Plan Environmental Impact Report, the project would incorporate the use of energy-efficient lighting, such as light-emitting diode (LED) traffic signals. Light-emitting diode (LED) bulbs cost $60 to $70 a piece, but last 5 to 6 years, compared to the 1-year average lifespan of the incandescent bulbs previously used. The light-emitting diode (LED) bulbs themselves consume 10 percent of the electricity of traditional lights, which will also help reduce the project's carbon dioxide emissions.[18]
- Support efforts that further analyze greenhouse gas emission contributions from goods movement through transportation corridors, trucking and other relevant freight movement practices.
- Support the use of grants, loans and incentives to assist local governments with the implementation of climate change response activities and greenhouse gas reduction strategies.
- Use circulation elements of general plans to ensure that development is consistent and well connected by alternative transportation modes (as required by Assembly Bill 1358 effective January 1, 2011).
- Promote reduced travel by proving park-and-ride lots.
- In transit-oriented areas, provide for express transit or bus rapid transit service and circulator feeder systems. Service should plan for direct access to the Bakersfield High Speed Rail station.
- In transit-oriented areas, reduce parking requirements and provide car/vanpool parking areas.

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17 Canadian Tree Foundation at http://www.tcf-fca.ca/publications/pdf/english_reduceco2.pdf. For rural areas, the formula is: # of trees/360 x survival rate = tones of carbon/year removed for each of 80 years.

18 Knoxville Business Journal, "[Light-Emitting Diode] Lights Pay for Themselves," May 19, 2008 at http://www.knoxnews.com/news/2008/may/19/led-traffic-lights-pay-themselves/.

- Encourage project site designs and subdivision street and lot designs that support walking, bicycling, and transit use:
    - Adopt design guidelines and standards promoting plans that encourage alternative transportation modes; and
    - Require certain sites to be created to allow convenient access by transit, bicycle, and walking.
- Accommodate projected population growth by identifying appropriate areas for urban and rural growth, economic development, and multi-modal transportation corridors that support smart growth principles.
- Encourage the design and development of an effective transportation system that integrates all modes into a seamless, reliable, cost-efficient system, including intelligent transportation solutions and high tech communication options.
- Support intermodal travel including park-and-ride, rideshare, bicycle, rail and transit programs.
- Support increased mass transit connectivity and accessibility.
- Promote reduction of vehicle miles traveled.
- Promote landscaping strategies that will reduce greenhouse gas.
- Promote the use of light-emitting diode (LED) technology or comparable energy-efficient technology for traffic lights, rail signals and other features compatible with light-emitting diode (LED) or comparable energy-efficient technologies.
- Support the use of procurement practices that promote the use of energy efficient products and equipment.
- Support and coordinate efforts that address strategies to reduce greenhouse gases into planning efforts. and
- Promote energy efficiency, solar energy production and other methods of reducing greenhouse gas production.

Adaptation Strategies

"Adaptation strategies" refer to how Caltrans and others can plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increasing variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility to be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the White House Council on Environmental Quality, the Office of Science and Technology Policy, and the National Oceanic and Atmospheric Administration, released its interagency task force progress report on October 28, 2011[19], outlining the federal government's progress in expanding and strengthening the Nation's capacity to better understand, prepare for, and respond to extreme events and other climate change impacts. The report provides an update on actions in key areas of federal adaptation, including: building resilience in local communities, safeguarding critical natural resources such as freshwater, and providing accessible climate information and tools to help decision-makers manage climate risks

Climate change adaptation must also involve the natural environment as well. Efforts are underway on a statewide-level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, then-Governor Schwarzenegger signed Executive Order S-13-08, which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change. This order set in motion several agencies and actions to address the concern of sea level rise.

In addition to addressing projected sea level rise, the California Natural Resources Agency (Resources Agency) was directed to coordinate with local, regional, state, and federal, public and private entities to develop a state Climate Adaptation Strategy. *The California Climate Adaptation Strategy* (December 2009)[20], which summarizes the best-known science on climate change impacts to California, assessed California's vulnerability to the identified impacts, and outlined solutions that can be implemented within and across state agencies to promote resiliency.

The strategy outline is in direct response to Executive Order S-13-08 that specifically asked the Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. Numerous other state agencies were involved in the creation of the Adaptation Strategy document, including the California Environmental Protection Agency; Transportation Agency (then called Business, Transportation and Housing); Health and Human Services; and the Department of Agriculture. The document is broken down into strategies for different sectors that include: public health; biodiversity and habitat; ocean and coastal resources; water management; agriculture; forestry; and transportation and energy infrastructure. As data continues to be developed and collected, the state's adaptation strategy will be updated to reflect current findings.

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19 http://www.whitehouse.gov/administration/eop/ceq/initiatives/adaptation

20 http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF

The National Academy of Science was directed to prepare a Sea Level Rise Assessment Report[21] to recommend how California should plan for future sea level rise. The report was released in June 2012 and included:

- Relative sea level rise projections for California, Oregon, and Washington taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge and land subsidence rates
- Range of uncertainty in selected sea level rise projections
- Synthesis of existing information on projected sea level rise impacts to state infrastructure (such as roads, public facilities, and beaches), natural areas, and coastal and marine ecosystems
- Discussion of future research needs regarding sea level rise for California

In 2010, interim guidance was released by The Coastal Ocean Climate Action Team (CO-CAT) as well as Caltrans as a method to initiate action and discussion of potential risks to the states infrastructure due to projected sea level rise. Subsequently, CO-CAT updated the Sea Level Rise guidance to include information presented in the National Academies Study.

All state agencies that are planning to construct projects in areas vulnerable to future sea level rise are directed to consider a range of sea level rise scenarios for the years 2050 and 2100 to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. Sea level rise estimates should also be used in conjunction with information on local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data. All projects that have filed a Notice of Preparation as of the date of the Executive Order S-13-08, and/or are programmed for construction funding through 2013, or are routine maintenance projects may, but are not required to, consider these planning guidelines. The Notice of Preparation was filed in 2008 for this project, and construction is scheduled to start in July 2016. Also, the proposed project is outside the coastal zone and direct impacts to transportation facilities due to projected sea level rise are not expected.

Executive Order S-13-08 also directed the Transportation Agency (then called Business, Transportation, and Housing) to prepare a report to assess vulnerability of transportation systems to sea level rise affecting safety, maintenance and operational improvements of the system, and economy of the state. Caltrans continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

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[21] *Sea Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future* (2012) is available at: http://www.nap.edu/catalog.php?record_id=13389.

Currently, Caltrans is assessing which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change effects, Caltrans has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide planning scenarios become available, Caltrans will be able review its current design standards to determine what changes, if any, may be warranted to protect the transportation system from sea level rise.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding, increased frequency and intensity of storms and wildfires, rising temperatures, and rising sea levels. Caltrans is an active participant in the efforts being made in response to Executive Order S-13-08 and is mobilizing to be able to respond to the National Academy of Science Report on Sea Level Rise Assessment.

Chapter 5 Comments and Coordination

Early and continuing coordination with the general public and appropriate public agencies is an important part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required and to identify potential impacts, mitigation measures, and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including project development team meetings, interagency coordination meetings, and an extensive public outreach program. This process, known as scoping, allows public agencies and the general public to learn about the project and to provide suggestions on alternatives and the types of impacts to be evaluated.

This chapter summarizes the results of Caltrans' efforts to identify, address, and resolve project-related issues through early and continuing coordination.

5.1 Coordination Plan

When this project was initiated, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) required the development of a Coordination Plan for projects where an Environmental Impact Report/Environmental Impact Statement was being prepared. The purpose of the plan was to improve agency and public involvement in the environmental process for transportation projects. The SAFETEA-LU legislation has been replaced with the 2012 passage of Moving Ahead for Progress in the 21st Century Act (MAP-21). Many of the requirements in the SAFETEA-LU legislation pertaining to coordination with other agencies have been carried forward into the MAP-21 requirements. A Coordination Plan was prepared by Caltrans in December 2008 to describe a communication process with participating and cooperating agencies. The following provides an overview of the agency coordination conducted to date.

5.1.1 Notice of Initiation

A project initiation meeting was held on Tuesday, March 4, 2008, from 4:00 p.m. to 8:00 p.m. in the Building Rotunda at the Kern County Administrative Offices at 1115 Truxtun Avenue in Bakersfield. An open house-type format was used to facilitate communication and the exchange of information between the Caltrans project team members and members of the public. The purpose of the meeting was to explain the project and alternatives to the public and interested parties, answer any questions they might have, and gather comments from anyone who had input.

To announce the meeting, Caltrans published a public notice in local newspapers**.** The notice was published in English in *The Bakersfield Californian* on February 12 and 26, 2008. The notice was published in Spanish in *El Popular* on February 29, 2008. In addition, a press release was sent to local media and those individuals that had been identified as interested parties.

A sign-in sheet was provided at the entrance of the meeting, and 383 people signed in. Caltrans received 414 comment cards, emails, or letters from that day through April 4, 2008. In addition, 61 people provided comments to a court reporter at the meeting to record testimony.

5.1.2 Process for Inviting Cooperating/Participating Agencies

Cooperating agencies are governmental agencies that either have approval authority on part of the project (such as issuing a permit) or special expertise with respect to an environmental issue being evaluated in the Environmental Impact Report/ Environmental Impact Statement. Participating agencies can be federal, state, tribal, regional, or local agencies, non-governmental organizations, or private entities that may have an interest in the project. Being a cooperating or participating agency does not mean that the agency supports a project.

On September 18, 2008, Caltrans sent letters of invitation to 10 agencies to become a participating agency and 11 agencies to become a cooperating agency on the project. Unless a federal agency responds or fits one of the following categories, the agency is assumed to be a participating or cooperating agency: (1) it has no jurisdiction or authority for the project; (2) it has no expertise or information relevant to the project; and (3) it does not intend to submit comments on the project. Cooperating and participating agencies are shown in Table 5.1.

Table 5.1 Cooperating and Participating Agencies List

Agency	Contact Person, Title	Accepted Invitation	Declined Invitation	Did not Respond	Agency (yes/no)
Cooperating Agencies					
* U.S. Army Corps of Engineers	Colonel Thomas C. Chapman, District Engineer			X	Yes
* U.S. Fish and Wildlife Service	Susan Moore, Field Supervisor			X	Yes
* U.S. Environmental Protection Agency	Carolyn Mulvihill, Environmental Review Office			X	Yes
Kern County	Craig Pope, Kern County Road Commissioner	X			Yes
City of Bakersfield	Theodore Wright, Thomas Roads Improvement Program Manager	X			Yes
Central Region Water Quality Control Board	Bridget Supple	X			Yes
California Department of Fish and Wildlife[1]	Don Koch, Director		X		No
California Environmental Protection Agency	Linda S. Adams, Secretary		X		No
California Department of Parks and Recreation, Office of Historic Preservation	Carol Roland State Historic Preservation Officer			X	No
San Joaquin Valley Unified Air Pollution Control District, Southern Region	Seyed Sadredin, Air Pollution Control Officer			X	No
State Lands Commission	Paul D. Thayer, Executive Officer			X	No

Table 5.1 Cooperating and Participating Agencies List

Agency	Contact Person, Title	Accepted Invitation	Declined Invitation	Did not Respond	Agency (yes/no)
Participating Agencies					
California Department of Water Resources	Charyce Hatler, Staff Environmental Scientist	X			Yes
California Highway Patrol	Lieutenant Terry Roberts	X			Yes
Native American Heritage Commission	Dave Singleton, Program Analyst	X			Yes
Golden Empire Transit District	Karen H. King, Chief Executive Officer	X			Yes
Kern County Department of Agriculture and Measurement Standards	Ruben J. Arroyo, Agricultural Commissioner	X			Yes
* Federal Transit Administration	Leslie Rogers, Regional Administrator			X	Yes
* U.S. Department of the Interior (Bureau of Reclamation)	Donald R. Glaser, Mid-Pacific Regional Director			X	Yes
* U.S. Department of Agriculture	Carolyn LoFreso, District Conservationist			X	Yes
* California Department of Water Resources	Lester A. Snow, Director			X	Yes
California Department of Food and Agriculture	A.G. Kawamura, Secretary			X	No

It is assumed that agencies with a star (*) will participate as the requested agency because of their expertise or interest in the project.
[1] Effective January 1, 2013, the California Department of Fish and Game changed its name to the California Department of Fish and Wildlife.

Coordination Meeting

A coordination webinar was conducted on August 26, 2009 for those agencies that had accepted the invitation to be a participating or cooperating agency. A webinar is a meeting held on a website; any person using a computer with internet access can attend the meeting. Representatives from the following agencies attended the webinar: California Department of Fish and Wildlife, U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, County of Kern, and the City of Bakersfield.

The purpose of the meeting was to update the attendees on the progress of the project; gain input on the project Purpose and Need; develop the project alternatives; and discuss methodology for the study plans. In addition, the meeting provided an opportunity to identify the permits and approvals needed for project implementation. The permits and approvals needed, as well as the status of these permits is summarized in Tables S.2 and 2.3.

Concerns were raised about the bridges that would cross the Kern River under Alternative A. The crossing of Kern River for Alternatives B and C would provide new bridge structures using the same general alignment used for the Westside Parkway crossing of the Kern River. The bridge structures for Alternative A would be further to the south resulting in impacts to a larger portion of the Kern River. In response to the webinar invitation, the California Department of Fish and Game also provided a written comment letter to Caltrans regarding their outstanding concerns about the project, including potential impacts to wetlands, riparian habitat, compatibility with the applicable conservation plans; and Section 4(f) consideration.

A copy of the letter has been included in Appendix J, Key Correspondence, provided in Volume 2.

5.2 Scoping Process

The scoping process started with widespread notice to government agencies via publication of a Notice of Intent/Notice of Preparation announcing the start of an Environmental Impact Report/Environmental Impact Statement. The Notice of Intent was published in the *Federal Register* on September 19, 2008, in accordance with the National Environmental Policy Act. The Notice of Preparation was filed with the State Clearinghouse on September 19, 2008, in accordance with the California Environmental Quality Act. The State Clearinghouse posts the Notice of Preparation on its website and distributes it to state agencies. In addition, the Notice of Preparation was posted on the Caltrans District 6 website and with the Kern County Clerk/Recorder throughout the public review period (September 19, 2008 to October 20, 2008). A copy of the Notice of Preparation is provided in Appendix K in Volume 2. Comments on the Notice of Intent/Notice of Preparation were received from 29 agencies and included comments on a variety of environmental issues. Table 5.2 provides a summary of the issues raised in the responses to the Notice of Preparation.

5.2.1 Mailings

The Notice of Intent/Notice of Preparation was sent to federal, state, regional, and local government agencies, Native American groups, business groups, and other interested parties on September 18, 2008. These groups were also invited to the scoping meeting on October 2, 2008.

5.2.2 Public Noticing

Advertisements announcing the scoping meeting were published in local newspapers in both English and Spanish. An English advertisement was placed in *The Bakersfield Californian*, and a Spanish advertisement was placed in *El Popular* three weeks before and one week before the public meeting.

5.2.3 Scoping Meetings

Public Scoping Meeting

The public scoping meeting was held on Thursday, October 2, 2008, in the Kern County Administrative Offices Building Rotunda from 4:30 p.m. to 7:30 p.m. The purpose of the meeting was to provide the public with information on the project and alternatives, answer any questions, and gather comments from anyone who had input.

A total of 147 people signed the sign-in sheets. Caltrans received seven comment cards and two handwritten letters at the meeting. Of these, 12 people provided comments to the onsite court reporter. The following issues were raised: preference for a specific alternative, air pollution and noise impacts, concerns about the Kern River Parkway, effects on property values, and neighborhood impacts.

Table 5.2 Centennial Corridor Notice of Preparation Comment Summary Matrix

Comment Letter	Date of Letter	Procedural/ No Technical Comments	Physical Environment							Natural Environment		Social and Economic Environment												
			Geology and Soils	Mineral Resources	Agricultural Soils and Farmlands	Hydrology	Water Quality	Air Quality	Hazardous Waste	Plant and Animal	Waters of the U.S.	Land Use	Socioeconomic and Environmental Justice	Visual Resources	Traffic and Transportation	Noise	Cultural Resources – Historical	Cultural Resources – Archaeo/Paleo	Public Services and Utilities	Energy	Section 4(f)	Fire	Aesthetics	Cumulative Impacts
Federal Agencies																								
Federal Emergency Management Agency	9/22/2008					x																		
US Environmental Protection Agency	10/17/2008	x				x	x	x		x	x		x		x									x
State Agencies																								
State Clearinghouse	9/19/2008	x																						
California Integrated Waste Management Board	9/22/2008	x																						
California Highway Patrol	9/22/2008	x													x									
California Department of Oil, Gas and Geothermal Resources	9/23/2008			x					x															
California Regional Water Quality Control Board	10/7/2008	x																						
Native American Heritage Commission	10/8/2008																	x						
Public Utilities Commission	10/20/2008	x										x			x									
California Department of Fish and Game[1]	10/20/2008					x		x	x	x	x	x			x	x					x	x	x	x
California Transportation Commission	10/31/2008	x																						
California Environmental Protection Agency	11/7/2008	x																						
California Department of Water Resources	11/10/2008					x																		
California State Lands Commission	Undated	x																						
Regional and Local Agencies																								
County of Kern Auditor-Controller-County Clerk	9/22/2008	x																						
County of Kern Dept of Agriculture and Measurement Standards	9/22/2008	x																						

Table 5.2 Centennial Corridor Notice of Preparation Comment Summary Matrix

Comment Letter	Date of Letter	Procedural/ No Technical Comments	Physical Environment							Natural Environment		Social and Economic Environment												
			Geology and Soils	Mineral Resources	Agricultural Soils and Farmlands	Hydrology	Water Quality	Air Quality	Hazardous Waste	Plant and Animal	Waters of the U.S.	Land Use	Socioeconomic and Environmental Justice	Visual Resources	Traffic and Transportation	Noise	Cultural Resources – Historical	Cultural Resources – Archaeo/Paleo	Public Services and Utilities	Energy	Section 4(f)	Fire	Aesthetics	Cumulative Impacts
North of the River Recreation and Park District	9/22/2008																				x			
County of Kern Administrative Office	9/30/2008	x																						
Rosedale - Rio Bravo Water Storage District	10/2/2008	x																						
Kern County Department of Human Services	10/6/2008											x	x											
Kern County Resource Management Agency-Roads Dept	10/8/2008	x																						
City of Bakersfield	10/20/2008	x																						
Kern Water Bank Authority	10/21/2008						x			x														
City of Bakersfield Historic Preservation Commission	11/12/2008	x																						
Golden Empire Transit	9/26/2008	x																						
Businesses and Organizations																								
BNSF Railway	9/29/2008											x												
Westpark Homeowners Association/Luce Forward	10/14/2008											x	x			x							x	
Union Pacific	10/14/2008							x				x			x	x								
Chumash Council of Bakersfield	10/23/2008	x																						

[1] Effective January 1, 2013, the California Department of Fish and Game changed its name to the California Department of Fish and Wildlife

Agency Scoping Meeting

An Agency Scoping Meeting was held on Thursday, October 2, 2008, at the Thomas Roads Improvement Program offices in Bakersfield. The purpose of the meeting was to explain the project and alternatives to agencies, answer any questions they might have, and gather comments from anyone who had input.

Five representatives from the following four agencies were in attendance: Kern County Department of Public Health, Kern County Agricultural Commissioner's Office, California Highway Patrol, and the City of Bakersfield Recreation and Parks Department.

5.3 Consultation and Coordination with Public Agencies

5.3.1 Resource and Regulatory Agencies

Caltrans began Section 7 consultation on November 20, 2007, under the Federal Endangered Species Act with the U.S. Fish and Wildlife Service for the six Thomas Roads Improvement Program projects, which include the Centennial Corridor. The California Department of Fish and Wildlife was included in the coordination process, but it was decided that the project would not require formal consultation pursuant to the California Endangered Species Act because there would be no "take" of endangered species based on the proposed avoidance, mitigation, and minimization measures. Through this consultation process, the San Joaquin Kit Fox Conceptual Strategy for the Thomas Roads Improvement Program was developed. Coordination addressed issues such as an approach for San Joaquin kit fox field surveys (June 2008), potential project-specific and program-level effects of the Thomas Roads Improvement Program (September 2010), and minimization options for project-specific impacts (August 2008 to present).

As part of the agency consultation, the Metropolitan Bakersfield Habitat Conservation Plan Trust Administrator provided written correspondence stating that the Trust Group concurs with the use of the Metropolitan Bakersfield Habitat Conservation Plan for compensatory mitigation required by the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife. The correspondence also stated that payment could occur after approval of the final environmental document. See Appendix J in Volume 2 for the letter.

Formal project-specific Section 7 consultation for the San Joaquin kit fox began with the U.S. Fish and Wildlife Service on April 16, 2013. Based on coordination between Caltrans and U.S. Fish and Wildlife Service, the Biological Assessment evaluated Alternatives A, B and C. The Biological Assessment, submitted as part of the consultation package, was approved as complete by U.S. Fish and Wildlife Service on July 22, 2013. The Biological Opinion from the Service on the effects on the San Joaquin kit fox was issued on December 20, 2013.

5.3.2 Intergovernmental Consultation for Air Quality

Intergovernmental coordination through the Kern Council of Governments Transportation Conformity Working Group began in May 2012 regarding Clean Air Act conformity requirements. The agencies involved included the Kern Council of Governments, Caltrans, the Environmental Protection Agency, the San Joaquin Valley Pollution Control District, and the Federal Highway Administration.

The Transportation Conformity Working Group recommended preparing a qualitative analysis of the Centennial Corridor project alternatives. A qualitative analysis was prepared per the Environmental Protection Agency guidance for qualitative hot spot analyses. The protocol was followed for the qualitative analysis that was completed for particulate matter for existing (2008) conditions and the No-Build Alternative and all three build alternatives for the 2038 design year. The results were shared with the Transportation Conformity Working Group on September 19, 2013 as part of the review of the environmental document.

5.3.3 Native American Heritage Commission and Associated Cultural Resources Consultation

Through preparation of the technical studies for cultural resources, a request was made to the Native American Heritage Commission for a review of the Sacred Lands Inventory to determine if any known cultural properties are present within or adjacent to the Area of Potential Effects. The Native American Heritage Commission responded on June 21, 2007, stating that no Native American cultural resources are known to exist within or next to the Area of Potential Effects. In addition, the Native American Heritage Commission provided a list of individuals/organizations that may have knowledge of cultural resources in the project area. The 12 parties listed on the Native American Heritage Commission contacts list and 10 additional individuals identified by Caltrans were all contacted by certified letter on July 30, 2007, or September 25, 2007. The letters were followed by emails and/or telephone calls to each individual to ensure that the contacts received the original letter and had a chance to respond in time.

Several responses were received, including three letters from individuals requesting that additional information be sent to them about the project as it continues. On December 21, 2011, the three individuals who requested additional information were sent an updated informational letter describing the Centennial Corridor project and requesting comments and any additional information of which they might be aware. No additional input has been received.

In addition to coordination with the Native American Heritage Commission, letters informing interested parties of the project were sent to area planning agencies, local governments, historical societies, and museums in August 2009 to solicit input on cultural resources.

Upon completion of the cultural resources studies, copies of the *Historic Property Survey Report*—which includes the Archaeological Survey Report, the Historic

Resources Evaluation Report, the Extended Phase I (Geoarchaeological Study) and the California Historic Bridge Inventory Sheet—were sent for review to the following consulting parties:

- Kudzubitchwanap Palap Tribe
- Eshom Valley Band of Indians
- Native American Heritage Preservation Council
- Tule River Indian Tribe
- Carol Pulido, Frazier Park
- Santa Rosa Rancheria
- Kawaiisu Tribe
- Kern Valley Indian Council
- Tejon Indian Tribe
- Kitanemuk and Yowlumne Tejon Indians
- Yokuts, Tubatulabal
- Chumash Council of Bakersfield
- Tubatulabals of Kern Valley
- County of Kern
- City of Bakersfield
- State Historic Preservation Officer

A 30-day comment period began on February 15, 2013. This review coincided with Caltrans initiation of Section 106 consultation with the State Historic Preservation Officer. On April 15, 2013, the State Historic Preservation Officer concurred that four properties (the Lester H. Houchin residence, the Rancho Vista subdivision, the property at 3904 Marsha Street, and the Friant-Kern Canal) within the Area of Potential Effects are eligible for the National Register of Historic Places. Refer to Appendix J of Volume 2, Key Correspondence, for these letters.

Following the concurrence from the State Historic Preservation Officer on the Historic Property Survey Report, a Finding of Effect on historic properties was prepared and submitted to the State Historic Preservation Officer and other consulting parties for review in March 2014. Comments were received from the State Historic Preservation Officer on April 10, 2014. Consultation with the State Historic Preservation Officer to address the identification efforts with regards to potential buried archaeological sites and adverse effects on Rancho Vista Historic District is ongoing. A Memorandum of Agreement outlining measures establishing procedures for archaeological treatment plans and data recovery and ways to avoid or minimize harm to the Rancho Vista Historic District, depending on the Alternative selected, will be completed during the public comment period on the Draft EIR/EIS.

5.3.4 Coordination with California Department of Parks and Recreation

Section 6(f)(3) of the Land and Water Conservation Fund Act (16 U.S. Code §4601-4) contains provisions to protect federal investments in park and recreation properties and the quality of those assisted properties. As discussed in Section 3.1.1.3, Parks and Recreation, two Land and Water Conservation Fund grants were used for improvements at Yokuts Park. Therefore, this area would be subject to Section 6(f) anti-conversion requirements. Caltrans coordinated with the California Department of Parks and Recreation to demonstrate that there would be no conversion or impacts to property improved using Land and Water Conservation Fund grants.

5.3.5 Coordination with the City of Bakersfield on Parks

The City of Bakersfield and Caltrans met with Diane Hoover of the City Parks and Recreation Department on two occasions (January 26, and March 21, 2012) to discuss potential construction impacts from Alternatives A, B, and C on several city park facilities. These facilities included Centennial Park, Saunders Park, and the Kern River Parkway (Par Course). Potential impacts and proposed mitigation measures were discussed at the meetings. Based on City/Caltrans coordination, the City Parks Director approved the Draft Concept Landscape Plan for Saunders Park if Alternative C were to be selected; approved the mitigation measures proposed for the Kern River Parkway (Par Course) if Alternative A were to be selected; and approved the avoidance alternative (Alternative B) for Centennial Park. The proposed Draft Concept Landscape Plan and mitigation measures for each city park are discussed in the Section 4(f) analysis (Appendix B in Volume 2, Section 7.0).

During the above meetings, the Parks Director confirmed that Yokuts Park received grant funding from the Land and Water Conservation Fund in March 1990 to develop group picnic facilities. City Resolutions 43-89 and 32-90 approved the application for Land and Water Conservation Funds. A Section 6(f)(3) Boundary Map outlining the area for use of the funds was also developed. Section 6(f) includes an anti-conversion requirement that precludes the future conversion of any land that used Land and Water Conservation funding for improvements without approval from the Secretary of the Interior. The City concurred with the Section 6(f) funding in a letter dated May 2, 2012. Additional information is provided in a Kern River Parkway Acreage Estimate and Section 6(f) Funding Technical Memorandum, dated May 1, 2012 (this memorandum is provided in Appendix B in Volume 2, *Section 4(f) Evaluation*).

Caltrans also met with Don Anderson of the City Real Estate Department to discuss real estate property acquisitions along Westside Parkway and the Kern River near Mohawk Street Bridge. Mr. Anderson confirmed that the property was acquired for the sole purpose of building Westside Parkway facilities and not for parkland or other uses. He confirmed the property boundaries purchased by the City and confirmed that other parcels (e.g., Wanamaker property) remained in private ownership.

5.3.6 High-Speed Rail Authority

City of Bakersfield and Caltrans staff members have met with representatives from the California High-Speed Rail Authority on the design compatibility of the

Centennial Corridor and the High-Speed Rail. Copies of the plans for the Centennial Corridor and the High-Speed Rail alignment were exchanged because the improvements would be close to each other in the proximity of State Route 99 where Alternative C turns west; however, they would not conflict. This coordination effort started in early 2009 and has extended through 2012.

In addition, staff members from Caltrans and the City of Bakersfield have attended four California High-Speed Rail Technical Working Group meetings from June 2009 to April 2011.

5.3.7 Emergency Service Providers

Coordination occurred with the local emergency service providers. On March 6, 2012, staff with the Thomas Roads Improvement Program met with the City of Bakersfield Fire Department and Police Department to discuss potential concerns and review the modified access with each alternative. A similar meeting was held on March 13, 2012, with the County of Kern Fire Department and Sheriff Department. No specific concerns were identified. Coordination with the emergency service providers as part of the Transportation Management Plan would address closures and detours during construction (see Standard Condition SC-CI-1 in Section 3.6 Construction Impacts).

5.3.8 U.S. Department of Agriculture

There was coordination with the U.S. Department of Agriculture regarding the impacts to farmland from the improvements at the Stockdale Highway/State Route 43 (Enos Lane) intersection. Input from the Department of Agriculture was formally received on the Farmland Conversion Impact Rating Form. Due to the minimal impacts on farmland, evaluation of alternatives designs to provide greater protection of farmland was not required.

5.4 Public Participation

Public participation has been an important part of this project. A series of meetings, interviews, and other outreach methods with affected property owners, community groups, and interested agencies has been carried out throughout the project development period and will continue as the project moves forward. Representatives from the City of Bakersfield, Caltrans, the Thomas Roads Improvement Program, and the project consultant team have presented project information and answered questions at numerous public meetings.

Several methods were used to inform the public of meetings, including newspaper notices and invitations sent to affected property owners and the community.

There was a consistent set of issues raised throughout the public participation process. These issues were raised at the neighborhood meetings, as well as in the various focus group meetings, and individual interviews. The concerns include:

- Social impacts and impacts on the quality of life after the project is constructed.

- Objection to removal of homes.
- Concern regarding previous statements by officials indicating a transportation facility would not be located in the Westpark neighborhood.
- Impacts to community facilities (churches, schools, parks).
- Loss of affordable housing.
- Air pollution/health concerns.
- Impact to property values.
- Noise impacts.
- Traffic impacts.
- Possible impacts to the natural environment, including the Kern River.
- Impacts to historic resources.
- Visual impacts.

5.4.1 Neighborhood Meetings

Neighborhood meetings, important to the community impact evaluation process, were held in the vicinity of each of the build alternatives. The purpose of the neighborhood meetings was to explain the project and alternatives to the public and interested parties, answer questions, and gather public input. An open house-type format was used to allow the public to ask questions of the project team members and give input about project-related concerns.

Three neighborhood meetings were held in the project area. At each neighborhood meeting, it was announced that a one-on-one meeting or a focus group meeting could be requested (these types of meetings are discussed later in this section). Meeting announcements were mailed out in both English and Spanish. All meeting materials (displays and handouts) were available in both languages. Spanish-speaking staff was on hand at all neighborhood meetings. Comment cards, which could be turned in at the meeting or mailed in later, were handed out at the meeting.

The first neighborhood meeting was held on Thursday, May 22, 2008, at the Harris Elementary School Cafeteria/Multi-Purpose Room at 4110 Garnsey Lane in Bakersfield. Two identical sessions of the meeting, each lasting about 90 minutes, were held: one at 4:30 p.m. and the other at 7:30 p.m. At the first session, 235 people signed in. At the second session, 141 people signed in. A handout with a project questionnaire/survey asking about the neighborhood was available at each session. Caltrans received 60 completed project questionnaires.

The second neighborhood meeting was held on Tuesday, July 21, 2008, at 4:30 p.m. at the McKinley Elementary School Multi-Purpose Room at 601 Fourth Street in Bakersfield. Eighty-three people signed in. The same project questionnaire/survey used at the May 22, 2008, meeting was available. Caltrans received seven completed project questionnaires.

The third neighborhood meeting was held on Thursday, August 21, 2008, at 4:00 p.m. at the McKinley Elementary School Multi-Purpose Room at 601 Fourth Street in Bakersfield. Eighty-two people signed in. The same project questionnaire/survey used at the May 22, 2008, meeting was available. Caltrans received 11 completed project questionnaires.

A total of 78 neighborhood questionnaire/surveys and 414 written comments were received as a result of all the meetings held. Comments ranged from requests for maps and documents to requests to be added to the project mailing list to statements about preferred alternatives. Issues raised in the comments included impacts to seniors, concerns about the environment, social impact/quality of life, impacts to historic resources, and loss of homes.

5.4.2 Interviews

Community-based Organizations Interviews

Two community-based organizations—First United Methodist Church of Bakersfield and Stockdale Christian School (located at the First Assembly of God Church)—participated in interviews conducted by the project team between July 2008 and September 2008. These organizations expressed concerns with Alternatives A and B due to their close proximity to these two alternatives.

One-on-One Interviews

Residents of the project area were offered the opportunity to take part in one-on-one interviews with project planners. Residents taking part in the interview process were asked a series of 20 questions. The goal of the interviews was to gain input from individuals who live in the neighborhoods along the Centennial Corridor route who could be affected by the project. The data collected were used to assess the community identity and how community members identified their neighborhoods. Respondents were asked questions such as the length of time they had lived in the neighborhood, the boundaries of their neighborhood, how they viewed the quality of life in the neighborhood, and about organizations that represent or are active in their neighborhood. The full questionnaire is provided in the *Community Impact Assessment* (September 2013); the results are summarized in this document in the discussion of Community Character and Cohesion, Section 3.1.4.1.

A total of 49 interviews were conducted from July 2008 through September 2008. While the opportunity to take part in the one-on-one interviews was offered at neighborhood meetings conducted for each alternative. Most of the interviewed individuals were from the Westpark neighborhood.

5.4.3 Focus Groups

Focus group meetings were small group meetings generally held at people's homes and included the resident and neighbors. Anyone could request to host a focus group meeting. Nine focus-group meetings with a total of 146 participants were held during the course of the planning process. Meetings were tailored to the issues of concern for each of the focus groups. These meetings allowed attendees to ask questions and

interact with the project team. Eight meetings were held from late July 2008 to mid-August 2008; an additional meeting was held in October 2008.

5.4.4 Business Community Outreach

Outreach targeting the business community included a public information meeting on January 27, 2009 and a March 2009 business survey. About 40 businesses responded to the survey. Common concerns noted by survey respondents were that a neighborhood-serving business or church, if relocated, would not be able to serve the same clientele or membership. Several business survey comments noted concerns about the acquisition process; decrease in the City tax base; streets; and entry/exit of commercial establishments.

5.4.5 Citizens' Advisory Group Meetings

Since late 2008, nine Citizens' Advisory Group meetings have been held. The Citizens' Advisory Group is made up of a maximum of nine members, plus three officers. The nine members include three members from each of the following areas: east of State Route 99; west of State Route 99; and service representatives (includes emergency services, school board or district, and transit/bicycle authority).

The objective of the Citizens' Advisory Group is to keep Caltrans informed of the feelings in the community regarding the project. The Citizens' Advisory Group serves as a voice for interested parties that are represented by group members, but the group is not a decision-making body. Members of the Citizen's Advisory Group provide input to Caltrans, represent their community interests, and act as liaisons to their neighborhoods.

5.4.6 Neighborhood Surveys

Neighborhood surveys were used to solicit input, comments, and suggestions from the larger community. From March 18 to March 24, 2009, about 16,000 surveys were mailed to residents in the project area. Questions on the survey were the same as those presented in the one-on-one interviews conducted in individuals' homes as described above. This was done to gather consistent information from all neighborhoods that might be directly affected by the project.

The surveys were made available in English and Spanish. Recipients were asked to complete and return surveys within 21 days; the return postage was pre-paid. About 920 surveys were returned by members of the public; most (34 percent) came from the Westpark neighborhood.

The survey results, in general, indicated that members of the public see the need for the project, but most do not want the project to go through their own neighborhood for various reasons, including quality of life; hardship for displaced elderly people and impacts to the retired community; effect on the ability to walk to local retail uses and community facilities; increased noise and localized air quality emissions; and decreased property values.

5.4.7 Public Information Meeting/Open House

A Public Information Meeting/Open House was held on May 11, 2011, from 4:30 p.m. to 7:30 p.m. at the Kern County Administrative Offices Building Rotunda at 1115 Truxtun Avenue in Bakersfield. The meeting format was an open house, where the public was invited to attend at any time during the three-hour period. One hundred and ninety-seven people signed in. Several display boards, including the project alternatives under consideration, were placed throughout the room for attendees to view, and attendees were able to interact with project representatives.

Caltrans received 71 comment cards submitted at the meeting. Three additional comment cards were received after the meeting/open house. Many of the comment cards specifically stated the following about the project: a preferred alternative and concerns on property values; reduced neighborhood feel and amenities; and increased noise with elevated segments.

5.4.8 Public Information Meeting/Section 4(f) Evaluation

A Public Information Meeting was held on December 6, 2012 from 4:00 p.m. to 7:00 p.m. to provide the community an update on the progress of the environmental studies and to present the findings of the Section 4(f) evaluation, which was the basis for identifying a preliminary preferred alternative.

A newsletter, which included a notice of the public meeting, was sent to 11,570 property owners and residents in the project study area. The mailing area included properties within 300 feet of the project's right-of-way, from Interstate 5 to Cottonwood Road. The newsletter was also sent to all property owners and residents of the Westpark neighborhood, encompassed by State Route 99, Stockdale Highway, and California Avenue.

The meeting was noticed in *The Bakersfield Californian* and in the Spanish language newspaper *El Popular* on November 23, 2012. The meeting was held at the Kern County Administrative Offices. About 500 people attended the meeting (459 signed in). Forty-six comment forms were filled out and submitted at the meeting.

Based on contact information provided at the meeting and in the newsletter, well over 100 people have contacted Caltrans and the Thomas Roads Improvements Program via email, phone call, and visits to the Thomas Roads Improvements Program office since the meeting.

Most of the comments received cited property inquiries or other right-of-way questions. Concerns were raised about the impacts that Alternative B would have on the Westpark neighborhood, including effects on community cohesion, increased air emissions and noise that would be experienced by remaining residents, and aesthetic impacts.

5.4.9 Public Review of the Draft Environmental Document

This draft environmental document will be circulated for a 60-day review by agencies and members of the public. During the public review period, an open house will be

held to receive comments from the public regarding the project. Upon completion of the public review period, acknowledgements or written responses to all substantive environmental issues raised will be prepared and made part of the final environmental document for consideration by decision-makers for the project. The final environmental document will also be available for public review.

Chapter 6 List of Preparers

6.1 California Department of Transportation

This document was prepared by the following Caltrans Central Region staff:

Allam Alhabaly, Transportation Engineer. Bachelor of Science, California State University, Fresno, School of Engineering; 11 years in the environmental engineering unit. Contribution: Oversight review of the Noise Study Report.

Bryan Apper, Senior Environmental Planner. Master of Arts, Environmental Planning, Consortium of the California State University, Long Beach; 33 years of environmental and transportation planning experience. Contribution: Oversight review of the environmental document, the Community Impact Assessment, and the Section 4(f) Report.

Jeanne Day Binning, Branch Chief/Senior Environmental Planner. Doctor of Philosophy, Anthropology, University of California, Riverside; more than 40 years of cultural resources management experience in the Great Basin and California. Contribution: Oversight review of the Archaeological Survey Report, the Extended Phase I Report, and the Historical Resources Evaluation Report.

Chuck Cesena, Senior Environmental Planner (Natural Sciences). Bachelor of Arts, Environmental Studies, University of California, Santa Barbara; 29 years of biology and environmental planning experience. Contribution: Oversight review of the Natural Environment Study and the Biological Assessment.

Brad Cole, Senior Landscape Architect (CA License Number 4518). Bachelor of Science, Landscape Architecture, California Polytechnic University, San Luis Obispo; 12 years of landscape architecture experience. Contribution: Oversight review of the Visual Impact Assessment.

Rajeev Dwivedi, Associate Engineering Geologist. Doctor of Philosophy, Environmental Engineering, Oklahoma State University, Stillwater; 19 years of environmental technical studies experience. Contribution: Oversight review of the Water Quality Report.

Kevin Gallo, Landscape Architect (License Number 5538). Bachelor of Landscape Architecture, California Polytechnic State University, San Luis Obispo; 6 years of landscape architecture experience. Contribution: Oversight review of the Visual Impact Assessment.

Marie (Terry) Goewert, Environmental Planner (Air Quality Specialist). Bachelor of Science, Foods and Nutrition, Colorado State University; 13 years of

environmental compliance experience and 7 years of environmental planning experience. Contribution: Oversight review of Air Quality Study Report.

Srikanth Gopalkrishnarao, Professional Engineer: Hydraulics Engineer (Registered Civil Engineer). Masters in Environmental Engineering, South Dakota State University; 12 years as Hydraulics Engineer and 5 years as Civil/ Environmental Engineer. Contribution: Hydraulics report review; oversight review of the Floodplain Evaluation.

Peter Hansen, Engineering Geologist, Professional Geologist. Bachelor of Science, Geology, California State University, Fresno; 12 years of paleontology/ geology experience. Contribution: Oversight review of the Paleontological Evaluation Report.

Richard Helgeson, Professional Engineer, Senior Transportation Engineer. Bachelor of Science, Civil Engineering, California State University, Fresno; 16 years of civil engineering experience; 14 years of Transportation Engineering experience. Contribution: Engineering design oversight.

Kelly J. Hobbs, Senior Environmental Planner. Bachelor of Arts, History, California State University, Fresno; 16 years experience in California history; 13 years of experience in environmental planning management. Contribution: Oversight review of the environmental document.

Krista Kiaha, Associate Environmental Planner. Master of Science, Anthropology, Idaho State University; 15 years of cultural resources experience. Contribution: Oversight review of the Archaeological Survey Report and the Extended Phase I Report.

Albert Lee, Senior Transportation Engineer. Master of Science, Civil Engineering, California State University, Fresno; 27 years of civil engineering experience. Contribution: Oversight review of the Traffic Study.

Steven McDonald, Senior Transportation Engineer, RCE; Bachelor of Science, Civil Engineering, California State University of Fresno; 19 years of experience in transportation engineering. Contribution: Traffic forecasting and operations.

Chanin McKeighen, Senior Right of Way Agent. Master of Arts, International Relations, California State University, Fresno; 12 years of experience with the California Department of Transportation, Right of Way. Contribution: Oversight review of the Relocation Impact Report and the Right-of-Way Data Sheets.

Frank Meraz, Senior Environmental Planner. Bachelor of Science, Biology, California State University, Fresno; 8 years of biology experience. Contribution: Oversight review of the Natural Environment Study.

Kristen Merriman, Associate Environmental Planner. B.A., Anthropology, California State University, Fresno; 13 years of environmental impact assessment experience. Contribution: Quality review.

Marissa L. Nishikawa, Professional Engineer, Caltrans National Pollutant Discharge Elimination System/Southwest Coordinator. Bachelor of Science, California State University, Fresno; 21 years of civil engineering experience. Contribution: Storm Water Quality and National Pollutant Discharge Elimination System.

Andrew Pochwatka, Professional Engineer, Caltrans National Pollutant Discharge Elimination System, Storm Water Coordinator. Bachelor of Science, Civil Engineering, California State University, Sacramento; 9 years of highway design experience and 6 years of stormwater experience. Contribution: Storm Water Data Report.

Richard Putler, Associate Environmental Planner. Master of Arts, City and Regional Planning, California State University, Fresno; 12 years of environmental planning experience. Contribution: Oversight review of the environmental documentation, the Community Impact Assessment, and the Section 4(f) properties report.

Ken J. Romero, Senior Transportation Engineer. Bachelor of Science, Civil Engineering, California State University, Fresno; 7 years of environmental technical studies experience. Contribution: Oversight review of the Noise Study Reports, Air Quality Reports, and Water Quality Reports.

Patricia Scrivner, Professional Engineer, Transportation Engineer. Bachelor of Science, Civil Engineering, California State University, Fresno; 15 years of transportation design experience. Contribution: Design oversight review.

Jane Sellers, Research Writer. Bachelor of Arts, Journalism, California State University, Fresno; more than 25 years of writing/editing experience. Contribution: Edited the environmental document during Quality Assurance/Quality Control review.

Lea Spann, Associate Environmental Planner. Bachelor of Arts, Environmental Studies, University of California, Santa Barbara; 12 years of hazardous waste/materials experience and 7 years of environmental planning experience. Contribution: Oversight review of the Initial Site Assessment.

Mary (Jeannie) Stevens, Transportation Engineer. Bachelor of Science, Civil Engineering, California State University, Fresno; 20 years of experience. Contribution: Oversight project management.

Philip Vallejo, Associate Environmental Planner. Bachelor of Arts, History, California State University, Fresno; 7 years of experience in architectural

history field. Contribution: Oversight review of the Historical Resources Evaluation Report.

Juergen Vespermann, Senior Environmental Planner. Engineering Degree, Fachhochschule Muenster, Germany; 23 years of transportation planning/environmental planning experience. Contribution: Oversight review of hazardous waste and paleontological resources reports.

Charles Walbridge, Associate Environmental Planner. Bachelor of Science, Biological Sciences, California State University, Fresno; 12 years of environmental planning experience. Contribution: Oversight review of the Natural Environment Study.

Koko Widyatmoko, Professional Engineer, Transportation Engineer. Bachelor of Science, California State University, Fresno, School of Engineering; 12 years of experience in transportation engineering. Contribution: Oversight review of the Traffic Study Report.

Sam Wong, Senior Hydraulics Engineer, MSCE. University of Arkansas, Fayetteville, Arkansas; 15 years of hydrology and hydraulics design experience. Contribution: Oversight review of the Floodplain Evaluation.

6.2 Consultant Staff

AECOM

Stephanie Coppeto, Wildlife Biologist. Master of Science, Ecology, University of California, Davis; 8 years of experience in wildlife studies, project management/coordination, and Endangered Species Act consultation. Contribution: Performed San Joaquin kit fox den and sign surveys.

Cindy Davis, Senior Regulatory Specialist. Bachelor of Science, Biological Conservation, California State University, Sacramento; 16 years of experience as a regulatory specialist and project manager on projects addressing restoration; flood control and water storage; infrastructure; residential, commercial, and government buildings; and transportation. Contribution: Reviewed the San Joaquin kit fox information.

Leo Edson, Senior Wildlife Biologist. Bachelor of Science, Biological Sciences, California State University, Chico; 22 years of experience in environmental compliance and biological studies for transportation, energy, water, and residential development projects. Contribution: Reviewed the biological resources section of the Natural Environment Study.

BonTerra Consulting

Josephine Alido, American Institute of Certified Planners, Project Manager. Master of Planning, University of Southern California; 24 years of experience in

environmental planning throughout Southern California. Contribution: Assisted in the preparation of the environmental document.

Julia R. Black, Technical Writer. Bachelor of Arts, English, California State University, Fullerton; 11 years of writing and editing experience. Contribution: Performed technical editing of the Environmental Impact Report/Environmental Impact Statement, the Natural Environment Study, the Jurisdictional Delineation Report, and the Archaeological Survey Report.

Kathleen Brady, American Institute of Certified Planners, Principal of Technical Services. Bachelor of Science, Sociology, University of California, Riverside; 32 years of environmental planning experience. Contribution: Principal-in-Charge, managed the preparation of the environmental document.

Julie A. Cho, Project Manager. Master of Business Administration, University of California, Irvine; Master of Urban and Regional Planning, University of California, Irvine; 19 years of experience in the preparation and management of environmental compliance documents. Contribution: Assisted in the preparation of the environmental document.

Brian Daniels, Ornithologist. Bachelor of Science, Zoology, California State University, Long Beach; 36 years of experience in biological resources, specializing in ornithology. Contribution: Completed Swainson's hawk surveys.

Jade Dean, Geographic Information Systems Technician. Bachelor of Arts, Geography, California State University, Long Beach; 3 years of experience in Geographic Information Systems mapping. Contribution: Prepared figures for Geographic Information Systems information used in the Environmental Impact Report/ Environmental Impact Statement, the Natural Environment Study, and the Jurisdictional Delineation.

Pamela De Vries, Botanist. Master of Science, Biology, California State University, Fullerton; 21 years of experience in biology and restoration ecology. Contribution: General plant surveys, special-status plant habitat assessment, vegetation mapping, and focused special-status plant survey.

Andrea Edwards, Botanist. Bachelor of Science, Biology and Anthropology, Trinity University, San Antonio, Texas; 11 years of experience in plant biology, biological resource evaluations, natural resource planning, and habitat restoration. Contribution: Assisted with special-status plant surveys.

Johnnie F. Garcia, Geographic Information Systems Specialist. Bachelor of Arts, Geography, University of California, Santa Barbara; 4 years of experience in Geographic Information Systems mapping. Contribution: Prepared figures and coordinated with applicable agencies for Geographic Information Systems information used in the environmental document, the Natural Environment Study, the Jurisdictional Delineation, and the Archaeological Survey Report.

Otto Gasser, Retired Professor (Cal Poly Pomona)/Biological Field Assistant. Ed.d Educational Psychology, University of California, Los Angeles; 10 years experience assisting in botanical field surveys including rare plant surveys. Contribution: General plant survey, habitat assessment, vegetation mapping, and focused special-status plant survey.

Amber Oneal Heredia, Senior Project Manager/Ecologist. Master of Science, Biology, University of California, Riverside; 14 years experience in ecology and environmental documentation. Contribution: Prepared the biological resources assessment sections of the environmental document and prepared the Natural Environment Study.

Albert Knight, Project Archaeologist; Bachelor of Arts, Anthropology, University of California, Santa Barbara; 25 years of experience in archaeological research, field work, monitoring, and report writing. Contribution: Assisted in cultural resources field surveys for the project.

Sheryl A. Kristal, Senior Word Processor (Microsoft Office Specialist). General Studies, Golden West College; 8 years of word processing experience. Contribution: Formatted the environmental document, the Natural Environment Study, the Jurisdictional Delineation, the Archaeological Survey Report.

Megan Larum, Environmental Planner. Bachelor of Science, Environmental Policy Analysis and Planning, University of California, Davis; 4 years of environmental planning experience. Contribution: Assisted in the preparation of the environmental document.

Sandra Leatherman, Botanist. Bachelor of Arts, Biology, California State University, Fullerton; 21 years of experience in plant biology, mitigation monitoring, and the performance of biological surveys, restoration studies, and habitat evaluations. Contribution: Assisted with special-status plant surveys.

Patrick Maxon, Registered Professional Archaeologist, Director of Cultural Resources. Master of Arts, Anthropology, California State University, Fullerton; 18 years of cultural resources management experience. Contribution: Preparation of the Archaeological Survey Report, Historic Property Survey Report, and the Segments 2 and 3 Memoranda.

Gary A. Medeiros, Associate Principal, Regulatory Services. Bachelor of Arts, Social Ecology, University of California, Irvine; 31 years of experience in natural resources policy planning, regulatory permitting, and permit compliance. Contribution: Conducted the Jurisdictional Delineation.

Lindsay Messett, Wildlife Biologist. Bachelor of Science, Ecology and Systematic Biology (Concentration: Wildlife Biology), California State Polytechnic University, San Luis Obispo; 12 years of experience in wildlife biology.

Contribution: Conducted surveys for burrowing owl burrow and potential kit fox dens along Stockdale Highway and State Route 43.

Jason Mintzer, Wildlife Biologist. Master of Arts, Education, Vanguard University, Costa Mesa, California; California Biology/Life Science Teaching Credential, California Commission on Teacher Credentialing; 9 years of experience in herpetology. Contribution: Assisted with the jurisdictional delineation.

Kimberly Oldehoeft, Wildlife Biologist. Master of Science, Biology: Behavior and Conservation, California State University, Long Beach; 11 years of experience in wildlife biology and conservation biology. Contribution: Conducted burrowing owl surveys and assisted with special-status plant surveys.

Allison Rudalevige, Ecologist and Regulatory Technician. Master of Science, Biology, University of California, Riverside; 8 years of experience in biological and jurisdictional resources. Contribution: Completed burrowing owl surveys; assisted in the preparation of biological resources assessment sections of the environmental document; completed the jurisdictional delineation survey and prepared the Jurisdictional Delineation Report; and assisted in the preparation of the Natural Environment Study.

Diaz Yourman & Associates

Matt Dennerline, Geotechnical Project Engineer. Bachelor of Science, Carnegie Mellon University; 9 years of experience in geotechnical engineering. Contribution: Prepared Preliminary Geotechnical Design Report.

ERM

John Cavanaugh, Professional Geologist, Partner. Bachelor of Science, Geological Sciences, California State University, Hayward; 15 years of experience in the environmental consulting industry for various private and public sectors, particularly transportation, oil and gas, and semiconductor. Contribution: Reviewed the Initial Site Assessment.

John Moe, Professional Engineer, Environmental Engineer. Master of Science, University of San Francisco; over 30 years of experience in the field of environmental engineering and science. Contribution: Reviewed the Initial Site Assessment.

Anna Morgan, Environmental Engineer. Master of Science, University of California, Irvine; 13 years of experience in the field of environmental science and engineering. Contribution: Conducted the Initial Site Assessment.

HNTB

Stacey Benningfield, Associate Vice President. 30 years of experience in Environmental and Transportation Planning. Contribution: Visual Impact Assessment analysis.

Charl Everson, American Institute of Certified Planners, Planner. Master of Arts, Urban and Regional Planning, Portland State University; 10 years of experience in transportation, environmental, and land use planning. Contribution: Visual Impact Assessment analysis.

Brad Peel, AICP, Chief Planner. Master of Science, Community and Regional Planning, University of Texas, Austin; 21 years of experience in environmental and transportation planning. Contribution: Visual Impact Analysis.

JRP Historical, LLC

Polly Allen, Architectural Historian. Master of Science, Historic Preservation, Columbia University; 3 years experience in completing Section 106 reports. Contribution: Conducted the field survey and research, and prepared building descriptions and evaluations for the Historic Resources Evaluation Report.

Joseph Freeman, Historian. Master of Arts, History, California State University, Riverside; 4 years of experience in completing Section 106 reports. Contribution: Conducted the field survey and research, prepared building descriptions and evaluations, and contributed to the historic context for the Historic Resources Evaluation Report.

Rand F. Herbert, Principal/Partner. Master of Arts in Teaching, History, University of California, Davis; 34 years of cultural resource management experience. Contribution: Consulted on the development of the architectural Area of Potential Effects and provided overall guidance and edited the Historic Resources Evaluation Report.

Scott Miltenberger, Historian. Doctor of Philosophy, History, University of California, Davis; 5 years of experience in completing Section 106 reports. Contribution: Contributed to the historic context for the Historic Resources Evaluation Report.

Heather Norby, Historian. Master of Arts, History, University of California, Berkeley; 3 years experience in completing Section 106 reports. Contribution: Conducted the field survey and research, prepared building descriptions and evaluations, and contributed to the historic context for the Historic Resources Evaluation Report.

Toni Webb, Architectural Historian. Bachelor of Fine Arts, Historic Preservation, Savannah College of Art and Design; 12 years of experience in historic preservation/public history. Contribution: Project Manager/Lead Historian for the Historic Resources Evaluation Report; directed research, field surveys, data management and graphics production; prepared the contextual statement and evaluations; and conducted fieldwork, research and prepared building descriptions and evaluations.

Overland, Pacific & Cutler, Inc.

Mia Garcia, Senior Analyst. Bachelor of Science, Computer Science; University of Redlands; 3 years experience in technical writing and 15 years of Information Technology and database administration. Contribution: Edited the Relocation Impact Report.

Hutch Goodman, Project Manager; 13 years of experience drafting National Environmental Policy Act/California Environmental Quality Act documents. Contribution: Quality assurance/quality control of Relocation Impact Report.

Alfredo Jacquez, Senior Consultant. 8 years experience in right-of-way acquisition and relocation for residential and commercial projects; cost estimation and design coordination. Contribution: Co-author of the Relocation Impact Report.

Chris La Bonte, Project Manager. Bachelor of Arts, Ancient Languages; Wheaton College, Wheaton, Illinois; 6 years of experience in right-of-way acquisition, cost estimation and design coordination. Contribution: Co-author of the Relocation Impact Report.

Mark La Bonte, Principal/Vice President, SR/WA. Bachelor of Arts, Anthropology; University of California, Berkeley; 24 years of experience in right-of-way acquisition and relocation for residential and commercial projects. Contribution: Quality assurance/quality control of Relocation Impact Report.

Elise McCollister, Senior Project Analyst. Bachelor of Arts, English; University of California, Riverside; 5 years experience in environmental planning and 1 year experience in right-of-way acquisition and relocation. Contribution: Primary author of Relocation Impact Report.

Paleo Environmental Associates, Inc.

E. Bruce Lander, Principal Investigator, Senior Vertebrate Paleontologist. Doctor of Philosophy, Paleontology, University of California, Berkeley; 42 years of experience completing paleontological research and reviews. Contribution: Completed the Paleontological Evaluation Report.

Parsons

Nasrin Behmanesh, PhD, Principal Air Quality and Climate Change Specialist. Doctor of Philosophy in Chemical Engineering, University of California, Los Angeles; 21 years of experience in air quality and health risk assessment. Contribution: Lead specialist; conducted analysis and prepared Air Quality Study Report and the air quality and climate change sections of the environmental document.

Greg J. Berg, Senior Scientist, Noise and Vibration. Bachelor of Arts, Acoustics, Columbia College, Chicago; 7 years of experience in noise control and mitigation. Contribution: Noise measurements, noise barrier design, and writing and reviewing sections of the Noise Study Report.

Richard Bottcher, Professional Engineer, Regional Storm Water Manager. Masters of Engineering, Cornell University, New York; 28 years of storm water management experience. Contribution: Supervised preparation of the Preliminary Drainage Report; principal author of the Floodplain Evaluation; reviewer of the Water Quality Assessment Report and Location Hydraulic Study.

Randy Carbone, Graphic Specialist. Video Animation Studio, Boston Architectural Center; 30 years of engineering, constructability, and visualization experience. Contribution: Prepared photo-simulations for the Visual Impact Assessment report.

David D. Clark, Environmental Manager. Master of Arts, Biology, California State University, Fullerton; 30 years of environmental planning experience, including California Environmental Quality Act/National Environmental Policy Act document preparation, agency liaison; permit applications; State Historic Preservation Officer coordination. Contribution: Project environmental management, reviewed and assisted with the preparation of the environmental document and corresponding technical studies.

Dan Conaty, Principal Environmental Planner. Master of Arts, Geography, San Diego State University; 30 years of environmental planning, impact assessment and permit compliance experience. Contribution: Technical editor of the Floodplain Evaluation Report and Location Hydraulic Study; and preparer of sections of the Community Impact Assessment and environmental document.

Carrie Chasteen, Senior Architectural Historian. Master of Science, Historic Preservation, School of the Art Institute of Chicago; 10 years of experience in cultural resources management. Contribution: Peer reviewer of the Historical Resources Evaluation Report.

Gene Ching, Professional Engineer, Senior Project Engineer. Bachelor of Science, Civil Engineering, University of California, Irvine; 21 years of experience. Contribution: Author of the Noise Abatement Decision Report.

Eric Coumou, Senior Graphic Information Systems Analyst. Master of Science, Geography, San Jose State University; 20 years of experience in Graphic Information Systems Analysis. Contribution: Analysis of graphic information systems data; created maps and generated the geodatabase for inclusion in the city's Graphic Information Systems website.

Heather Ellison, Senior Environmental Planner. Bachelor of Science, Environmental and Natural Resources, University of Nevada, Reno; 10 years of environmental planning experience. Contribution: Assisted with the review and preparation of the environmental document and corresponding technical studies.

Chris Espiritu, Planner. Master of Arts, Transportation Management, San Jose State University; 5 years of planning experience. Contribution: Co-author of Land Use and Growth sections of the Community Impact Assessment Report, and data verification.

Miguel A. Galvan, Professional Engineer, Principal Drainage Project Engineer. Bachelor of Science, Civil Engineering, San Diego State University; 16 years of stormwater management experience. Contribution: Conducted quality assurance/quality control for the Preliminary Drainage Report.

Areg Gharabegian, Professional Engineer, Lead Noise Engineer. Master of Science, in Energy, Resources, and Environment, George Washington University; 33 years of experience in noise and vibration impact analysis and designing mitigation/abatement measures for transportation, construction, and industrial projects. Contribution: Technical review of the traffic noise analysis and barrier design for the Noise Technical Study and Noise Abatement Decision Report.

Christopher Hinds, Senior Environmental Planner, Certified Professional in Erosion and Sediment Control, Certified Professional in Storm Water Quality, Qualified Storm Water Pollution Prevention Plan Developer; Bachelor of Science, Soil Science with a Concentration in Environmental Technology, California Polytechnic State University, San Luis Obispo; 8 years of experience in water engineering and water filtration techniques and water quality-related document preparation for Caltrans-related projects. Contribution: Prepared the Storm Water Data Report and sections of the Water Quality Assessment Report.

Bryan Jarjoura, Noise Control Specialist. Master of Science, Mechanical and Aerospace Engineering, University of Southern California; 4 years of experience in noise control analysis and mitigation. Contribution: Traffic noise analysis, sound barrier design, and quality assurance/quality control of Noise Study Report.

Greg King, Environmental Manager. Master of Arts, Public Historical Studies, University of California, Santa Barbara; 28 years of community impact assessment experience. Contribution: Directed, coordinated and co-authored the Community Impact Assessment Report; provided project coordination related to National Historic Preservation Act (Section 106) and Section 4(f) issues.

Anne Kochaon, Qualified Environmental Professional, Environmental Senior Project Manager. Master of Science, Environmental Engineering, Asian Institute of Technology, Bangkok, Thailand; 28 years of experience in environmental planning and impact assessment. Contribution: Peer review and quality assurance/quality control of the environmental document, the Relocation Impact Report, the Floodplain Evaluation, the Visual Impact Assessment, the

Archaeological Study Report, the Section 4(f) Analysis, the Noise Study Report, the Noise Abatement Decision Report, the Community Impact Assessment, and the Water Quality Assessment Report.

Liz Koos, Senior Technical Editor. 24 years of editing experience. Contribution: Technical editor for Visual Impact Assessment, Water Quality Assessment Report, Hydraulic Location Report, Floodplain Evaluation Report, and Community Impact Assessment Report.

Jeffrey Lormand, Registered Landscape Architect (CA Number 3576); Masters in Landscape Architecture, University of Arizona; 10 years of visual impact assessment experience. Contribution: Review of the Visual Impact Assessment report.

Qiaohong Lu, Senior Drainage Engineer. Master of Science, Civil Engineering, Clemson University, South Carolina; 9 years of experience in drainage engineering. Contribution: Data collection and analysis for the Floodplain Evaluation Report; data collection and hydraulic analysis for the Location Hydraulic Study.

Brynna McNulty, Principal Planner. Bachelor of Arts, Environmental Studies, Bachelor of Arts, Cultural Anthropology, University of California at Santa Cruz; 10 years of experience in environmental planning and impact assessment. Contribution: Contributing author to the Community Impact Assessment.

Martin Meyer, Senior Noise Specialist, Institute of Noise Control Engineering. Master of Science, Physics, University of New Orleans; 14 years of experience in noise analysis. Contribution: Traffic Noise Model analysis; co-author of sections of the Noise Study Report.

Glen Parker, Professional Engineer, Project Engineer. Bachelor of Science, Civil Engineering, Gonzaga University, Spokane, Washington; 11 years of experience in transportation engineering. Contribution: Peer review and quality assurance/quality control of the Project Report and associated engineering studies in support of the environmental document.

Gary Petersen, Principal Project Manager. Master of Planning, University of Southern California; 38 years of environmental planning experience. Contribution: Peer review and quality assurance/quality control of the environmental document; the Visual Impact Assessment; the Community Impact Assessment; the Section 4(f) Evaluation; and the Air Quality Study Report.

Leslie Provenzano, Environmental Planner. Master of Planning, University of Southern California; 5 years of visual and community impact assessment experience. Contribution: Author of the visual/aesthetic resources section and the Visual Impact Assessment.

Rabindra Puttagunta, Project Report Project Traffic Engineer. Master of Science, Transportation Engineering, University of Saskatchewan, Saskatoon, Canada; 23 years of transportation and traffic engineering experience. Contribution: Centennial Traffic Operations.

Jason Ogden, Noise and Vibration Specialist. Bachelor of Arts, Acoustics, Columbia College, Chicago; 5 years of experience in noise control analysis and mitigation. Contribution: Traffic noise analysis and barrier design; co-author of the Noise Study Report; prepared the Noise section of the environmental document.

Gilberto Ruiz, Senior Project Manager. Master of Arts, Urban and Regional Planning, University of California, Los Angeles; 20 years of experience in environmental planning and impact assessment. Contribution: Peer review and quality assurance/quality control of the Community Impact Assessment; Project Manager for the environmental document.

Robert Scales, Professional Engineer, Senior Program Director (Traffic). Master of Engineering, Transportation, University of South Carolina, Columbia; 40 years of traffic engineering and transportation planning experience. Contribution: Author of the Traffic Study Report.

Angela Schnapp, Senior Environmental Planner. Master of Science, Environmental Engineering, University of Illinois Urbana-Champaign; 12 years of experience in environmental planning and impact assessment. Contribution: Author of the Section 4(f) Evaluation and the Land Use Parks and Recreation section.

Veronica Seyde, Project Scientist. Certified Professional in Erosion and Sediment Control, Certified Professional in Storm Water Quality, Qualified Storm Water Pollution Prevention Plan Developer. Master of Science, Environmental Studies, California State University, Fullerton; more than 25 years of experience in water quality sciences. Contribution: Preparer of sections of the Water Quality Assessment Report.

Daniel Wagner, Professional Engineer, Senior Engineer. Bachelor of Science, Civil Engineering, San Diego State University; 9 years of roadway design, drainage design, and project management experience. Contribution: Engineering support, Section 4(f), and Water Quality.

Lincoln Walker, Planner. Master of Arts, Regional and Urban Planning, University of California, Irvine; 7 years of environmental planning experience. Contribution: Environmental justice analysis and census data verification for the Community Impact Assessment.

Michael Weber, Senior Noise and Air Quality Specialist. Bachelor of Science, Physiology; University of California, Davis; 21 years of experience in noise control analysis and mitigation. Contribution: Traffic noise analysis, sound barrier design, and report writing.

Statistical Research, Inc.

Kenneth M. Becker, Principal Investigator, Prehistoric Archaeology, Registered Professional Archaeologist. Master of Arts, Anthropology, California State University, Los Angeles; more than 23 years of archaeological fieldwork, analysis, and project management experience. Contribution: Extended Phase I geoarchaeological report management and editing.

Jeffery A. Homburg, Principal Investigator, Prehistoric Archaeology, Registered Professional Archaeologist. Doctor of Philosophy, Soil Science, Iowa State University of Science and Technology; 24 years of experience with soil science and geomorphic studies. Contribution: Extended Phase I geoarchaeological report editing.

Jason D. Windingstad, Co-Principal Investigator, Prehistoric Archaeology. Master of Science, Soil Science (emphasis in Pedology and its applications in Geoarchaeology), University of Tennessee, Knoxville; 7 years of experience as geoarchaeological analyst on cultural resource management projects. Contribution: Extended Phase I geoarchaeological report writing.

Chapter 7 Distribution List

Notices of Availability of this Environmental Impact Report/Environmental Impact Statement have been sent to all property owners within 300 feet of the build alternatives (Alternatives A through C). In addition, notices have been sent to interested parties that have attended public meetings on the project or requested to be added to a notification list for the project.

Copies of the document have been provided on disks (DVDs) to the following agencies, elected officials, and organizations.

Federal Agencies

Jan Knight, Deputy Field Supervisor
USFWS
Sacramento Fish and Wildlife Office
2800 Cottage Way W-2605
Sacramento, CA 95825

Christine S. Lehnertz, Regional Director
National Park Service, Pacific West Region
333 Bush St., Suite 500
San Francisco, CA 94104-2828

Colonel William J. Leady, District Engineer
U.S. Army Corps of Engineers
1325 J Street
Sacramento, CA 95814-2922

U.S. Department of Agriculture
1400 Independence Ave., SW
Washington, D.C. 20250

Tom Plenys, Environmental Review Office
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105-3901

Department of the Interior
1849 C Street, N.W.
Washington, D.C. 20240

State Agencies

Dr. Jeffrey R. Single, Regional Manager
California Dept. of Fish & Wildlife
1234 East Shaw Avenue
Fresno, CA 93710

California State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

Major General Anthony L. Jackson, USMC (Ret.), Director
California Department of Parks and Recreation
1416 9th Street
Sacramento, CA 95814

Central Valley Flood Protection Board
3310 El Camino Avenue, Room 151
Sacramento, CA 95821

California Emergency Management Agency
Mark Johnson, Planning Branch Chief
3650 Schriever Ave.
Mather, CA 95655-4203

James Ramos, Chairman
Native American Heritage Commission
915 Capitol Mall, Rm. 288
Sacramento, CA 95814

Director
California Department of Conservation
801 "K" Street
Sacramento, CA 95814

California Natural Resources Agency
John Laird, Secretary
1416 Ninth Street, Suite 1311
Sacramento, CA 95814

Department of Water Resources
1416 9th Street
Sacramento, CA 95814

Cy Oggins, Division Chief Environmental Planning
California State Lands Commission
100 Howe Avenue, Suite 100 South
Sacramento, CA 95825

California Air Resources Board
1001 "I" Street
P.O. Box 2815
Sacramento, CA 95812

Department of Transportation
Division of Environmental Analysis
Attn: Gregoria Ponce
P.O. Box 942874, M.S. 27
Sacramento, CA 94274-0001

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Bryce C. Rathbun Branch Library
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Bakersfield, CA 93308

Baker Branch Library
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Bakersfield, CA 93305

Eleanor Wilson Branch Library
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Bakersfield, CA 93304

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Centennial Corridor Project

City of Bakersfield and Kern County, CA
District 6 - KER - 58 - PM T31.7 to PM R55.6
District 6 - KER - 99 - PM 21.2 to PM 26.2

Project ID # 06-0000-0484

SCH #2008091102

Draft Environmental Impact Report/ Environmental Impact Statement and Section 4(f) Evaluation

Volume 2 of 2

Prepared by the
State of California Department of Transportation

The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by the California Department of Transportation under its assumption of responsibility pursuant to 23 U.S. Code 327.

May 2014

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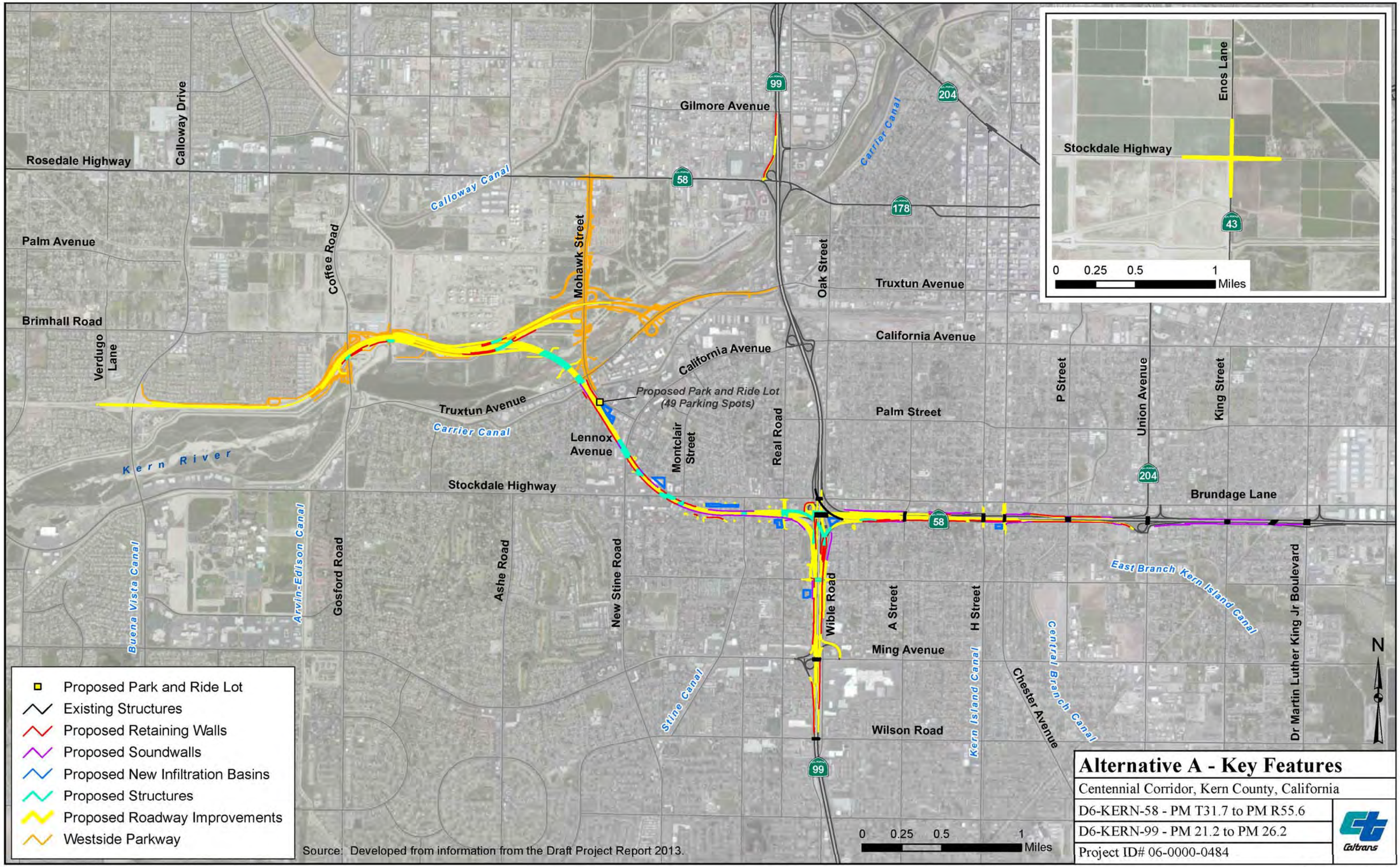


Alternative A - Key Features

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 2-4a

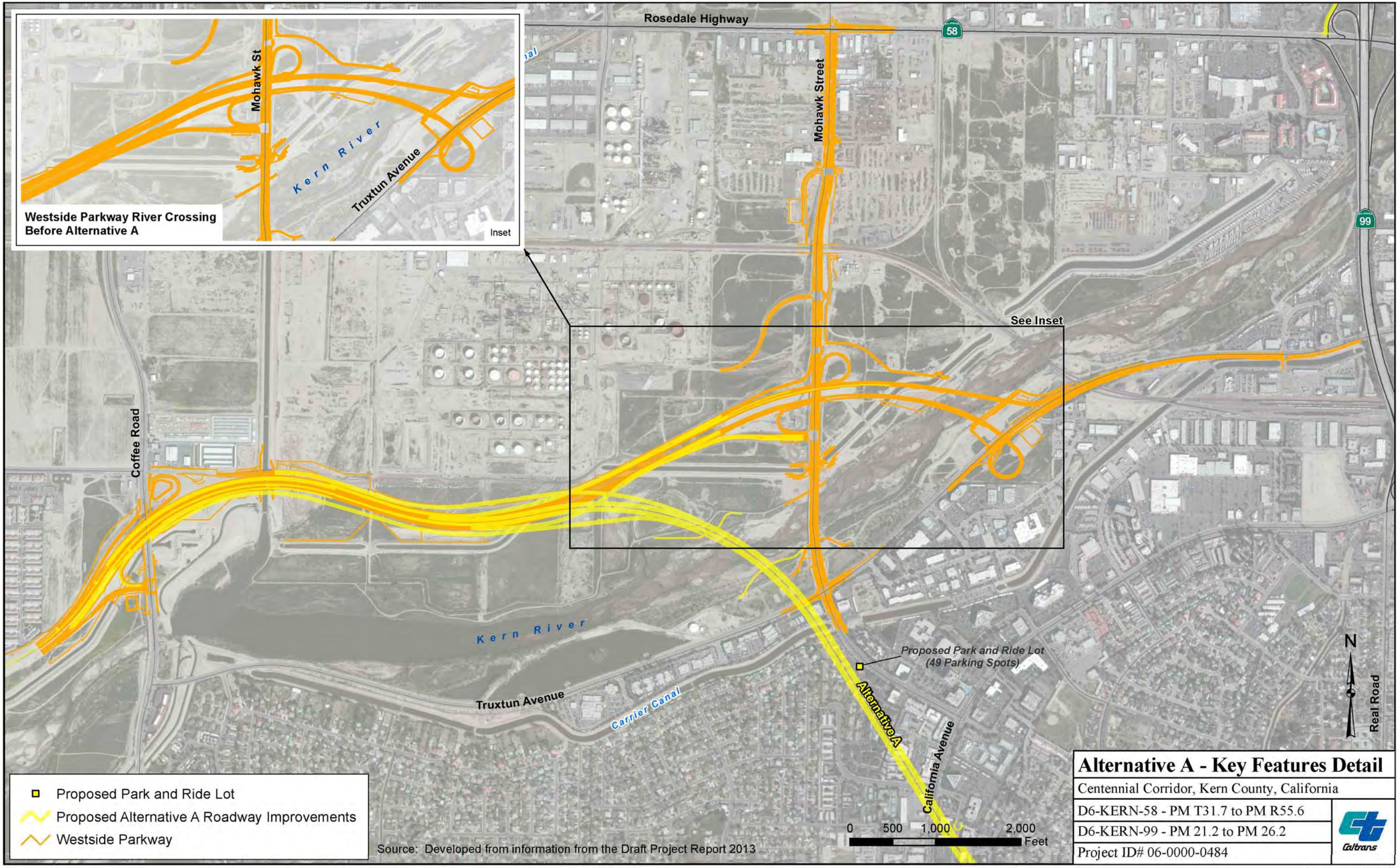
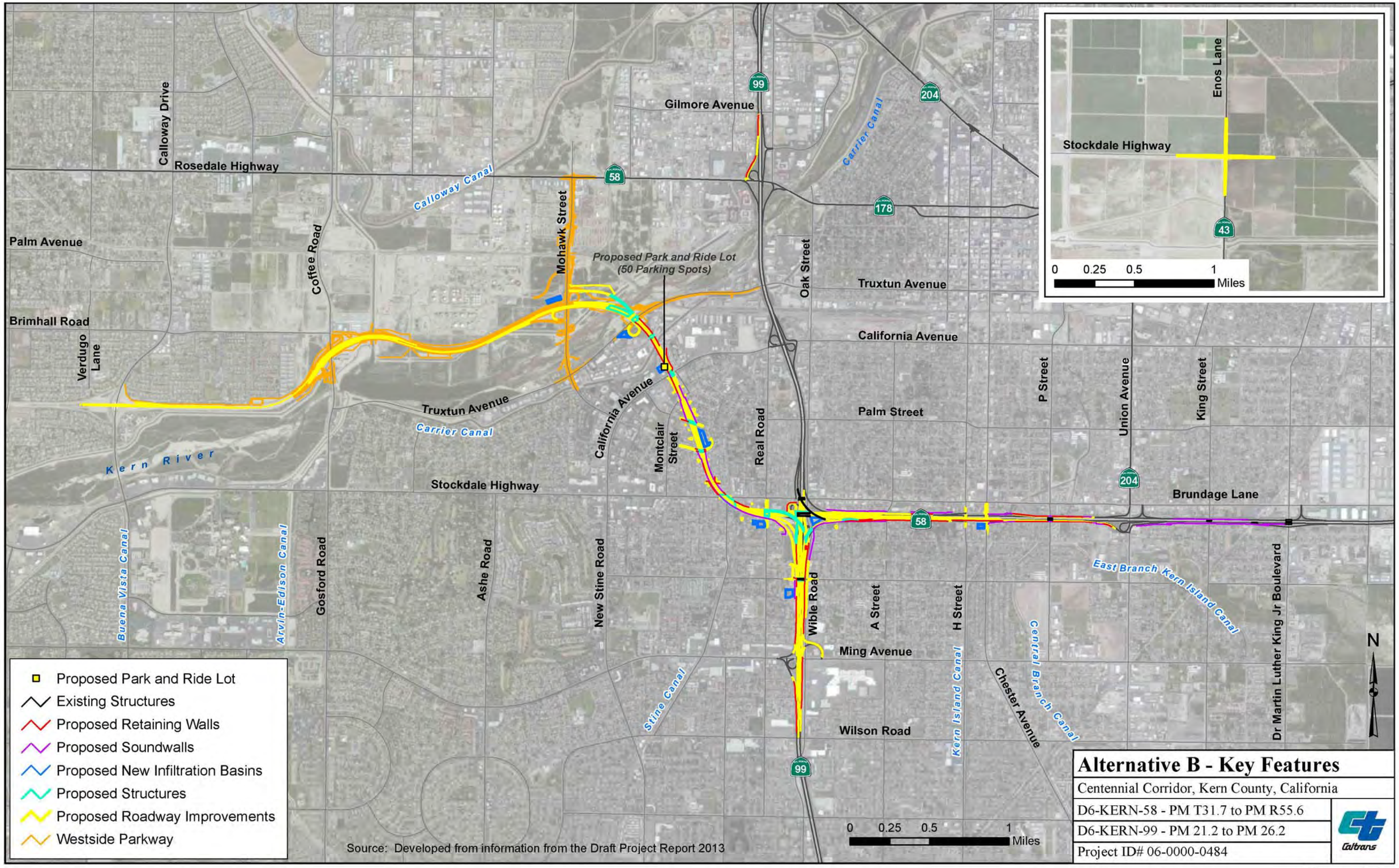

Rosedale Highway
58
99
Mohawk Street
See Inset
Mohawk St
Kern River
Truxtun Avenue
Westside Parkway River Crossing
Before Alternative A
Inset
Coffee Road
Kern River
Truxtun Avenue
Carrier Canal
Proposed Park and Ride Lot
(49 Parking Spots)
Alternative A
California Avenue
Real Road
N
Proposed Park and Ride Lot
Proposed Alternative A Roadway Improvements
Westside Parkway
0 500 1,000 2,000
Feet
Source: Developed from information from the Draft Project Report 2013
Alternative A - Key Features Detail
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 2-4b



Alternative B - Key Features

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 2-5a

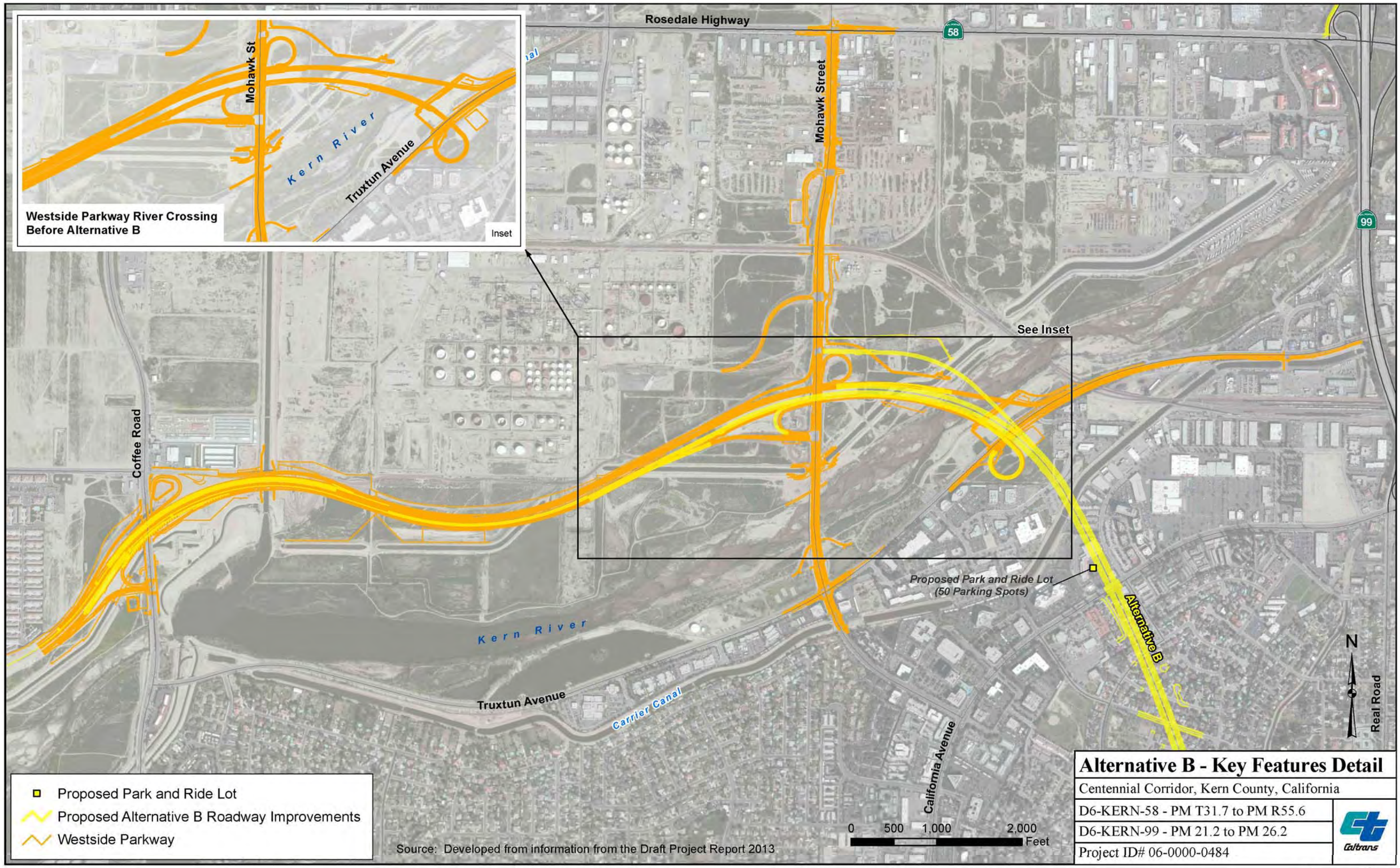
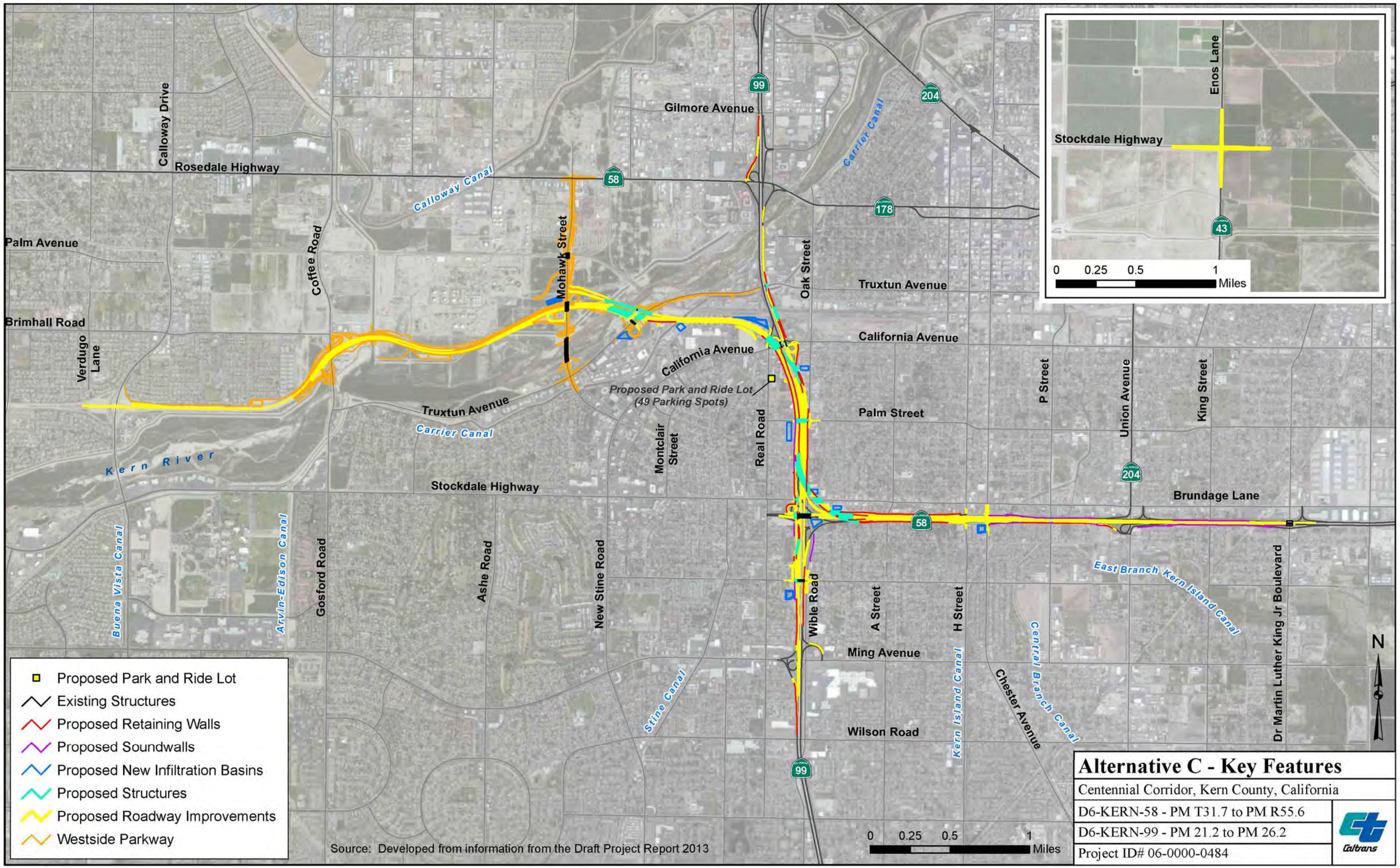

Rosedale Highway
58
99
Mohawk Street
Mohawk St
Kern River
Truxtun Avenue
Westside Parkway River Crossing
Before Alternative B
Inset
See Inset
Coffee Road
Proposed Park and Ride Lot
(50 Parking Spots)
Alternative B
Kern River
Truxtun Avenue
Carrier Canal
California Avenue
Real Road
N
Proposed Park and Ride Lot
Proposed Alternative B Roadway Improvements
Westside Parkway
0 500 1,000 2,000
Feet
Source: Developed from information from the Draft Project Report 2013
Alternative B - Key Features Detail
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 2-5b



Alternative C - Key Features

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 2-6a

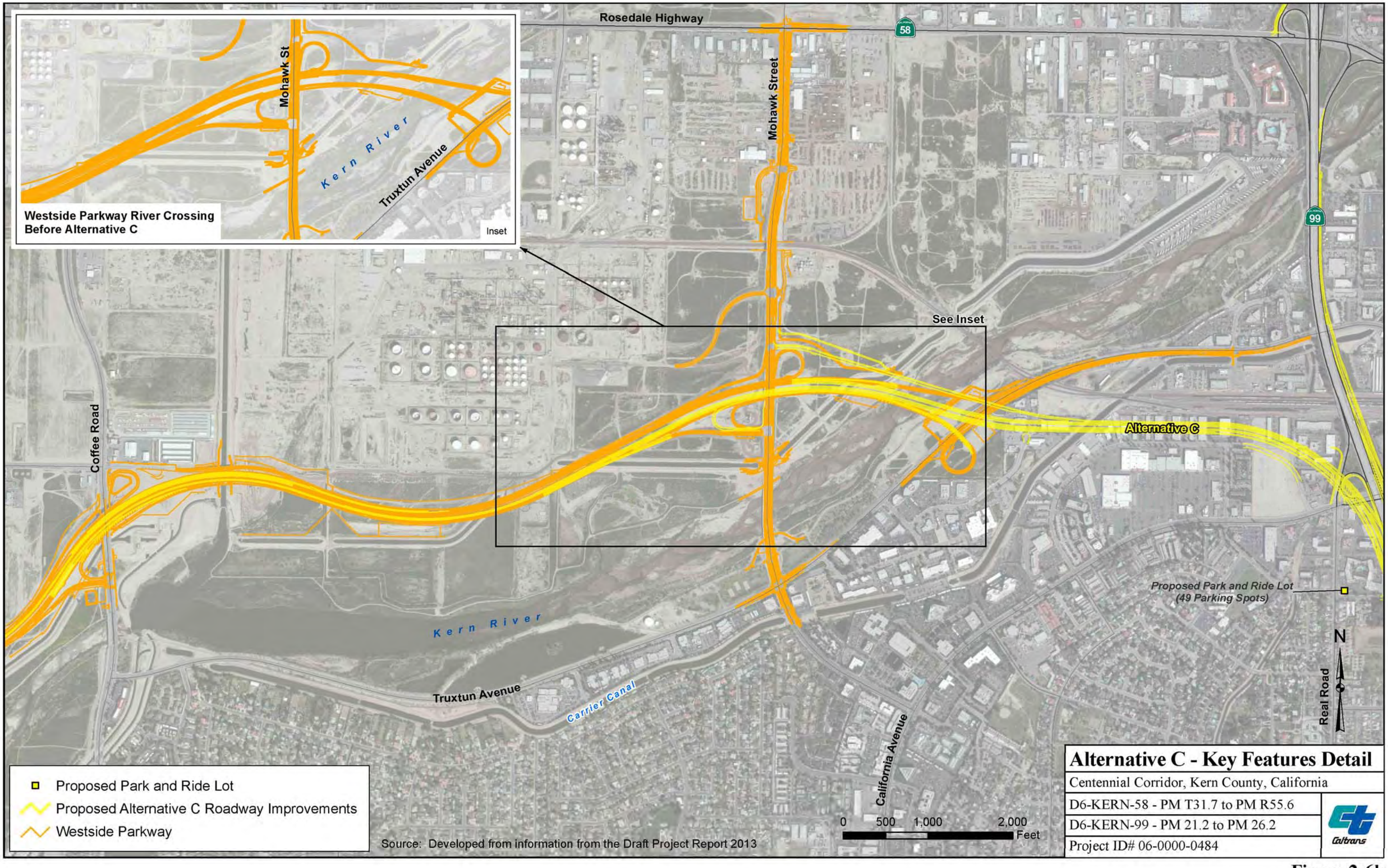
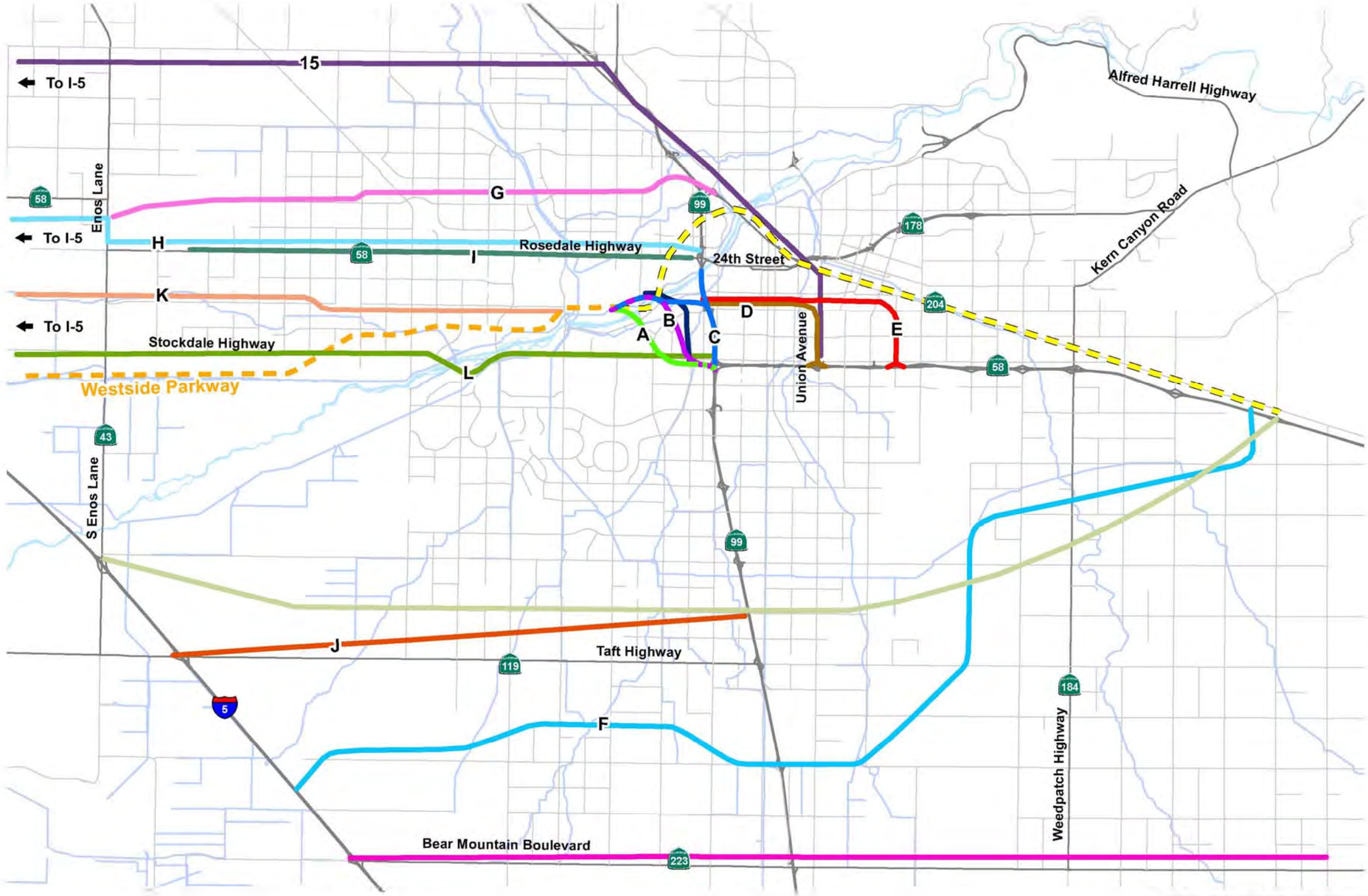

Rosedale Highway
58
Mohawk Street
99
Mohawk St
Kern River
Truxtun Avenue
Westside Parkway River Crossing
Before Alternative C
Inset
See Inset
Alternative C
Coffee Road
Proposed Park and Ride Lot
(49 Parking Spots)
Kern River
Truxtun Avenue
Carrier Canal
California Avenue
Real Road
N
Proposed Park and Ride Lot
Proposed Alternative C Roadway Improvements
Westside Parkway
0 500 1,000 2,000
Feet
Source: Developed from information from the Draft Project Report 2013
Alternative C - Key Features Detail
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 2-6b



Alternatives

- Alternative A
- Alternative B
- Alternative C
- Shared by Alternatives A/B
- Shared by Alternatives B/C
- Alternative D
- Alternative E
- Alternative F
- Alternative G
- Alternative H
- Alternative I
- Alternative J
- Alternative K
- Alternative L
- Alternative 15
- Westside Parkway
- Public Alternative 1
- Public Alternative 2
- Public Alternative 3
- Public Alternative 4

Source: Information from Caltrans 2008

Not To Scale

Alternatives Considered but Eliminated from Further Discussion

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 2-7

Rosedale Highway
Calloway Drive
Coffee Road
Friant-Kern Canal
Mohawk Street
Gilmore Avenue
Cross Valley Canal
24th Street
Kern River
Truxtun Avenue
Brimhall Road
Arvin Edison Canal
Oak Street
California Avenue
Chester Avenue
Carrier Canal
Truxtun Avenue
Cross Valley Canal
Kern River
Kern River Canal
Stockdale Highway
Old River Road
Brundage Lane
Kern Island Canal
East Branch Kern Island Canal
Cottonwood Road
New Stine Road
Wible Road
Ming Avenue
Union Avenue
H Street
Wilson Road
99
58
178
204

Land Use Designation

- Agricultural
- Commercial
- Public
- Industrial
- Natural Resources
- Other
- Residential
- Vacant Land

Segment 1

- Alternative A
- Alternative B
- Alternative C
- Shared by Alternatives A/B
- Shared by Alternatives B/C
- Shared by Alternatives A/B/C

More Information

- Construction Occurs Outside Existing Roadway Right-of-Way

3,000 1,500 0 3,000 Feet

Source: Information from *Community Impact Assessment* 2013

N

Existing Land Use

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-1

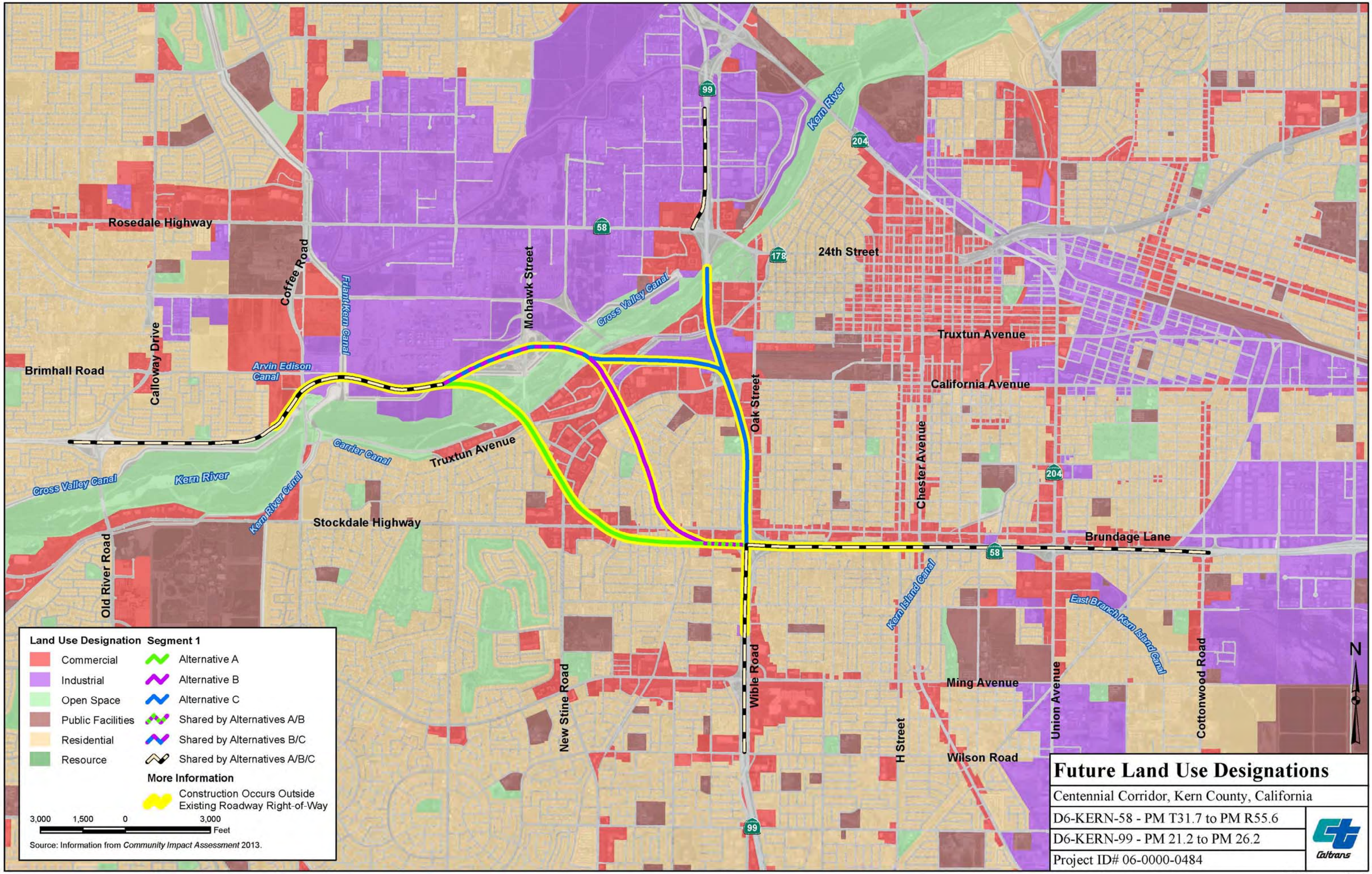

Rosedale Highway
Coffee Road
Calloway Drive
Brimhall Road
Arvin Edison Canal
Friant-Kern Canal
Mohawk Street
Cross Valley Canal
99
58
178
Kern River
204
24th Street
Truxtun Avenue
California Avenue
Oak Street
Chester Avenue
Carrier Canal
Truxtun Avenue
Cross Valley Canal
Kern River
Kern River Canal
Stockdale Highway
Old River Road
Brundage Lane
Kern Island Canal
East Branch Kern Island Canal
Wible Road
New Stine Road
H Street
Ming Avenue
Union Avenue
Cottonwood Road
Wilson Road
N
Land Use Designation Segment 1
Commercial
Industrial
Open Space
Public Facilities
Residential
Resource
Alternative A
Alternative B
Alternative C
Shared by Alternatives A/B
Shared by Alternatives B/C
Shared by Alternatives A/B/C
More Information
Construction Occurs Outside Existing Roadway Right-of-Way
3,000 1,500 0 3,000
Feet
Source: Information from Community Impact Assessment 2013.
Future Land Use Designations
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-2

Rosedale Highway
Calloway Drive
Coffee Road
Friant-Kern Canal
Mohawk Street
Gilmore Avenue
Kern River
24th Street
Beach Park
Cross Valley Canal
Yokuts Park
Jastro Park
Truxtun Avenue
Brimhall Road
Arvin Edison Canal
Kern River Parkway
Alternative B
Oak Street
Chester Avenue
California Avenue
Saunders Park
Carrier Canal
Centennial Park
Alternative C
Stockdale Highway
Alternative A
Brundage Lane
Old River Road
Kern Island Canal
East Branch Kern-Island Canal
Belle Terrace Park
Wayside Park
Ming Avenue
New Stine Road
Wible Road
H Street
Union Avenue
Cottonwood Road
Wilson Road
99
58
204
178

Parkland
Segment 1
Alternative A
Alternative B
Alternative C
Shared by Alternatives A/B
Shared by Alternatives B/C
Shared by Alternatives A/B/C
Other Areas
Study Area
Westside Parkway
3,500 1,750 0 3,500 Feet
Source: Information from *Community Impact Assessment* 2013; Aerial Flown 2006

N

Parks and Recreation Areas

Centennial Corridor, Kern County, California

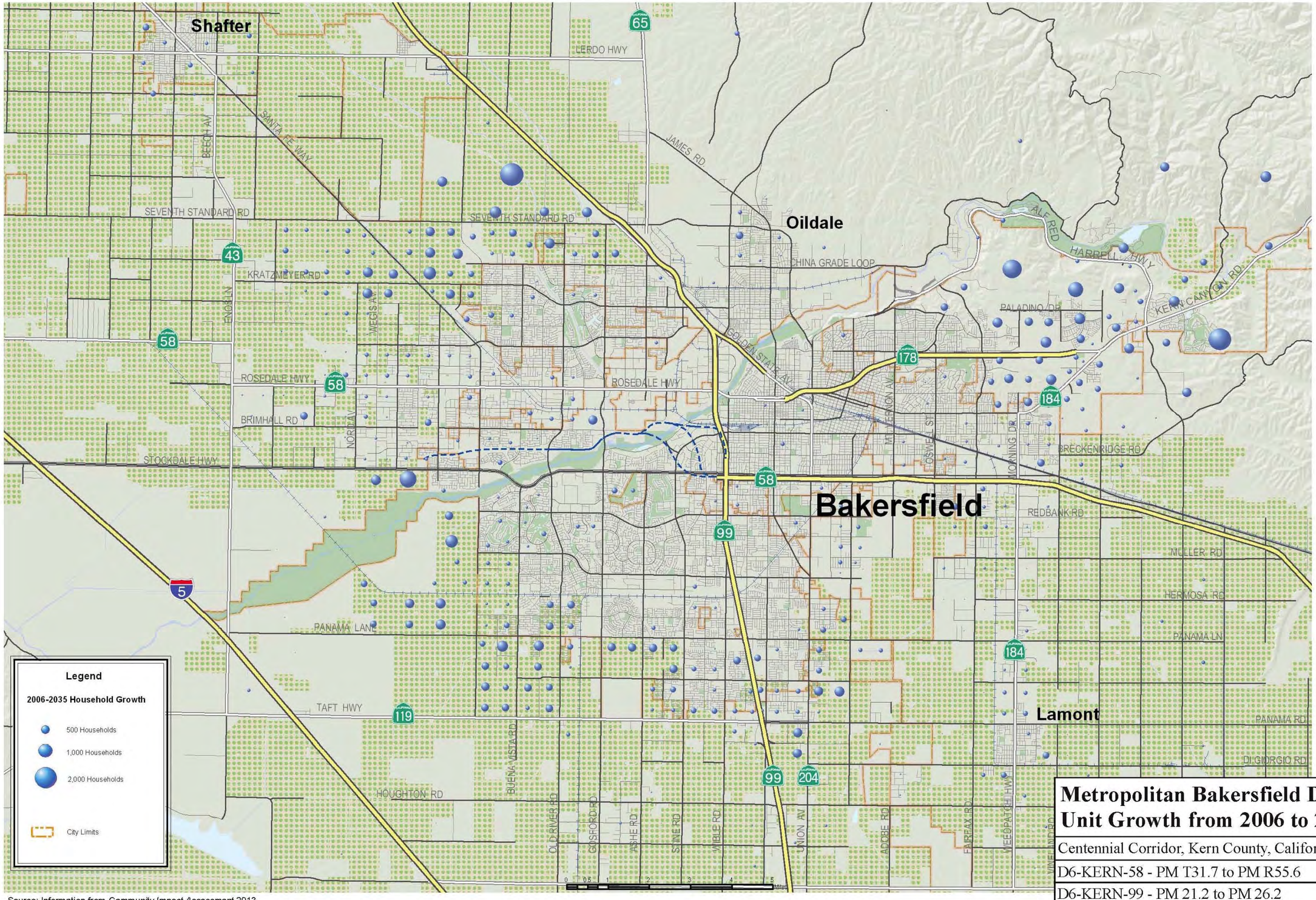
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-3



Legend

2006-2035 Household Growth

- 500 Households
- 1,000 Households
- 2,000 Households
- City Limits

0 0.5 1 2 3 4 5 Miles

Source: Information from *Community Impact Assessment* 2013

Metropolitan Bakersfield Dwelling Unit Growth from 2006 to 2035

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-7

Gilmore Avenue
Kern River
Rosedale Highway
Coffee Road
Fruitvale Canal
Mohawk Street
Cross Valley Canal
24th Street
Riviera-Westchester
Downtown Bakersfield
East Bakersfield
Truxtun Avenue
California Avenue
Brimhall Road
Calloway Drive
Arvin Edison Canal
Oak Street
Carrier Canal
Truxtun Avenue
Westpark
Oleander Sunset
Chester Avenue
Cross Valley Canal
Kern River
Kern River Canal
Quailwood-Park Stockdale
Stockdale Highway
Brundage Lane
Old River Road
Kern Island Canal
East Branch Kern Island Canal
Southeast Bakersfield
Ming Avenue
Wible Road
H Street
Union Avenue
Cottonwood Road
Wilson Road
New Stine Road
Southwest Bakersfield
99
58
178
204
N

Neighborhood/Community Boundary

Segment 1

- Alternative A
- Alternative B
- Alternative C
- Shared by Alternatives A/B
- Shared by Alternatives B/C
- Shared by Alternatives A/B/C

More Information

- Construction Occurs Outside Existing Roadway Right-of-Way

3,000 1,500 0 3,000 Feet

Source: Aerial Flown 2011; Information from *Community Impact Assessment* 2013

Neighborhoods/Communities

Centennial Corridor, Kern County, California

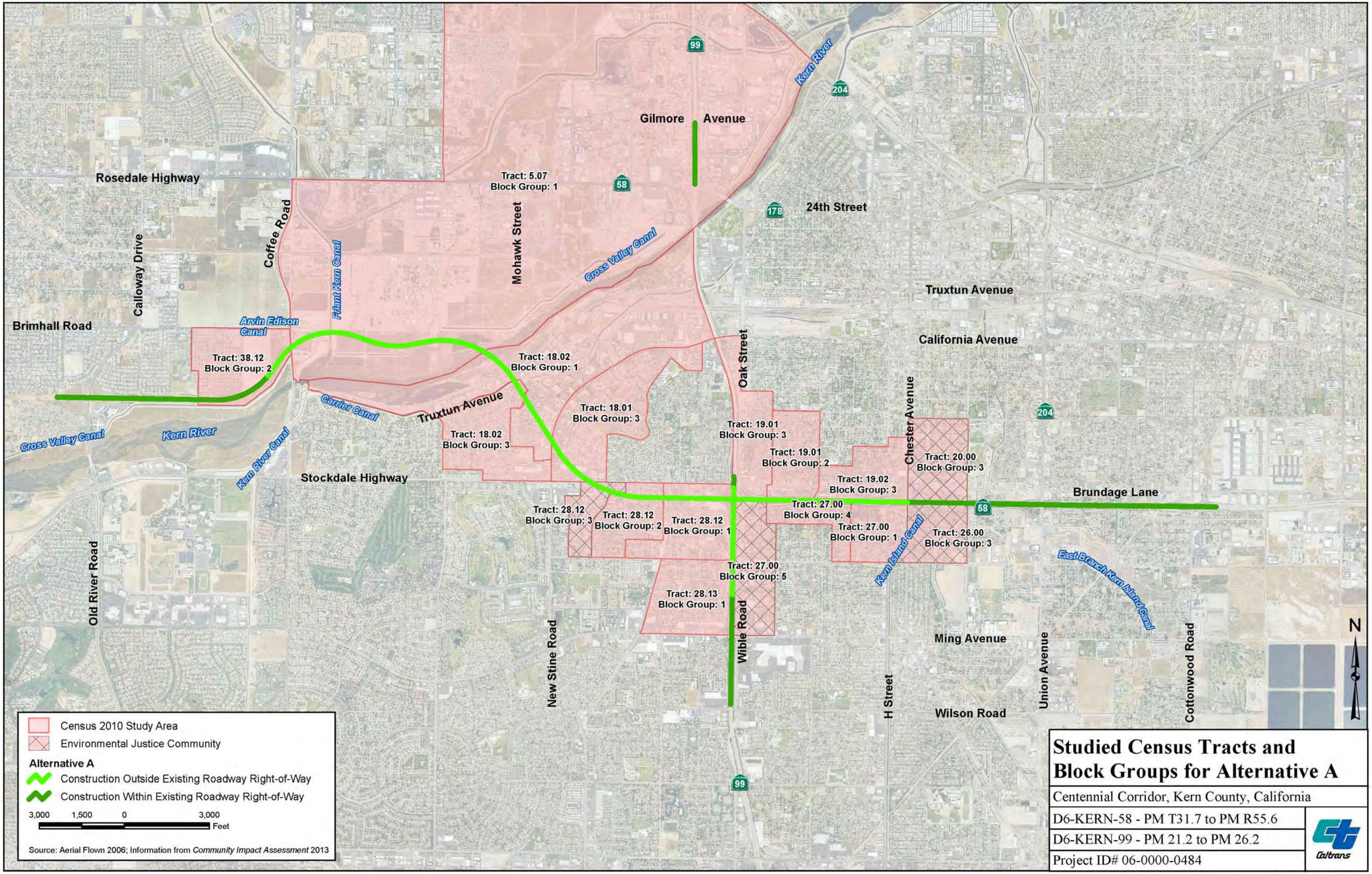
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-8



Studied Census Tracts and Block Groups for Alternative A

Centennial Corridor, Kern County, California

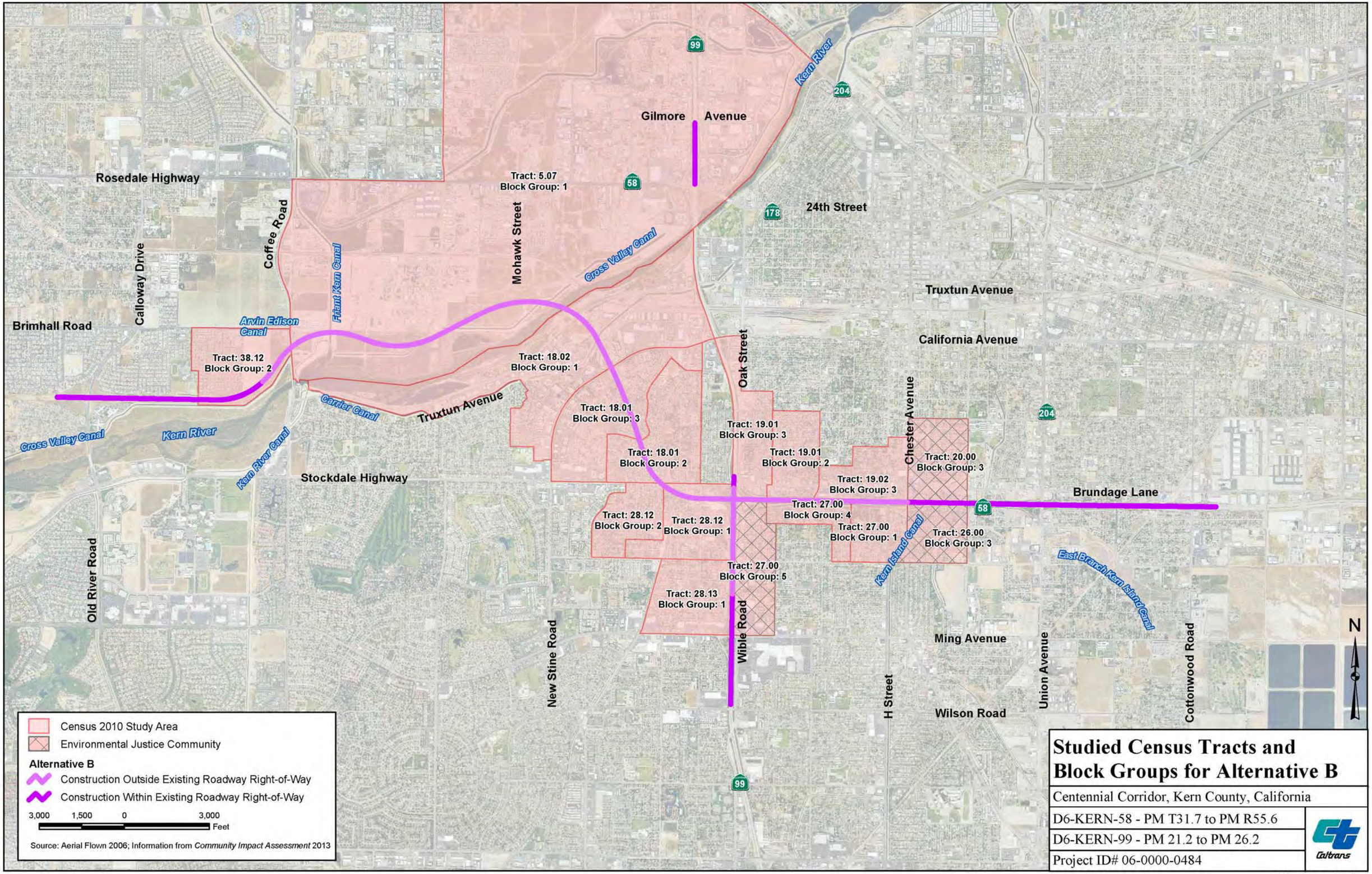
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-9a



Studied Census Tracts and Block Groups for Alternative B

Centennial Corridor, Kern County, California

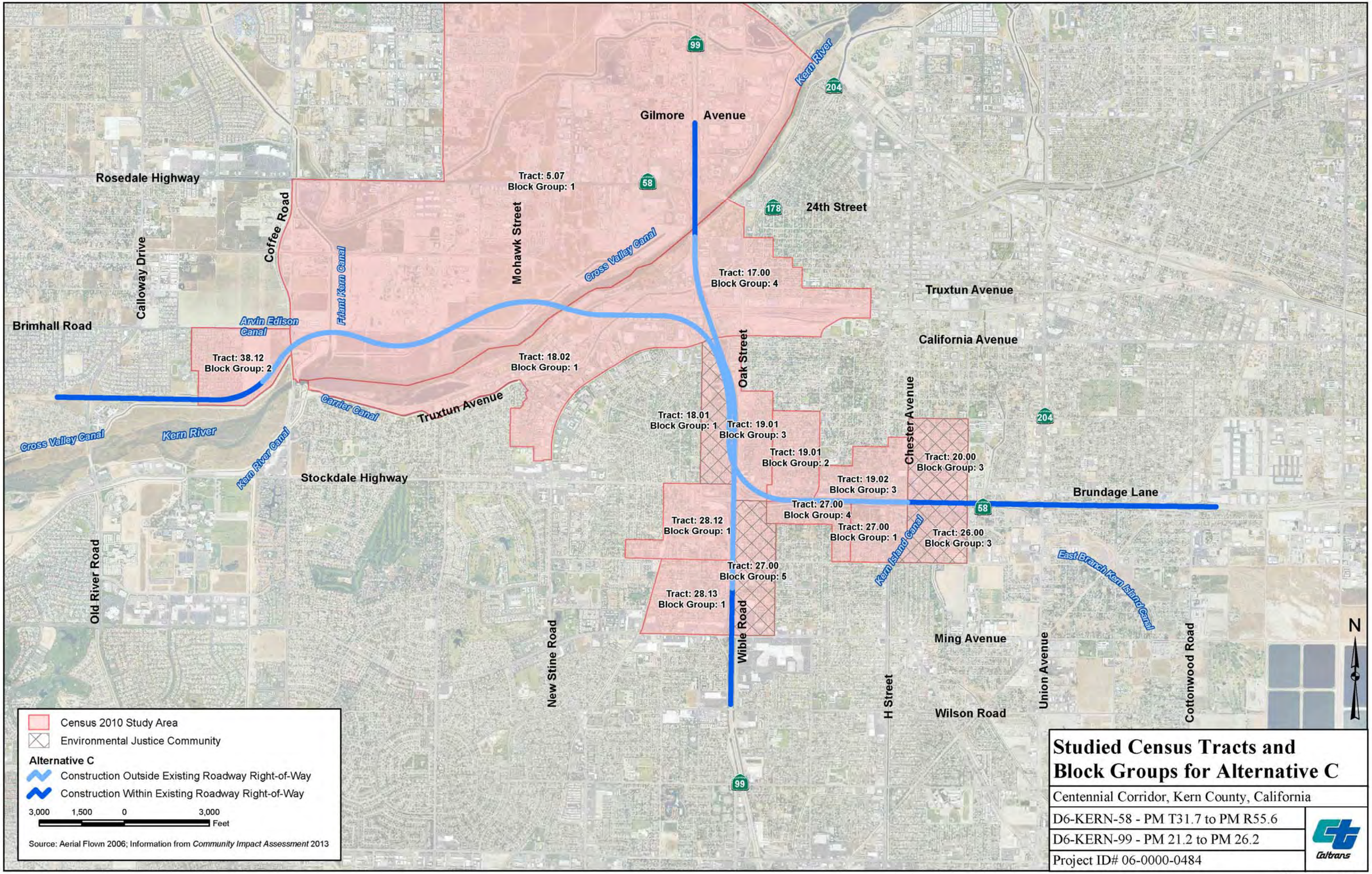
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-9b



Studied Census Tracts and Block Groups for Alternative C

Centennial Corridor, Kern County, California

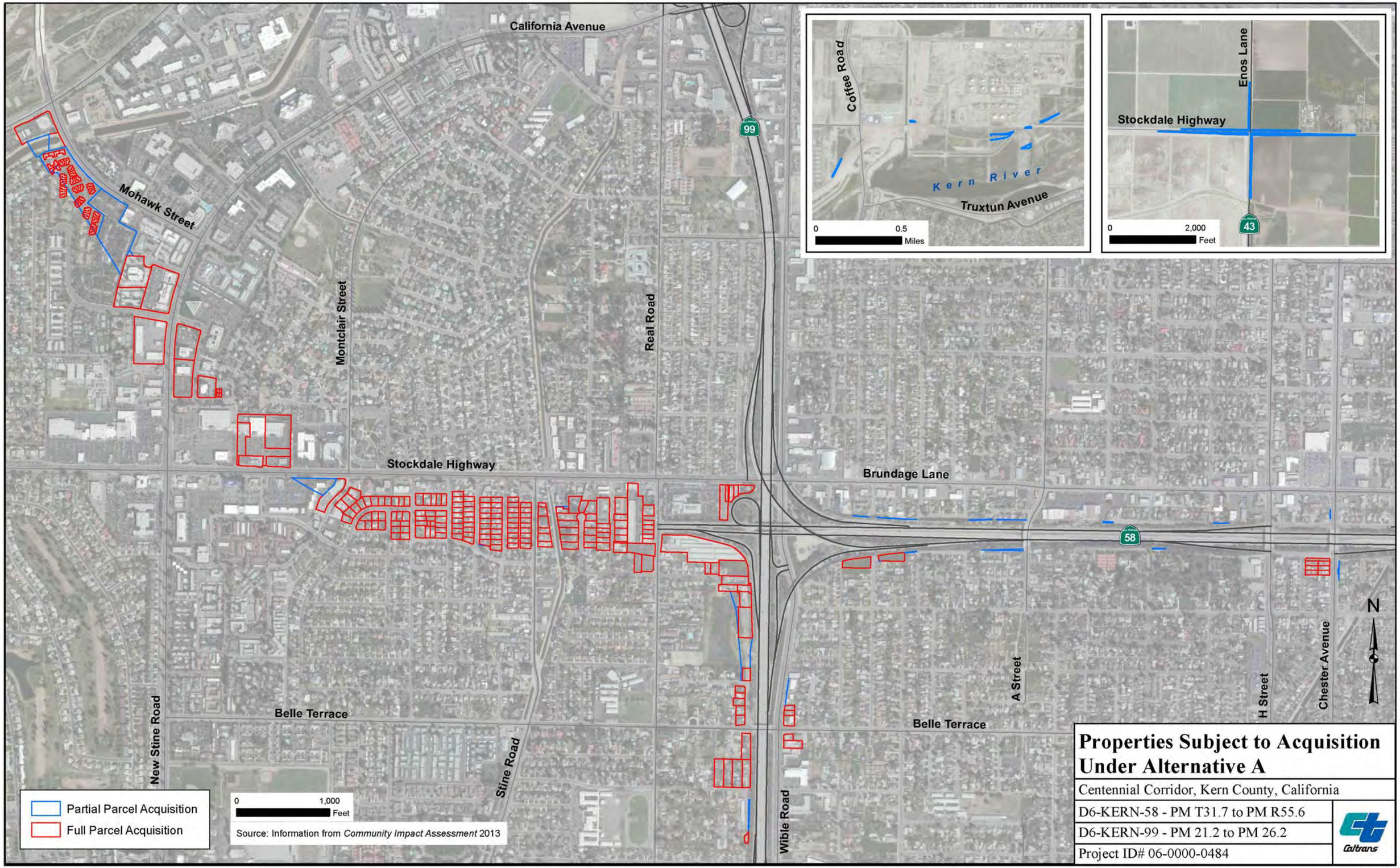
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-9c



Properties Subject to Acquisition Under Alternative A

Centennial Corridor, Kern County, California

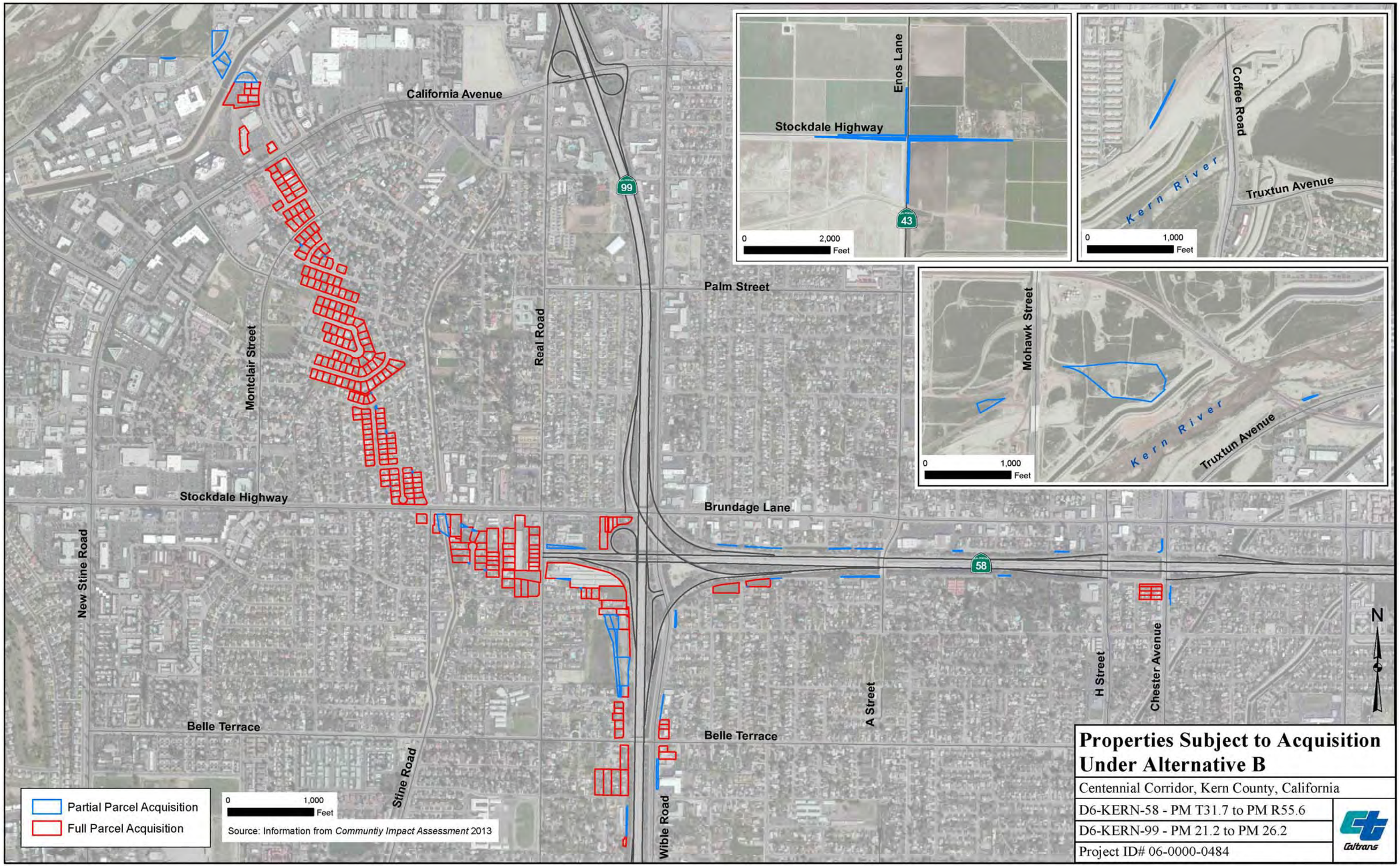
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-10a



Properties Subject to Acquisition Under Alternative B

Centennial Corridor, Kern County, California

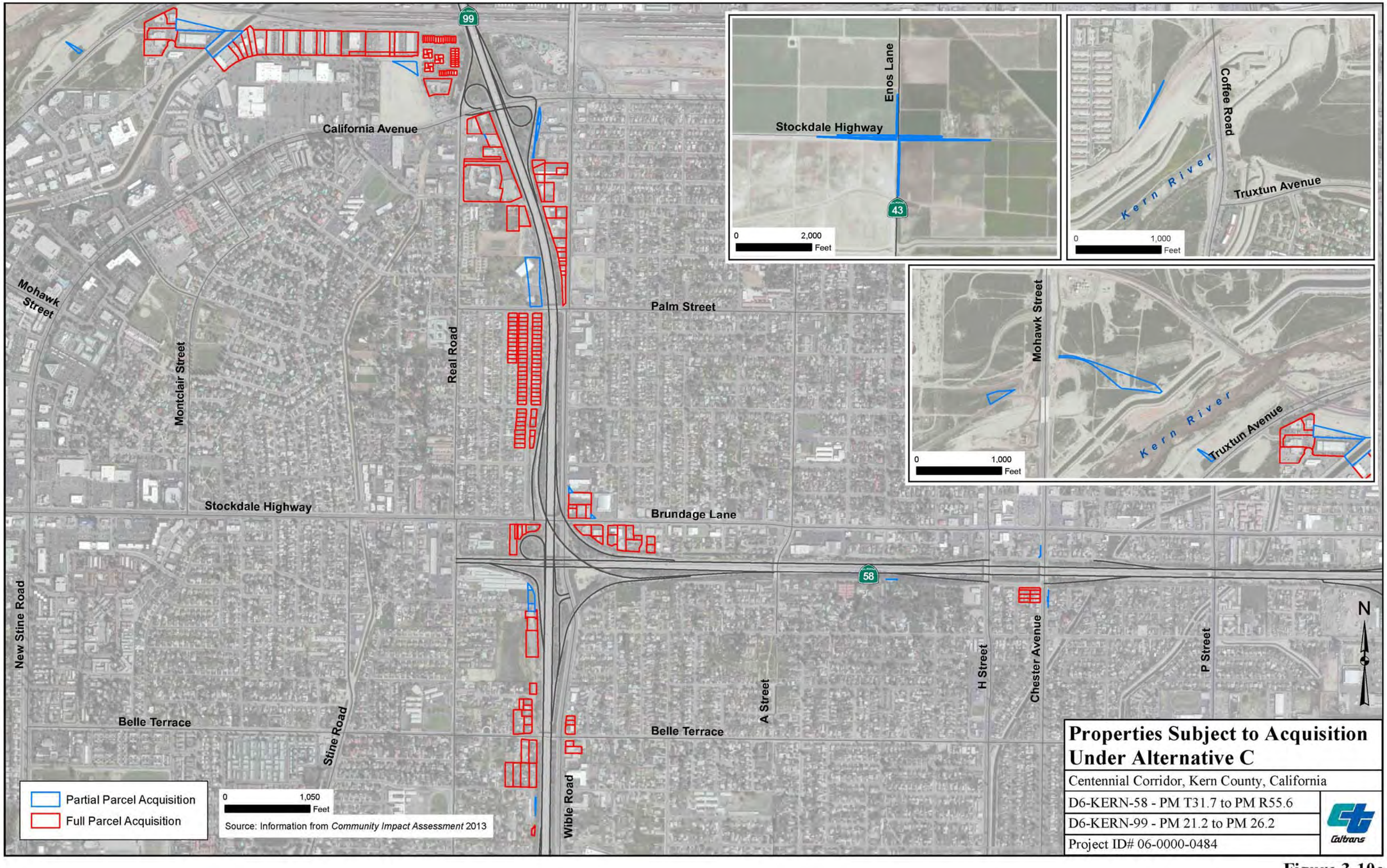
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-10b



Properties Subject to Acquisition Under Alternative C

Centennial Corridor, Kern County, California

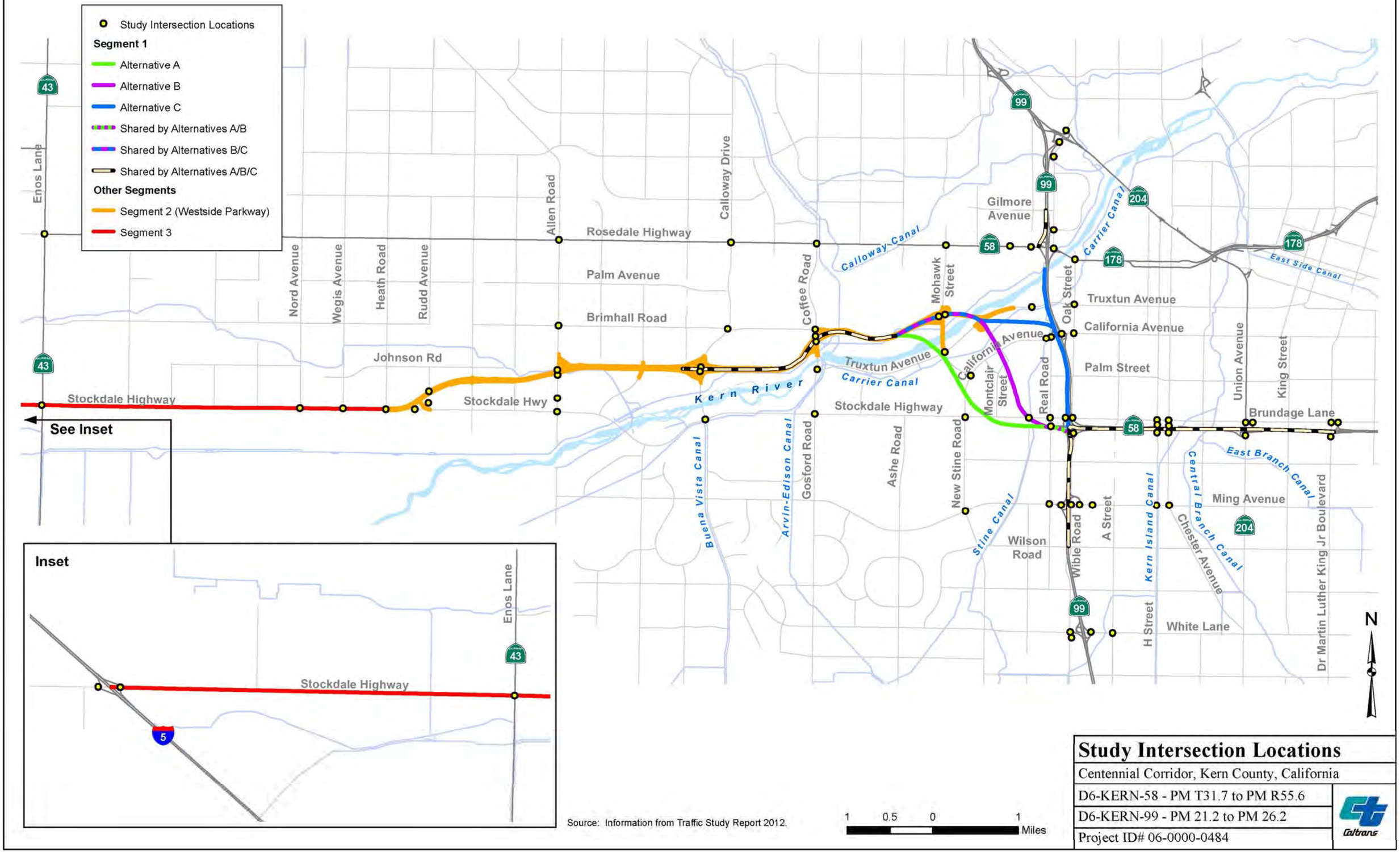
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-10c



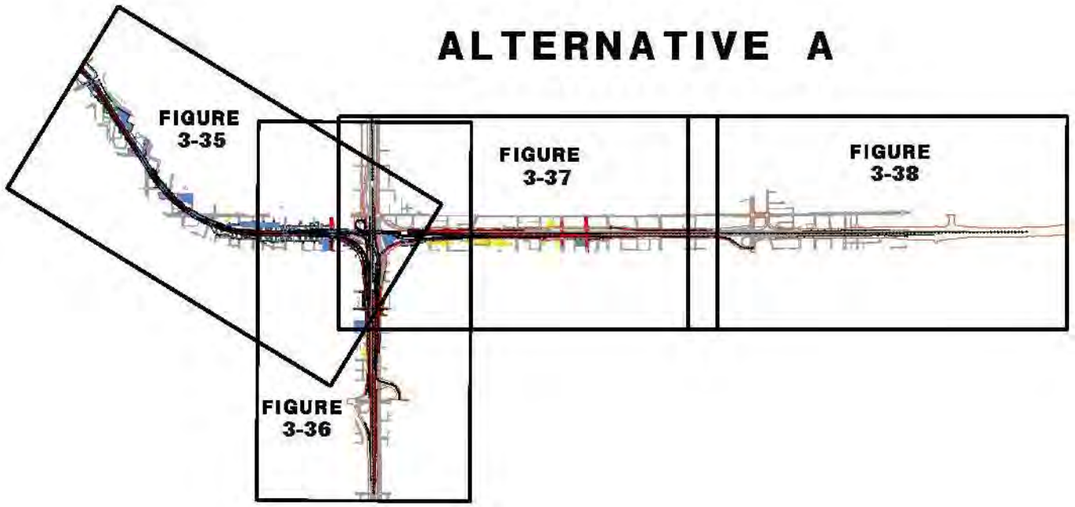
Source: Information from Traffic Study Report 2012.

1 0.5 0 1 Miles

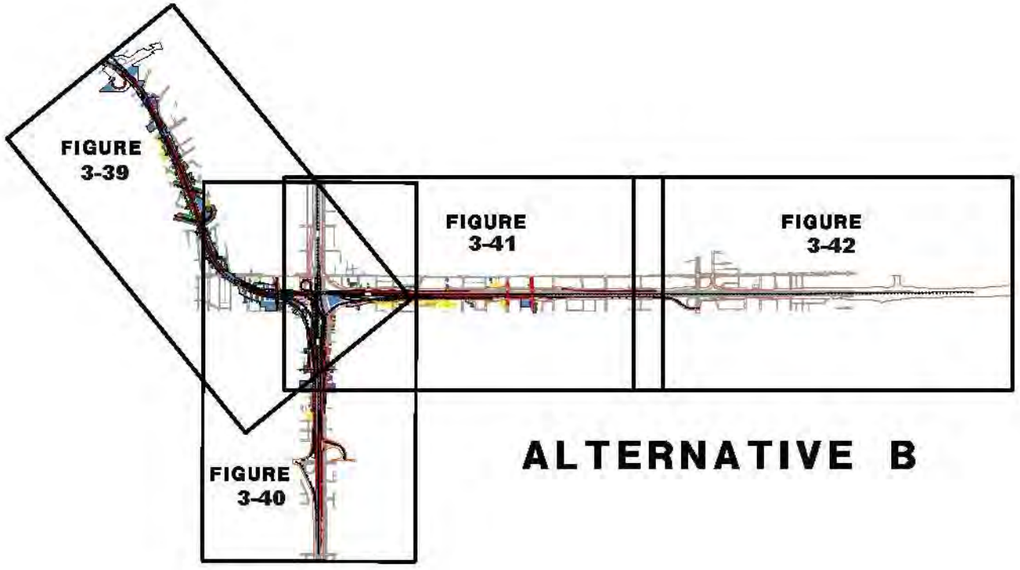
Study Intersection Locations	
Centennial Corridor, Kern County, California	
D6-KERN-58 - PM T31.7 to PM R55.6	Caltrans
D6-KERN-99 - PM 21.2 to PM 26.2	
Project ID# 06-0000-0484	

Figure 3-11

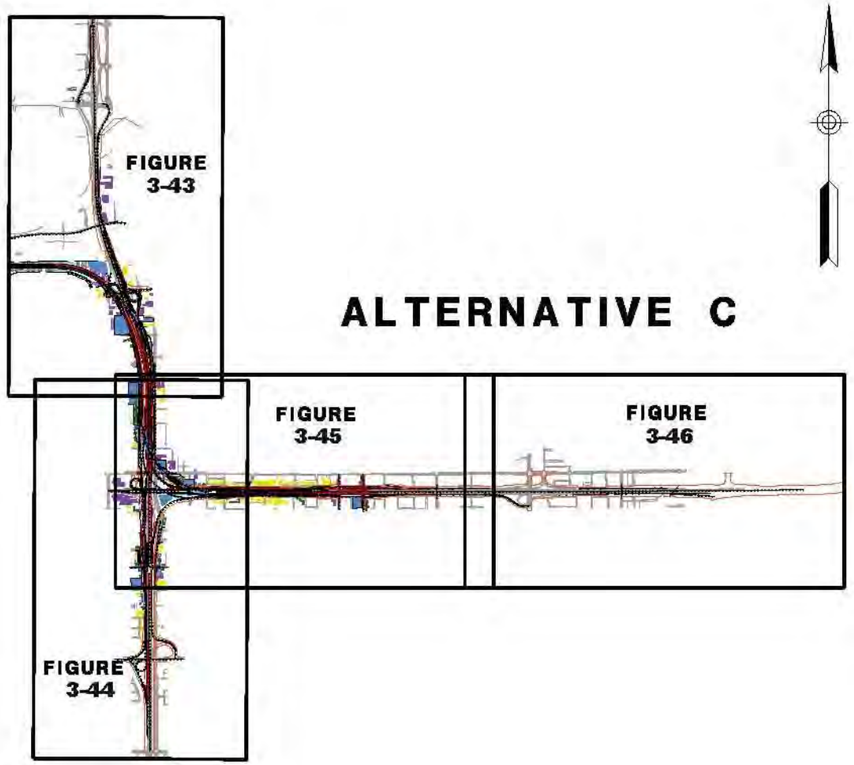
ALTERNATIVE A



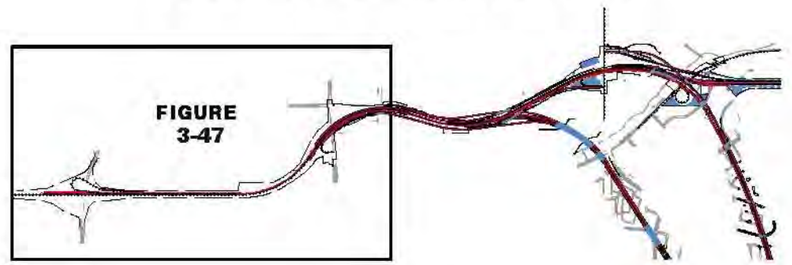
ALTERNATIVE B



ALTERNATIVE C



ALL ALTERNATIVES



Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Key Map For Noise Measurement and Soundwall Locations

Centennial Corridor, Kern County, California

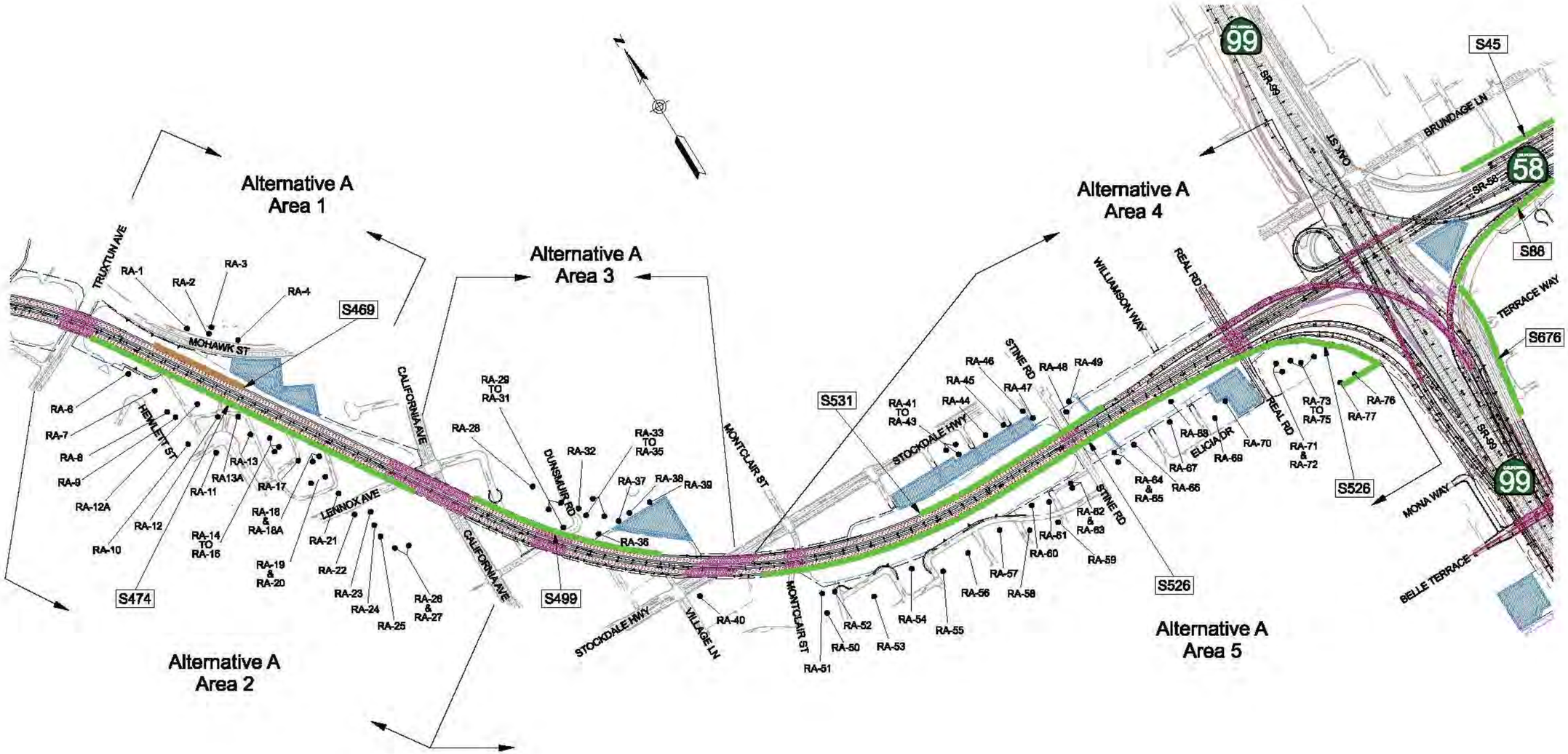
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-34



LEGEND

- ● – NOISE MEASUREMENT & ANALYSIS RECEIVERS
- – REMOVAL OF RAMP
- SXXX – SOUNDWALL IDENTIFICATION
- – RECOMMENDED SOUNDWALL
- – NOT RECOMMENDED SOUNDWALL
- – EXISTING RIGHT OF WAY
- – PROPOSED RIGHT OF WAY
- – PROPOSED ROADWAY
- – PROPOSED STRUCTURE
- – INFILTRATION BASIN

1in : 700ft

0 ft 350ft 700ft 1000ft

Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Alt A Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

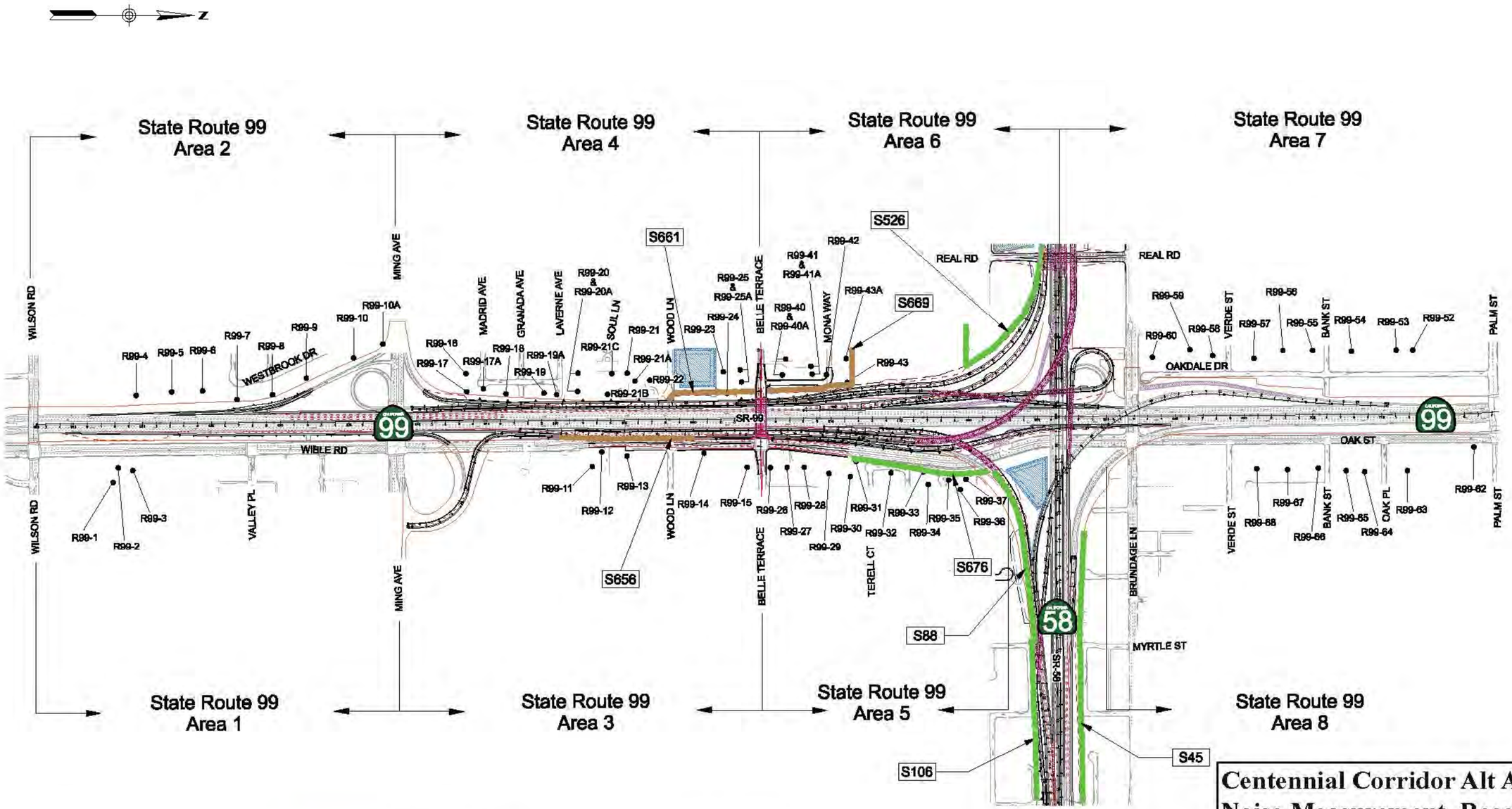
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-35



LEGEND

- ● – NOISE MEASUREMENT & ANALYSIS RECEIVERS
- – REMOVAL OF RAMP
- SXXX – SOUNDWALL IDENTIFICATION
- – RECOMMENDED SOUNDWALL
- – NOT RECOMMENDED SOUNDWALL
- – EXISTING RIGHT OF WAY
- – PROPOSED RIGHT OF WAY
- – PROPOSED ROADWAY
- – PROPOSED STRUCTURE
- – INFILTRATION BASIN

1in : 700ft

0 ft 350ft 700ft 1000ft

Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Alt A Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

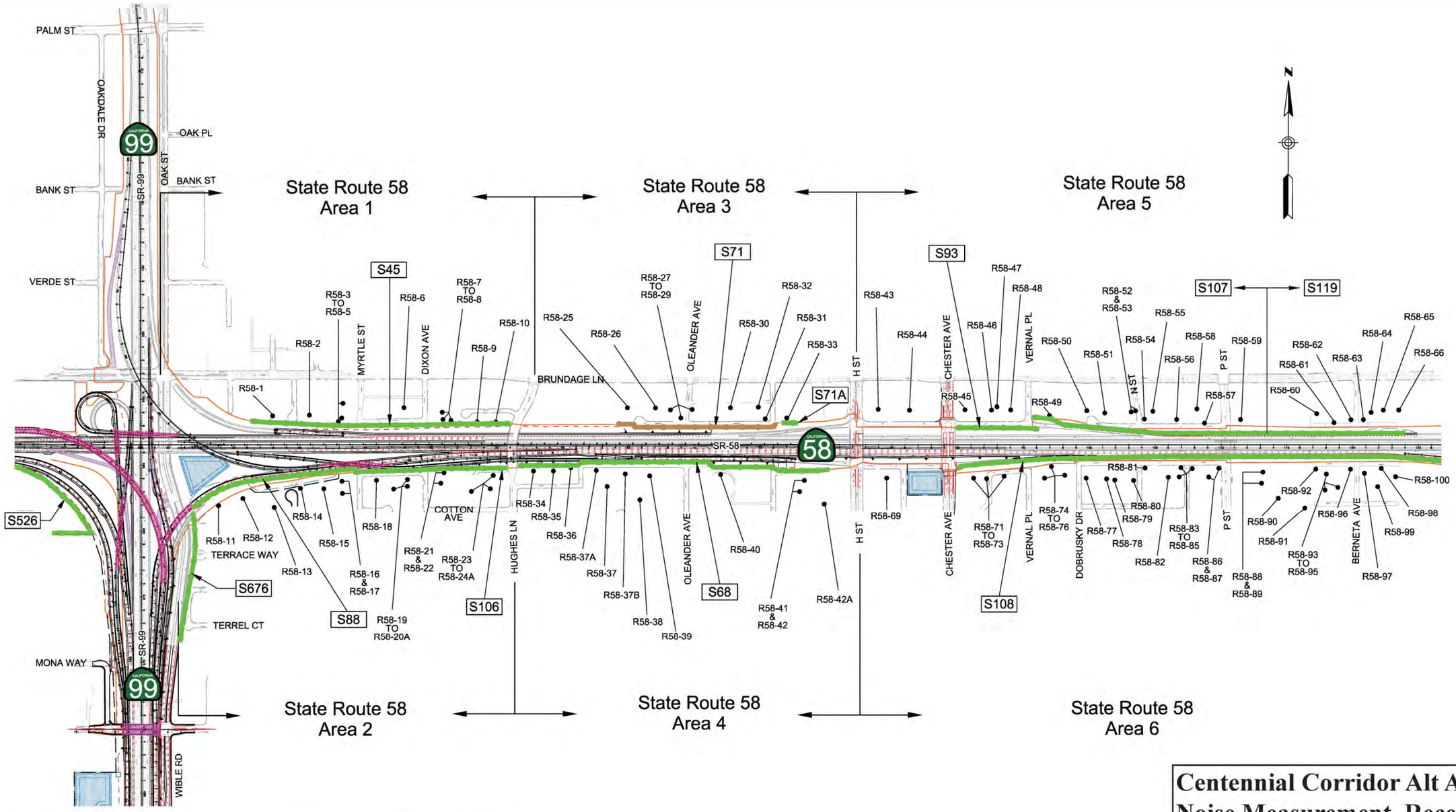
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-36



Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Alt A Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

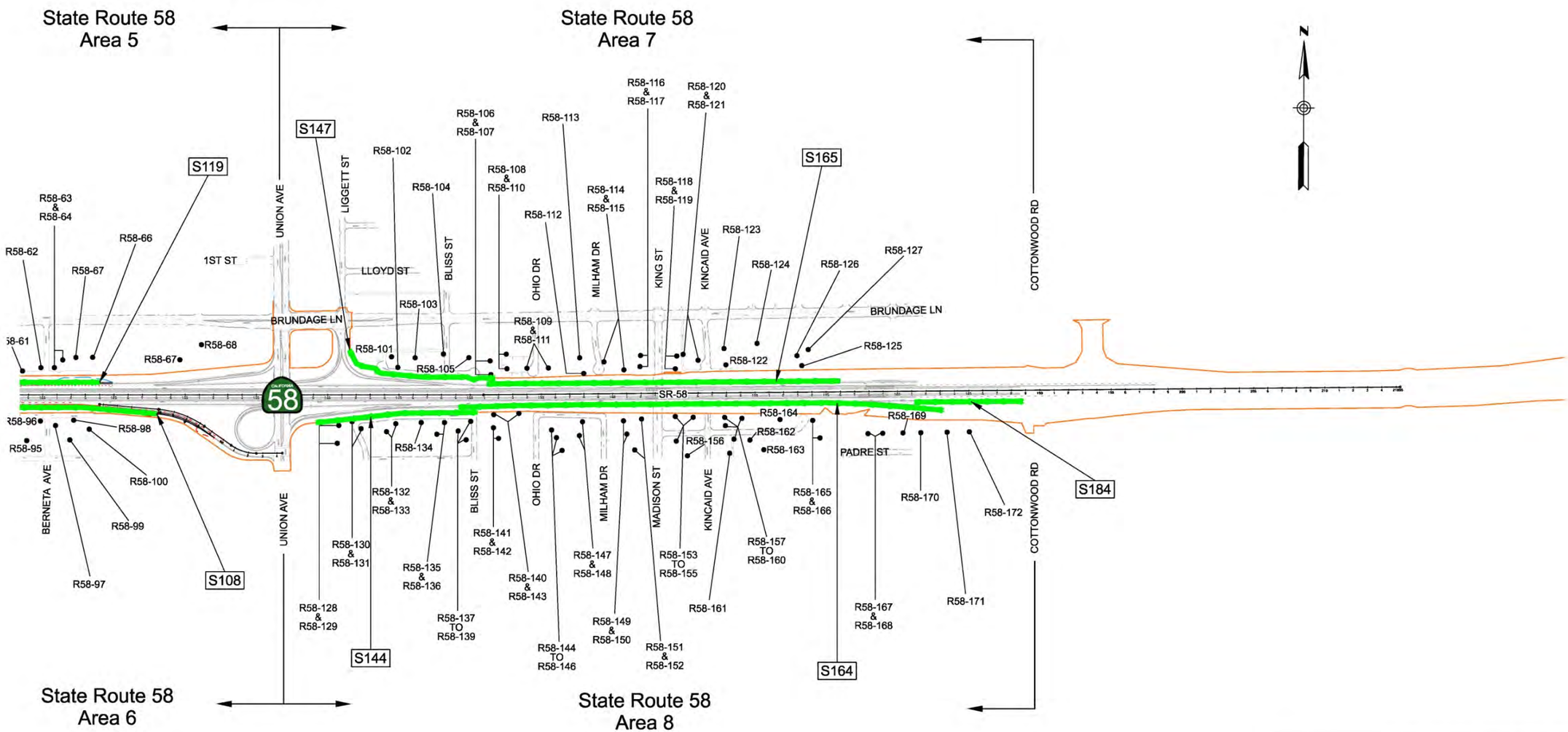
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-37



Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Alt A Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

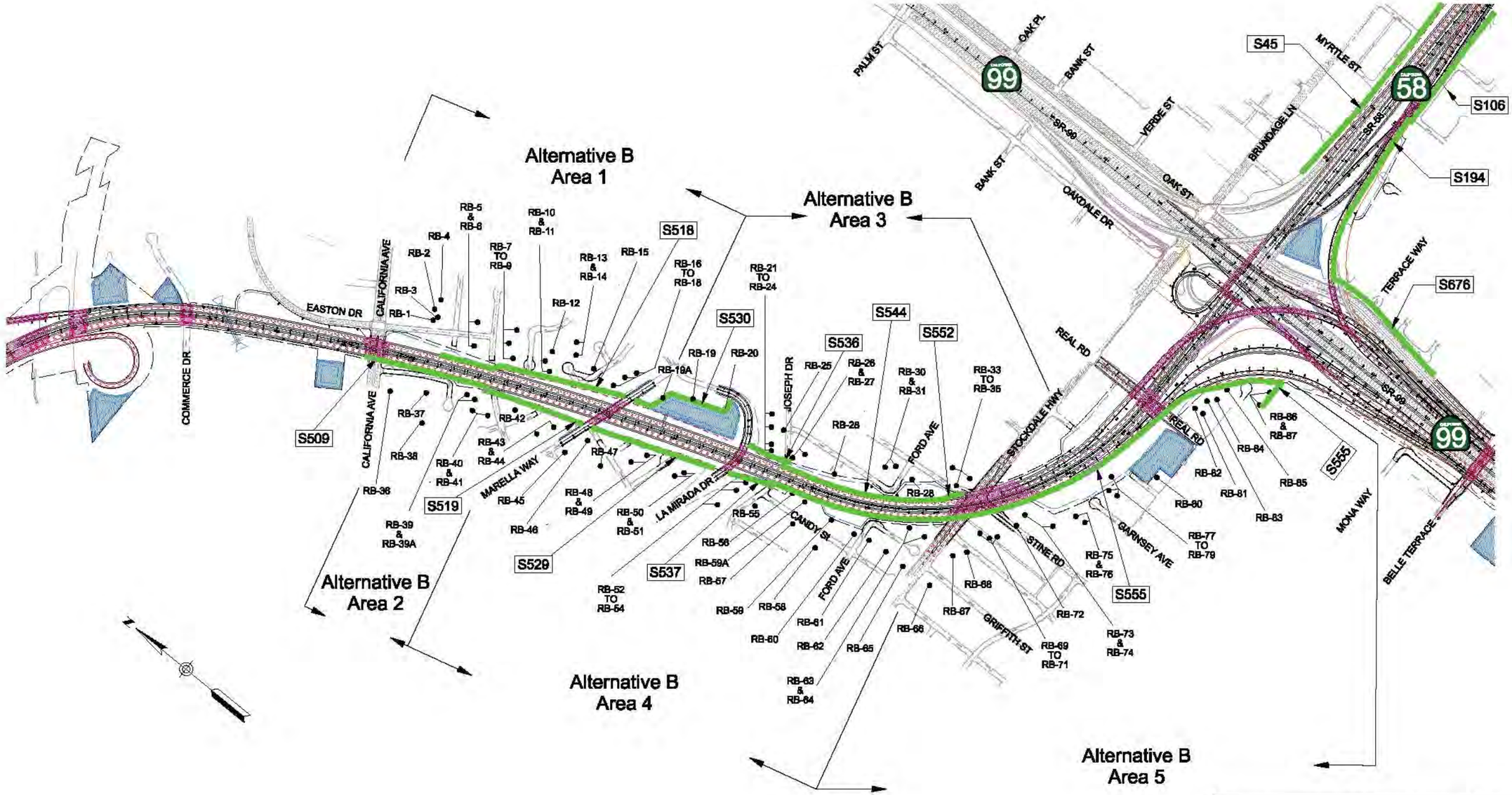
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-38



Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Alt B Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

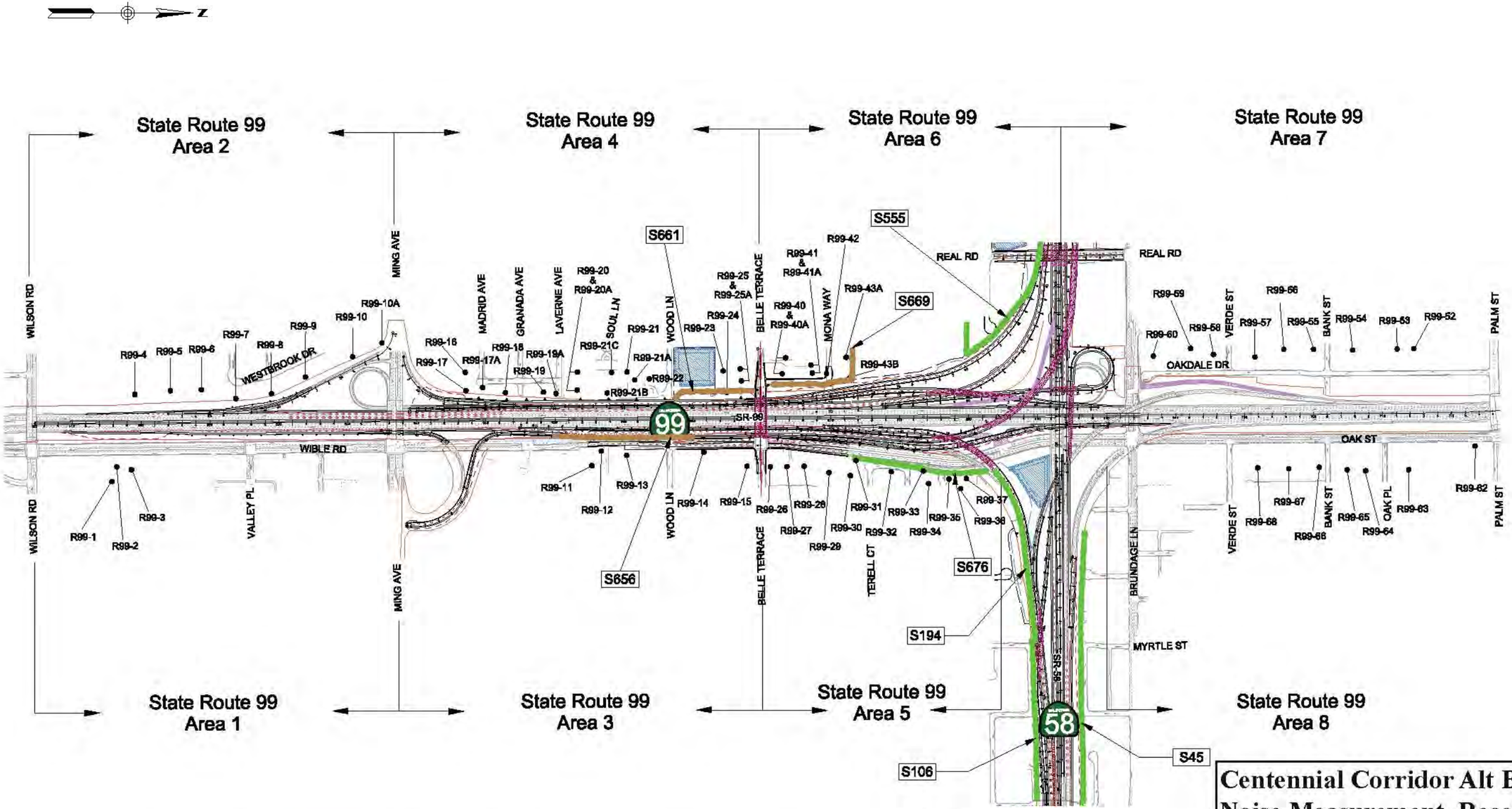
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-39



Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Alt B Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

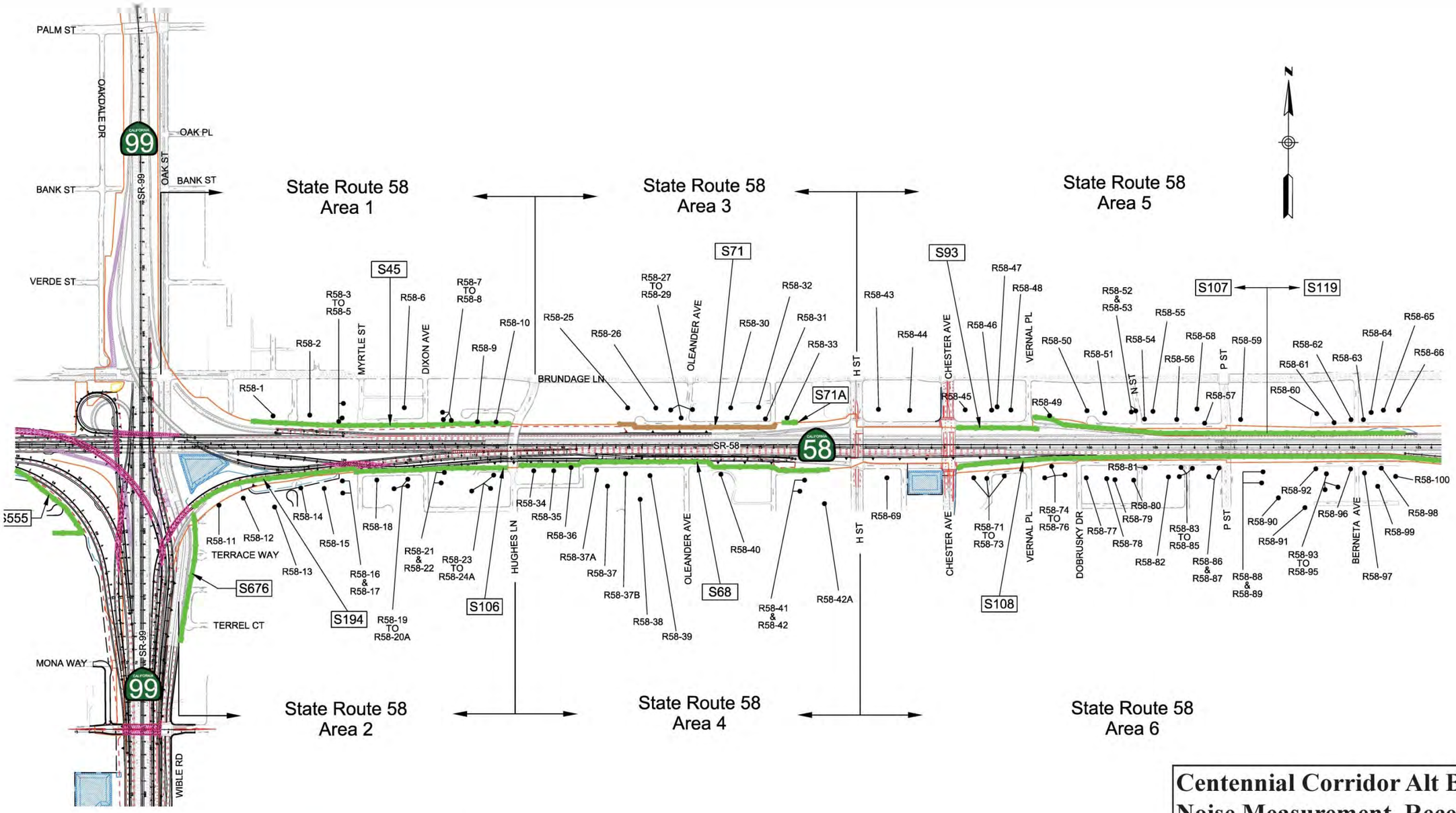
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-40



Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Alt B Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

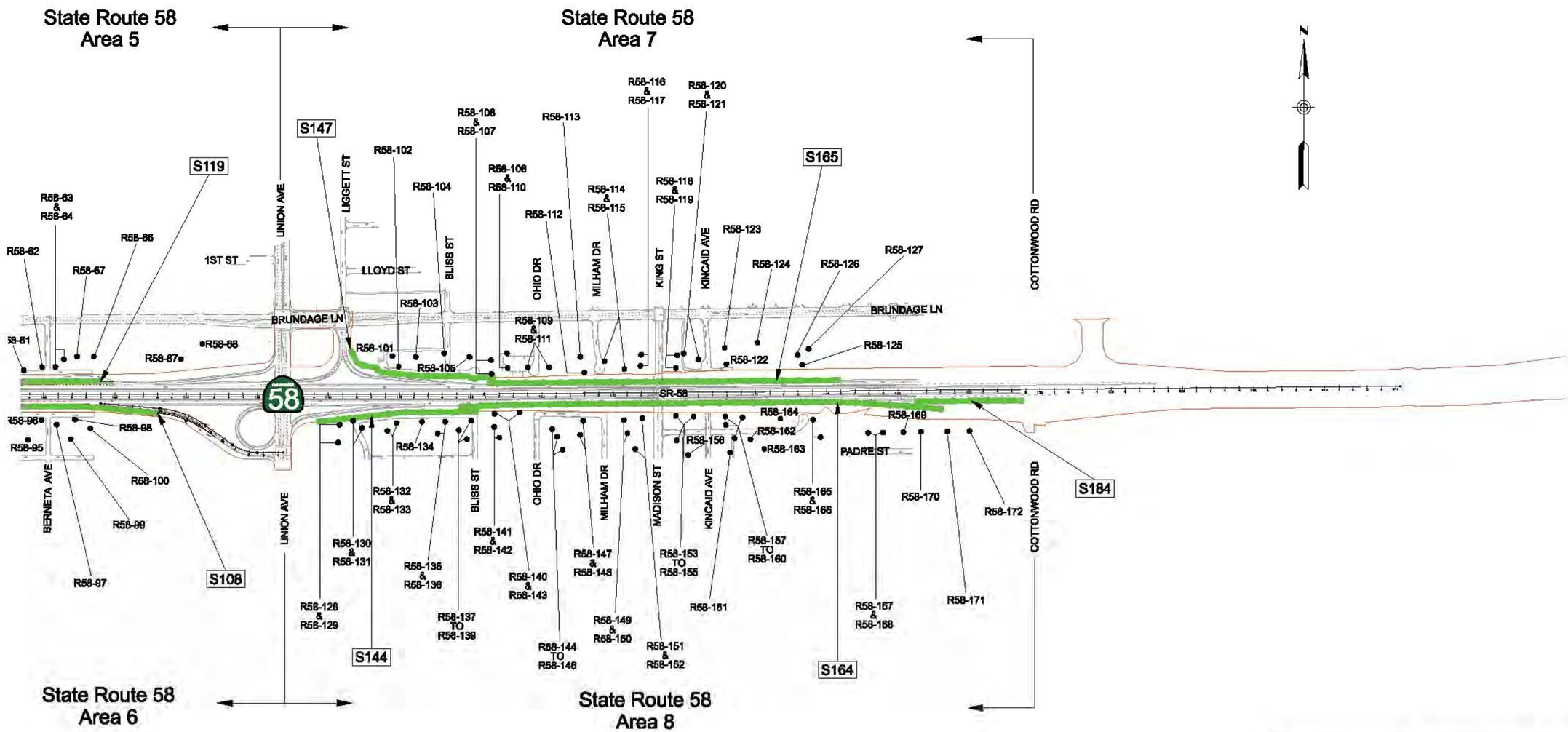
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-41



Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Alt B
Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

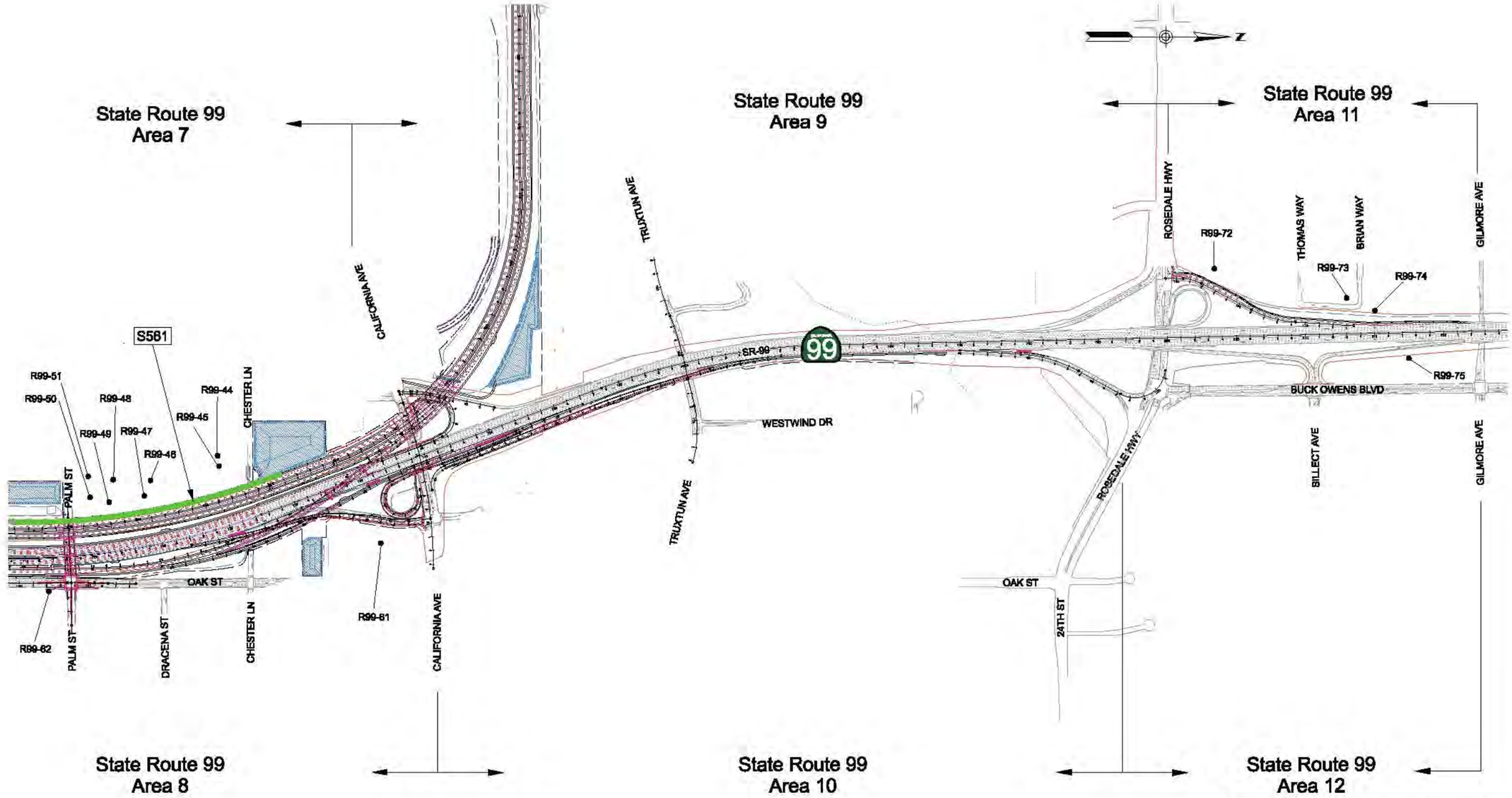
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-42



Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Alt C Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-43

LEGEND

- NOISE MEASUREMENT & ANALYSIS RECEIVERS
- REMOVAL OF RAMP
- SXXX – SOUNDWALL IDENTIFICATION
- RECOMMENDED SOUNDWALL
- NOT RECOMMENDED SOUNDWALL
- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED ROADWAY
- PROPOSED STRUCTURE
- INFILTRATION BASIN

1in : 700ft

0 ft 350ft 700ft 1000ft

Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Alt C Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

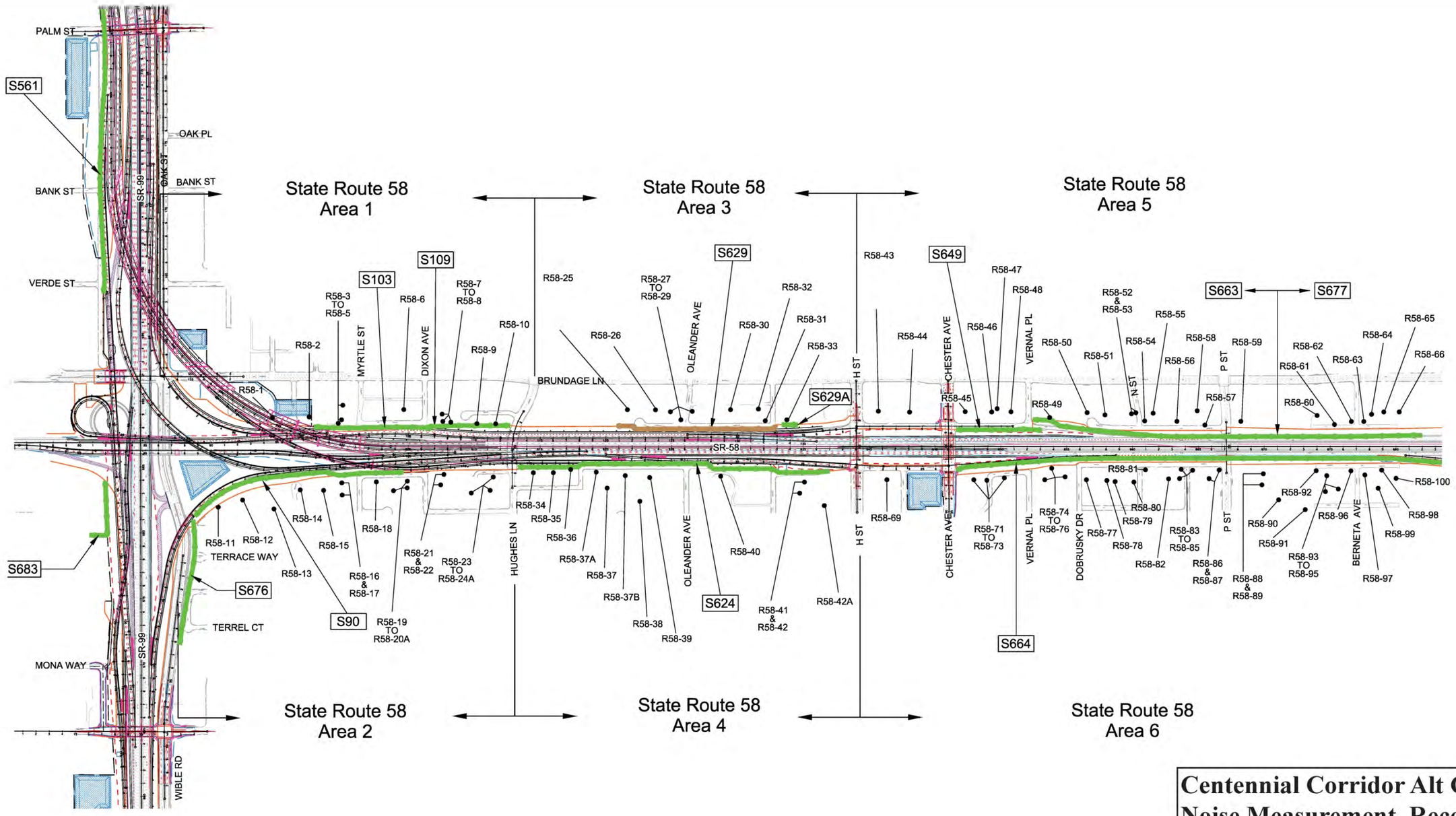
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-44



LEGEND

- ● – NOISE MEASUREMENT & ANALYSIS RECEIVERS
- – REMOVAL OF RAMP
- SXXX – SOUNDWALL IDENTIFICATION
- – RECOMMENDED SOUNDWALL
- – NOT RECOMMENDED SOUNDWALL
- – EXISTING RIGHT OF WAY
- – PROPOSED RIGHT OF WAY
- – PROPOSED ROADWAY
- – PROPOSED STRUCTURE
- – INFILTRATION BASIN

1in : 700ft

0 ft 350ft 700ft 1000ft

Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Alt C Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-45

State Route 58
Area 5

State Route 58
Area 7

State Route 58
Area 6

State Route 58
Area 8

S667
S703
S721
S664
S702
S722
S742

UNION AVE
LIGGETT ST
BLISS ST
OHIO DR
MILHAM DR
KING ST
KINGAID AVE
COTTONWOOD RD
MADISON ST
BERNETA AVE
PADRE ST

1ST ST
LLOYD ST
BRUNDAGE LN
SR-58

R58-62
R58-63 & R58-64
R58-66
R58-67
R58-68
R58-87
R58-88
R58-95
R58-96
R58-97
R58-98
R58-99
R58-100
R58-101
R58-102
R58-103
R58-104
R58-105
R58-106 & R58-107
R58-108 & R58-110
R58-109 & R58-111
R58-112
R58-113
R58-114 & R58-115
R58-116 & R58-117
R58-118 & R58-119
R58-120 & R58-121
R58-122
R58-123
R58-124
R58-125
R58-126
R58-127
R58-128 & R58-129
R58-130 & R58-131
R58-132 & R58-133
R58-134
R58-135 & R58-136
R58-137 TO R58-139
R58-140 & R58-143
R58-141 & R58-142
R58-144 TO R58-146
R58-147 & R58-148
R58-149 & R58-150
R58-151 & R58-152
R58-153 TO R58-155
R58-156
R58-157 TO R58-160
R58-161
R58-162
R58-163
R58-164
R58-165 & R58-166
R58-167 & R58-168
R58-169
R58-170
R58-171
R58-172

LEGEND

- NOISE MEASUREMENT & ANALYSIS RECEIVERS
- REMOVAL OF RAMP
- SXXX – SOUNDWALL IDENTIFICATION
- RECOMMENDED SOUNDWALL
- NOT RECOMMENDED SOUNDWALL
- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED ROADWAY
- PROPOSED STRUCTURE
- INFILTRATION BASIN

1in : 700ft
0 ft 350ft 700ft 1000ft

Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Centennial Corridor Alt C Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

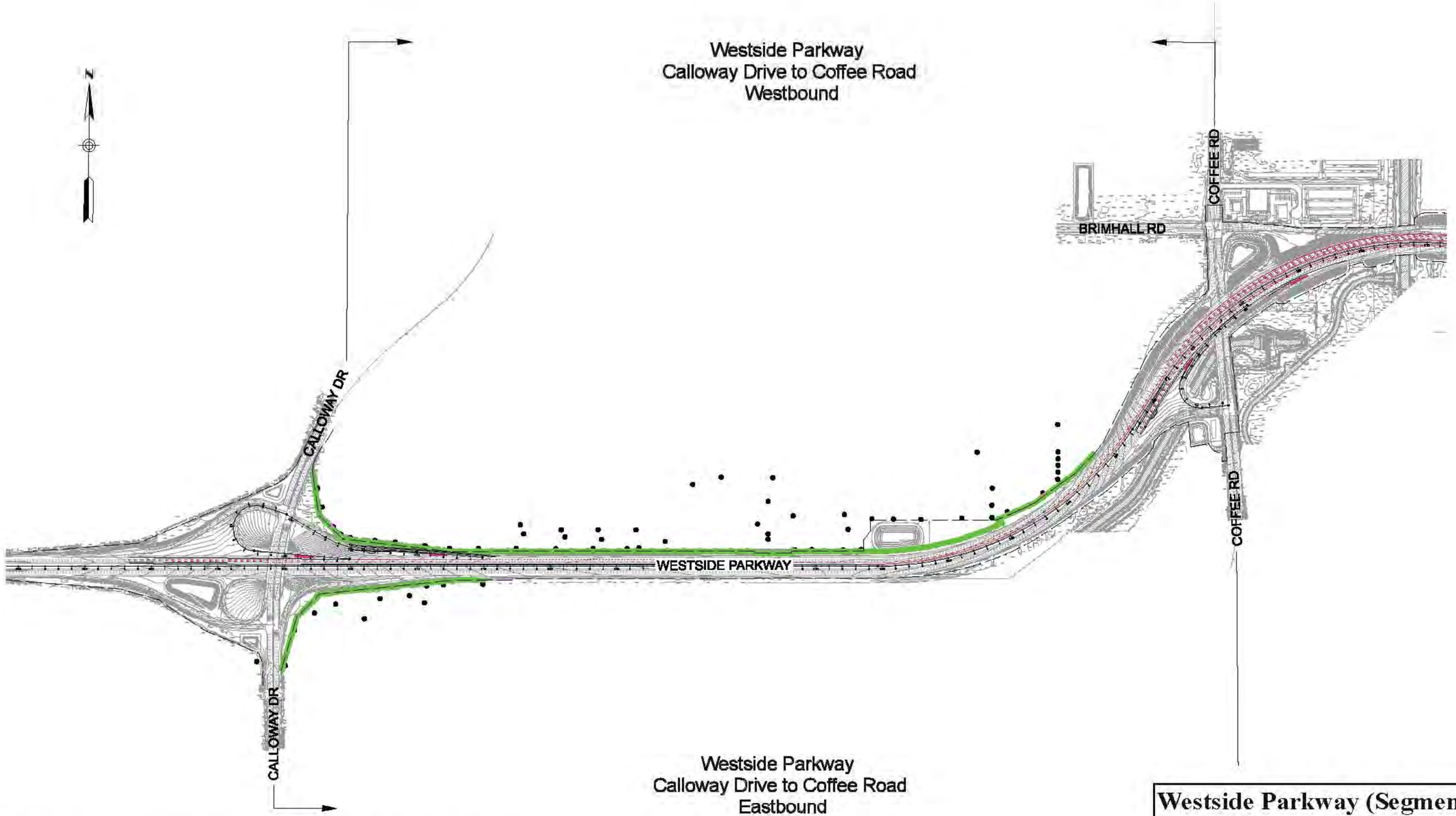
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-46



Source: Information from the *Noise Abatement Decision Report* 2013 and *Noise Study Report* 2013

Westside Parkway (Segment 2)
Noise Measurement, Receiver, and Soundwall Locations

Centennial Corridor, Kern County, California

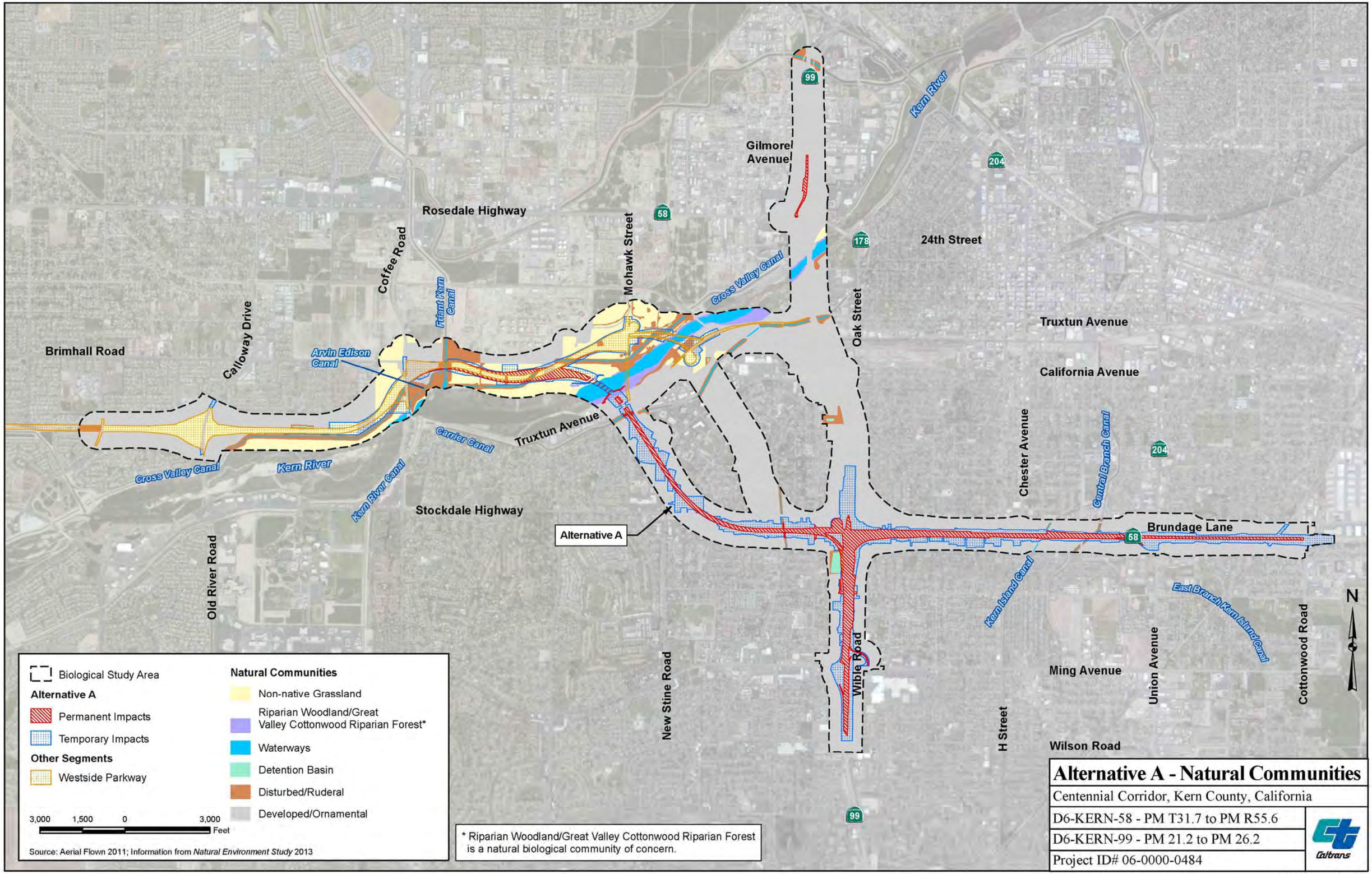
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-47



Alternative A - Natural Communities

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-48

Gilmore Avenue
Kern River
Rosedale Highway
Coffee Road
Mohawk Street
Friant Kern Canal
Cross Valley Canal
24th Street
Oak Street
Truxtun Avenue
Brimhall Road
Calloway Drive
Arvin Edison Canal
California Avenue
Chester Avenue
Central Branch Canal
Carrier Canal
Truxtun Avenue
Cross Valley Canal
Kern River
Kern River Canal
Stockdale Highway
Brundage Lane
Alternative B
Old River Road
Kern Island Canal
East Branch Kern Island Canal
Cottonwood Road
New Stine Road
Wible Road
Union Avenue
Ming Avenue
H Street
Wilson Road
N

Biological Study Area

Alternative B

Permanent Impacts

Temporary Impacts

Other Segments

Westside Parkway

Natural Communities

Non-native Grassland

Riparian Woodland/Great Valley Cottonwood Riparian Forest*

Waterways

Detention Basin

Disturbed/Ruderal

Developed/Ornamental

3,000 1,500 0 3,000 Feet

Source: Aerial Flown 2011; Information from *Natural Environment Study* 2013

* Riparian Woodland/Great Valley Cottonwood Riparian Forest is a natural biological community of concern.

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX,

Alternative B - Natural Communities

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-49

Gilmore Avenue
Rosedale Highway
Coffee Road
Mohawk Street
Kern River
24th Street
Oak Street
Truxtun Avenue
California Avenue
Brimhall Road
Calloway Drive
Friant Kern Canal
Arvin Edison Canal
Cross Valley Canal
Carrier Canal
Truxtun Avenue
Kern River
Kern River Canal
Stockdale Highway
Alternative C
Chester Avenue
Central Branch Canal
Brundage Lane
Old River Road
Kern Island Canal
East Branch Kern Island Canal
Cottonwood Road
New Stine Road
Wible Road
Ming Avenue
Union Avenue
H Street
Wilson Road
N

Biological Study Area

Alternative C

Permanent Impacts

Temporary Impacts

Other Segments

Westside Parkway

Natural Communities

Non-native Grassland

Riparian Woodland/Great Valley Cottonwood Riparian Forest*

Waterways

Detention Basin

Disturbed/Ruderal

Developed/Ornamental

3,000 1,500 0 3,000 Feet

Source: Aerial Flown 2011; Information from *Natural Environment Study* 2013

* Riparian Woodland/Great Valley Cottonwood Riparian Forest is a natural biological community of concern.

Alternative C - Natural Communities

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-50

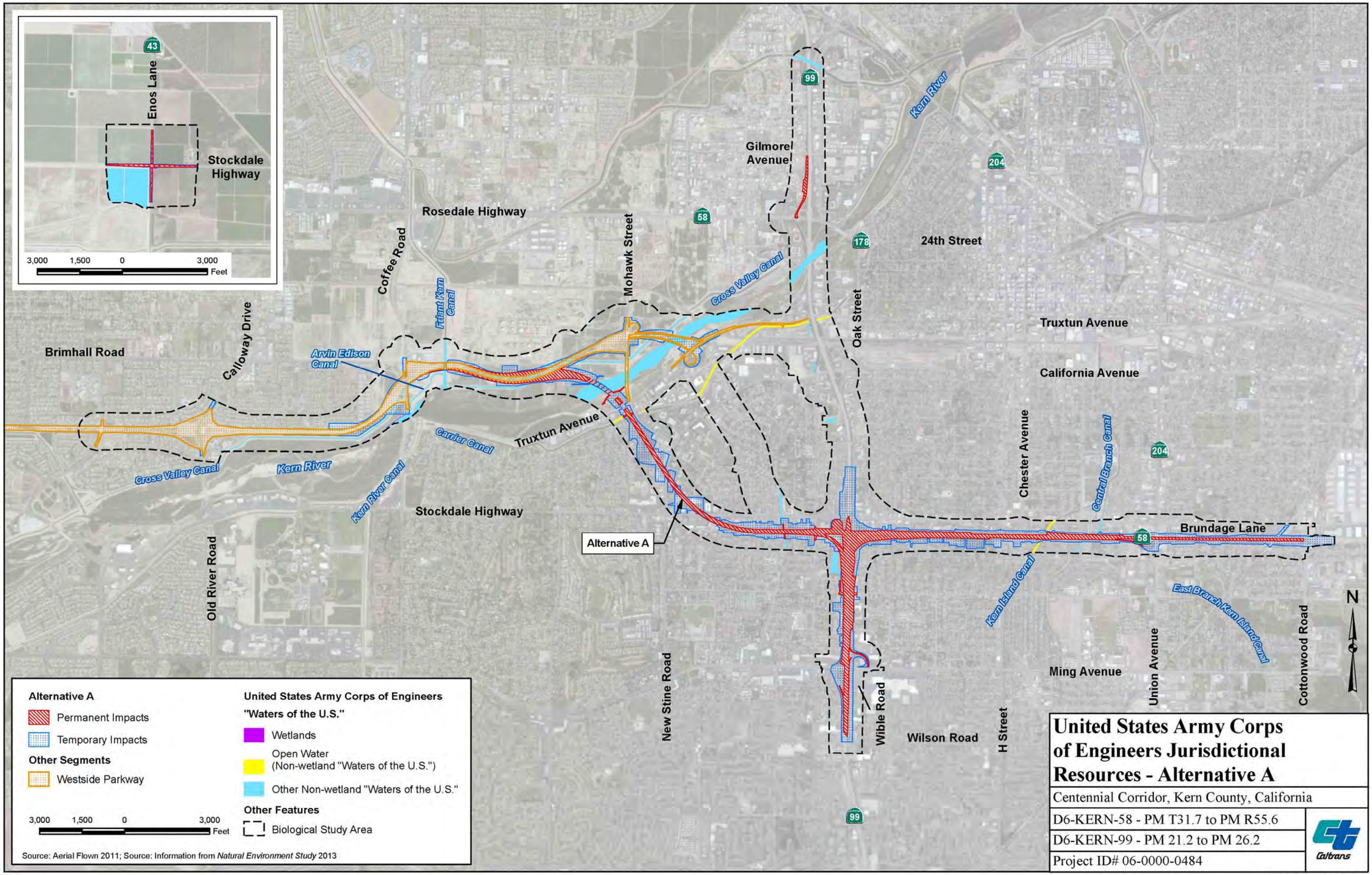

Enos Lane
Stockdale Highway
3,000 1,500 0 3,000
Feet
Rosedale Highway
Coffee Road
Mohawk Street
Gilmore Avenue
Kern River
24th Street
Truxtun Avenue
California Avenue
Oak Street
Brimhall Road
Calloway Drive
Arvin Edison Canal
Friant Kern Canal
Cross Valley Canal
Carrier Canal
Kern River
Kern River Canal
Stockdale Highway
Alternative A
Old River Road
Chester Avenue
Central Branch Canal
Brundage Lane
Kern Island Canal
East Branch Kern Island Canal
New Stine Road
Wible Road
Wilson Road
H Street
Ming Avenue
Union Avenue
Cottonwood Road
N
Alternative A
Permanent Impacts
Temporary Impacts
Other Segments
Westside Parkway
3,000 1,500 0 3,000
Feet
United States Army Corps of Engineers
"Waters of the U.S."
Wetlands
Open Water
(Non-wetland "Waters of the U.S.")
Other Non-wetland "Waters of the U.S."
Other Features
Biological Study Area
Source: Aerial Flown 2011; Source: Information from Natural Environment Study 2013
United States Army Corps of Engineers Jurisdictional Resources - Alternative A
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-52a

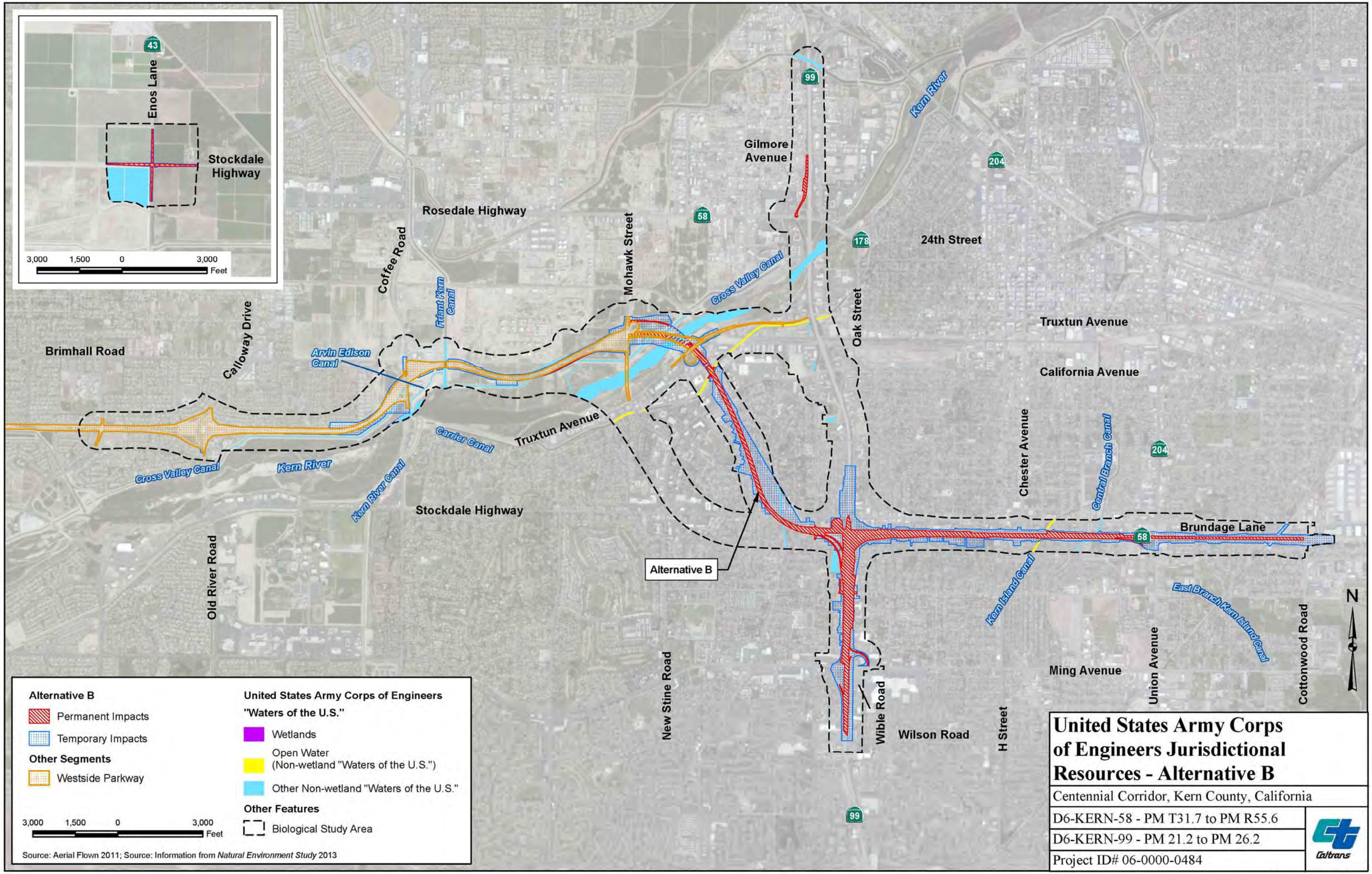

Enos Lane
Stockdale Highway
3,000 1,500 0 3,000
Feet
Rosedale Highway
Coffee Road
Calloway Drive
Brimhall Road
Friant Kern Canal
Arvin Edison Canal
Mohawk Street
Gilmore Avenue
Cross Valley Canal
Oak Street
24th Street
Truxtun Avenue
California Avenue
Kern River
Carrier Canal
Truxtun Avenue
Cross Valley Canal
Kern River
Kern River Canal
Stockdale Highway
Old River Road
Chester Avenue
Central Branch Canal
Brundage Lane
Alternative B
Kern Island Canal
East Branch Kern Island Canal
Cottonwood Road
Ming Avenue
Union Avenue
New Stine Road
Wible Road
Wilson Road
H Street
N
Alternative B
Permanent Impacts
Temporary Impacts
Other Segments
Westside Parkway
United States Army Corps of Engineers
"Waters of the U.S."
Wetlands
Open Water
(Non-wetland "Waters of the U.S.")
Other Non-wetland "Waters of the U.S."
Other Features
Biological Study Area
3,000 1,500 0 3,000
Feet
Source: Aerial Flown 2011; Source: Information from Natural Environment Study 2013
United States Army Corps of Engineers Jurisdictional Resources - Alternative B
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-52b

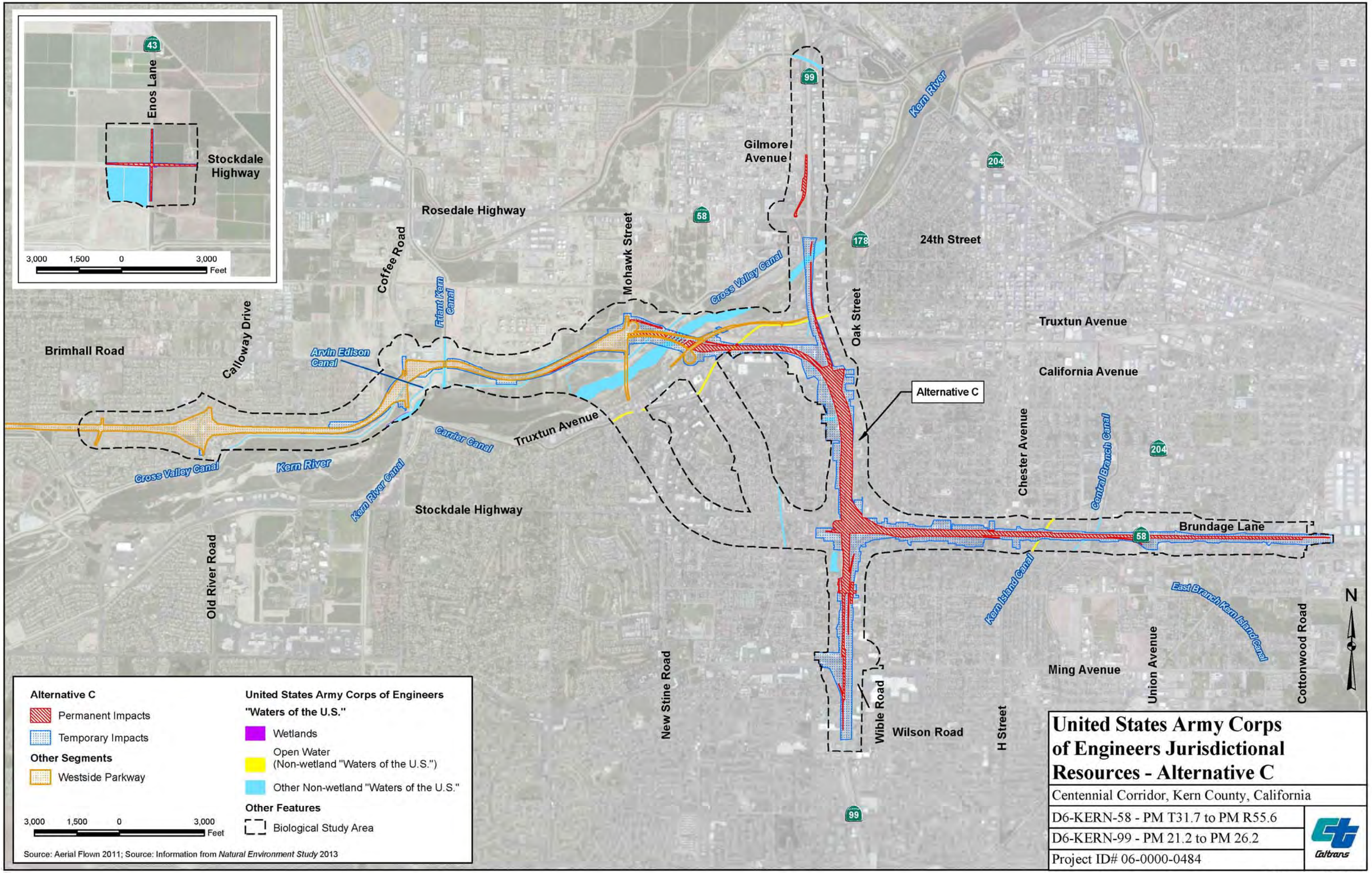
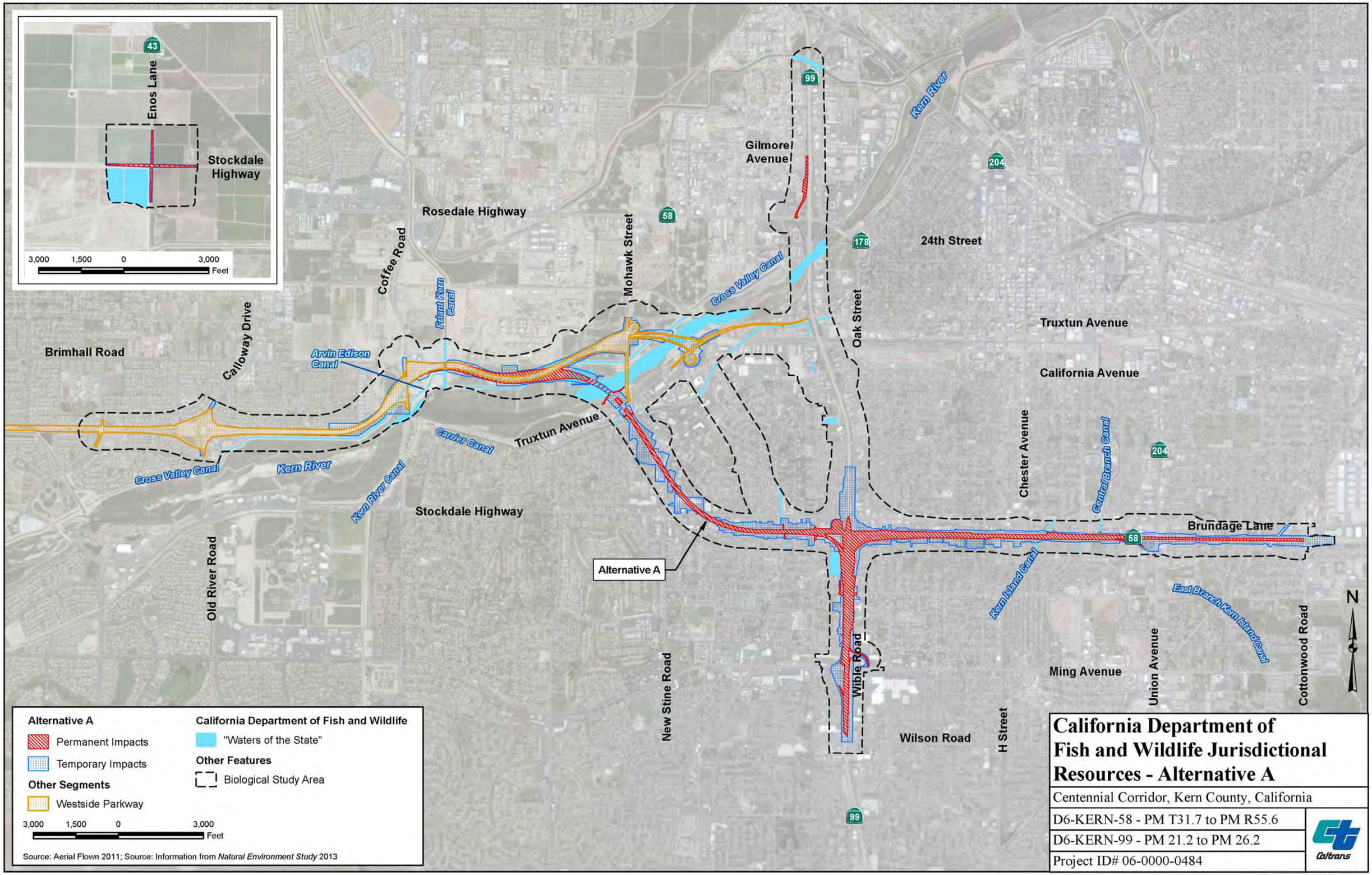

Enos Lane
Stockdale Highway
3,000 1,500 0 3,000
Feet
Rosedale Highway
Coffee Road
Friant Kern Canal
Mohawk Street
Gilmore Avenue
Kern River
24th Street
Oak Street
Truxtun Avenue
California Avenue
Brimhall Road
Calloway Drive
Arvin Edison Canal
Cross Valley Canal
Carrier Canal
Truxtun Avenue
Kern River
Kern River Canal
Stockdale Highway
Old River Road
Alternative C
Chester Avenue
Central Branch Canal
Brundage Lane
Kern Island Canal
East Branch Kern Island Canal
Ming Avenue
Union Avenue
Cottonwood Road
New Stine Road
Wible Road
Wilson Road
H Street
N
Alternative C
Permanent Impacts
Temporary Impacts
Other Segments
Westside Parkway
United States Army Corps of Engineers
"Waters of the U.S."
Wetlands
Open Water
(Non-wetland "Waters of the U.S.")
Other Non-wetland "Waters of the U.S."
Other Features
Biological Study Area
3,000 1,500 0 3,000
Feet
Source: Aerial Flown 2011; Source: Information from Natural Environment Study 2013
United States Army Corps of Engineers Jurisdictional Resources - Alternative C
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-52c



California Department of Fish and Wildlife Jurisdictional Resources - Alternative A

Centennial Corridor, Kern County, California

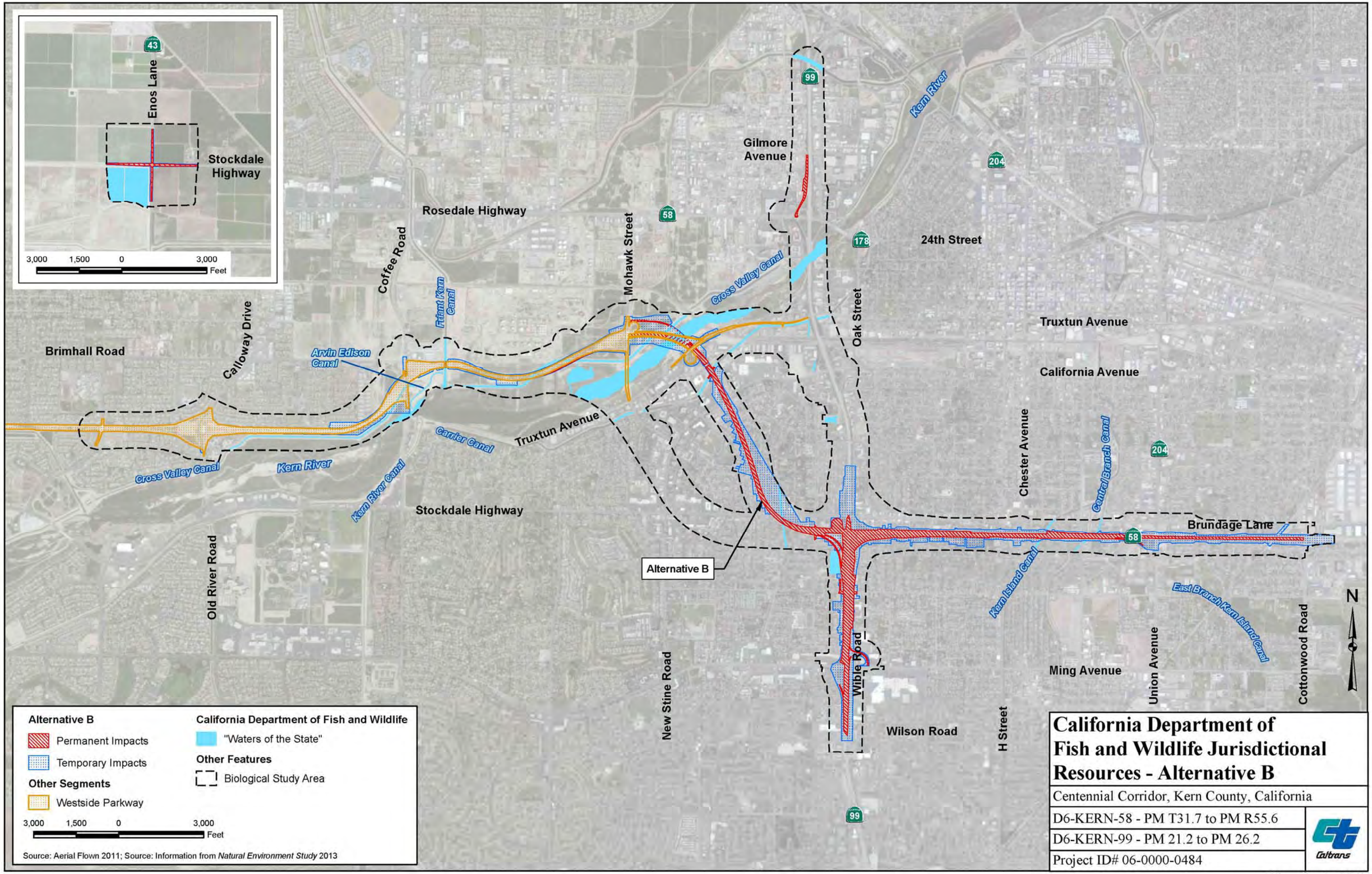
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-53a



California Department of Fish and Wildlife Jurisdictional Resources - Alternative B

Centennial Corridor, Kern County, California

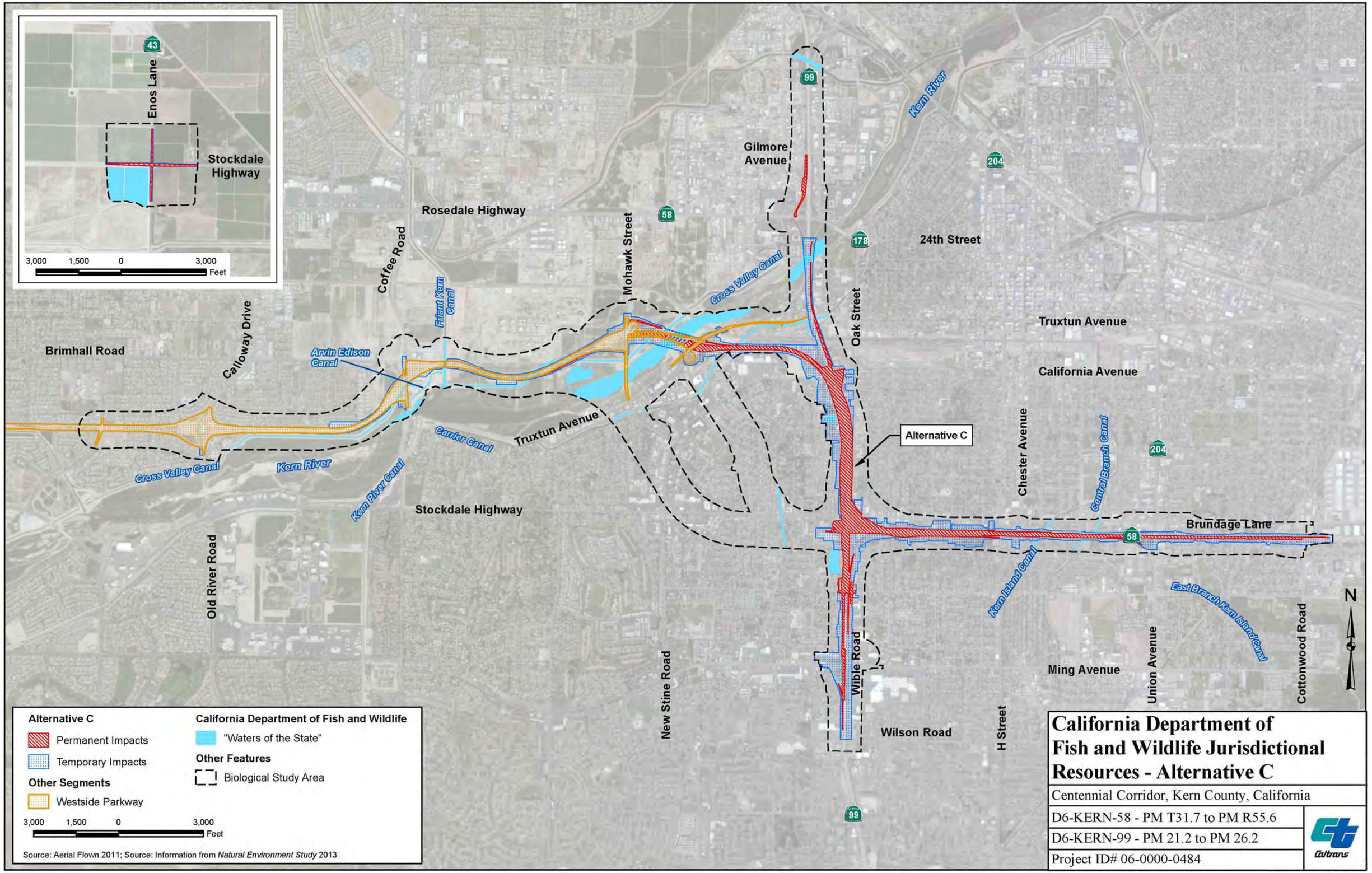
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-53b



California Department of Fish and Wildlife Jurisdictional Resources - Alternative C

Centennial Corridor, Kern County, California

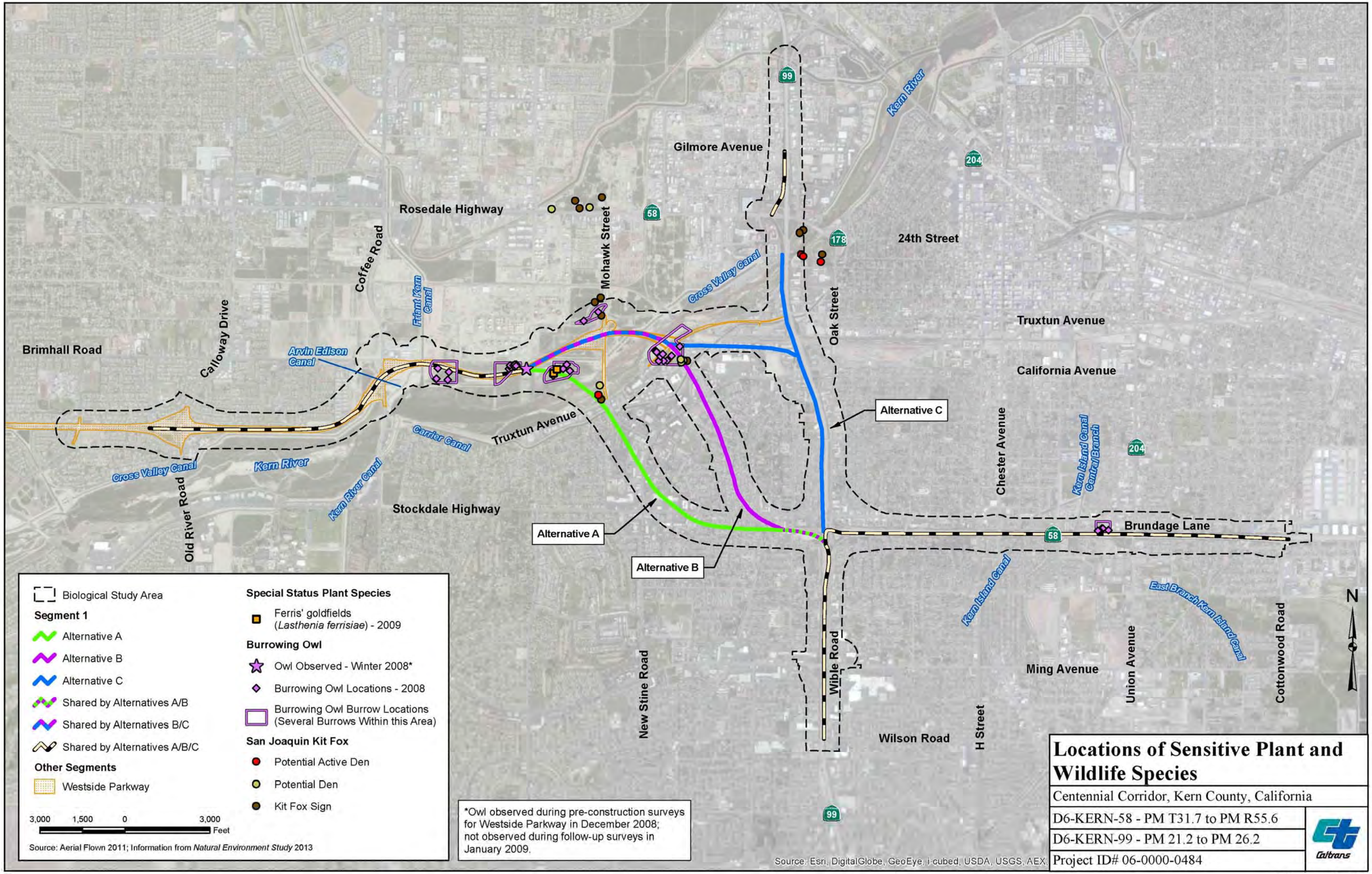
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-53c



Locations of Sensitive Plant and Wildlife Species

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-54

Appendix A California Environmental Quality Act Checklist

This checklist identifies physical, biological, social and economic factors that might be affected by the project. In many cases, background studies performed in connection with the projects indicate no impacts. A No Impact answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to California Environmental Quality Act, not National Environmental Policy Act impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☒	☐	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐
II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒
VI. GEOLOGY AND SOILS: Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

VII. GREENHOUSE GAS EMISSIONS: Would the project: a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document (refer to Section 4.5, Climate Change under the California Environmental Quality Act). While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☒	☐
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j) Inundation by seiche, tsunami, or mudflow	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	☒	☐	☐	☐
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒
XI. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒
XII. NOISE: Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING: Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐
XIV. PUBLIC SERVICES:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☒	☐	☐
Other public facilities?	☐	☐	☐	☒
XV. RECREATION:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC: Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

Appendix B Section 4(f) Evaluation

Centennial Corridor Project

City of Bakersfield and Kern County, CA
District 06 - KER – 58 - PM T31.7 to PM R55.6
District 06 - KER – 99 - PM 21.2 to PM 26.2

Project ID # 06-0000-0484
SCH #2008091102

Draft Section 4(f) Evaluation

Prepared by the
State of California Department of Transportation

The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by the California Department of Transportation under its assumption of responsibility pursuant to 23 U.S. Code 327.

April 2014

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1.0 Introduction and Overview of Section 4(f) Process

1.1 Introduction

This report evaluates the effects of establishing a new alignment for State Route 58 that would provide a continuous route along State Route 58 from Interstate 5 via the Westside Parkway to Cottonwood Road on existing State Route 58 east of State Route 99 (post miles T31.7 to R55.6). Improvements to State Route 99 (post miles 21.2 to 26.2) would also be made to accommodate the connection with State Route 58.

The following technical reports, prepared as part of the draft environmental document for the project, were used in support of the evaluation presented in this report:

- Air Quality Study Report, November 2013
- Noise Study Report, January 2013
- Natural Environment Study, March 2013
- Historical Property Survey Report, January 2013
  - Historic Resource Evaluation Report, January 2013
  - California Historic Bridge Inventory Sheet, October 2011
  - Archaeological Survey Report, January 2013
  - Extended Phase I (Geoarchaeological Study), November 2012
  - Finding of Effect, April 2014
- Visual Impact Assessment, September 2013
- Community Impact Assessment, September 2013

Alternatives A and C would result in the permanent use of two park and recreation properties and one historic district considered Section 4(f) properties. No permanent use of Section 4(f) properties would occur with implementation of Alternative B. No temporary construction easements would be required for any of the build alternatives (A, B, or C). Refer to Section 2.3 below for a more detailed description of the proposed project alternatives.

1.2 Regulatory Setting

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 United States Code 303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

Section 4(f) specifies that the Secretary [of Transportation] may approve a transportation program or project . . . requiring the use of publicly owned land of a

public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:

- there is no prudent and feasible alternative to using that land; and
- the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

Section 4(f) further requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Department of Agriculture and the Department of Housing and Urban Development in developing transportation projects and programs that use lands protected by Section 4(f). If historic sites are involved, then coordination with the State Historic Preservation Officer (SHPO) is also needed.

Coordination with the Department of Agricultural and Department of Housing and Urban Development is not required for the project because there would be no impacts to National Forest System lands or federal funding from the Department of Housing and Urban Development. Since historic sites are involved, therefore coordination with the State Historic Preservation Officer is needed.

1.3 Section 4(f) Use

As defined in 23 Code of Federal Regulations (CFR) Section 774.17, use of a protected Section 4(f) property occurs when any of the following conditions is met:

- Land is permanently incorporated into a transportation facility through partial or full acquisition (i.e., direct use).
- There is a temporary occupancy of land that is adverse in terms of the preservationist purposes of Section 4(f) (i.e., temporary use).
- There is no permanent incorporation of land, but the proximity of a transportation facility results in impacts so severe that the protected activities, features, and/or attributes that qualify a property for protection under Section 4(f) are substantially impaired.

1.4 Federal Highway Administration – Section 4(f) Policy Paper

In its *Section 4(f) Policy Paper* (July 20, 2012), the Federal Highway Administration provided guidance on how Section 4(f) applies generally and to specific situations where resources meeting the Section 4(f) criteria may be involved. As it relates to publicly owned bodies of water such as portions of the Kern River (see discussion of

Kern River Parkway in Section 4.2.1), it notes that, in general, rivers are not subject to the requirements of Section 4(f), although portions of a river contained within the boundaries of otherwise designated parks could be applicable under Section 4(f).

1.5 Section 6(f)

Section 6(f)(3) of the Land and Water Conservation Fund Act (16 U.S. Code §4601-4) also contains provisions to protect federal investments in park and recreation properties and the quality of those assisted properties. The Land and Water Conservation Fund Act includes a clear "anti-conversion" requirement that applies to all parks and other sites that have been the subject of Land and Water Conservation Fund grants of any type, whether for acquisition of parkland, development, or rehabilitation of facilities.

2.0 Description of the Project

2.1 Background

The proposed continuous route, known as the Centennial Corridor, has been divided into three segments (see Figure 1). This Section 4(f) Evaluation solely focuses on Segment 1:

- Segment 1 is the easternmost portion of the Centennial Corridor project. It begins near the intersection of State Route 58 and Cottonwood Road and continues westerly to connect to the Westside Parkway. The study area for Segment 1 is bound to the east by Cottonwood Road, to the west by Coffee Road, to the north by Gilmore Avenue, and to the south by Wilson Road.
- Segment 2 is composed of the Westside Parkway, which will ultimately extend from about Truxtun Avenue to Stockdale Highway near Heath Road. The final segment of the parkway from Allen Road to Stockdale Highway is currently under construction and is expected to be completed by 2014.
- Segment 3 traffic would use Stockdale Highway between Heath Road and Interstate 5, which would serve as State Route 58 through at least the planning horizon year of 2038. Funding sources for Segment 3 have not yet been identified/programmed.

2.2 Purpose and Need for the Project

The purpose of the Centennial Corridor project is to provide route continuity and associated traffic congestion relief along State Route 58 within metropolitan Bakersfield and Kern County from existing State Route 58 (East) (at Cottonwood Road) to Interstate 5.

State Route 58 is a critical link in the state transportation network used by interstate travelers, commuters, and a large number of trucks. Under existing conditions, State Route 58 does not meet the capacity needs of the area, and this is expected to get worse as the population grows. State Route 58 lacks continuity in central Bakersfield, which results in severe traffic congestion and reduced levels of service on adjoining highways and local streets. The effectiveness of traffic operations on a transportation facility is measured in terms of "level of service", an A through F scale with level of service A representing the best traffic conditions (free-flowing traffic) and level of service F representing the worst (congestion and stop-and-go traffic). Different level of service definitions are provided for freeways, multi-lane highways, intersections with signals, and intersections without signals. This route is offset by about 1 mile at State Route 43 (known locally as Enos Lane) and by about 2 miles at State Route 99. The merging of two major state routes (State Route 58 and State Route 99) into one alignment between the eastern and western legs of State Route 58 degrades the traffic level of service on this segment of freeway. In addition, the close spacing of two State Route 99 interchanges with State Route 58 (East and West), as well as an interchange at California Avenue, results in vehicles aggressively changing lanes, which adds to the congestion. See Volume 1, Chapter 1, Purpose and Need for the Project for additional information.

2.3 Alternatives

The following provides a summary of the proposed project components. Chapter 2 of this draft environmental impact report/environmental impact statement provides additional detailed information.

2.3.1 No-Build Alternative

The No-Build Alternative would make no improvements. The Westside Parkway would be built as a local freeway but would not connect to State Route 58, State Route 99, or Interstate 5. State Route 58 (West)/Rosedale Highway would still end at State Route 99 and share the highway with State Route 99 for about 2 miles south before tying into State Route 58 (East). Normal maintenance and repairs such as roadway cleaning, pothole repair, landscape maintenance, irrigation repairs, and inspections would be undertaken for the Westside Parkway and State Route 58 (West)/Rosedale Highway.

2.3.2 Build Alternatives

Three build alternatives—Alternative A, Alternative B, and Alternative C—and the No-Build Alternative are evaluated in this Section 4(f) Evaluation.

Segment 1

As discussed above, Segment 1 is the easternmost segment of the Centennial Corridor project. It begins near the State Route 58 and Cottonwood Road intersection and continues westerly to connect to the Westside Parkway. The study area for Segment 1 is bound to the east by State Route 58 and Cottonwood Road, to the west by Westside Parkway and Coffee Road, to the north by Gilmore Avenue, and to the south by Wilson Road.

As shown in Figure 2, the three build alternatives (Alternative A, Alternative B, and Alternative C) propose new alignments that would extend from the existing State Route 58 (East) and connect to the eastern end of the Westside Parkway. Alternative A and Alternative B would be west of State Route 99; Alternative C would parallel State Route 99 to the west. Under Alternative A, the eastern end of the Westside Parkway mainline would be realigned to conform to the Alternative A alignment, and ramp connections would be provided to the Mohawk Street interchange. Under Alternatives B and C, the alignments would connect to the Westside Parkway by extending the main line lanes built as part of the Westside Parkway project. Detailed descriptions of the alternatives are provided below.

Alternative A

Alternative A would travel westerly from the existing State Route 58/ State Route 99 interchange for about 1 mile, south of Stockdale Highway, where it would turn northwesterly and span Stockdale Highway/Montclair Street, California Avenue/ Lennox Avenue, Truxtun Avenue, and the Kern River before joining the eastern end of the Westside Parkway between the Mohawk Street and Coffee Road interchanges.

A link would be provided from northbound State Route 99 to westbound State Route 58 and from eastbound State Route 58 to southbound State Route 99 via high-speed connectors. No direct connector ramps would be built from southbound State Route 99 to westbound State Route 58 or from eastbound State Route 58 to northbound State Route 99. Southbound State Route 99 would be widened to accommodate the additional traffic from eastbound State Route 58 to the southbound State Route 99 connector. The existing westbound State Route 58 to southbound State Route 99 loop-ramp connector would be realigned and would connect to the proposed eastbound State Route 58 to southbound State Route 99 connector before merging onto southbound State Route 99. The existing southbound State Route 99 to eastbound State Route 58 connector and northbound State Route 99 to eastbound State Route 58 would be preserved with some changes.

The limits of widening on State Route 99 would extend to the Wilson Road overcrossing. On northbound State Route 99, a three-lane exit would be provided just north of Wilson Road to carry the northbound State Route 99 to westbound State Route 58 traffic on two lanes and the Ming Avenue on- and off-ramp traffic on the third lane. All ramps in this area would have to be realigned to provide the additional lanes. The Wible Road on- and off-ramps just south of the existing State Route 58/ State Route 99 interchange that is in conflict with the Caltrans standards of interchange spacing would have to be removed to accommodate this design. The Stockdale Avenue off-ramp on the southbound State Route 99 to eastbound State Route 58 connector would be removed as well. Under this concept, State Route 58 would also lose its link with Real Road. In addition, Alternative A would provide an auxiliary lane on State Route 99 from south of Gilmore Avenue to the Rosedale Highway off-ramp.

Alternative B

Alternative B would run westerly from the existing State Route 58/State Route 99 interchange for about 1,000 feet, south of Stockdale Highway, where it would turn northwesterly and span Stockdale Highway/Stine Road, California Avenue, Commerce Drive, Truxtun Avenue, and the Kern River before joining the east end of Westside Parkway near the Mohawk Street interchange. This alignment would depress State Route 58 between California Avenue and Ford Avenue. Overcrossings are proposed at Marella Way and La Mirada Drive to ease traffic circulation. The option of removing the La Mirada Drive overcrossing from Alternative B is also under consideration. Removal of the overcrossing would not substantially change access, which would be provided by the Marella Way overcrossing. Removal of the La Mirada Drive overcrossing would eliminate the need to displace 13 single family homes on La Mirada Drive near Centennial Park and save about $2.5 million in construction costs. The option for adding a Ford Road undercrossing would maintain connection of Ford Road between Stine Road and McDonald Way. The undercrossing would not require the acquisition of any additional property and would add about $5.5 million in construction cost. Caltrans and the City of Bakersfield will consider the benefits associated with minimizing impacts on the remaining neighborhood, costs, and internal circulation needs. It is expected that this issue will be resolved prior to the approval of the environmental document.

Alternative B proposes the same connections to State Route 99 that Alternative A proposes and would require similar improvements on State Route 99 and existing State Route 58.

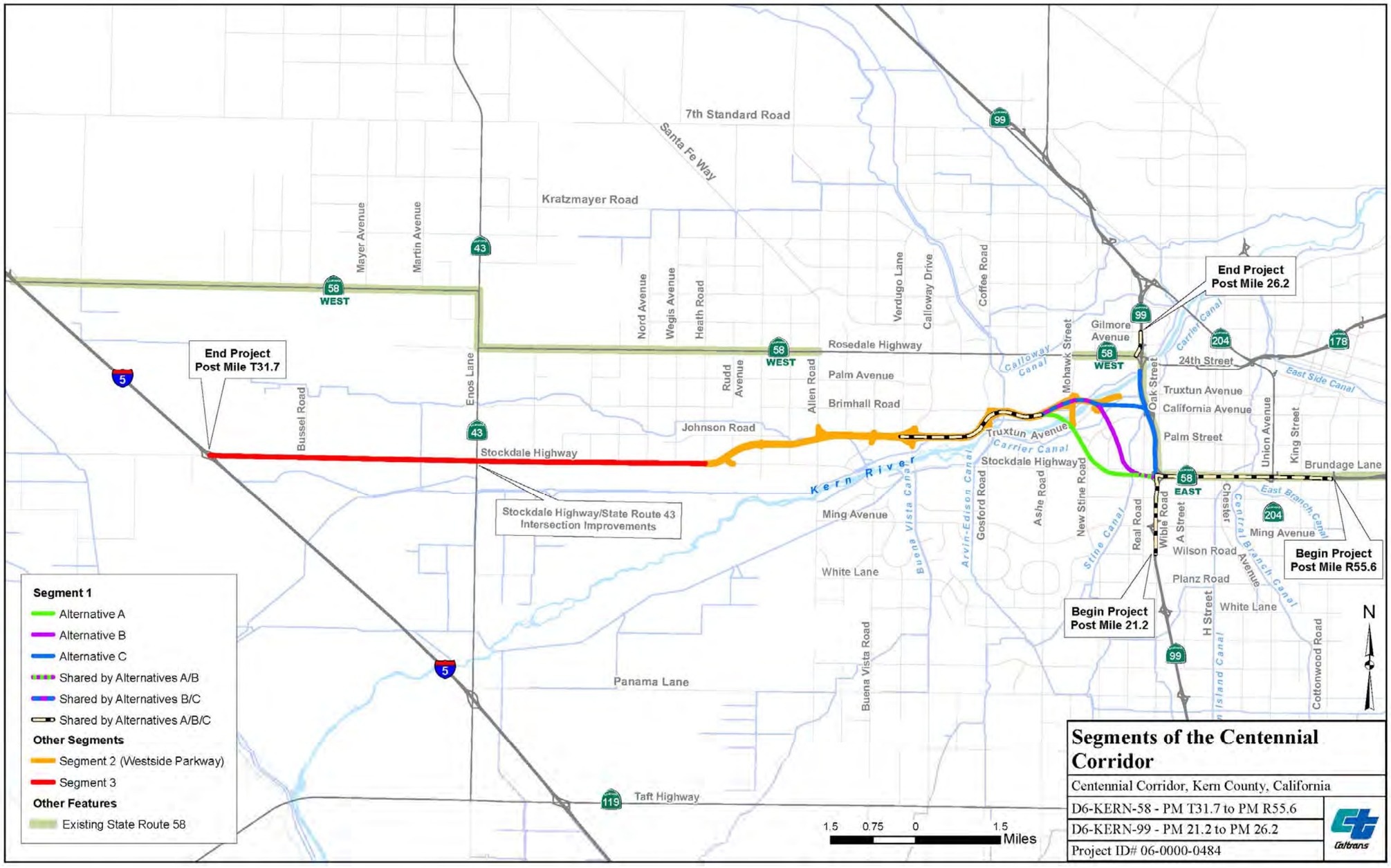


Figure 1 Segments of the Centennial Corridor

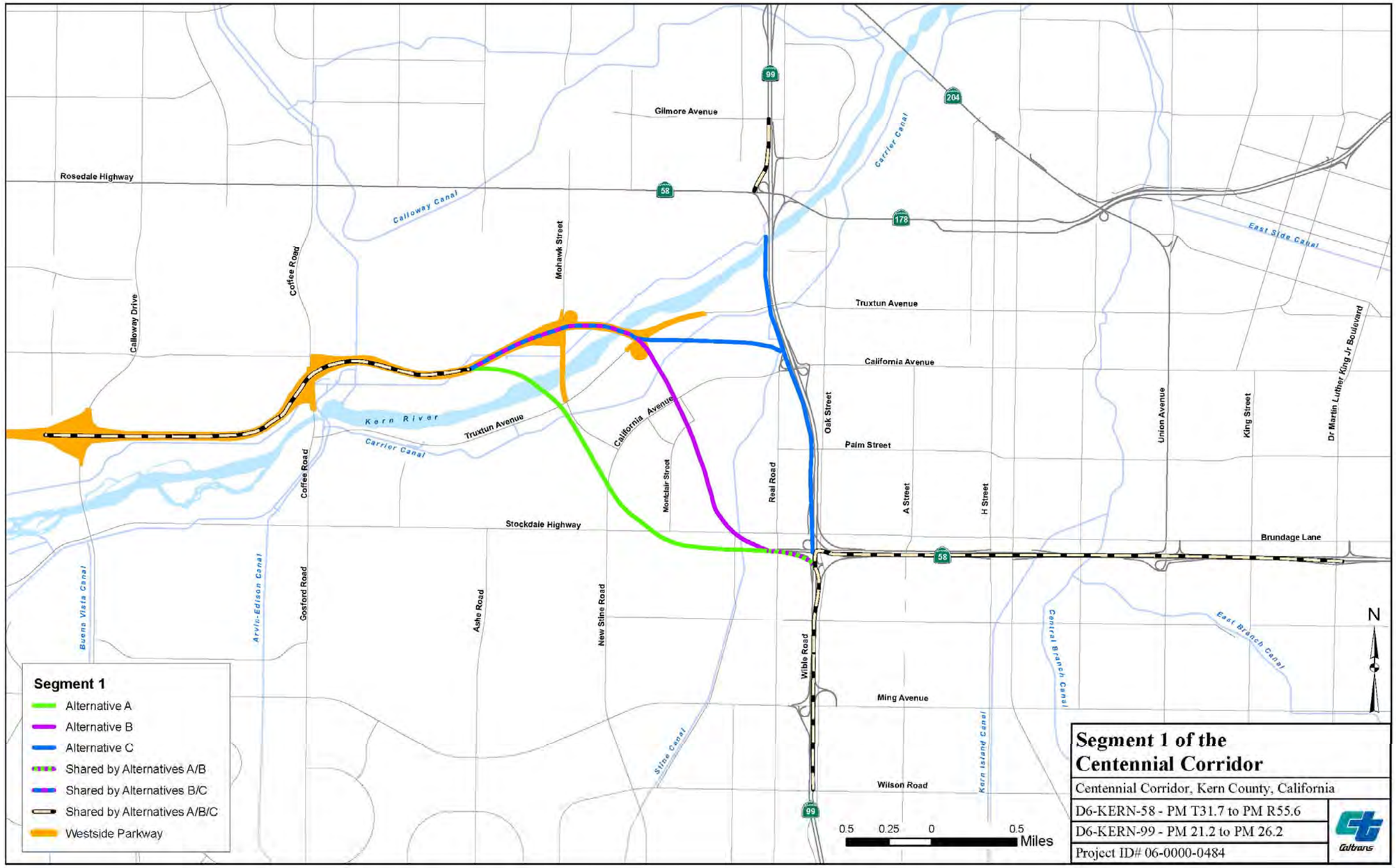


Figure 2 Segment 1 of Centennial Corridor

Alternative C

Near the existing State Route 58/ State Route 99 interchange, Alternative C would turn north and run parallel to the west of State Route 99 for about 1 mile. The freeway would turn west and span the Burlington Northern Santa Fe Railway rail yard, Truxtun Avenue, and the Kern River. This alternative proposes undercrossings at Brundage Lane, Oak Street, State Route 99, Palm Avenue, and California Avenue.

Connections would be provided from eastbound State Route 58 to southbound State Route 99 and from northbound State Route 99 to westbound State Route 58. The existing westbound State Route 58 to southbound State Route 99 loop-ramp connector would connect to the proposed eastbound State Route 58 to southbound State Route 99 connector before merging onto southbound State Route 99. The southbound State Route 99/Ming Avenue off-ramp would be moved north of the eastbound State Route 58 to southbound State Route 99 connector to ease lane changes between the Ming Avenue off-ramp and the eastbound State Route 58 to southbound State Route 99 connector traffic. An auxiliary lane on northbound State Route 99 would be provided south of California Avenue. The lane would extend to the State Route 58/ State Route 99 interchange to ease lane changes between westbound State Route 58 to northbound State Route 99 and northbound State Route 99 to westbound State Route 58.

Improvements on State Route 99 would extend from the Wilson Road overcrossing (south of the State Route 58/State Route 99 interchange) to the Gilmore Avenue overcrossing (north of the State Route 58/State Route 99 interchange). A collector-distributor road system would provide access from westbound State Route 58 to northbound State Route 99, as well as from northbound State Route 99 to westbound State Route 58. The Wible Road on- and off-ramps just south of the existing State Route 58/State Route 99 interchange would have to be removed to accommodate the northbound State Route 99 auxiliary lane. The Stockdale Avenue off-ramp on the southbound State Route 99 to eastbound State Route 58 connector would be removed as well. Under this concept, southbound State Route 99 would also lose its link with Real Road. See Volume 1, Chapter 2, Project Alternatives for additional information.

3.0 Description of the Proposed Construction Activities

3.1 Construction Scenario

Site clearing and demolition would begin once the right-of-way acquisition process is complete. The corridor would be cleared of conflicting structures and improvements in preparation for the project construction. Electrical transmission towers, oil wells, canal culverts, and other existing utilities that would interfere with construction of the

corridor improvements would be removed and relocated or encased for continuing service. In addition, utilities crossing the alignment may need to be removed and relocated to either temporary (requiring final relocation later in the construction process) or permanent locations.

A Traffic Management Plan would be developed to reduce the impacts of traffic congestion and detours during construction. With the exception of short-term closures to install bridge falsework (temporary supports while the bridge is being built), most of the arterial roadways and most secondary streets crossing the construction corridor would remain open during construction. Burlington Northern Santa Fe Railway operations would not be interrupted or delayed during construction.

The current construction schedule assumes activities would begin in 2016 and end in 2018.

4.0 Description of the Section 4(f) Properties

4.1 Identification of Section 4(f) Properties

As discussed in Section 1.2, Regulatory Setting, properties subject to the provisions of the requirements of Section 4(f) are publicly owned parks and recreation areas, wildlife and waterfowl refuges of national, state, or local significance, and historic sites of national, state, or local significance.

Two public parks and one National Register of Historic Places-eligible historic district were identified as potentially affected Section 4(f) properties within the study area, which is within a 0.5-mile radius of the proposed project. These are described in the following sections and are shown in Figure 3.

4.2 Public Parks and Recreational Facilities

Building Segment 1 would require conversion of some existing parkland and recreational areas to transportation uses, including 6.28 acres for Alternative A and 3.27 acres for Alternative C. Alternative B would not require any conversion of parkland/recreational use to transportation use. No temporary construction easements are required for any of the alternatives being considered.

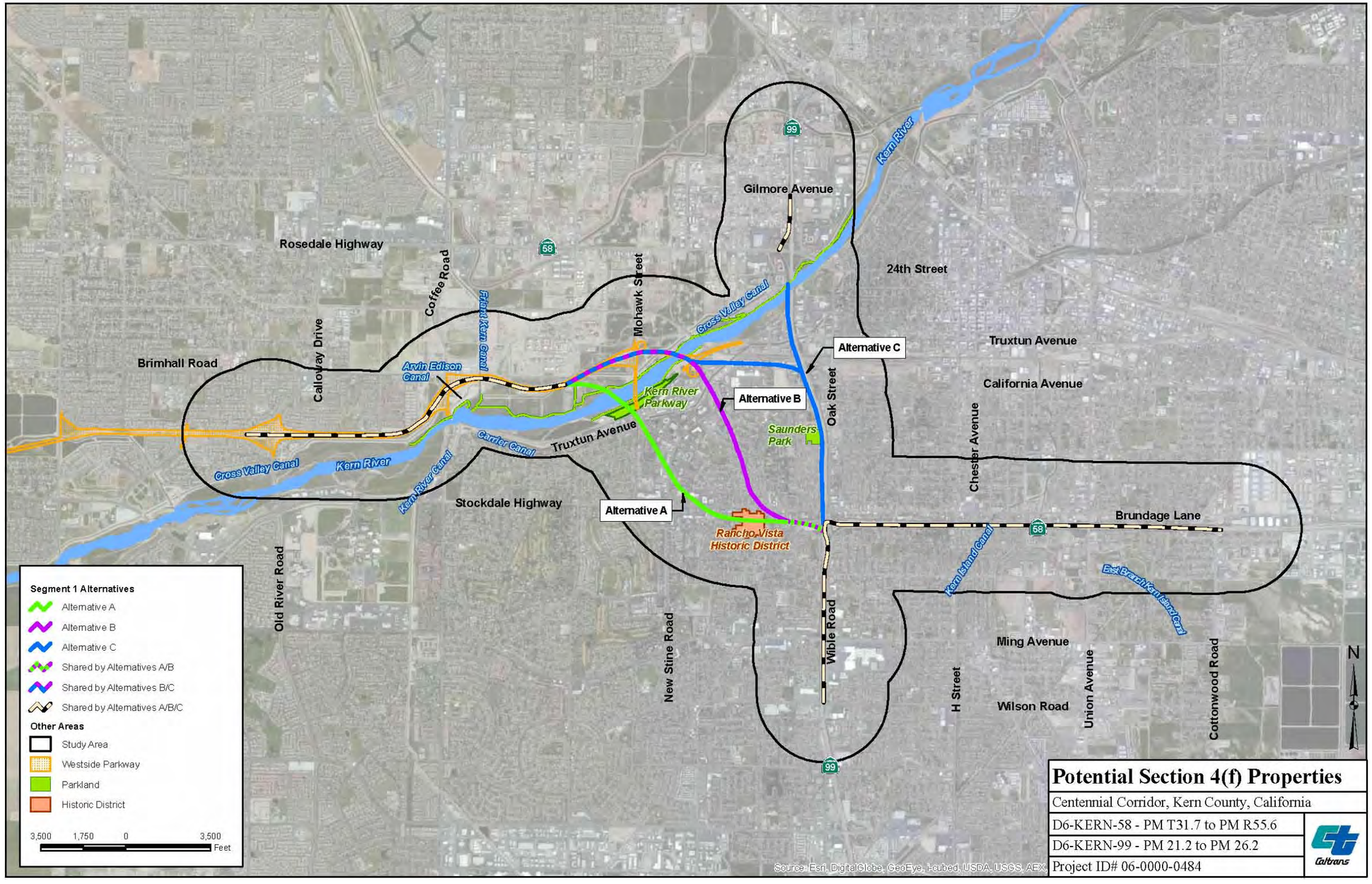


Figure 3 Potential Section 4(f) Properties

4.2.1 Kern River Parkway

The Kern River Parkway is within the city of Bakersfield and Kern County. Within Bakersfield, the Kern River Parkway consists of about 1,400 acres and extends along the Kern River from Manor Street on the east and the Stockdale Highway Bridge on the west. The width of the parkway varies, but it generally ranges from 30 to 2,200 feet, with most of it contained within the primary and secondary floodway (areas reserved for flood control and water conservation) of the Kern River. Existing and proposed recreation areas account for 220 acres. The primary river channel, habitat areas (including areas for educational studies), and recharge basins account for 1105 acres. Parking uses account for 8 acres, rest areas 2 acres, and landscaped areas 65 acres. Further details are provided in Attachment A. Of the estimated 1,400 acres that comprise the parkway, about 255 acres, or 18.2 percent, are privately owned. About 950 acres, or 67.9 percent, are owned by the City of Bakersfield and 195 acres, or 13.9 percent, are owned by other public agencies or utility companies. The Kern River Parkway Master Plan governs land use plan for the parkway and identifies proposed uses such as the primary river channel, natural open space, landscaped areas, existing and proposed recreation areas, access points, parking areas, bridge crossings, and other similar designations. The following priority uses are identified in the Kern River Parkway Draft Master Plan Environmental Impact Report (1988):

- Flood control for public safety and protection of property
- Water conservation and groundwater recharge to provide water for existing and future residents and to maintain a viable resource
- Protection and enhancement of the Kern River corridor to maintain and protect open spaces unique to the river
- Improved public access to parkway areas such as passive recreational areas where feasible.

Flood control is the major priority of the parkway because the river runs through a large metropolitan area where protection from flooding is critical. This priority is met through the Channel Maintenance Program adopted by the City of Bakersfield in January 1986. The purpose of the Channel Maintenance Program is to preserve storm flow carrying capacity of the Kern River as it passes through Bakersfield. The channel maintenance area, encompassing the entire parkway between Manor Street and Stockdale Highway Bridge, is confined primarily to the designated floodway with limited excavation in the secondary floodway.

As noted above, within Bakersfield, the Kern River Parkway is a multi-use area though not designated specifically as a park. It does contain some public parks or trails, however, which qualify as Section 4(f) properties. Because the use or ownership of parcels within the Kern River Parkway is complex, Attachment A (Kern River Parkway Memorandum) of this appendix and Section 5.2.1 provide background information and analysis on these items.

A review of the Kern River Master Plan indicates that two areas designated for recreation uses could be affected by building the Centennial Corridor. The first area (known as the Kern River Parkway Park [ParCourse] landscaped with turf and trees) is along the river (outside of the primary or secondary floodway) and extends from about Commercial Way to the vicinity of Lake Truxtun. This area is owned by the City of Bakersfield and contains a 24-acre park. Amenities include three sand volleyball courts, Frisbee golf course, multi-use trail used by bicyclists, pedestrians, joggers, and skaters, and the Hoey Trail, and three off-site surface parking areas (96 spaces). Two access points to the park are available from Truxtun Avenue. An equestrian trail is on the north side of the river about 1,000 feet from the parkway. A portion of the area (in the immediate vicinity of Mohawk Street and Truxtun Avenue) would be needed to build a Kern River overcrossing associated with Alternative A.

The second area is along the river from the existing Burlington Northern Santa Fe railroad bridge (near Truxtun Avenue) to the vicinity of Commercial Way (see Figures 5 and 6). This area, owned by the City of Bakersfield, is unimproved and its primary role is flood control. With the exception of Kern River Multi-Use Trail (paved and used for bicycling and walking) and the Hoey Trail (unpaved and used for mountain bike riding and cross-training) located along the south side of the river and the equestrian trail (unpaved and intended for use by horse and rider) located on the north side of the river, there are no park amenities contained on-site and no public access (access is also not approved outside of the designated trail areas). The Kern River Multi-Use and Hoey Trails are heavily used daily by local residents, while the Equestrian Trail and ParCourse are moderately used and mostly on weekends and evenings. These properties are protected under Section 4(f). As noted previously in Section 5.2.1 (DEIR/EIS, Volume 1), the property has never been used for park uses and is not planned for such uses in the future. A portion of the area (east of Commercial Way and Truxtun Avenue) would be needed to build a Kern River overcrossing for Alternative B and Alternative C.

4.2.2 Saunders Park

Saunders Park, 3300 Palm Street, Bakersfield, California, is an 11.3-acre public park just west of State Route 99. The park is bordered by a city-owned retention basin to the north; State Route 99 to the east; and single-family residences to the south and west. Owned by the City of Bakersfield, the park is administered by the Recreation and Parks Department.

According to the Recreation and Parks Department's website, Saunders Park is a neighborhood park mostly used by residents within a 0.75-mile radius. On average, 400 visitors access this park each week according to Dianne Hoover, Recreation and Parks Director (personal communication, March 21, 2012). Saunders Park can be accessed by vehicles, pedestrians, and bicyclists. Park facilities include two lighted full basketball courts; one equipment building/room; one picnic shelter for families; one restroom building; a roller hockey facility; four horseshoe pits; a splash/water play area; and an undeveloped area along the northern portion of the park.

The splash/water play area is a concrete pad about 70 feet wide by 100 feet long in the southeast corner of the park. Within this area are several structures used to spray water or provide water-filled buckets that spill onto the children below. Water flow is activated by rubbing an initiator. The water continues to flow for a set amount of time before automatically shutting off. A portion of the park would be required to construct Alternative C only.

4.3 Rancho Vista Historic District

Rancho Vista Historic District is a residential subdivision eligible for the National Register of Historic Places under Criterion A for its significance in incorporating innovative mass-production technology during post-World War II. Under Criterion C the Rancho Vista Historic District is an important example of a postwar subdivision consisting entirely of houses built by the whole-house prefabrication method. Rancho Vista Historic District is significant at the local level with a period of significance from 1950 to 1957 when the residences were constructed. The historic boundary of this property is generally defined by Stine Road to the east, Stockdale Highway to the north, McDonald Way to the west, and Quarter Avenue to the south. A more precise boundary, which excludes some non-contributing parcels that are part of the original tract development along perimeter streets, has been delineated as part of the Section106 (National Historic Preservation Act) documentation prepared for the project. The following are identified character-defining features of this tract:

- *Design characteristics of the tract*: Rounded concrete curbs; concrete sidewalks placed next to the curb with no planting strip; houses set back from the curb at varying distances, and mature trees that were planted as part of the initial tract development.
- *Design characteristics of the houses*: Small, one-story residences with compact plans, wood-frame construction on low concrete foundation; varied roof forms such as gable, hip, and combination roofs; wood siding in a variety of types, applied vertically and horizontally; and metal casement windows.

Under Section 106 of the National Historic Preservation Act, the Rancho Vista Historic District is eligible for the National Register. Alternative A would bisect the Rancho Vista Historic District.

5.0 Impacts on Section 4(f) Properties

This section describes how the Centennial Corridor project build alternatives would affect two public parks and one National Register-eligible historic district, all Section 4(f) properties. An assessment was made as to whether any permanent use or temporary occupancy of land from these Section 4(f) properties would result in direct effects that would substantially impair the activities, features, and/or attributes that trigger the provision of Section 4(f).

The following subsections describe the permanent uses and temporary occupancy of the parks and National Register-eligible historic district by the No-Build Alternative and Alternative A, Alternative B, and Alternative C, the build alternatives. Analysis of whether Alternative B will have a constructive use of the National Register-eligible historic district under Section 4(f) is also presented below.

In addition to identifying the permanent use and temporary occupancy impacts of the project, the effects on the Section 4(f) properties related to facilities, functions, and activities potentially affected are also addressed. The impacts on accessibility, visual changes, noise, vegetation, wildlife, air quality, and water quality are also evaluated for each project alternative. Table B.1 summarizes, by alternative, the permanent use and temporary occupancy of the parks, recreational facilities, and National Register-eligible historic district.

Alternatives to avoid the use of Section 4(f) properties are studied and discussed in Section 6.0. Minimization measures to reduce impacts to effected properties are described in Section 7.0.

Table B.1 Summary of Permanent Use and Temporary Occupancy of Section 4(f) Properties

Site	Alternative A		Alternative B		Alternative C	
	Use or Occupancy	Percent	Use or Occupancy	Percent	Use or Occupancy	Percent
Kern River Parkway Park (ParCourse)	Permanent use: up to 6.28 acres	3.2	No use or occupancy	None	No use or occupancy	None
Saunders Park	No use or occupancy	None	No use or occupancy	None	Permanent use: up to 3.27 acres	43
Rancho Vista Historic District	Direct use of 46 of the 81 contributing residences	57	No use or occupancy	None	No use or occupancy	None
Note: Percent indicated is approximate.						

5.1 No-Build Alternative

The No-Build Alternative would not construct any of the improvements proposed in Alternative A, Alternative B, and Alternative C; therefore, it would not result in the permanent use, temporary occupancy, or impairment of land from any Section 4(f) properties. The No-Build Alternative is not discussed in this section.

5.2 Build Alternatives

The following subsections describe direct use of the two parks and National Register-eligible historic district under each build alternative. An evaluation was also done to determine if indirect impacts from the build alternatives would result in substantial impairment of these properties. This is more formally referred to as a constructive use under Section 4(f). That analysis did not identify any proximity impacts resulting from the build alternatives that would be so severe that the activities, features, and/or attributes that qualify these properties for protection under Section 4(f) would be substantially impaired. The proximity impacts of the build alternatives in the vicinity of these properties would not meaningfully reduce or remove the values of these properties in terms of their Section 4(f) significance; therefore, the build alternatives were determined not to result in substantial impairment of any properties protected under Section 4(f).

5.2.1 Kern River Parkway

Facilities, Functions, and/or Activities Potentially Affected

As shown in Figure 4, Alternative A would result in the removal of a portion of the Kern River Parkway Park (ParCourse) (west side of the park) in the immediate vicinity of Mohawk Street and Truxtun Avenue. The following amenities in this area would be removed: three sand volleyball courts and most of a Frisbee golf course. Mature trees and other vegetation within the parkway would also be removed within the project footprint. No amenities on the east side of the parkway would be removed. On the south side of the river, a 1000-foot segment of the Kern River Multi-Use Trail and the Hoey Trail that borders the parkway would be moved about 200 feet northwest of its current location. On the north side of the river, a 1,500-foot segment of the existing equestrian trail would be moved about 200 feet south of its current location. Prior to building the bridge over the Kern River, the new locations for the Kern River Multi-Use Trail, the Hoey Trail, and the equestrian trail would be constructed. As a result, neither trail would be closed during construction.

The area where the volleyball courts and the Frisbee golf course are located would not be available for the public to use once construction starts. With the removal of the volleyball and Frisbee golf course, the main recreational function of this area of the Kern River Parkway would be removed and not replaced. Patrons of the east side of the park would continue to have access to grassy areas, Kern River Multi-Use Trail, and Hoey Trail. The parking areas within all areas of the park would still be available for use, and no parking spaces are planned for removal. The Kern River Multi-Use Trail, Hoey Trail, and the equestrian trail would still function as trails. Access to the parkway would continue to be available along Truxtun Avenue.

Building Alternative A would have a permanent use of about 0.15 acre of the equestrian trail, 0.18 acre of the Kern River Multi-Use Trail, 0.12 acre of the Hoey Trail, and 5.83 acres of the parkland, including the volleyball and Frisbee golf course, for a total of 6.28 acres of parkland and recreational use areas.

Alternatives B and C would cross over the Kern River on an elevated bridge structure (see Figures 5 and 6) in the vicinity of Truxtun Avenue between the Burlington Northern Santa Fe railroad bridge and Commercial Way. These alignments would not affect the Kern River Multi-Use Trail, Hoey Trail or equestrian trail because they would span this area. The Kern River Multi-Use Trail, Hoey Trail and equestrian trail would be open during both construction and operation of the Centennial Corridor project. Alternatives B and C would not directly use the Kern River Multi-Use Trail,

Hoey Trail or equestrian trail. As such, building either Alternatives B or C would not impair the activities, features, or attributes that qualify the multi-use path for protection under Section 4(f).

Because the use and ownership of the Kern River Parkway is complex, the status of the areas proposed for use by Alternatives B and C requires further discussion. The land crossing the Kern River shown in Figure 7 was previously in private ownership and was purchased by the City of Bakersfield solely in support of the Westside Parkway project. As such, this land is not being used for recreational purposes and was never intended to be used for such purposes. Therefore, the publicly owned land in this area is not subject to the provisions of Section 4(f).

Figure 9 shows land ownership along the Kern River and the Centennial Corridor project crossing the Kern River for Alternative B. The Centennial Corridor project meets the Westside Parkway project in this area where the land was purchased for purposes of the Westside Parkway project. There is enough available land purchased for Westside Parkway to accommodate either Alternative B or C of the Centennial Corridor at this location.

The Centennial Corridor project would construct bridge bents (vertical supports) in the riverbed. As discussed in Section 1.4, according to the Federal Highway Administration's *Section 4(f) Policy Paper* (July 20, 2012), Section 21, Bodies of Water, in general, such as rivers, are not subject to the requirements of Section 4(f) unless there are portions of the river that are contained within the boundaries of parks to which Section 4(f) otherwise applies. In addition, as noted in the *Section 4(f) Policy Paper*, unless portions of a water body are primarily designated for recreational use, they are not considered subject to the provisions of Section 4(f). Such is the case for the Kern River, which is designated by the Kern River Plan Element (2007) for floodway management purposes only (the City of Bakersfield has a flood management agreement in place), as its primary function. In addition, the Kern River Parkway Master Plan indicates that the primary river channel is the "area that is located within the State's designated floodway and the Kern River Channel Maintenance Program." For the reasons stated above, Alternatives B and C would not result in a Section 4(f) use of the Kern River Parkway.

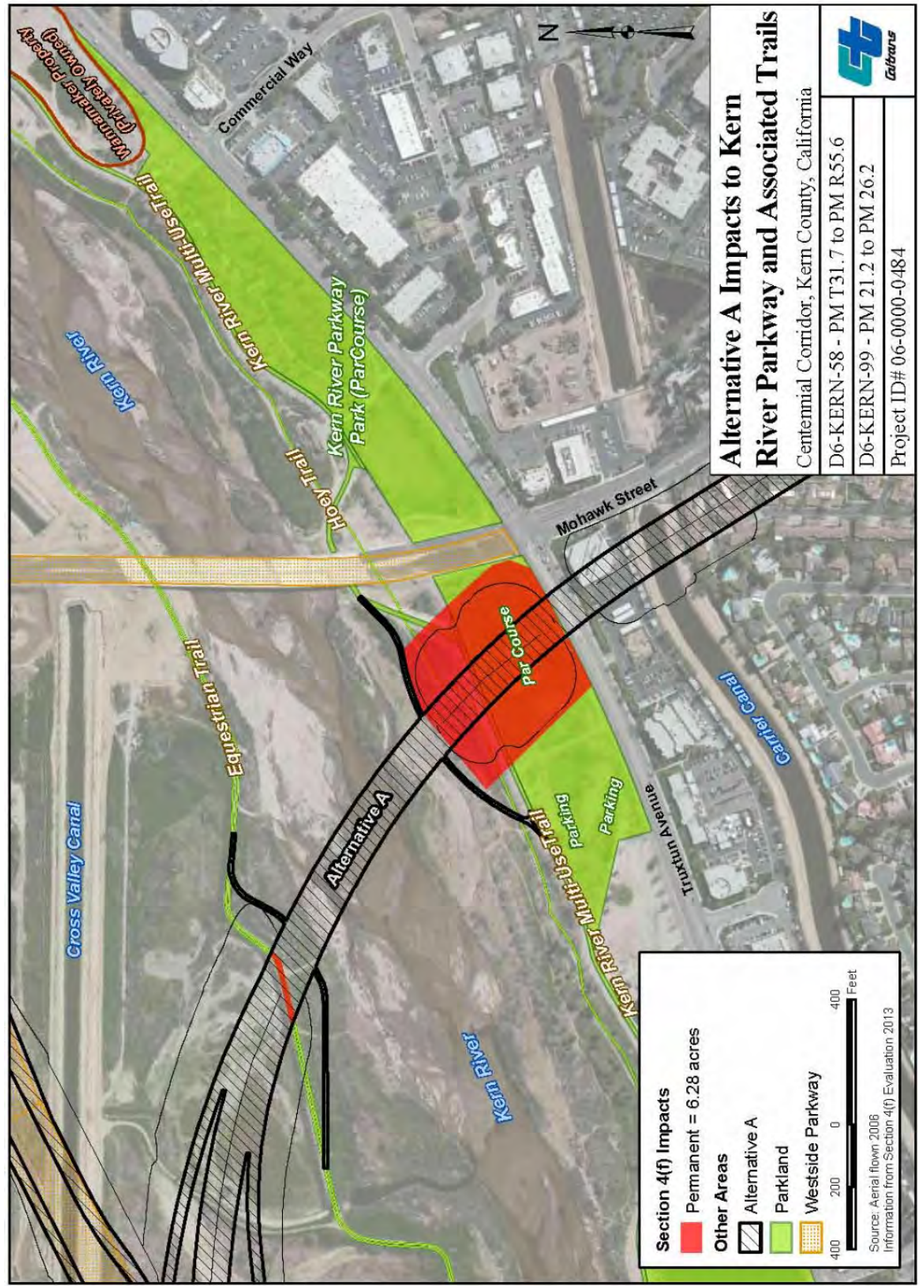


Figure 4 Alternative A Impacts along Kern River Parkway

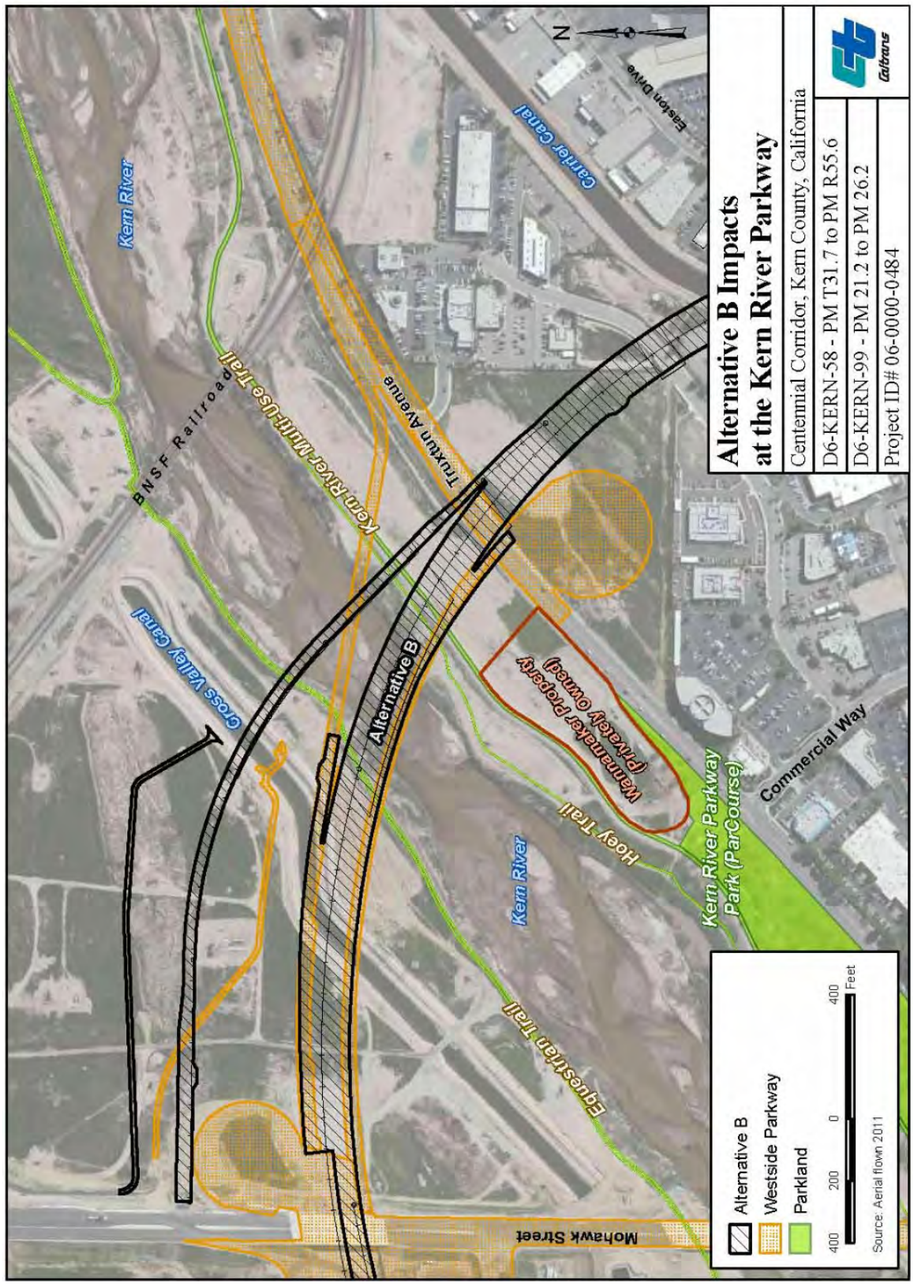


Figure 5 Alternative B Impacts at the Kern River Parkway

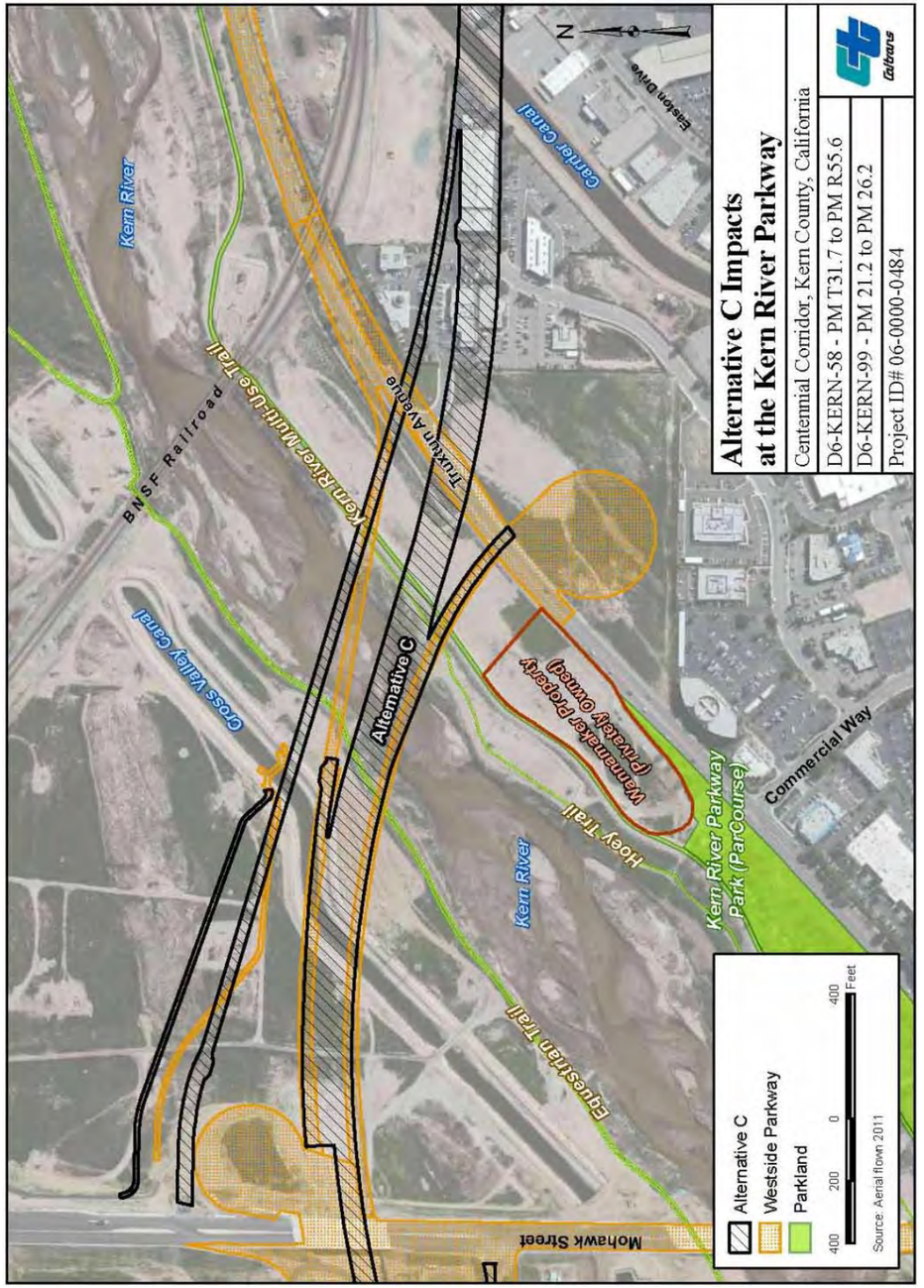


Figure 6 Alternative C Impacts at the Kern River Parkway

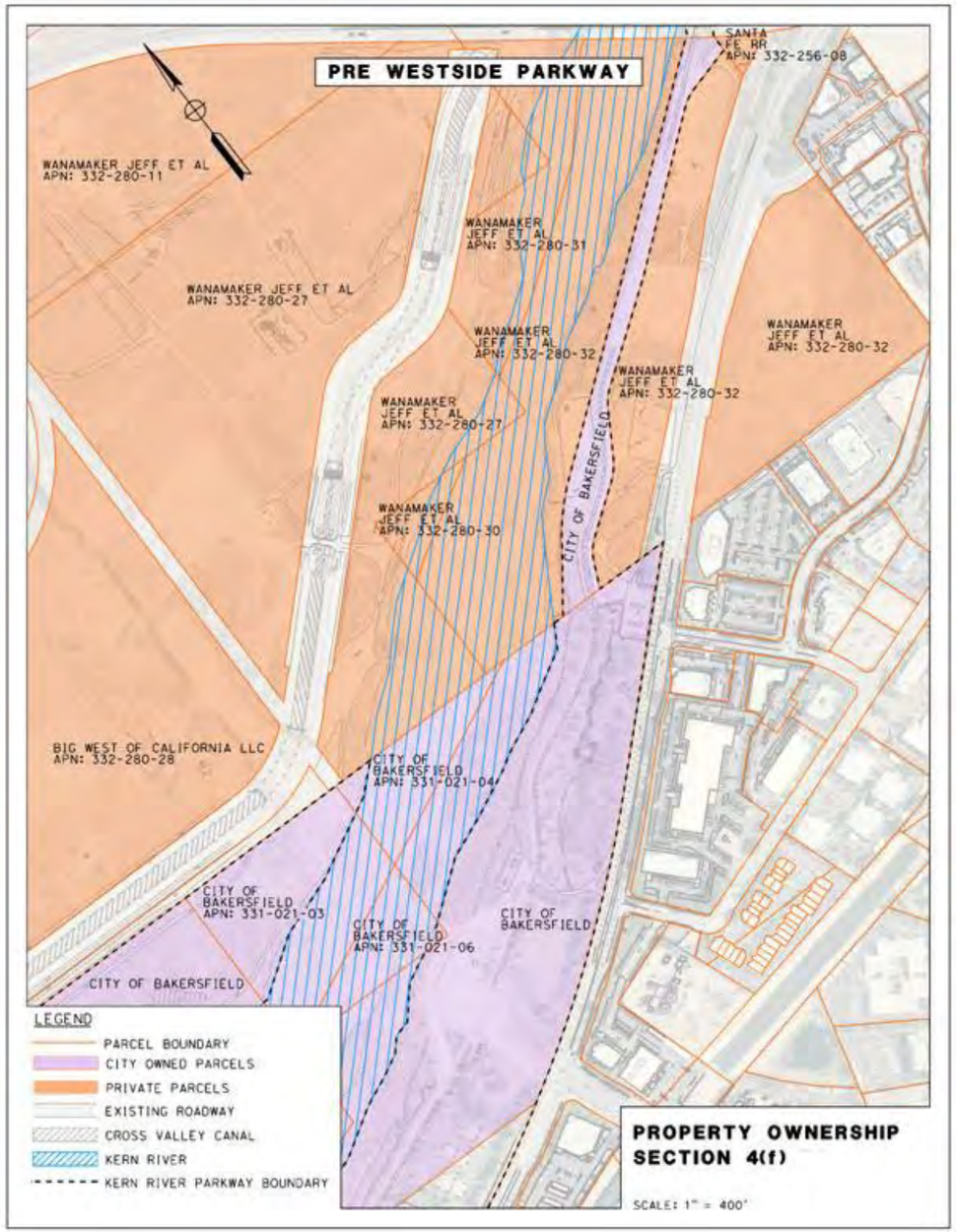


Figure 7 Kern River Parkway Ownership Prior to Westside Parkway Project

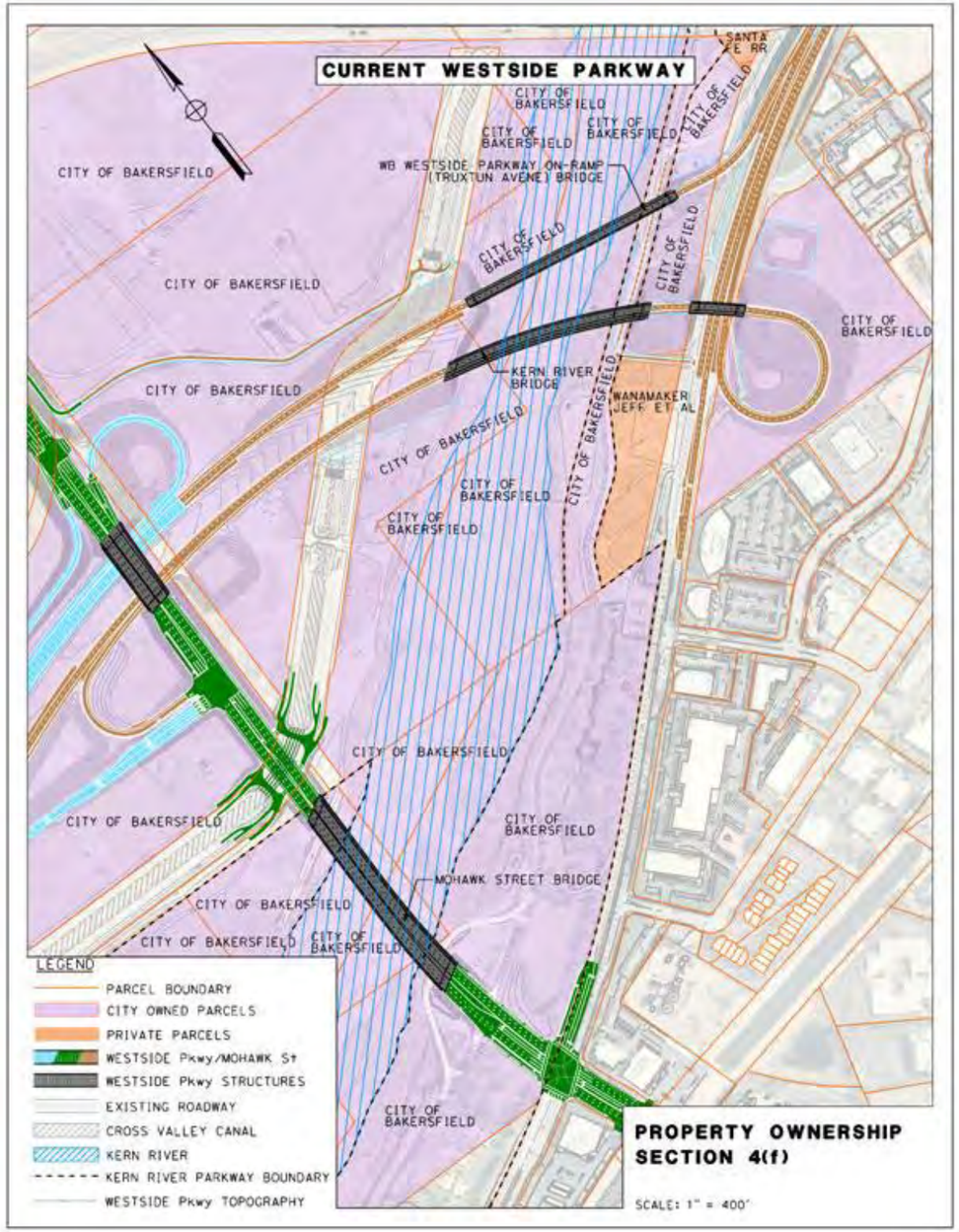


Figure 8 Kern River Parkway Ownership with Westside Parkway Project

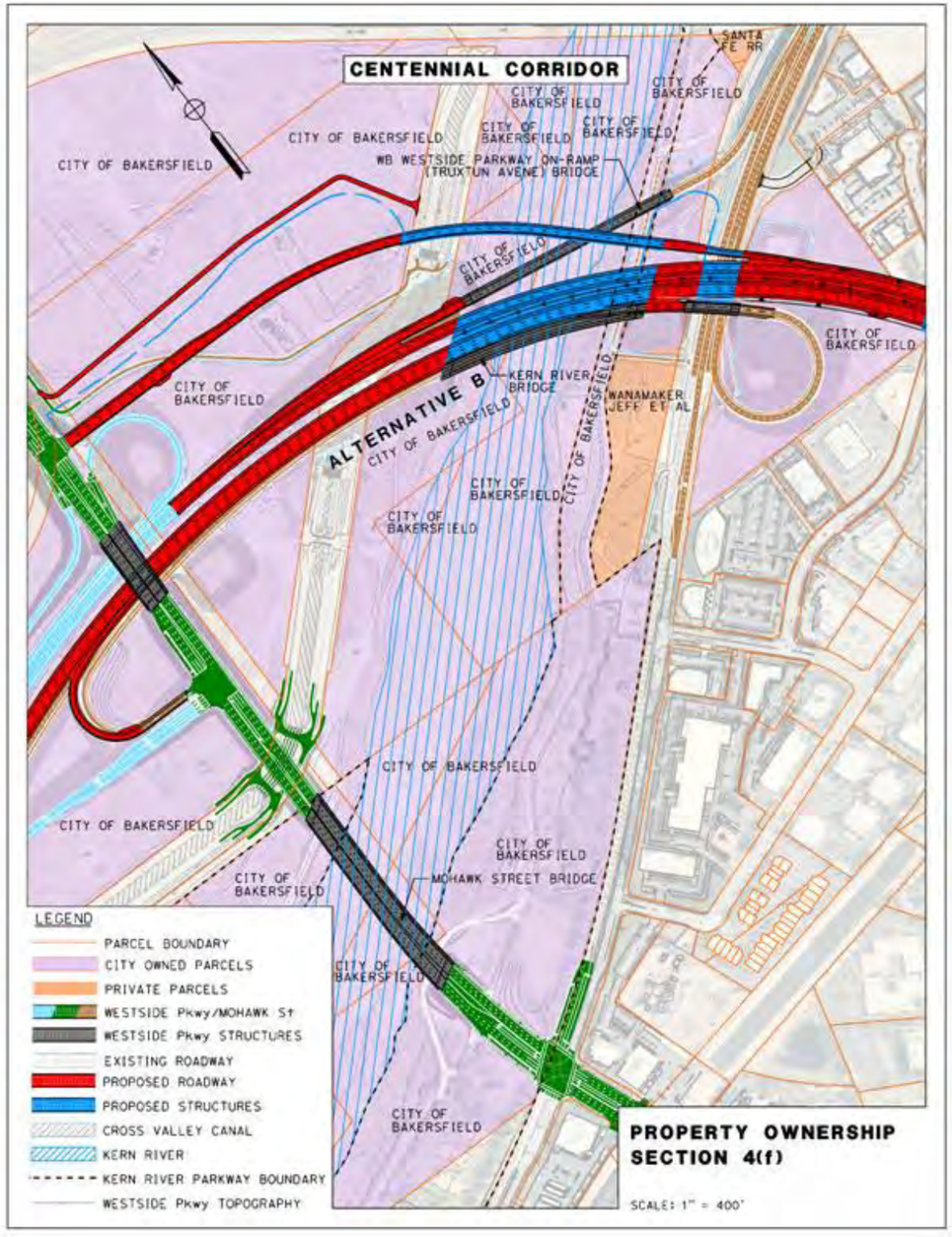


Figure 9 Kern River Parkway Ownership with the Centennial Corridor Project

Accessibility

Building Alternative A would require acquisition of parkland and some associated amenities within the west side of the Kern River Parkway in the immediate vicinity of Mohawk Street and Truxtun Avenue. Although building Alternative A would result in the removal of the three volleyball courts and most of the Frisbee golf course of the Kern River Parkway, access to the equestrian and the Kern River Multi-Use Trail and the Hoey Trail (proposed to be relocated) and the east side of the park would remain. Access to the parkway from Truxtun Avenue to the parking area would also remain unchanged. Construction hours would be 6:00 a.m. to 9:00 p.m. on weekdays and 8:00 a.m. to 9:00 p.m. on weekends, but it would not affect access to the park; therefore, while building Alternative A, access to the park would be maintained.

Building Alternative B and Alternative C would not require acquisition of parkland within the Kern River Parkway. These alternatives would be constructed over the existing Kern River Multi-Use Trail, Hoey Trail, and equestrian trail. Access to the Kern River Multi-Use Trail, Hoey Trail, and equestrian trail would be maintained throughout construction and operation of either of these alternatives. Access to the multi-purpose trail from Truxtun Avenue at this location is not publicly available and, as such, construction activities (planned from 6:00 a.m. to 9:00 p.m. on weekdays and 8:00 a.m. to 9:00 p.m. on weekends) would not affect public access; therefore, with building Alternatives B and C, access to the Kern River Multi-Use Trail, Hoey Trail, and equestrian trail at the Kern River Parkway would be maintained. Alternatives B and C would not directly use the Kern River Multi-Use Trail, Hoey Trail, or equestrian trail. As such, Alternatives B and C would not substantially impair the activities, features, and/or attributes that qualify the parkway for protection under Section 4(f).

Visual

As discussed in the *Visual Impact Assessment* (September 2013) and Section 3.1.7 of the draft environmental impact statement/environmental impact report, Alternative A would build a new retaining wall and elevated bridge structure for the freeway at Truxtun Avenue and Mohawk Street crossing the Kern River Parkway with a maximum height of 32 feet. The proposed retaining wall and elevated bridge would be a change in the visual environment of the park landscape. The new bridge would change the visual character of the Kern River Parkway because the built structure would encroach on the natural landscape. There would be a decrease in the overall visual quality with the implementation of Alternative A. The view through the Kern River Parkway at this location would be interrupted by the new transportation facility. However, there are existing urban improvements (Westside Parkway, Mohawk Street

bridge, a petroleum tank farm, and transmission towers) adjacent to the Kern River Parkway which alter and impede the existing visual environment of the park and Kern River area. Because of these existing structures, the views to and from the Kern River Parkway would be minimally adversely affected with the construction of Alternative A. The Kern River Parkway at this location is no longer in a pristine natural condition. Therefore, visual changes as a result of the proposed transportation improvements will not substantially impair the activities, features, and/or attributes that qualify the parkway for protection under Section 4(f).

Alternative B would build an elevated freeway and ramps between the Kern River and Truxtun Avenue with a maximum height of 36 feet. There would be concrete freeway decking and concrete columns supporting the new transportation facility. Support structures and a portion of the flyover (overcrossing) associated with this alternative would be visible from the parkway. In the area where Alternative B crosses the Kern River Parkway, there are several existing structures that alter the views of the users of the Kern River Multi-Use Trail, Hoey Trail, and equestrian trail. These structures include the Westside Parkway, the railroad bridge, utility lines, and oil facilities. While there would be adverse changes to views at the Kern River Parkway as a result of building Alternative B, the changes would not substantially impair the activities, features, and/or attributes that qualify the parkway for protection under Section 4(f) because the view is already altered by existing structures and the park users would see the views of the new freeway for only a moderate period of time.

The visual impacts from Alternative C would be similar to those described for Alternative B, with a maximum height of the elevated freeway of 34 feet. While there would be adverse changes to views at the Kern River Parkway as a result of building Alternative C, the changes would not substantially impair the activities, features, and/or attributes that qualify the parkway for protection under Section 4(f) because the view is already altered by existing structures and the park users would see the views of the new freeway for only a moderate period of time.

Noise

Alternative A would be a freeway alignment that crosses over Kern River Parkway. Areas of frequent human use in recreational areas require analysis for potential noise impacts. In the case of Alternative A, the areas of the park such as the volleyball courts and Frisbee golf course where people remain for longer periods would be removed. Therefore, no traffic noise impact analysis was done for the park. There are multi-use and equestrian trails crossing the proposed alignment. Noise impacts are not

evaluated for these trails because of their transient use and there are no gathering placed along the trails.

For Alternatives B and C, freeway alignments would be constructed crossing over the Kern River Parkway. There are no areas of frequent human use in the Kern River Parkway where Alternatives B and C cross the parkway; therefore, no traffic noise impact analysis has been conducted for these areas and is not required. These alternatives would not substantially impair the activities, features, and/or attributes that qualify the parkway for protection under Section 4(f).

Vegetation and Wildlife

As discussed in the *Natural Environment Study* (March 2013) and Section 3.3 of the draft environmental impact statement/environmental impact report, San Joaquin kit fox dens or sign such as scat were observed within the Kern River Parkway grasslands near Mohawk Street within the area proposed for Alternative A construction. The analysis concluded that standard construction-related avoidance and minimization measures and additional conservation measures would be expected to substantially reduce the potential for take and would compensate for residual effects. As discussed in the *Natural Environment Study* (March 2013) and Section 3.3 of the draft environmental impact statement/environmental impact report, San Joaquin kit fox dens or sign such as scat were observed within the Kern River Parkway grasslands near Mohawk Street about 0.5 mile from Alternatives B and C. These alternatives would not substantially impair the activities, features, and/or attributes that qualify the parkway for protection under Section 4(f).

Air Quality

The *Air Quality Study Report* (January 2013) and Section 3.2.6 of the draft environmental impact statement/environmental impact report concluded that, in the long term, impacts from Alternatives A, B, and C would not contribute substantially to, or cause deterioration of, air quality in the immediate project area or in the region. In addition, during project construction activities, measures such as best available control and standard control measures required by Caltrans and the San Joaquin Valley Air Pollution Control District would be used to reduce exhaust and fugitive dust emissions generated by construction equipment and activities. Therefore, the short-term and long-term air quality impacts associated with Alternatives A, B, and C would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Water Quality

The discussion and analysis in this section is based on the following technical studies prepared for the Centennial Corridor: *Water Quality Assessment Report* (November 2012); *Drainage Report* (January 2012); and the *Storm Water Data Report* (November 2012) and Section 3.2.2 of the draft environmental impact statement/environmental impact report. Building Alternatives A, B, or C has potential to affect water quality.

Potential pollutant sources associated with the construction phase of these alternatives include construction activities and materials expected at the project site: vehicle fluids, concrete and masonry products, landscaping and other products, and contaminated soils. Similarly, operation of these alternatives has the potential to affect water quality. Potential pollutant sources associated with operation of the proposed project include motor vehicles, highway maintenance, illegal dumping, spills, and landscaping care; however, using minimization measures, short-term and long-term water quality impacts associated with Alternatives A, B, and C would not substantially impair the activities, features, and/or attributes that qualify the parkway for protection under Section 4(f).

5.2.2 Saunders Park

Alternatives A and B are about 0.5 mile from Saunders Park; therefore, they would not have an impact on this park. As a result, no direct or temporary use of this property would occur from either of these two alternatives. Alternative C, however, as described below, would have permanent use of up to 3.27 acres of park property.

Accessibility

The park could be accessed during project construction as well as when the project is operational.

Visual

Saunders Park is surrounded by residential neighborhoods with mature trees and other vegetation to the south and the west of the park. There are approximately 0.5 miles of mature trees and residential properties between Saunders Park and Alternatives A and B. The distance of the two alternatives from the park, combined with the built-out residential neighborhoods with mature trees mean Alternatives A and B would not be visible from the park. Therefore, Alternatives A and B would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Noise

Traffic noise impacts is determined by factors such as distance from the highway, traffic volumes, traffic speeds, traffic types, ground absorption, atmospheric absorption, and meteorological effects like temperature and humidity. As distance increases from the highway, noise level drops. Generally, when distance doubles, noise level declines about 3 decibels (dB) when it travels over hard sites like asphalt. Over soft sites such as grass, when distance doubles, the noise level declines about 4.5 dB (see Figure 10).

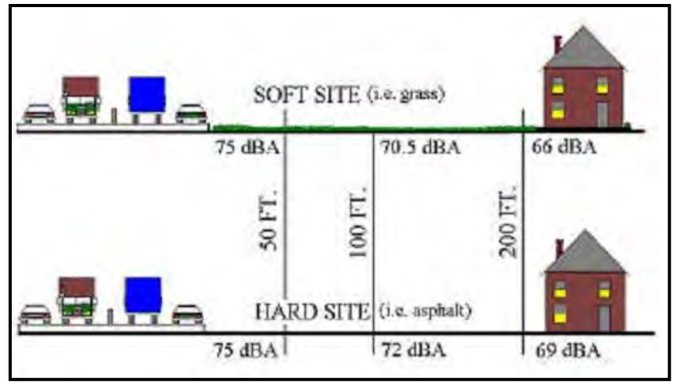


Figure 10 Graphic Representation of Noise Level Declines Over Hard and Soft Sites

The current highway traffic noise prediction model TNM has been validated 0 to 500 feet from the highway. Receptors beyond 500 feet from the project area would not be considered for analysis unless a reasonable expectation exists that noise impacts would extend beyond that boundary. It is clear that the perception of noise at any of the parks and schools, as contributed to from the project alternatives, would be reduced by the combined factors of nearby noise, distance and intervening barriers such that no increase in existing ambient noise would be perceptible. As a result, none of the alternatives would substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Vegetation and Wildlife

Saunders Park is generally landscaped with non-native plant material. These plant materials are expected to provide very low to no value and function for wildlife (refer to Section 3.3 of the draft environmental impact statement/environmental impact statement report). Though the park provides open space, the site is surrounded by

urban development further reducing its habitat value. Saunders Park does not serve as a link in a regional wildlife travel corridor. There were no signs (such as scat) or potential dens associated with the San Joaquin kit fox in the vicinity of Saunders Park (*Biological Assessment* November 2012). As a result, none of the alternatives would substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Air Quality

Regarding air quality, dispersion modeling results show that increases in particulate matter, if any, would only occur at distances near the project alternatives. No increases beyond a typical distance of 500 feet would be expected. Therefore, at distances of 0.25 to 0.5 mile (1,320 to 2,640 feet) from the project alternatives, no adverse air quality effects would be expected. In addition, during project construction activities, measures such as best available control and standard control measures as required by Caltrans and the San Joaquin Valley Air Pollution Control District would be used to reduce exhaust and fugitive dust emissions generated by construction equipment and activities. Therefore, short-term and long-term air quality impacts associated with any of the alternatives would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Water Quality

Potential short-term water quality impacts associated with the construction phase of the Centennial Corridor Project would be minimized with the implementation of Construction Site Best Management Practices. Potential long-term water quality impacts associated with the operation and maintenance of the transportation facility would be minimized with the implementation of Treatment Best Management Practices. Preliminary engineering efforts have identified proposed Infiltration Device locations to address water quality impacts. Overall, with incorporation of Temporary and Permanent Best Management Practices, no water quality impacts are expected with implementation of the Centennial Corridor Project. Consequently, impacts to water quality as a result of the proposed project alternatives would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

As shown in Figure 11, Alternative C would result in partial acquisition of the park for the permanent use of that portion of Saunders Park. Permanent impacts include 1.95 acres of developed park land and 1.32 acres of undeveloped park land between the existing retention basin and State Route 99 for a total of 3.27 acres. The following park amenities or facilities would be permanently removed: on-site surface parking

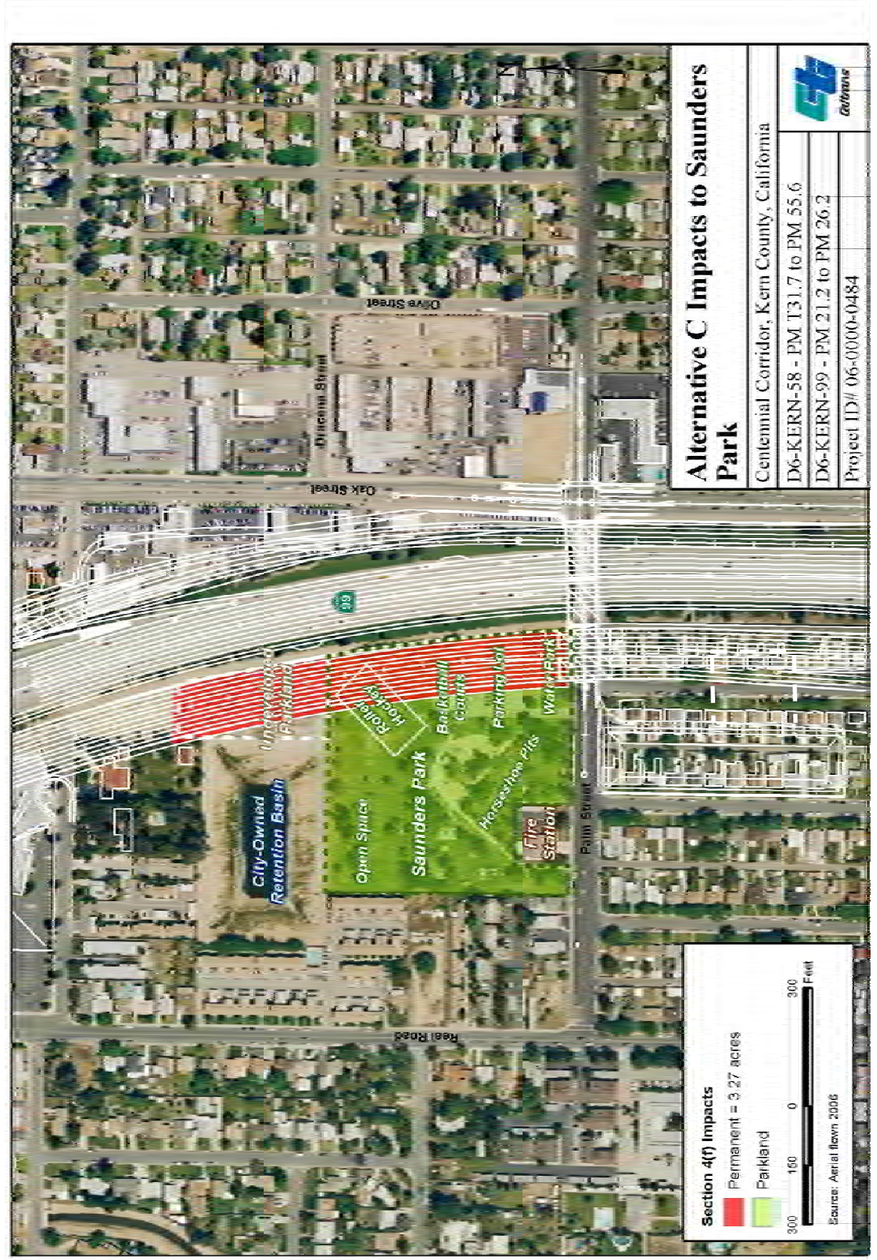


Figure 11 Alternative C Impacts at Saunders Park

(58 spaces); two basketball courts; enclosed roller hockey arena; a retention basin; splash/water play area; equipment storage room; and several mature trees.

Accessibility

Building Alternative C would require partial acquisition of parkland at Saunders Park; however, access to Saunders Park via Palm Street would be maintained at all times during construction and operation of this alternative. Off-street parking would be available on Palm Street during construction. Construction hours would be 6:00 a.m. to 9:00 p.m. on weekdays and 8:00 a.m. to 9:00 p.m. on weekends. With building Alternative C, access to Saunders Park would be maintained and would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Visual

As discussed in the *Visual Impact Assessment* (September 2013) and Section 3.1.7 of the draft environmental impact statement/environmental impact report, Alternative C would include building a new elevated freeway and associated retaining wall. In addition, a soundwall would be built on top of the retaining wall to attenuate traffic noise. This alternative would also remove some mature trees within the park.

The proposed freeway and retaining wall and soundwall parallel to existing State Route 99 would be a substantial change in the visual landscape of the park. The visual character of Saunders Park would be affected by the removal of land and a new retaining wall and soundwall placed on the outside of the parking lot perimeter. There would, therefore, be adverse changes to the view with building Alternative C. In addition, during construction, park patrons and adjacent residents would be exposed to views of construction vehicles; construction-related vehicle access; staging of construction materials; grading and road and sidewalk construction; temporary safety barriers; and temporary lighting. However, Saunders Park is nestled in a suburban neighborhood surrounded by State Route 99, tract housing, and a fire station. Community residents use the park primarily for basketball, picnicking, roller hockey, and other common activities associated with a local park. This park was built for the neighborhood and does not contain natural features, such as wildlife, rivers and creeks, rock formations, and vast open space. Therefore, construction of Alternative C would not substantially impair the activities, features, and/or attributes of Saunders Park.

While there would be adverse changes to the views at Saunders Park as a result of Alternative C, building this alternative would not substantially impair the activities,

features, and/or attributes of the remaining portions of the park that qualify the park for protection under Section 4(f).

Noise

As noted in the *Noise Study Report* (January 2013) and Section 3.2.7 of the draft environmental impact statement/environmental impact report, Alternative C would require building an elevated freeway crossing and associated retaining wall that would form the eastern park boundary. Existing noise levels at the park range from 59 to 62 A-weighted decibels (dBA) (levels similar to heavy traffic at 300 feet) but would increase by 8 to 11 dB with implementation of Alternative C. Park patrons may therefore experience noise levels ranging from 69 to 72 dB (levels similar to the operation of a gas lawnmower at 30 feet) prior to mitigation. To abate this increase in noise levels, a soundwall would be built on top of the retaining wall. With the soundwall in place, noise levels at the park are anticipated to be 64 dB, which would be an increase of 2 to 5 dB above existing conditions.

The noise levels from construction activities would be short term and intermittent (coming and going); therefore, they would not affect park patrons. Project noise levels from temporary construction activities and from long-term traffic use along the elevated freeway crossing associated with Alternative C would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Vegetation and Wildlife

Saunders Park is generally landscaped with non-native plant material. These plant materials are expected to provide very low to no value and function for wildlife (refer to Section 3.3 of the draft environmental impact statement/environmental impact statement report). Though the park provides open space, the site is surrounded by urban development further reducing its habitat value. Saunders Park does not serve as a link in a regional wildlife travel corridor. There were no signs (such as scat) or potential dens associated with the San Joaquin kit fox in the vicinity of Saunders Park (*Natural Environment Study* March 2013). As a result, Alternative C would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Air Quality

The *Air Quality Study Report* (January 2013) and Section 3.2.6 of the draft environmental impact statement/environmental impact report concluded that, in the

long term, Alternative C would not contribute substantially to, or cause deterioration of, air quality in the immediate project area or in the region. In addition, during project construction activities, measures such as best available control and standard control measures as required by Caltrans and the San Joaquin Valley Air Pollution Control District would be used to reduce exhaust and fugitive dust emissions generated by construction equipment and activities. Therefore, the short-term and long-term air quality impacts associated with Alternative C would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Water Quality

The discussion and analysis in this section are based on the following technical studies prepared for the Centennial Corridor: *Water Quality Assessment Report* (November 2012); *Drainage Report* (November 2012); and the *Storm Water Data Report* (January 2012) and Section 3.2.2 of the draft environmental impact statement/environmental impact report. Building Alternative C has the potential to affect water quality.

Potential pollutant sources from the building phase of this alternative include construction activities and materials expected at the project site: vehicle fluids; concrete and masonry products; landscaping and other products; and contaminated soils. Similarly, operation of this alternative has the potential to affect water quality. Potential pollutant sources associated with operation of this alternative include motor vehicles, highway maintenance, illegal dumping, spills, and landscaping care; however, with minimization measures, short-term and long-term water quality impacts associated with Alternative C would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

5.2.3 Rancho Vista Historic District

Alternative A construction of State Route 58 would pass through the center of the Rancho Vista Historic District on an elevated structure with a maximum height of 43 feet (at the Stine Road Undercrossing) and remove 46 of the 81 residences that contribute to the Rancho Vista Historic District's significance and 16 of the 27 residences that do not contribute. Removing 46 contributing residences would be a permanent use of Rancho Vista Historic District (see Figure 12). Alternative A would require one partial acquisition (562 square feet) of a noncontributing property and no partial acquisitions of contributing properties. Alternative A would not result in the temporary occupancy of land from the Rancho Vista Historic District for temporary construction easements during construction. Building Alternative A would result in a

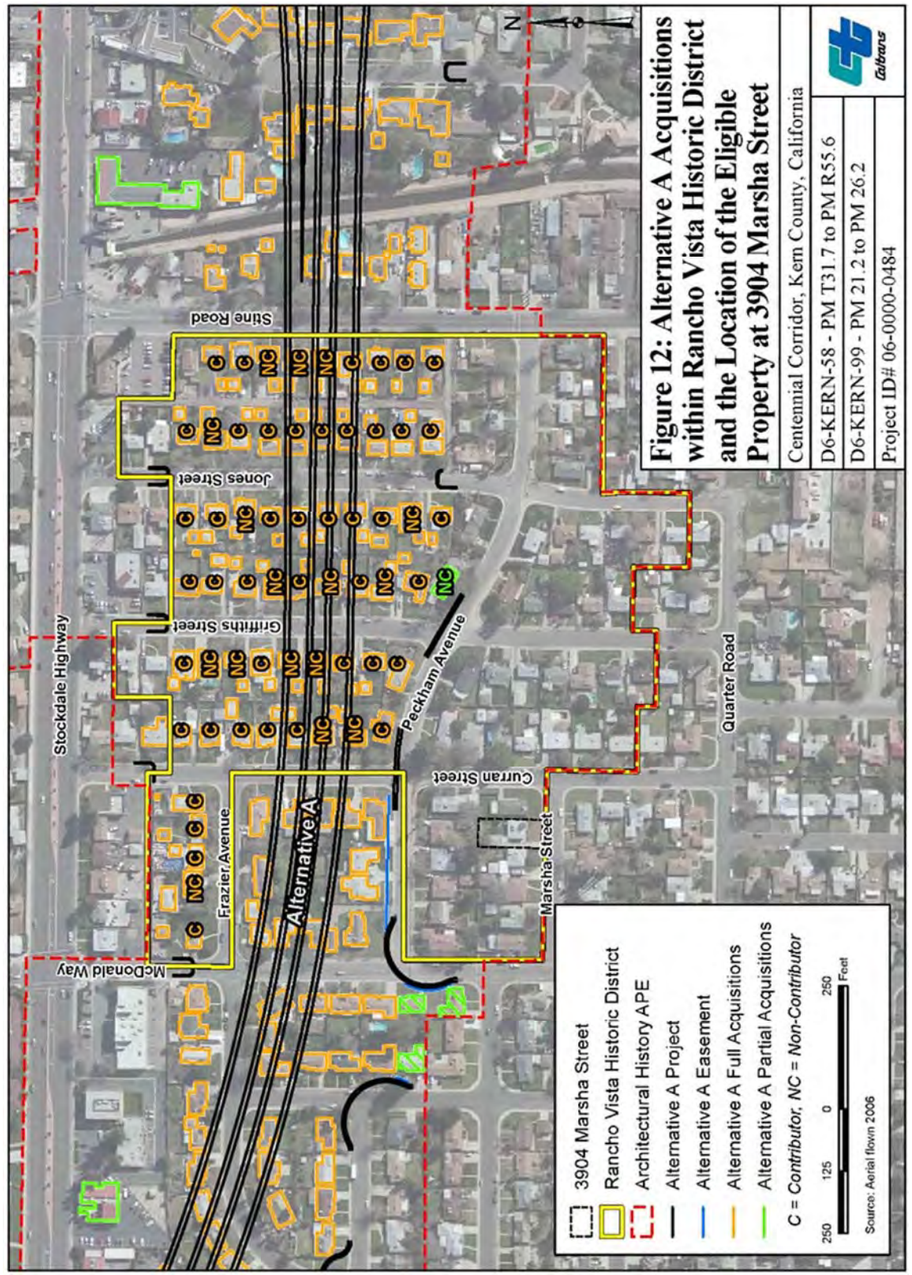


Figure 12 Alternative A Acquisitions within Rancho Vista Historic District

permanent use of this historic district by physically destroying or damaging contributing elements and character-defining features of the Rancho Vista Historic District.

The Alternative B alignment would be located about 110 feet away from the nearest contributing residence within the Rancho Vista Historic District, with a soundwall of approximately 12 to 16 feet in height being proposed, located approximately 70 feet from the closest edge of the historic property boundary (see Figure 13). Alternative B would not result in a direct use of Rancho Vista Historic District because no properties within the Rancho Vista Historic District boundary would be acquired for this alternative. In addition, the property is located in an urbanized environment characterized largely by such elements as single-story houses with uniform setbacks, mature landscaping and trees, roadways, power poles and transmission lines, fencing and other neighborhood features. Rancho Vista Historic District experiences typical periodic noise associated with neighborhood activities, such as gardening equipment, music, barking dogs, and so forth, along with those more prominent sounds generated by nearby roadway traffic, including the large number of trucks and cars traveling on the nearby Stockdale Highway. While traffic noise would increase with construction of Alternative B, the property qualifying as a Section 4(f) property (a postwar housing tract) is not a property whose significance derives from being located in a quiet setting. Noise-related proximity impacts would not substantially change the feeling, association or atmosphere of the Section 4(f) property to the point where the activities, features, or attributes of the historic district would be substantially impaired. Moreover, the proposed soundwall would reduce noise impacts generated by the project. Although the elevated roadway would alter the views from some perspectives, particularly for those looking from streets located immediately south of the new freeway or close to the northeasterly boundary of the historic property, from other parts of the historic district the freeway structure or soundwall would not be as obtrusive. As discussed below in an analysis of Alternative B, it is concluded that the proximity impacts would not substantially impair the activities, features, and attributes that qualify the Section 4(f) property under 23 CFR 774.15(f) and therefore would not constitute a constructive use.

The Section 106 analysis found that the project effects associated with implementation of Alternative B would have the result of diminishing the setting of the Rancho Vista Historic District by introducing an elevated freeway structure and soundwall that is out of scale with the neighborhood and would therefore constitute an adverse effect.

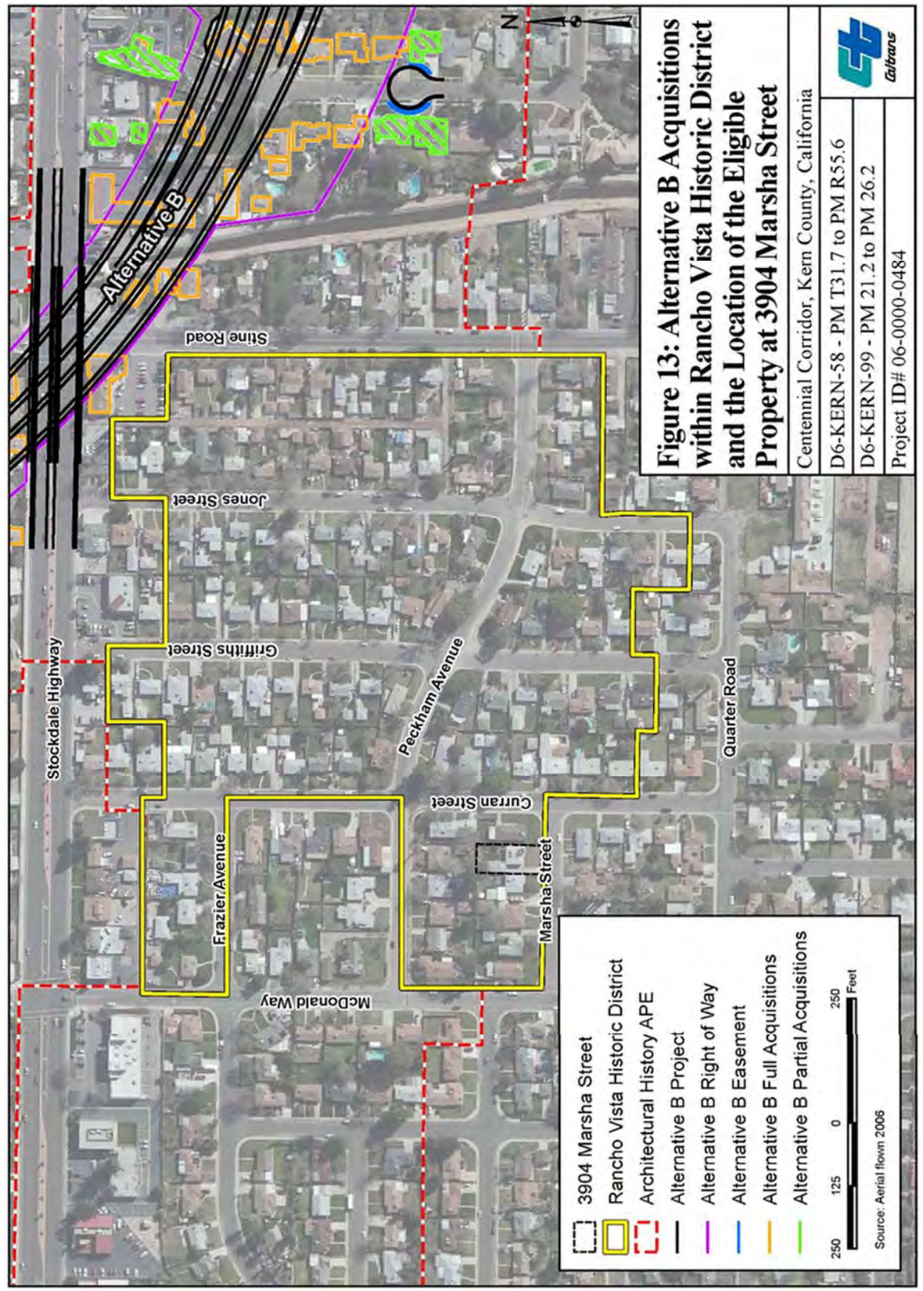


Figure 13 Alternative B Acquisitions within Rancho Vista Historic District

Alternative C is located about 1,300 feet west from Rancho Vista Historic District at its closest boundary edge. Alternative C would not result in a direct use of Rancho Vista Historic District because no properties within the Rancho Vista Historic District boundary would be acquired for this alternative.

Table B.2 summarizes the anticipated temporary construction easements, partial acquisitions, and full acquisitions under Alternatives A and B for the Rancho Vista Historic District.

Table B.2 Summary of Permanent Uses and Temporary Occupancies at Rancho Vista Historic District

Alternative A			Alternative B		
Number of Full Contributing Parcel Acquisitions	Number of Partial Contributing Parcel Acquisitions (total square feet)	Number of Parcels with Temporary Construction Easements (total square feet)	Number of Full Contributing Parcel Acquisitions	Number of Partial Contributing Parcel Acquisitions (total square feet)	Number of Parcels with Temporary Construction Easements (total square feet)
46	0	0	0	0	0

Source: *Historic Resources Evaluation Report* January 2013.

Accessibility

Building Alternative A would require full and partial property acquisitions from the Rancho Vista Historic District. Although building Alternative A would result in property acquisitions, access to the Rancho Vista Historic District would be maintained via Stine Road, McDonald Way, Curran Street, Griffiths Street, and Jones Street. Construction hours would be 6:00 a.m. to 9:00 p.m. on weekdays and 8:00 a.m. to 9:00 p.m. on weekends. With building Alternative A, access to Rancho Vista Historic District would be maintained and the alternative would not substantially impair the activities, features, and/or attributes that qualify the Rancho Vista Historic District for protection under Section 4(f).

It should be noted that accessibility impacts associated with Alternatives B and C are not discussed because these alignments are outside Rancho Vista Historic District boundaries and would not affect contributing properties. As such, impacts from these alternatives would not substantially impair the activities, features, and/or attributes that qualify the Rancho Vista Historic District for protection under Section 4(f).

Visual

Alternative A

Alternative A would require building a retention basin, a 24- to 30-foot-high elevated roadway, and soundwalls up to 12 feet high at the Rancho Vista Historic District. The proposed roadway alignment height—bridge with soundwall—would range between 34 feet (24-foot fill slope + 10 foot sound wall) to a maximum height of 43 feet (bridge deck at 32 feet – 1.5 foot super elevation + 12-foot soundwall) above Stine Road. As discussed in the *Visual Impact Assessment* (September 2013) and Section 3.1.7 of the draft environmental impact statement/environmental impact report, Alternative A would build a cul-de-sac at the end of McDonald Way and Peckham Avenue and a chain-link fence in front of a landscaped slope leading to an elevated freeway and soundwall south of Stockdale Highway crossing McDonald Way. The new freeway would introduce a new substantial above-grade structure into the residential area. The existing character of the area would change from a quiet residential street to a large-scale freeway.

The Alternative A alignment would traverse the center of the Rancho Vista Historic District. The construction of an elevated freeway structure would also introduce a visual intrusion that would not be in keeping with the character and setting of the Rancho Vista Historic District. Photo 1 shows the existing view of the Rancho Vista Historic District (taken at Stine Road near Peckham Avenue looking toward Alignment A) compared to the simulated view of the future condition with Alignment A in place.

Existing View

Simulated View with Alternative A

Photo 1. Rancho Vista Historic District taken from Stine Road and Peckham Street looking north toward Alternative A Alignment

Alternative B

Alternative B would result in an elevated roadway with soundwall built immediately northeast of the Rancho Vista Historic District (see Figures 14 and 15). The proposed roadway would include a bridge that spans the Stine Canal, Stine Road, and Stockdale Highway. The bridge height would be about 38 feet, and the proposed soundwall would be 12 to 16 feet in height. Together, the bridge and soundwall would be roughly the height of a four-story building.

Although the elevated roadway structure would alter some views when looking east and northeast from street level from the Rancho Vista Historic District, the new infrastructure would be visible from some of the spatial gaps between the houses and trees and from certain city streets. Photo 2 illustrates the existing view and simulated view of the Rancho Vista Historic District from Stine Road. Photo 3 illustrates the existing view and simulated view of the Rancho Vista Historic District from John Street).

Rancho Vista Historic District is eligible for the National Register as a significant example of a planned postwar residential subdivision with houses built using innovative whole-house prefabrication techniques, and a setting of mature landscaping and houses setback from the curbs in a uniform manner. The integrity of location, design, materials, and workmanship would remain the same. The historic association and identity of the historic property as a postwar residential housing tract and its contributing features would remain unchanged under Alternative B. However, the introduction of an elevated structure would cause a visual intrusion and be out of character with the historic district's residential setting and is therefore considered to be an adverse effect under Section 106. As a result, Caltrans will consult with the State Historic Preservation Officer and other consulting parties on development and execution of a Memorandum of Agreement to identify measures to minimize or eliminate the adverse visual effects on the historic property.

Adverse effects under Section 106 and constructive use under Section 4(f) are not equivalent. Adverse effects can occur when a project would bring about a change in the setting of the historic property, but that does not touch that historic property. Nothwithstanding an adverse effect determination, the Section 4(f) regulations limit constructive use to circumstances where a "project's proximity impacts are so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired." [23 CFR 774.15(a)]

One way to measure "substantial impairment" is to consider the National Register eligibility status of the property in a before-and-after exercise scenario. If Alternative B was to be selected and an elevated structure and soundwall built immediately beyond the boundary of the Rancho Vista Historic District, as is proposed, a diminishment in the setting of the historic property would result, which is, by definition, an adverse effect. Yet, it would be difficult to imagine that the Rancho Vista Historic District would not still remain eligible for inclusion in the National Register after the project is constructed, and therefore still be considered a section 4(f) property. Rancho Vista Historic District would still have most all of the historical spatial relationships existing between the various district contributors and the larger urban landscape in which the property is situated. Access within the neighborhood would not change. The historic district would still function as a cohesive residential neighborhood and the effects of constructing an aerial structure would not result in the physical loss of any of its contributing elements. As a point of comparison, however, this would likely not be the case with implementation of Alternative A, which would permanently divide the Rancho Vista Historic District, and require acquisition and removal of 46 of the 81 property's district contributors. In such a case, it would be highly unlikely that the Rancho Vista Historic District would remain eligible for the National Register.

Thus, constructive use could only occur if the views of, or from the Rancho Vista Historic District were a protected activity, feature, or attribute of the historic resource. Therefore, there would be no use of the Section 4(f) historic property.

An extreme example of "substantial impairment" as called for by Section 4(f) definition of constructive use might be a proposed transportation facility in such close proximity to a historic property type that particularly derives its significance in large part due to its setting, such as a historic lighthouse or a historic farmstead, to give two representative examples. While every historic property's setting has some weight of importance as one of the factors for measuring integrity, a key consideration for eligibility for the National Register of Historic Places, they are not equal in terms of what might be considered a substantial impairment to them as part of the protected activities, features, or attributes that qualify the property for protection under Section 4(f).

Existing View

Simulated View with Alternative B

Photo 2. Rancho Vista Historic District taken from Stine Road four houses north of Peckham Street looking north toward Alternative B Alignment

Existing View

Simulated View with Alternative B

Photo 3. Rancho Vista Historic District taken from Jones Street south of Stockdale Highway looking northeast toward Alternative B Alignment

Alternative C

Alternative C is not near Rancho Vista Historic District; therefore, it would have no impact on the Rancho Vista Historic District and would not substantially impair the activities, features, and/or attributes that qualify the Rancho Vista Historic District for protection under Section 4(f).

Noise and Vibration

Alternative A would require soundwalls up to 12 feet high that bisect the Rancho Vista Historic District which would result in a direct use, as described earlier, but that the reduced noise levels after construction would not substantially impair the activities, features, and/or attributes that qualify the Rancho Vista Historic District for protection under Section 4(f).

Alternative B would build a bridge over Stine Canal, Stine Road, and Stockdale Highway. A 10- to 14-foot-high soundwall is proposed along this area (see Figure 14). Long term noise measurements in this area were 62 dB. The soundwall is expected to provide at least a 7- decibel reduction. This is below the Caltrans Traffic Noise Analysis Protocol Noise Abatement Category Criterion of 67 dB. Noise abatement resulting from construction of the soundwalls at this location would reduce potential noise impacts to the Rancho Vista Historic District or associated contributors; therefore, construction of this alternative would not substantially impair the activities, features, and/or attributes that qualify the Rancho Vista Historic District for protection under Section 4(f).

Alternative C, because it is not near Rancho Vista Historic District, would have no potential noise or vibrational impacts to the Rancho Vista Historic District and would not substantially impair the activities, features, and/or attributes that qualify the Rancho Vista Historic District for protection under Section 4(f).

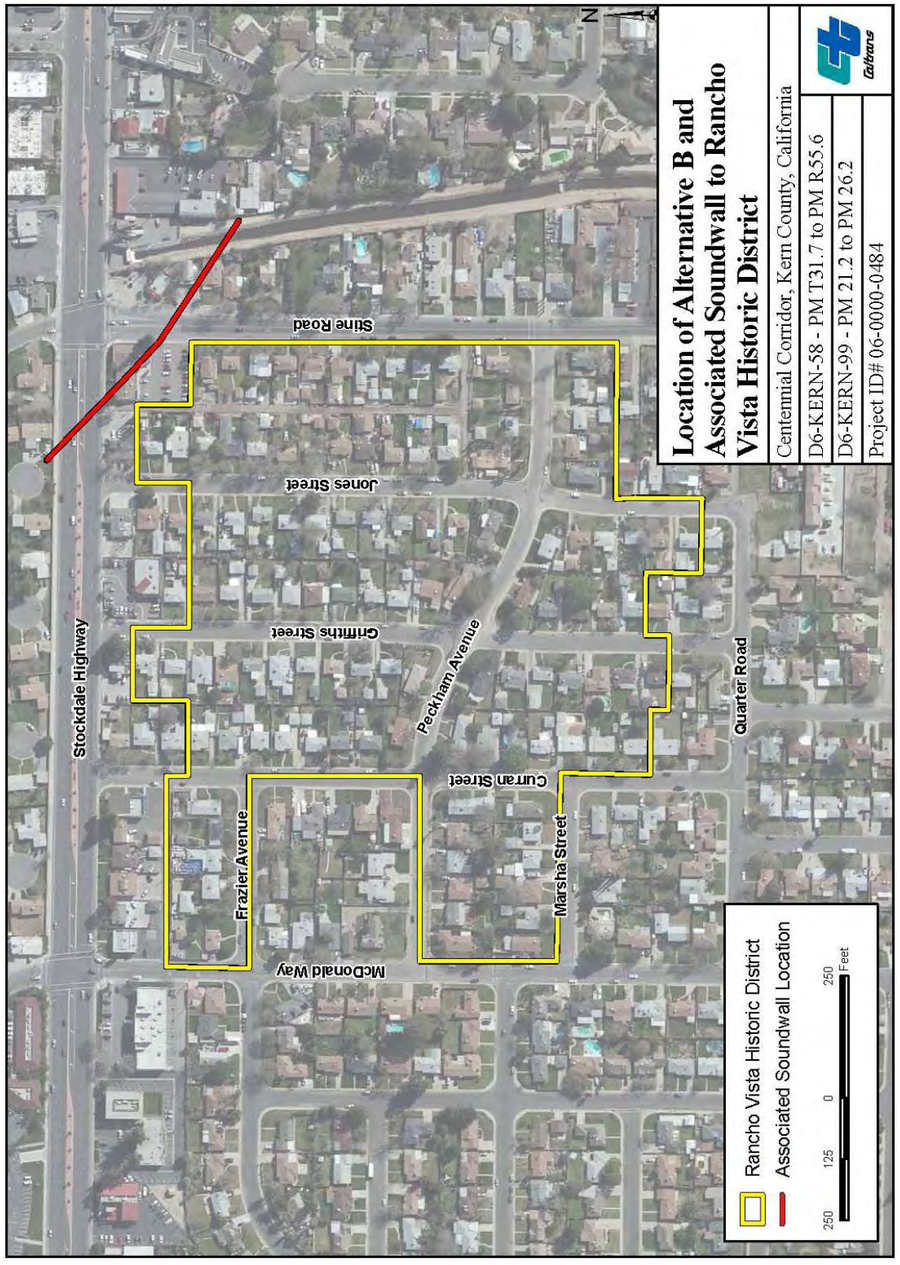


Figure 14 Location of Alternative B and Associated Soundwall to Rancho Vista Historic District

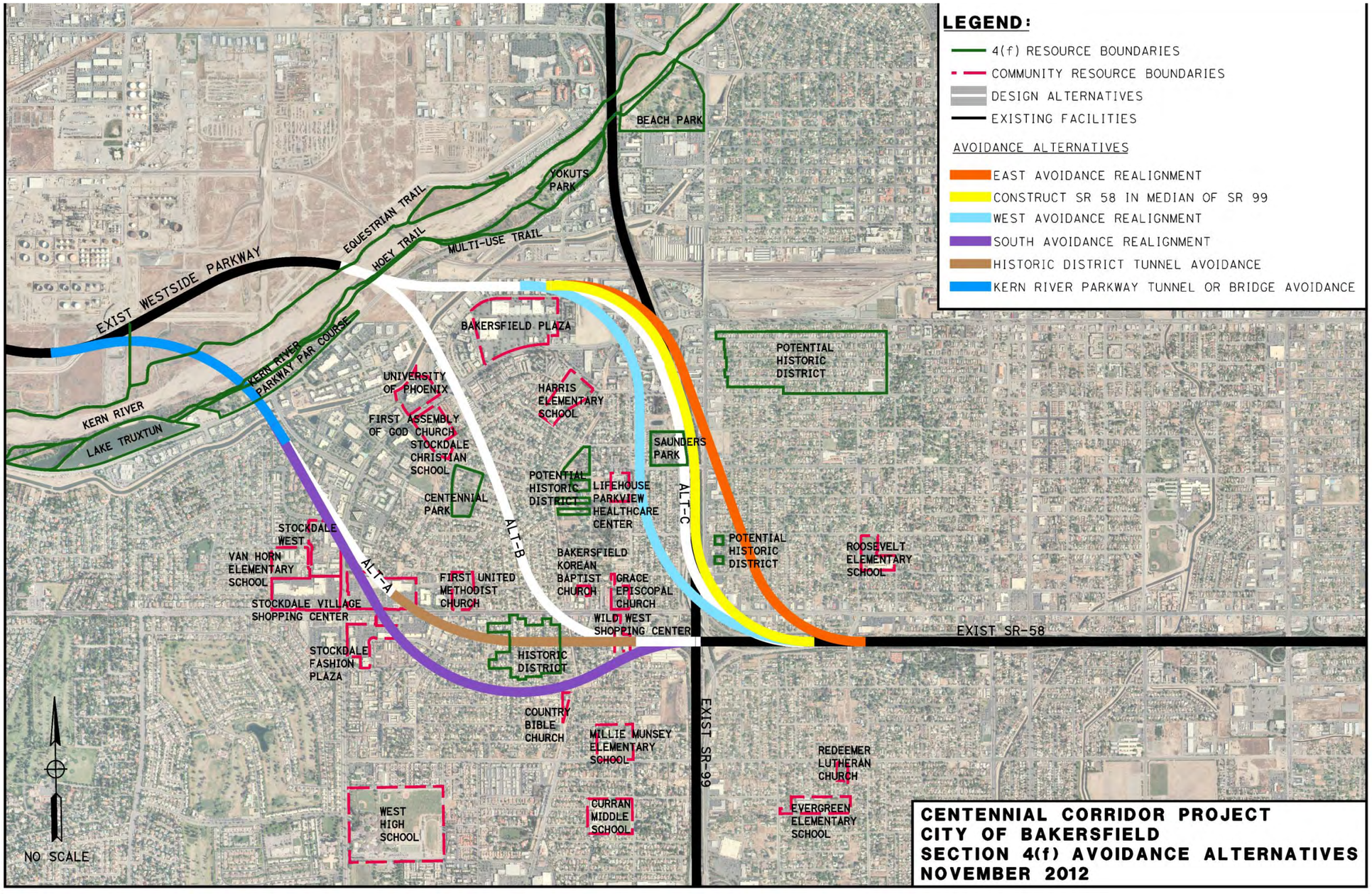


Figure 15 Avoidance Alternatives

Vegetation and Wildlife

The contributing properties within the Rancho Vista Historic District generally have mature landscaping, which was likely planted for shade and ornamental purposes when the residential buildings were originally constructed. This mature landscaping is considered a character-defining feature of the Rancho Vista Historic District; however, these plant materials are expected to provide very low to no value and function for wildlife (refer to Section 3.3 of the draft environmental impact report/environmental impact statement). Alternative A would remove approximately 20-30 mature trees within the Rancho Vista Historic District that would require full acquisition. There may also be vegetation removed for the partial acquisitions. Removal of the vegetation would not in and of itself substantially impair the activities, features, and/or attributes that qualify the Rancho Vista Historic District for protection under Section 4(f) since any mature trees removed would be replaced at a ratio of 1:1 as set forth under the Visual Resources section of this environmental document.

It should be noted that vegetation and wildlife impacts associated with Alternatives B and C are not discussed because these alignments are outside the Rancho Vista Historic District boundaries; therefore, they would not substantially impair the activities, features, and/or attributes that qualify the Rancho Vista Historic District for protection under Section 4(f).

Air Quality

The *Air Quality Study Report* (January 2013) and Section 3.2.6 of the draft environmental impact statement/environmental impact report concluded that, in the long term, Alternatives A and B would not contribute substantially to, or cause deterioration of, air quality in the immediate project area or in the region. In addition, during project construction activities, measures such as best available control and standard control measures as required by Caltrans and the San Joaquin Valley Air Pollution Control District would be used to reduce exhaust and fugitive dust emissions generated by construction equipment and activities. Therefore, the short-term and long-term air quality impacts associated with Alternatives A and B would not substantially impair the activities, features, and/or attributes that qualify the Rancho Vista Historic District for protection under Section 4(f).

It should be noted, although Alternative B is located outside of the Rancho Vista Historic District boundaries, air quality impacts were addressed due to the alternative's proximity to the contributing historic properties; however, impacts from this alternative would not substantially impair the activities, features, and/or attributes that qualify the Rancho Vista Historic District for protection under Section 4(f).

Impacts associated with Alternative C are not discussed because this alignment is about 0.5 mile to the east of the Rancho Vista Historic District boundary.

Water Quality

The discussion and analysis in this section is based on the following technical studies prepared for the Centennial Corridor: *Water Quality Assessment Report* (November 2012); *Drainage Report* (November 2012); and the *Storm Water Data Report* (January 2012) and Section 3.2.2 of the draft environmental impact statement/environmental impact report. Building Alternatives A and B has potential to affect water quality.

Potential pollutant sources associated with the construction phase of this alternative include construction activities and materials expected at the project site such as vehicle fluids; concrete and masonry products; landscaping and other products; and contaminated soils. Similarly, operation of this alternative has the potential to affect water quality. Potential pollutant sources associated with operation of this alternative include motor vehicles, highway maintenance, illegal dumping, spills, and landscaping care; however, using minimization measures, short-term and long-term water quality impacts associated with Alternatives A or B are not expected.

It should be noted that although Alternative B is located physically outside of the Rancho Vista Historic District boundaries, water quality impacts have been addressed due to the alternative's proximity to the contributing historic properties; however, impacts from this alternative would not substantially impair the activities, features, and/or attributes that qualify the Rancho Vista Historic District for protection under Section 4(f).

Impacts associated with Alternative C are not discussed because this alignment is about 0.5 mile to the east of the Rancho Vista Historic District boundary.

6.0 Avoidance Alternatives

6.1 Overview of Avoidance Alternatives

Alternative A would result in the permanent use of the Kern River Parkway and Rancho Vista Historic District Section 4(f) properties. Alternative B, however, would not affect parkland or other properties, including Rancho Vista Historic District, subject to the provisions of Section 4(f). Alternative C would result in the permanent use of Saunders Park, a Section 4(f) property, but it would not affect other properties, including Rancho Vista Historic District. As a result, consideration of feasible and prudent alternatives is

required that avoid permanent use of land from these Section 4(f) properties for the effects associated with Alternatives A and C.

This analysis of avoidance alternatives is based on the definition of "feasible and prudent avoidance alternative" in 23 CFR 774.17, that provides the following direction for determining whether an alternative is feasible and prudent:

(1) A feasible and prudent avoidance alternative avoids using Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property. In assessing the importance of protecting the Section 4(f) property, it is appropriate to consider the relative value of the resource to the preservation purpose of the statute.

(2) An alternative is not feasible if it cannot be built as a matter of sound engineering judgment.

(3) An alternative is not prudent if:

(i) It compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need;

(ii) It results in unacceptable safety or operational problems;

(iii) After reasonable mitigation, it still causes:

(A) Severe social, economic, or environmental impacts;

(B) Severe disruption to established communities;

(C) Severe disproportionate impacts to minority or low-income populations; or

(D) Severe impacts to environmental resources protected under other Federal statutes;

(iv) It results in additional construction, maintenance, or operational costs of an extraordinary magnitude;

(v) It causes other unique problems or unusual factors; or

(vi) It involves multiple factors in paragraphs (3)(i) through (3)(v) of this definition, that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude.

It should be noted that the preliminary engineering for Alternatives A and C included minimizing the use of land from Section 4(f) properties by narrowing the width of the project limits in the vicinity of those properties. Nonetheless, Alternatives A and C would result in the use of land from two parks and one historic district. These avoidance alternatives are shown in Figure 15.

6.2 Analysis of Avoidance Alternatives

All of the factors listed in the definition of "feasible and prudent avoidance alternative" were taken into consideration. In addition the following criteria specific to transportation projects were considered:

- Adherence to Caltrans Highway Design Manual standards, policies, and engineering practices
  - Proximity/spacing of existing interchanges along Westside Parkway, State Route 99 and State Route 58
  - Design speed requirements with regard to horizontal curves along main line State Route 58
- Incorporate provisions for future expansion of facilities
  - Consideration for future freeway-to-freeway connectors, not included in the current project scope
- Maintain local traffic circulation
  - Minimize out-of-direction travel
  - Minimize permanent closure of City streets

6.3 Summary of Avoidance Alternatives

The avoidance alternatives (see Figure 15) discussed below describe six variations of Alternatives A and C as well as the No-Build Alternative:

1. Kern River Parkway Bridge or Tunnel Avoidance—This variation of Alternative A would require extending the proposed State Route 58 Kern River bridge over the Kern River at Mohawk Street and Truxtun Avenue to completely span the 350-foot width of the Kern River Parkway and its volleyball courts, Frisbee golf course, and landscaped areas. A different version of this variation would require building a tunnel beneath the Kern River Parkway. The proposed 4,500-foot-long tunnel would follow the Alternative A alignment. The tunnel would begin just after South Vilas Green Brier Lane and cross under the Carrier Canal, Truxtun Avenue, Kern River Parkway, Kern River, and Cross Valley Canal.
2. Kern River Parkway Tunnel Avoidance – This variation of Alternative A would require building a tunnel beneath the Kern River Parkway. The proposed 4,500-foot-long tunnel would follow the Alternative A alignment. The tunnel would begin just after South Vilas Green Brier Lane and cross under the Carrier Canal, Truxtun Avenue, Kern River Parkway, Kern River, and Cross Valley Canal.
3. Southern Avoidance Realignment—This variation of Alternative A would introduce an S-curve beginning at the State Route 99/State Route58 interchange. The alternative

would curve to the south crossing over Stine Road between Quarter Avenue and Fishering Drive, then curve back to the north, crossing over Stockdale Highway about 700 feet farther west than Alternative A. It would then realign with the main northern segment of Alternative A in the vicinity of Carrier Canal. This variation would also extend Alternative A by an additional 0.2 mile. Replacement of the State Route 58 separation bridges above State Route 99 would be required for this variation.

4. Historic District Tunnel Avoidance—This variation of Alternative A would involve construction of a 4,500-foot-long tunnel that would begin at Real Road/State Route 58, cross under Stine Canal, and end about 750 feet south of Business Center Drive in the vicinity of California Avenue. This option would also require elevating Real Road by building a bridge over State Route 58. Similarly, a bridge would be constructed to elevate Stockdale Highway over State Route 58.

5. West Avoidance Realignment – This variation of Alternative C would realign State Route 58 about 800 feet farther to the west than that alternative's proposed location. It would also raise the height and lengthen the State Route 58 bridge over State Route 99, lengthen the California Avenue bridge, lengthen the northbound State Route 99 to westbound State Route 58 Direct Connector Bridge, require a fly over bridge from eastbound State Route 58 to southbound State Route 99 from Chester Lane to north of Stockdale Highway, replace and lengthen the Hughes Lane bridge. Additional bridges would also be required at Bank Street, Palm Street and Chester Lane.

6. East Avoidance Realignment – This variation of Alternative C would realign State Route 58 to the east of State Route 99 and two potential historic properties along Oakbank Road. It would also raise the height and lengthen the State Route 58 bridge over State Route 99, raise the height and lengthen the northbound State Route 99 to westbound State Route 58 Direct Connector Bridge, and replace the Hughes Lane bridge. Additional bridges would also be required at Oak Street, Palm Street, Bank Street and Verde Street.

7. Construct State Route 58 in Median of State Route 99—This variation of Alternative C would require building State Route 58 within the existing median of State Route 99 via an elevated structure. State Route 99 would be widened to the outside to handle the additional width required to build this variation. This would result in 16 freeway lanes within a minimum of 250 feet of right-of-way.

No-Build Alternative—Table B.3 summarizes the avoidance alternatives analysis findings.

6.4 Parks and Recreational Facilities

6.4.1 Avoidance Alternative for the Kern River Parkway

Alternatives B and C are about 0.5-mile northeast of the Kern River Parkway (Mohawk Street and Truxtun Avenue); therefore, they would avoid the parkway, resulting in no impacts. Similarly, the No-Build Alternative would not affect this property because none of the proposed build alternatives would be constructed.

Alternative A

If the Alternative A alignment is moved east or west of its current proposed location to avoid the Kern River Parkway, the alternative would no longer meet interchange spacing requirements. The Caltrans Highway Design Manual requires minimum spacing of one mile between urban freeway interchanges with local streets. The only locations available that meet this requirement are represented in the original alignments for Alternatives A, B, and C. Moving the Alternative A interchange to the east would simply put it in the same location as Alternatives B and C. Also, it is not possible to move the interchange location to the west as the Coffee Road and Calloway Drive interchanges are only 1.4 miles apart. A new interchange placed between Coffee Road and Calloway Drive would leave only 0.7 mile between interchanges. Therefore, variations to avoid the Alternative A impacts to the Kern River Parkway focus only on bridge and tunnel options.

Kern River Parkway Bridge Avoidance

This variation of Alternative A would require extending the proposed State Route 58 Kern River Bridge to completely span the 350-foot width of the Kern River Parkway. Although the bridge would span the park, a temporary occupancy of the park would be required. A temporary occupancy is considered actual Section 4(f) use if the scope of work and magnitude of change to the Section 4(f) property is more than minor in nature. A temporary occupancy is also considered Section 4(f) use if there are any permanent adverse physical impacts to the Section 4(f) property. Nor can there be any temporary or permanent interference with any of the park activities or purposes.

The temporary occupancy with this variation would be more than minor in nature because mature landscaping would be permanently removed and the setting of the volleyball courts would be permanently changed. The volleyball courts would be closed during the 18-month bridge construction period. The 141-foot-wide freeway bridges would permanently interfere with sand volleyball. Sand volleyball is associated with beaches, which in this case are along the river. Volleyball players would neither be able to enjoy the river nor the sunshine if the courts are beneath the freeway span. This essential feature of the park would be permanently compromised.

Table B.3 Summary of Avoidance Alternatives Analysis

	Avoidance Alternatives								
	Alternative A Kern River Parkway Bridge Avoidance	Alternative A Kern River Parkway Tunnel Avoidance	Alternative A Southern Avoidance Realignment	Alternative A Historic District Tunnel Avoidance	Alternative B	Alternative C West Avoidance Realignment	Alternative C East Avoidance Realignment	Alternative C Construct State Route 58 in Median of State Route 99	No-Build Alternative
Feasible/Prudent Criterion									
Avoids Section 4(f) Properties?	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Meet Project Purpose and Need?	Yes	No – the tunnel affects route continuity for certain trucks.	Yes	No – the tunnel affects route continuity for certain trucks.	Yes	Yes	Yes	Yes	No
Safety/Operational Problems?	No	No	No	No	No	No	No	No	No
Severe Social, Economic or Environmental Impacts of Extraordinary Magnitude?	No	No	No	No	No	Yes - Isolates Saunders Park and 52 residential properties in between State Route 58 and 99.	Yes – Isolates potential historic properties and 51 residential properties in between State Route 58 and 99, and proposed 58.	No	No
Severe Disruption to an Established Community of Extraordinary Magnitude?	No	No	No	No	No	No	No	No	No
Number of Residential Relocations	417	417	417	356	310	304	217	133	0
Number of Commercial Relocations	165	165	165	127	121	205	235	199	0
Total Relocations	582	582	582	483	431	509	452	332	0
Severe Disproportionate Impacts to Minority/Low Income Populations?	No	No	No	No	No	No	No	No	No
Severe Impacts to Federally Protected Environmental Resources?	No	No	No	No	No	No	No	No	No
Extraordinary Additional Costs?	Yes – total cost is $866M, which is 52% greater than Alternative B and 30% greater than Alternative C	Yes – total cost is $1.516B, which is 166% greater than Alternative B and 128% greater than Alternative C	Yes – total cost is $1.516B, which is 166% greater than Alternative B, 128% greater than Alternative C	Yes – total cost is $2.091B, which is 267% greater than Alternative B, 214% greater than Alternative C	No – total cost is $570M	Yes – total cost is $787M, which is 14% greater than Alternative A, 38% greater than Alternative B	Yes – total cost is $832M, which is 20% greater than Alternative A, 46% greater than Alternative B	Yes total cost is $871M, which is 26% greater than Alternative A, 53% greater than Alternative B	No
Other Unique/Unusual Factors?	No	No	No	No	No	Yes – Would add $9.5M to the future cost of constructing the eastbound 58 to northbound 99 and southbound 99 to westbound 58 direct connectors.	No	Yes – traffic handling and construction staging.	No
Extraordinary Cumulative Problems/Impacts?	No	No	No	No	No	No	No	No	No
Adhere to Caltrans Highway Design Manual?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Allow for Future Expansion of Facilities?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No – restricts future widening of State Route 58 without widening State Route 99 which would impact Saunders Park.	Yes
Maintain Local Traffic Circulation?	Yes	Yes	Yes	Yes	Yes	Yes	No – loss of access to westbound State Route 58 from H Street on-ramp.	Yes	Yes
Prudent?	**No**	**No**	**No**	**No**	**Yes**	**No**	**No**	**No**	**No**

Each discussion of avoidance alternatives includes a discussion of the six factors used to determine if an avoidance alternative is prudent. The six factors are listed near the beginning of Section 6.1. Cost is one of the six factors. Costs of extraordinary magnitude are defined by comparing the available funding for all other Thomas Roads Improvement Program projects ($156 million) and Alternative B ($570 million). Avoidance alternatives estimated at more than $726 million would be considered to have a cost of extraordinary magnitude. It should be noted that federal funds for the other Thomas Roads Improvement Program projects cannot be moved to the Centennial Corridor Project.

This avoidance alternative would not compromise the project, result in unacceptable safety or operational problems, create severe impacts of extraordinary magnitude, result in extraordinary operational or maintenance costs, or have extraordinary impacts caused by a combination of these items.

The construction cost of the avoidance alternative, however, would result in costs of extraordinary magnitude. The bridges over Kern River Parkway would increase the construction cost of Alternative A by $50 million. The cost of this avoidance alternative must also include the cost of Alternative A avoiding the Rancho Vista Historic District.

As discussed in Section 6.5, there are two avoidance alternatives for the Rancho Vista Historic District: a southern avoidance alternative, which would cost an additional $125 million or the Rancho Vista Historic District tunnel alternative, which would cost an additional $700 million. As a result, the total project costs for this alternative would be $866 million with the southern avoidance alignment, 52 percent greater than the cost of Alternative B and 30 percent more than the cost of Alternative C.

If the Rancho Vista Historic District tunnel option is used, the total cost of this alternative would be $1.441 billion, about 153 percent greater than the cost of Alternative B (or more than double the cost) and 116 percent greater than Alternative C (again, more than double the cost). It should be noted that Alternative B is an avoidance alternative.

The City of Bakersfield's Thomas Roads Improvement Program includes four other projects with these construction and right-of-way costs:

- 24th Street Improvement Project, estimated to cost $43 million

- State Route 58 (Rosedale Highway) Widening Project, estimated to cost $20 million
- State Route 178 Widening Project, estimated to cost $40 million
- Morning Drive Interchange Project, estimated to cost $53 million.

The combined cost of these projects is $156 million. No other projects have a scope and magnitude similar to the Centennial Corridor, which has $570 million in allocated funds for construction and right-of-way costs. The cost of this avoidance alternative would prevent construction of any other Thomas Roads Improvement Program projects. Additionally, the cost would excede the budget available for the Centennial Corridor Project. Should either combination of these avoidance alternatives be selected, the Centennial Corridor could not be built, even if funding from all other projects listed above is reallocated to the Centennial Corridor Project.

For the reasons stated above, the Kern River Parkway Bridge Avoidance Alternative is not considered prudent.

<u>Kern River Parkway Tunnel Avoidance</u>

This variation of Alternative A would require building a tunnel beneath the Kern River Parkway. The proposed tunnel would be 4,500 feet long and follow the Alternative A alignment. The tunnel would begin just after South Vilas Green Brier Lane, then cross under the Carrier Canal, Truxtun Avenue, the Kern River Parkway, the Kern River, and the Cross Valley Canal. The width of the tunnel would allow for six traffic lanes with provisions for two additional lanes in the future for a total of eight traffic lanes.

Tunnels provide an enclosed area where fires caused by accidents with vehicles containing hazardous materials are a safety hazard. As a result, vehicles hauling potentially hazardous materials would be prohibited from using the tunnel during certain hours. These vehicles, diverted to the local streets, would contribute to congestion. This avoidance alternative would therefore not meet the route continuity goal—the basic purpose of the project—for vehicles diverted to alternate routes.

Each discussion of avoidance alternatives includes a discussion of the six factors used to determine if an avoidance alternative is prudent. The six factors are listed near the beginning of Section 6.1. Cost is one of the six factors. Costs of extraordinary magnitude are defined by comparing the available funding for all other Thomas

Roads Improvement Program projects ($156 million) and Alternative B ($570 million). Avoidance alternatives estimated at more than $726 million would be considered to have a cost of extraordinary magnitude. It should be noted that federal funds for the other Thomas Roads Improvement Program projects cannot be moved to the Centennial Corridor Project.

This avoidance alternative would not compromise the project, result in unacceptable safety or operational problems, create severe impacts of extraordinary magnitude, result in extraordinary operational or maintenance costs, or have extraordinary impacts caused by a combination of these items.

The construction cost of the avoidance alternative, however, would reach an extraordinary magnitude. A tunnel under the Kern River Parkway would increase the construction cost of Alternative A by $700 million. The cost of this avoidance alternative must also include the cost of Alternative A avoiding the Rancho Vista Historic District.

As discussed in Section 6.5, there are two avoidance alternatives for the Rancho Vista Historic District: a southern avoidance alternative, which would cost an additional $125 million or a tunnel alternative, which would cost an additional $700 million. As a result, the total project costs for this alternative would be $1.516 billion with the southern avoidance alignment, about 166 percent greater than the cost of Alternative B (or more than double the cost), or 128 percent greater than the cost of Alternative C (again, more than double the cost).

If the Rancho Vista Historic District tunnel option is used, the total cost would be $2.091 billion, about 267 percent greater than Alternative B (or more than three times the cost), or 214 percent greater than Alternative C (again, more than three times the cost). It should be noted that Alternative B is an avoidance alternative.

As noted above, the combined cost of the other Thomas Roads Improvement Program projects, without the Centennial Corridor Project, is $156 million. No other projects have a scope and magnitude similar to the Centennial Corridor, which has $570 million in allocated funds for construction and right-of-way costs. The cost of this avoidance alternative would prevent construction of any other Thomas Roads Improvement Program projects. Additionally, the cost would exceed the budget available for the Centennial Corridor Project. Should either combination of these avoidance alternatives be selected, the Centennial Corridor could not be built, even if

the funding from all other projects listed above is reallocated to the Centennial Corridor Project. This is considered a construction cost of extraordinary magnitude.

For the reasons stated above, the Kern River Parkway Tunnel Avoidance Alternative is not considered prudent.

6.5 Avoidance Alternatives for Rancho Vista Historic District

The Alternative B alignment is located about 110 feet away from the nearest contributing residence within the Rancho Vista Historic District, with a soundwall of approximately 10 to 14 feet in height being proposed, located approximately 75 feet from the closest edge of the historic property boundary. Alternative C is located about 1,300 feet west from Rancho Vista Historic District at its closest boundary edge. Therefore, these two alternatives would avoid the Historic District and no impacts would result. Similarly, the No-Build Alternative would not affect this property because none of the proposed build alternatives would be constructed.

Alternative A

As shown above Alternative A cannot avoid the Kern River Parkway and Rancho Vista Historic District (see Figure 15). Alternative A is not a Section 4(f) avoidance alternative, regardless of the success or lack of success of avoiding the Rancho Vista Historic District. To be thorough, however, two avoidance alternatives were considered in relation to this historic district: the Southern Avoidance Realignment Alternative and the Tunnel Avoidance Alternative. A northern avoidance alternative is not included because this would be the same as Alternative B.

Southern Avoidance Realignment Alternative

The Southern Avoidance Realignment alternative would introduce an S-curve beginning at the State Route 99/State Route 58 interchange and would realign Alternative A south to avoid the Rancho Vista Historic District. The proposed alignment would curve south, cross over Stine Road between Quarter Avenue and Fishering Drive, curve north to cross over Stockdale Highway about 700 feet farther to the west than Alternative A, and connect back into the original alignment before becoming an overcrossing at Truxtun Avenue. This alternative would increase the length of State Route 58 by about 0.2 mile and require replacement of the State Route 58 separation bridges above State Route 99.

Each discussion of avoidance alternatives includes a discussion of the six factors used to determine if an avoidance alternative is prudent. The six factors are listed near the beginning of Section 6.1. Cost is one of the six factors. Costs of extraordinary magnitude are defined by comparing the available funding for all other Thomas

Roads Improvement Program projects ($156 million) and Alternative B ($570 million). Avoidance alternatives estimated at more than $726 million would be considered to have a cost of extraordinary magnitude. It should be noted that federal funds for the other Thomas Roads Improvement Program projects cannot be moved to the Centennial Corridor Project.

This avoidance alternative would not compromise the project, create severe impacts of extraordinary magnitude, or result in extraordinary operational or maintenance costs.

The S-curve geometrics (curve to the left followed immediately by a curve to the right) that would be required for this alternative are not preferred for new freeways and could lead to unacceptable safety and operational issues because it could result in decreased speeds and increased congestion. This alternative would also require the acquisition of an additional 61 residential and 38 commercial properties compared to Alternative A.

The Southern Avoidance Realignment alternative would increase Alternative A construction cost by $125 million. The cost of this avoidance alternative must also include the cost of Alternative A avoiding the Kern River Parkway. As discussed in Section 6.1, there are two avoidance alternatives for the Kern River Parkway: a tunnel alternative, which would cost an additional $700 million and a bridge alternative, which would cost an additional $50 million. As a result, the total project costs for this alternative would be $1.516 billion with the Kern River Parkway Tunnel Avoidance alternative, about 166 percent greater than the cost of Alternative B (more than double the cost) or 128 percent greater than Alternative C (more than double the cost). If the bridge option is used, total cost would be $866 million, about 52 percent greater than the cost of Alternative B or 30 percent greater than Alternative C. It should be noted, Alternative B is an avoidance alternative.

As stated above, the combined cost of the Thomas Roads Improvement Program projects, without the Centennial Corridor Project is $156 million. No other projects have a scope and magnitude similar to the Centennial Corridor, which has $570 million funds allocated for construction and right-of-way costs. The cost of this avoidance alternative would prevent construction of the Centennial Corridor even if the funding from all other Thomas Roads Improvement Program projects listed above were reallocated to the Centennial Corridor Project. This avoidance alternative is considered a construction cost of extraordinary magnitude. For the reasons stated above, the Southern Avoidance Realignment Alternative is not considered prudent.

Historic District Tunnel Avoidance

This avoidance alternative would involve construction of a tunnel about 4,500 feet in length that would begin at Real Road/State Route 58, cross under Stine Canal, and end about 750 feet south of Business Center Drive in the vicinity of California Avenue. This option would also require elevating Real Road by building a bridge over State Route 58. Similarly, a bridge would be constructed to elevate Stockdale Highway over State Route 58.

Each discussion of avoidance alternatives includes a discussion of the six factors used to determine if an avoidance alternative is prudent. The six factors are listed near the beginning of Section 6.1. Cost is one of the six factors. Costs of extraordinary magnitude are defined by comparing the available funding for all other Thomas Roads Improvement Program projects ($156 million) and Alternative B ($570 million). Avoidance alternatives estimated at more than $726 million would be considered to have a cost of extraordinary magnitude. It should be noted that federal funds for the other Thomas Roads Improvement Program projects cannot be moved to the Centennial Corridor Project.

This avoidance alternative would not substantially compromise the project, result in unacceptable safety or operational problems, create severe impacts of extraordinary magnitude, result in extraordinary operational or maintenance costs, or have extraordinary impacts caused by a combination of these items.

Tunnels provide an enclosed area where fires caused by accidents with vehicles hauling hazardous materials are a safety hazard. As a result, vehicles hauling potentially hazardous materials would be prohibited from using the tunnel during certain hours, which would require the diversion of vehicles such as trucks to local streets, contributing to congestion. This avoidance alternative would therefore not meet the goal of route continuity— the basic purpose of the project—for these vehicles.

The Historic District Tunnel Alternative would increase the construction cost of Alternative A by $700 million. The cost of this avoidance alternative must also include the cost of Alternative A avoiding the Kern River Parkway. As discussed in Section 6.1, there are two avoidance alternatives for the Kern River Parkway: the tunnel alternative, costing an additional $700 million and a bridge alternative, costing an additional $50 million. As a result, the total project costs for this alternative would be $2.091 billion with the tunnel alternative, about 267 percent greater than the cost of Alternative B (more than triple the cost) and 214 percent greater than Alternative C

(more than triple the cost). If the bridge option is used, the total cost would be $1.441 billion, about 153 percent greater than the cost of Alternative B (more than double the cost) and 116 percent greater than Alternative C (more than double the cost). It should be noted, Alternative B is an avoidance alternative.

As stated above, the combined cost of the other Thomas Roads Improvement Program projects, without the Centennial Corridor Project, is $156 million. No other projects have a scope and magnitude similar to the Centennial Corridor, which has $570 million funds allocated for construction and right-of-way costs. The cost of this avoidance alternative would prevent construction to the Centennial Corridor even if the funding from all other Thomas Roads Improvement Program projects listed above were reallocated to the Centennial Corridor Project. This avoidance alternative is considered a construction cost of extraordinary magnitude.

For the reasons stated above, the Historic District Tunnel Avoidance Alternative is not considered prudent.

6.5.1 Avoidance Alternatives for Saunders Park

Alternatives A and B are about 5,300 and 2,500 feet west, respectively, of Saunders Park; therefore, they would avoid this property and no impacts would result. Similarly, the No-Build Alternative would not affect this property because none of the proposed build alternatives would be constructed.

Alternative C

Three avoidance alternatives were considered for Alternative C: West Avoidance Realignment, East Avoidance Realignment, and Construct State Route 58 in Median of State Route 99 (see Figure 15).

West Avoidance Realignment

The West Avoidance Realignment Alternative would realign State Route 58 about 800 feet further to the west than Alternative C between California Avenue and Stockdale Highway (see Figure 15).

The proposed realignment would begin on State Route 58 about 750 feet west of the Hughes Lane bridge and begin curving to the north where it would cross over the westbound State Route 58 to northbound State Route 99 Direct Connector, the Oak Street –Wible Road/Stockdale Highway – Brundage Lane Intersection, State Route 99 about 400 feet to the south of Alternative C and the southbound State Route 99 to eastbound State Route 58 Direct Connector. The realignment would stay elevated

with bridges over Bank Street and Palm Street, continuing north between Real Road and the western boundary of Saunders Park and bridge over Chester Lane before turning west. It would then bridge over Real Road and California Avenue before connecting back with the Alternative C alignment parallel to the BNSF railroad yard.

The proposed eastbound State Route 58 to southbound State Route 99 Direct Connector would branch off of the realignment at Chester Lane and need to be constructed above and bridge over the realigned State Route 58 and connect, north of Stockdale Highway, to the connector proposed in Alternative C. The direct connector bridge would be approximately 1.3 miles long. This direct connector ramp would require additional right of way between Stockdale Highway and Chester Lane, between the proposed State Route 58 alignment and State Route 99.

The West Avoidance Realignment alternative would isolate an existing environmental justice community, leaving 52 residential units and clearing and demolishing 10 commercial properties, in the area bounded by the West Avoidance Realignment to the west, existing State Routes 99/58 to the east, California Avenue to the north, and Stockdale Highway to the south. There is no ability to depress the freeway alignment to decrease the impact to this area. The West Avoidance Realignment Alternative would increase the required acquisitions compared to Alternative C by 6 commercial relocations and 171 residential relocations.

This realignment is the best avoidance alternative (has the least impacts) that would avoid direct use of Saunders Park property by adjusting the Alternative C build alignment to the west. Moving this avoidance alternative further to the west would affect the Lifehouse Parkview Healthcare Center, a nursing home west of Real Road with one hundred and eighty four beds. Moving even further to the west, there are seven properties located along Garnsey Avenue that could potentially be historic properties under the National Register of Historic Places. If these properties were impacted this variation would not avoid potential Section 4(f) properties. Moving the West Avoidance Realignment alternative even further to the west would result in Alternative B because it is the alignment that could avoid both the Rancho Vista Historic District and Centennial Park and meet the engineering alignment standards.

Each discussion of avoidance alternatives includes a discussion of the six factors used to determine if an avoidance alternative is prudent. The six factors are listed near the beginning of Section 6.1. Cost is one of the six factors. Costs of extraordinary magnitude are defined by comparing the available funding for all other Thomas Roads Improvement Program projects ($156 million) and Alternative B ($570

million). Avoidance alternatives estimated at more than $726 million would be considered to have a cost of extraordinary magnitude. It should be noted that federal funds for the other Thomas Roads Improvement Program projects cannot be moved to the Centennial Corridor Project.

This avoidance alternative would not compromise the project, result in unacceptable safety or operational problems, create severe impacts of extraordinary magnitude, or result in extraordinary operational or maintenance costs.

The avoidance alternative would increase the construction cost of Alternative C by $121 million. As a result, the total project costs for this alternative would be $787 million, which is about 14 percent greater than the cost of Alternative A, or 38 percent greater than the cost of Alternative B. It should be noted that Alternative B is an avoidance alternative.

As noted above, the combined cost of the other Thomas Roads Improvement Program projects, without the Centennial Corridor Project is $156 million. There are no other projects of similar scope and magnitude to the Centennial Corridor, which has $570 million funds allocated for construction and right-of-way costs. The cost of this avoidance alternative would prevent construction of the Centennial Corridor even if the funding from all of the other Thomas Roads Improvement Program projects listed above were reallocated to the Centennial Corridor Project. This is considered a construction cost of extraordinary magnitude.

For the reasons stated above, the West Avoidance Realignment Alternative is not considered prudent.

East Avoidance Realignment Alternative

The East Avoidance Realignment Alternative would realign State Route 58 to the east of State Route 99 and two potential historic properties along Oakbank Road.

The proposed realignment would begin on State Route 58 about 230 feet east of the Hughes Lane bridge and begin curving to the north where it would bridge over the westbound State Route 58 to northbound State Route 99 Direct Connector, Brundage Lane/ Myrtle Street intersection, Verde Street, Bank Street, Palm Street and Oak Street. The realignment would then begin to turn west and bridge over the State Route 99/ California Avenue interchange; northbound State Route 99 off-ramp to California Avenue, northbound State Route 99 loop on-ramp from California Avenue, California Avenue, State Route 99, and the southbound State Route off-ramp to California

Avenue before connecting back with Alternative C parallel to the BNSF railroad yard. This alternative would require State Route 99 to be widened to the east between Palm Ave and Brundage Lane, to accommodate the required changes to the northbound State Route 99 to westbound State route 58 Direct Connector.

The widening of State Route 99 would require the realignment of about 2,500 feet of Oak Street, the reconstruction of the westbound State Route 58 to northbound State Route 99 Direct Connector and the tunnel it travels through underneath the Oak Street – Wible Road/Stockdale Highway – Brundage Lane intersection. The realignment of Oak Street, which is a primary north-south arterial, serving area residents, would require the acquisition of the majority of the commercial development along Oak Street from Sunset Ave to Stockdale Highway – Brundage Lane. The East Avoidance Realignment Alternative would increase the required acquisitions compared to Alternative C by 43 commercial relocations and 84 residential relocations.

Under this avoidance alternative access to westbound State Route 58 would no longer be possible from the H Street on-ramp, because of the required change to the northbound State Route 99 to westbound State Route 58 Direct Connector ramp. This avoidance alternative requires the removal of the northbound State Route 99 Collector Distributor and the braiding of the westbound State Route 58 to northbound State Route 99 Direct Connector ramp with the northbound State Route 99 to westbound State Route 58 Direct Connector ramp. This loss of access would be in addition to the closures proposed for Alternative C, which already requires closure of the Stockdale Highway off-ramp from southbound State Route 99, southbound State Route 99 on-ramp from Real Road and the Wible Road local road connection ramps on northbound State Route 99. Therefore, the nearest full-service interchange on State Route 58 east of State Route 99 would be Union Avenue, one mile to the east along State Route 58. The next nearest would be Mohawk Street (proposed State Route 58, existing Westside Parkway) located 3.5 miles to the east of H Street. These closures would cause motorists to seek alternative routes to access the shopping centers and businesses along Brundage Lane/Stockdale Highway, as well as access to downtown Bakersfield.

This realignment is the best avoidance alternative (has the least impacts) that would avoid impacts to Saunders Park by adjusting the Alternative C build alignment to the east. Moving the East Avoidance Realignment alternative further to the east of its current proposed location is restricted by Caltrans interchange spacing requirements. In addition, a potential historic district may be located in an area bound by Park Way

on the north, an irregular line running along several parcels east of Oak Street on the west, a line along portions of the north side of Chester Street on the south, and the east side of C Street on the east. As a result, potential Section 4(f) properties would not be avoided.

Each discussion of avoidance alternatives includes a discussion of the six factors used to determine if an avoidance alternative is prudent. The six factors are listed near the beginning of Section 6.1. Cost is one of the six factors. Costs of extraordinary magnitude are defined by comparing the available funding for all other Thomas Roads Improvement Program projects ($156 million) and Alternative B ($570 million). Avoidance alternatives estimated at more than $726 million would be considered to have a cost of extraordinary magnitude. It should be noted that federal funds for the other Thomas Roads Improvement Program projects cannot be moved to the Centennial Corridor Project.

This avoidance alternative would not compromise the project, result in unacceptable safety problems, create severe impacts of extraordinary magnitude, or result in extraordinary maintenance costs, but could result in unacceptable operational problems and costs.

The avoidance alternative would increase the construction cost of Alternative C by $166 million. As a result, the total project costs for this alternative would be $832 million, which is about 20 percent greater than the cost of Alternative A, or 46 percent greater than the cost of Alternative B. It should be noted that Alternative B is an avoidance alternative.

As noted above, the combined cost of the other Thomas Roads Improvement Program projects, without the Centennial Corridor Project is $156 million. There are no other projects of similar scope and magnitude to the Centennial Corridor, which has $570 million funds allocated for construction and right-of-way costs. The cost of this avoidance alternative would prevent the construction of the Centennial Corridor even if the funding from all of the other Thomas Roads Improvement Program projects listed above were reallocated to the Centennial Corridor Project. This avoidance alternative is considered a construction cost of extraordinary magnitude.

For the reasons stated above, the East Avoidance Realignment Avoidance Alternative is not considered prudent.

Construct State Route 58 in Median of State Route 99

This alternative would construct State Route 58 in the median of State Route 99 on an elevated structure for a portion of the alignment. It would also require State Route 99 to be widened to the outside to allow State Route 58 to pass below Palm Street. Moving this alternative to the west would result in the proposed Alternative C; movement to the east would result in the East Avoidance Realignment Alternative.

The widening of State Route 99 to accommodate State Route 58 in the median would require the reconstruction of the California Avenue/State Route 99 interchange and the replacement of the Bakersfield Union Pacific Railroad Yard/State Route 99 Bridge. This alternative would also restrict any future widening of State Route 58 without widening State Route 99, and any future widening of State Route 99 would impact Saunders Park, a Section 4(f) property. It should be noted the Caltrans Transportation Concept Report identifies the need for auxiliary lanes along State Route 99 which this avoidance alternative does not include. Should this alternative be built there would be no feasible and prudent alternative to avoid Saunders Park in the future.

In addition, constructing State Route 58 in the median of State Route 99 may not be feasible because of the need to maintain existing State Route 99 traffic through the construction area. The existing median is 22 feet wide and State Route 58 would require a minimum width of 140 feet.

Each discussion of avoidance alternatives includes a discussion of the six factors used to determine if an avoidance alternative is prudent. The six factors are listed near the beginning of Section 6.1. Cost is one of the six factors. Costs of extraordinary magnitude are defined by comparing the available funding for all other Thomas Roads Improvement Program projects ($156 million) and Alternative B ($570 million). Avoidance alternatives estimated at more than $726 million would be considered to have a cost of extraordinary magnitude. It should be noted that federal funds for the other Thomas Roads Improvement Program projects cannot be moved to the Centennial Corridor Project.

This avoidance alternative would not compromise the project, create severe impacts of extraordinary magnitude, or result in extraordinary maintenance costs, but could result in unacceptable safety and operational problems and have costs of extraordinary magnitude.

The avoidance alternative would increase the construction cost of Alternative C by $205 million. As a result, the total project costs for this alternative would be $871 million, about 26 percent greater than the cost of Alternative A, or 53 percent greater than Alternative B. It should be noted, Alternative B is an avoidance alternative.

As noted above, the combined cost of the other Thomas Roads Improvement Program projects, without the Centennial Corridor Project, is $156 million. No other projects have a scope and magnitude similar to the Centennial Corridor, which has $570 million funds allocated for construction and right-of-way costs. The cost of this avoidance alternative would prevent construction of the Centennial Corridor even if funding from all other Thomas Roads Improvement Program projects listed above were reallocated to the Centennial Corridor Project. The avoidance alternative is considered a construction cost of extraordinary magnitude.

For the reasons stated above, the Construct State Route 58 in Median of State Route 99 Alternative is not considered prudent.

7.0 Measures to Minimize Harm to the Section 4(f) Properties

The process of developing Alternatives A, B, and C for the Centennial Corridor project considered a wide range of engineering, feasibility, and environmental constraints, including Section 4(f) properties in the study area. Avoiding or minimizing the use of Section 4(f) properties was one of the key criteria during the alternatives development and refinement processes. Following is a discussion of specific measures to minimize harm for each protected Section 4(f) property.

7.1 Measures to Minimize Harm to the Kern River Parkway

The following mitigation measures would be incorporated to reduce impacts from Alternative A at the Kern River Parkway (mitigation measures are not required for Alternatives B and C because these proposed alignments are some 2,500 feet northeast of the park):

- The bicycle path would be moved slightly north of the existing path; however, the connection points on the east and west sides of Alternative A would align with the existing bicycle path.
- The Hoey Trail would be moved slightly north of the existing trail. The connection points on the east and west sides of Alternative A would align with the existing Hoey Trail.

- The equestrian trail would be moved slightly south of the existing trail. The connection points on the east and west sides of Alternative A would align with the existing equestrian trail.
- Mature trees or those protected by ordinance and required to be removed within the Kern River Parkway would be replaced at a 1:1 ratio.
- Vegetation, including landscaping, removed along the Kern River Parkway would be replaced in kind or with suitable, similar vegetation. Coordination with applicable agencies with jurisdiction over these resources (California Department of Fish and Game, United States Fish and Wildlife Service, and United States Army Corps of Engineers) and the procurement of applicable permits, if any, would be undertaken in advance of their removal.
- The park land proposed to be acquired and associated affected amenities would be replaced with those of equal value or utility if Alternative A is selected as the preferred alternative.

7.2 Measures to Minimize Harm to Saunders Park

Mitigation measures are not required for Alternatives A and B because these proposed alignments are about 5,300 and 2,500 feet, respectively, to the west of Saunders Park. Alternative C would result in the permanent removal of 3.27 acres (about 30 percent) of park land and would eliminate the existing basketball courts, roller hockey facility, splash/water play area, an equipment storage area, and two parking areas (58 parking spaces). Mitigation measures proposed for Alternative C at Saunders Park, if this alternative is selected as the preferred alternative, include the following:

- Conversion to parkland of the existing Bakersfield owned and operated retention basin immediately north of existing Saunders Park. This retention basin, to be used for park land and associated amenities such as turf, playground, and soccer field, would be filled in with dirt, increasing Saunders Park size 4.22 acres. Right-of-way acquisitions associated with Alternative C would add 0.87 acre for park use immediately north of the retention basin where existing State Route 99 is to the east and Chester Lane is to the north. Total replacement would be 5.09 acres of parkland for Alternative C, a net gain of 1.82 acres of parkland (12.95 acres of new parkland minus 11.13 acres of existing parkland).
- Several existing park amenities would be relocated within the park: spray/water park facility; both basketball courts; several parking spaces; and the roller hockey

facility. A draft conceptual design drawing (see Figure 16) depicts possible relocation areas within the park, assuming conversion of the retention basin and acquisition of additional land immediately north of the retention basin. This conceptual design is not final but shows the relocation of displaced existing park amenities and off-street parking. It should be noted, the conceptual plan would include 125 off-street parking spaces or a net increase of 67 spaces (125 spaces of new parkland minus 58 spaces of existing parkland). In addition, this conceptual design would include and/or expand the number and types of amenities not currently available at the park such as a soccer field, disk golf tee and target, and entry plaza (see Figure 16). A new access point would be provided at Chester Lane. The existing access on Palm Street would be expanded to two driveways.

- Security lighting would be installed as needed, particularly at the parking areas, roller hockey facility, basketball courts, and park boundaries.
- Mature trees removed from the park would be replaced at a 2:1 ratio. Vegetation such as grass would be replaced in kind as the final design of the park requires.
- Removed irrigation piping would be replaced as appropriate based on the final design of the park.
- The retaining wall(s) forming the eastern boundary of the park adjacent to State Route 99 would be built of graffiti-discouraging materials such as rough surfaces that include, but are not limited to, concrete reliefs or textured concrete. Other anti-graffiti measures may include vegetation such as trees, shrubs, or vines.
- Soundwalls about 12 feet high would be built on top of the retaining wall(s) to reduce noise impacts. Vines or other anti-graffiti measures would be employed to reduce graffiti and improve the aesthetics of the walls.

7.3 Measures to Minimize Harm to Rancho Vista Historic District

Mitigation measures are not required for Alternatives B and C because these proposed alignments are about 110 feet and 1,300 feet, respectively from the Rancho Vista Historic District. Alternative A would require the full acquisition of 46 properties that are contributors to the Rancho Vista Historic District. There are no partial property acquisitions that are contributors to the Rancho Vista Historic District. Conceptual mitigation measures proposed for Alternative A to minimize harm to the Rancho Vista Historic District include the following:

- Preparation of detailed documentation of the Rancho Vista Historic District as a whole—including each adversely affected contributing property— at a level

specified by the State Historic Preservation Officer, plus distribution to the appropriate regional information center, local public library, and other repositories to be determined. Documentation is similar to Historic American Building Survey Level II documentation: large-format archival-quality photographs, available as-built plans, and written historical data in the form of a historical report.

- Preparation of a brochure on the local history and architecture of the affected Rancho Vista Historic District.
- Preparation of information to existing social media sites dealing with related architectural topics.
- Incorporation of hardscape features, including soundwalls, landscape, and architectural treatments that are compatible with the historic character of the affected Rancho Vista Historic District such as color, texture, and vine treatment, as feasible. (see Noise, Section 3.2.7, for location and heights of proposed soundwalls. See Visual, Section 3.1.7, for integration of hardscape feature treatments).
- Demolition of contributing properties for which an adverse effect finding is made would not occur until strategies were attempted with a local agency to identify appropriate sites or offering the properties for sale for $1 (or other reasonable amount) and paying the cost of demolition and removal of each contributing property.
- Reuse of architectural and structural elements or character-defining features would be made available for other buildings of the same age and style through an architectural salvage operation. No salvage would take place until an opportunity for relocation has occurred.
- Protection of Rancho Vista Historic District-contributing buildings/structures with temporary construction easements by environmentally sensitive areas. After construction, the land, hardscape such as residential walkways, garden walks and walls, and vegetation would be replaced in-kind following the Secretary of the Interior’s Standards in Treatment for Historic Properties with Guidelines for Rehabilitation.

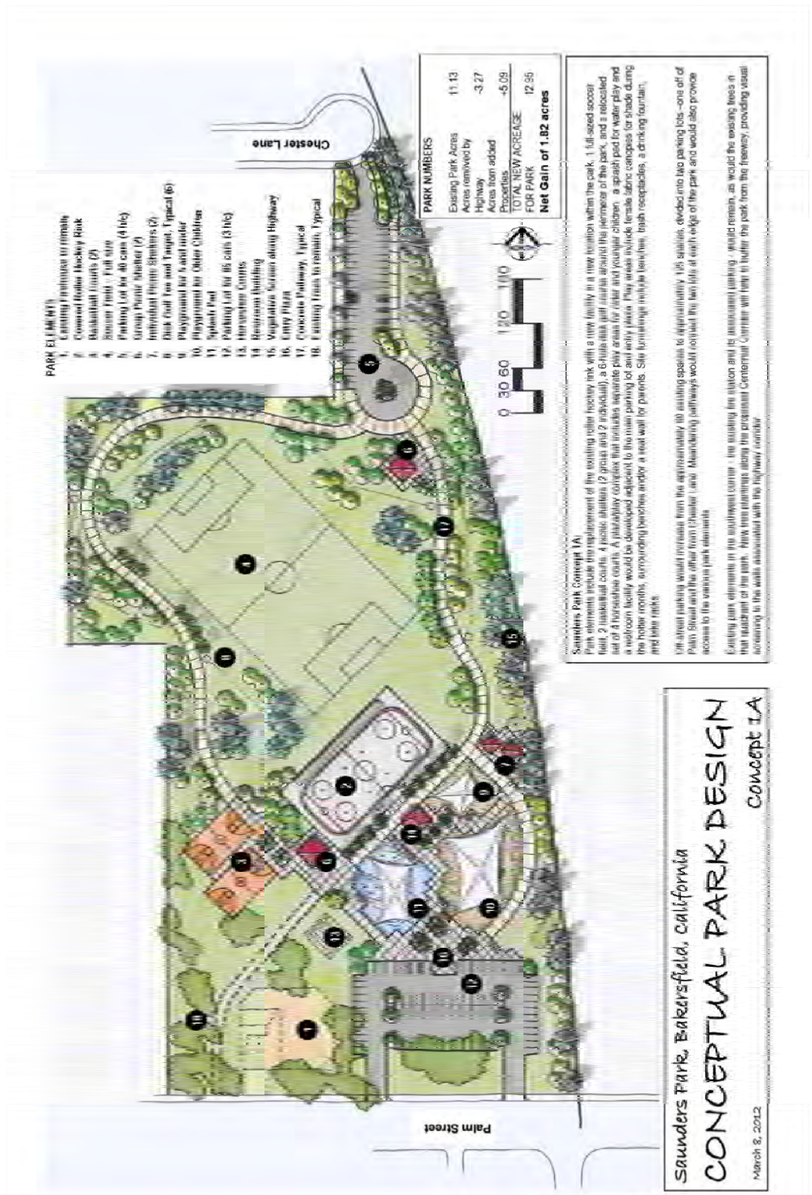


Figure 16 Concept Design Drawing of Saunders Park Rearrangement under Alternative C

Opportunities to further minimize the use of land from the Rancho Vista Historic District as the project develops would be sought and incorporated into the alternatives as appropriate. Minimizing land use may include location adjustment of the proposed right-of-way and anticipated project disturbance limits.

Specifically, as more detailed engineering is developed, opportunities to reduce land acquisition these Section 4(f) properties would be considered and incorporated in the project consistent with applicable engineering design standards.

Should Alternative B be selected as the preferred alternative, for those project elements visible from the Rancho Vista Historic District, consideration will be given to the incorporation of hardscape features (including soundwalls), landscape, and architectural treatments that are compatible with the historic character of the Rancho Vista Historic District, such as color, texture, and vine treatment, as project compatibility features, as feasible. (See Section 3.2.7, Noise, for location and heights of proposed soundwalls. See Visual, Section 3.1.7, for integration of hardscape feature treatments).

8.0 Coordination

A Section 4(f) evaluation requires documentation of the Section 106 process. Consultation with the State Historic Preservation Officer and the City of Bakersfield is ongoing. Prior to making Section 4(f) approvals under 23 CFR 774.3(a), the Section 4(f) evaluation must be provided for coordination and comment to the official(s) with jurisdiction over the Section 4(f) property and to the Department of the Interior. A Section 4(f) evaluation prepared under 23 CFR 774.3(a) must include sufficient supporting documentation to demonstrate why there is no feasible and prudent avoidance alternative, and it must summarize the results of all possible planning to minimize harm to the Section 4(f) property.

Caltrans has initiated consultation with the State Historic Preservation Officer in regard to the Centennial Corridor project and she concurred there are four historic properties within the Area of Potential Effects. Caltrans is currently in consultation with the State Historic Preservation Officer regarding the finding of effects to these historic properties, including the Rancho Vista Historic District, pursuant to the Caltrans Section 106 Programmatic Agreement and 36 CFR 800.6.

In addition, formal consultation as stated in the Section 4(f) requirements has been initiated with the City of Bakersfield to establish ownership and significance of

potentially effected parklands, including the Kern River Parkway and associated trails and Saunders Park (see Attachment B). Meetings were held with a City of Bakersfield representative on January 17, 2012. Meetings were also held with Recreation and Parks personnel on January 26, 2012 and March 21, 2012. Prior to completion of the environmental review process, impact determination and adequacy of proposed mitigation measures would be developed in consultation with City of Bakersfield officials having jurisdiction over the effected parklands. It should be noted that the City of Bakersfield, as the agency having jurisdiction over these properties, has provided documentation of agreement that the proposed measures to minimize harm to these parks has been undertaken to their satisfaction and are appropriate. Further, that with the foregoing determinations that the proposed project alternatives would all satisfy the requirements of 23 CFR 774.13. Prior to completion of the environmental review process, impact determination and adequacy of proposed mitigation measures would be developed in consultation with City of Bakersfield officials having jurisdiction over the effected parklands. It is expected that the City of Bakersfield, as the agency having jurisdiction over these properties, would provide documentation of agreement with the foregoing determinations that the proposed project alternatives would all satisfy the requirements of 23 CFR 774.13.

9.0 Description of Section 6(f) Properties

Section 6(f)(3) of the Land and Water Conservation Fund Act (16 United States Code §4601-4) contains provisions to protect federal investments in park and recreation properties and the quality of those assisted properties. The law recognizes the likelihood that changes in land use or development may make some properties that received federal funding obsolete over time, particularly in rapidly changing urban areas. At the same time, the law discourages casual discards of park and recreation facilities by ensuring that changes or conversations from recreation use will bear a cost—a cost that assures taxpayers that investments in the park and recreation properties will not be squandered. The Land and Water Conservation Fund Act includes a clear mandate to protect grant-assisted areas from conversions:

> *SEC. 6(f)(3) – No property acquired or developed with assistance under this section shall, without the approval of the Secretary, be converted to other than public outdoor recreation use. The Secretary shall approve such conversion only if he finds it to be in accord with the then existing comprehensive statewide outdoor recreation plan and only upon such conditions as he deems necessary to assure the substitution of other*

> *recreation properties of at least equal fair market value and of reasonably equivalent usefulness and location.*

This “anti-conversion” requirement applies to all parks and other sites that have been the subject of Land and Water Conservation Fund grants of any type, whether for acquisition of parkland, development, or rehabilitation of facilities.

When an application for Section 6(f) funding is submitted, a dated project boundary map showing the park area to be covered by Section 6(f)(3) anti-conversion protections is included. These maps do not have to be a formal survey document, but they must contain enough site-specific information to ensure that both the applicant (grantee) and the administering agency agree on the proper boundaries of the covered site at the time of project approval and that it provides the location, size indicators, and a picture of key facilities and landmarks to help later project inspectors better identify and evaluate the site.

A review of the Land and Water Conservation Fund grants database indicated that the City of Bakersfield received one grant for $157,050 in 1988/1989 and a second grant of $87,832 for the Kern River Parkway in 1989/1990. Upon consultation with City of Bakersfield officials, it has been determined that these grants were used to develop group picnic areas, open turf areas with irrigation and landscaping, and support facilities. City of Bakersfield Resolutions 43-89 and 32-90 contain Section 6(f)(3) project boundary maps indicating the area subject to Section 6(f) anti-conversion requirements. The project alternatives are from about 1,500 feet to over 1 mile from the area (now known as Yokuts Park) that is shown on the Section 6(f)(3) maps; therefore, it is not covered by anti-conversion requirements.

City of Bakersfield Water Resources Department records were also reviewed for information regarding Section 6(f) funding used for the Kern River Parkway. All other funding related to development of the Kern River Parkway has resulted from voter-approved local proposition funding only and is not related to Section 6(f) funding; therefore, no park or recreational facilities within the project footprint have been developed under Section 6(f) of the Land and Water Conservation Fund Act.

10.0 Properties Evaluated Relative to the Requirements of Section 4(f)

This section discusses parks, recreation facilities (including school playgrounds), wildlife refuges, and historic properties found within or adjacent to the project area that do not trigger Section 4(f) protection either because (1) they are not publicly owned; (2) they are not open to the public; (3) they are not National Register-eligible historic properties; (4) the project does not permanently use the property and does not hinder the preservation of the property; or (5) the proximity impacts do not result in substantial impairment.

As noted below, the analysis includes a discussion of each property and documents the following: (1) why the property is not protected by the provisions of Section 4(f) or (2) if it is protected by Section 4(f), why none of the alternatives under consideration cause a Section 4(f) use by (a) permanently incorporating land into the project (actual use), (b) by temporarily occupying land (temporary occupancy) that is adverse to the preservationist purposes of Section 4(f), or (c) substantial impairment to the property.

For this Section 4(f) analysis, public parks, recreation facilities (including school playgrounds), wildlife refuges, and historic properties within about 0.5 mile of each of the project alternatives were identified. A total of 17 parks and/or recreation facilities and three historic properties were identified (see Table B.4 and Figure 17). As indicated below, none of the alternatives under consideration result in a Section 4(f) use of these park, recreation facilities, wildlife refuges, or historic properties and would not result in any permanent, temporary, or indirect (proximity) impacts due to the project alternatives.

Table B.4 Park, Recreation Facilities, Wildlife Refuges, and Historic Properties Evaluated Relative to the Requirements of Section 4(f)

Site	Location	Distance to Nearest Alternative (feet)	Subject to the Provisions of Section 4(f)?	Permanent Use?	Temporary Occupancy?	Substantial impairment?
Park and Recreation Facilities						
Beach Park	City of Bakersfield	2,100	Yes	No	No	No
Belle Terrace Park	City of Bakersfield	2,600	Yes	No	No	No
Centennial Park	City of Bakersfield	75	Yes	No	No	No
Jastro Park	City of Bakersfield	2,600	Yes	No	No	No
Wayside Park	City of Bakersfield	2,000	Yes	No	No	No
Yokuts Park	City of Bakersfield	1,500	Yes	No	No	No
Curran Junior High School	City of Bakersfield	2,600	Yes	No	No	No
Evergreen Elementary School	City of Bakersfield	2,000	Yes	No	No	No
Fremont Elementary School	City of Bakersfield	2,000	Yes	No	No	No
Harris Elementary School	City of Bakersfield	500	Yes	No	No	No
McKinley Elementary School	City of Bakersfield	2,000	Yes	No	No	No
Munsey Elementary School	City of Bakersfield	1,400	Yes	No	No	No
Roosevelt Elementary School	City of Bakersfield	1,200	Yes	No	No	No
Sequoia Middle School	City of Bakersfield	1,700	Yes	No	No	No
Siebert Elementary School	City of Bakersfield	2,600	Yes	No	No	No
Van Horn Elementary School	City of Bakersfield	1,000	Yes	No	No	No
Vista Continuation High School	City of Bakersfield	1,800	Yes	No	No	No
Historic Properties						
Lester H. Houchin Residence	City of Bakersfield	58	Yes	No	No	No
Friant-Kern Canal	City of Bakersfield	0	Yes	No	No	No
Property at 3904 Marsha St.	City of Bakersfield	180	Yes	No	No	No

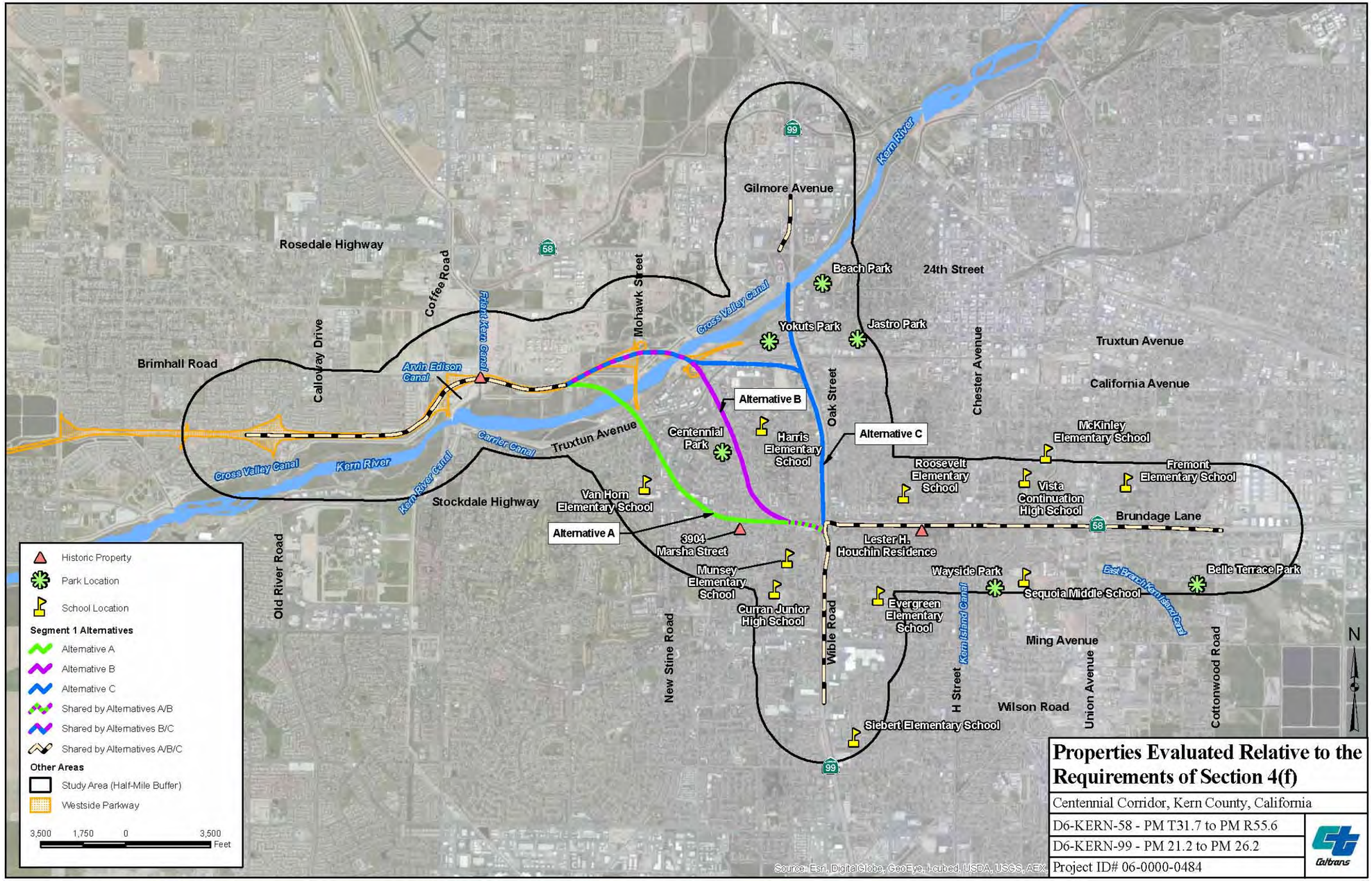


Figure 17 Location of Park, Recreation Facilities, Wildlife Refuges, and Historic Properties Evaluated Relative to the Requirements of Section 4(f)

10.1 Parks and Recreation Facilities

The potential for impacts to the 17 parks and/or recreation facilities were considered for all of the build alternatives. No permanent use of these properties would occur from any of the alternatives. Out of these 17 parks, Centennial Park is next to the Alternative B alignment; the remaining 16 are between 0.25 to 0.5 mile from the closest alternative. The following subsection provides the description and reason that supports a conclusion the facilities at these parks would not be adversely affected by the build alternative implementation. Thus Section 4(f) provisions are not triggered.

10.2 Beach Park

Beach Park is at the corner of Oak Street and 24th Street at 3400 21st Street. Beach Park is the northeast of the project alternatives at the following distances: 2,000 feet from the Alternative C alignment, over 2,500 feet from the Alternative B alignment, and over one mile from the Alternative A. As a result these distances from each alternative, no direct or temporary use of this property would occur while building or maintaining any of the alternatives.

Accessibility

The park could be accessed during project construction as well as when the project is operational.

Visual

The area south and southwest of Beach Park is built-up. Fencing, tall trees, and other buildings would block the views of Alternative C, the closest alternative alignment. Views of Alternatives A and B would be blocked by tall trees and other structures. As a result, none of the alternative alignments would substantially impair activities, features, and/or attributes that qualify Beach Park for protection under Section 4(f).

Noise

Similar to the reasons explained in subsection 5.2.2., activities at Belle Terrace Park would not be impaired by noise both during construction and operation of the new freeway.

Vegetation and Wildlife

The project biologist has reviewed the location of Beach Park and confirmed that due to the distance of the park from the proposed freeway alignments, no direct or indirect effect on biological resources in the park would occur from the construction and operation of the new freeway. Wildlife that occurs within or use the park could continue to do so during construction of the project and during operation of the project. As a result, none of the alternatives would substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Air Quality

Similar to the reasons explained in subsection 5.2.2., activities at Belle Terrace Park would not be impaired by noise both during construction and operation of the new freeway.

Water Quality

Potential short-term water quality impacts associated with the construction phase of the Centennial Corridor Project would be minimized with the implementation of Construction Site Best Management Practices. Potential long-term water quality impacts associated with the operation and maintenance of the transportation facility would be minimized with the implementation of Treatment Best Management Practices. Preliminary engineering efforts have identified proposed Infiltration Device locations to address water quality impacts. Overall, with incorporation of Temporary and Permanent Best Management Practices, no water quality impacts are expected with implementation of the Centennial Corridor Project. Consequently, impacts to water quality as a result of the proposed project alternatives would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

10.2.1 Belle Terrace Park

Belle Terrace Park is on Belle Terrace between Madison Street and Cottonwood Road at 1000 East Belle Terrace. This park is directly south of the project alternatives and is over 2,600 feet from all of the alternative alignments. As a result, no direct or temporary use of this property would occur from any of the alternatives.

Accessibility

The park could be accessed during project construction as well as when the project is operational.

Visual

All three alternatives are north of Belle Terrace Park. The views from the northern end of Belle Terrace Park are of single-story residential housing. Existing State Route 58 is not

visible from Belle Terrace Park. Since the proposed project would only widen State Route 58, the proposed project alternatives would not be visible from Belle Terrace Park; therefore, none of the alternative alignments would substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Noise

Similar to the reasons explained in subsection 5.2.2., activities at Belle Terrace Park would not be impaired by noise both during construction and operation of the new freeway.

Vegetation and Wildlife

The project biologist has reviewed the location of Belle Terrace Park and confirmed that due to the distance of the park from the proposed freeway alignments, no direct or indirect effect on biological resources in the park would occur from the construction and operation of the new freeway. Wildlife within or uses the park could continue to do so during project construction and operation. As a result, none of the alternatives would substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Air Quality

Similar to the reasons explained in subsection 5.2.2., activities at Belle Terrace Park would not be impaired by air pollutant emissions both during construction and operation of the new freeway.

Water Quality

Potential short-term water quality impacts associated with the construction phase of the Centennial Corridor Project would be minimized with the implementation of Construction Site Best Management Practices. Potential long-term water quality impacts associated with the operation and maintenance of the transportation facility would be minimized with the implementation of Treatment Best Management Practices. Preliminary engineering efforts have identified proposed Infiltration Device locations to address water quality impacts. Overall, with incorporation of Temporary and Permanent Best Management Practices, no water quality impacts are expected with implementation of the Centennial Corridor Project. Consequently, impacts to water quality as a result of the proposed project alternatives would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

10.2.2 Centennial Park

Centennial Park is a neighborhood 11-acre park within the Westpark neighborhood, about 75 feet from the Alternative B alignment and over 1,300 feet from the Alternative A and C

alignments (see Figure 17). The park is owned and operated by the City of Bakersfield Recreation and Parks Department. Park amenities include picnic areas, baseball backstops, basketball courts, softball fields, volleyball courts, leash-free dog areas, and restrooms.

Accessibility

Pedestrian and vehicular access is available from neighborhood streets, including Marella Way and Montclair Street (see Figure 18). Off-street parking is also available within two surface parking lots along Marella Way and Fallbrook Street.

The Alternative B construction would maintain local access to the park (see Figure 19). Area residents would continue to have access options to the park via the following remaining roadways: Marella Way, Montclair Street, Fallbrook Street, and La Mirada Drive. The option for removing the La Mirada Drive overcrossing from Alternative B is also under consideration. Removal of the overcrossing would not substantially change access, which would be provided by the Marella Way overcrossing. Removal of the La Mirada Drive overcrossing would eliminate the need to displace 13 single family homes on La Mirada Drive near Centennial Park and save about $2.5 million in construction costs. The elimination of Hillsborough Drive and Kentfield Drive would not impair local access to the park because the remaining residents would continue to have access via Fallbrook Street.

Visual

The Westpark neighborhood is highly urbanized and available views are limited due to existing buildings. Most views include streetscapes and associated residential landscaping such as turf, shrubs, and trees. Centennial Park is only one of two green-space areas within the neighborhood. Views from the park are of the nearby single-family residences and local roadways partially obstructed by mature landscape trees. Views of the park from off-site areas are similarly obstructed depending on the viewer’s location.

Alternative B includes building a freeway overcrossing at Marella Way and Fallbrook Street near the northeast corner of the park. Although the overcrossing would be visible to park users, existing mature Chinese elm trees along Marella Way would help screen the overcrossing. Planting vines or other visually pleasing context-sensitive features such as stained concrete would also enhance the view of the overcrossing by park users. Therefore, the overall reduction in visual quality of the park would not substantially impair the activities, features, and/or attributes that qualify Centennial Park for protection under Section 4(f).

Figure 18 Existing Centennial Park Accessibility

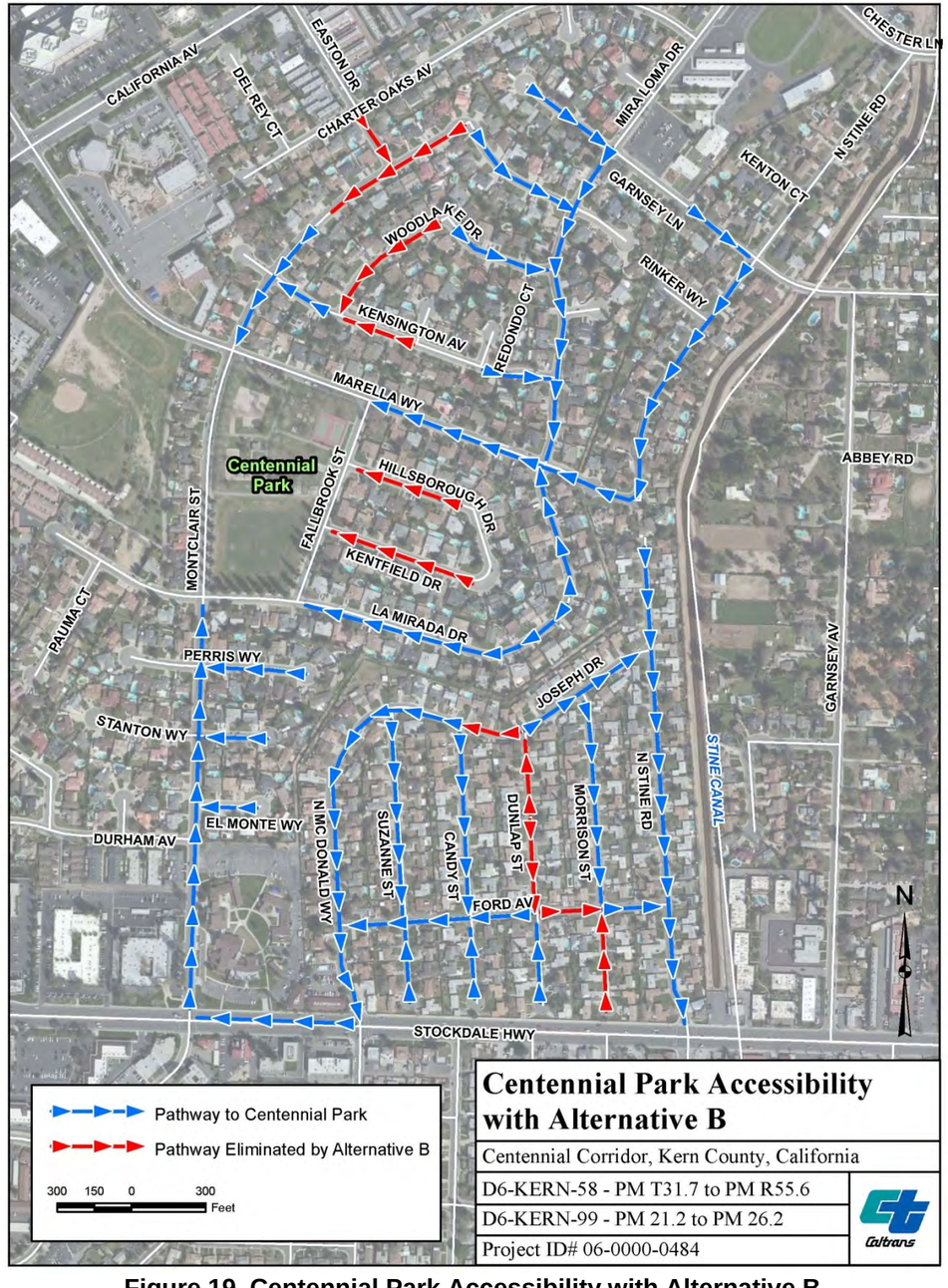


Figure 19 Centennial Park Accessibility with Alternative B

Noise

The analysis in this section is based on conclusions from the *Noise Study Report* (January 2013) prepared for this project. Alternative B would result in a new freeway alignment across Marella Way just east of Fallbrook Street diagonally to the northwest in a depressed cross-section. Marella Way would cross over the freeway on a retained structure. Because of the existing urban setting of Centennial Park surrounded by residential housing and local arterial roadways, serenity and solitude are not attributes that qualify the park for Section 4(f) protection, but rather its public ownership, accessibility, and the recreational uses: tennis courts and other typical urban park attributes.

A noise measurement in the northeast corner of Centennial Park recorded an ambient noise level of 53 dBA. The future predicted traffic noise modeling results for this location indicate an increase in noise levels of 15 dB over preproject conditions. A noise level of 68 dBA exceeds the 67-decibel minimum for considering noise abatement. An 8- to 12-foot-high soundwall was considered on the south side of the proposed Centennial freeway between Marella Way and La Mirada Drive to provide traffic noise abatement for the park and several residences. This soundwall is not considered reasonable under Caltrans noise abatement guidance since the wall would not provide a 7-decibel noise reduction for at least one receiver, the requirement to meet the soundwall design goal. However, this soundwall is still recommended due to special circumstance to close the existing 900-foot gap. This gap closure would ensure an unbroken soundwall is built to benefit the frequent outdoor use areas of the park, thereby minimizing traffic noise impacts.

Based on the reasons stated above, building Alternative B would not substantially impair the activities, features, and/or attributes that qualify Centennial Park for protection under Section 4(f).

Vegetation and Wildlife

Alternative B does would not affect threatened or endangered species in Centennial Park. Vegetation within the park is comprised of non-native shrub and tree species such as Chinese elm. Wildlife using the park is limited to species such as European starlings, opossum, and raccoons adapted to urban environments. No kit fox were observed at Centennial Park. In addition, project design incorporates features to maintain kit fox movement interrupted or prohibited by traffic. Building Alternative B would not require the removal of park landscaping that may be used by some species for foraging, nesting, and shelter. In addition, no impacts to animals using the

park would be expected because these species are accustomed to the presence of humans and associated environments such as noise, light, and traffic); therefore, building Alternative B would not substantially impair the activities, features, and/or attributes that qualify Centennial Park for protection under Section 4(f).

Air Quality

The *Air Quality Study Report* (January 2013) and Section 3.2.6 of the draft environmental impact statement/environmental impact report concluded that, in the long term, Alternative B would not contribute substantially to, or cause deterioration of, air quality in the immediate project area or in the region. In addition, during project construction activities, measures such as best available control and standard control measures as required by Caltrans and the San Joaquin Valley Air Pollution Control District would be used to reduce exhaust and fugitive dust emissions generated by construction equipment and activities,. Therefore, short-term and long-term air quality impacts associated with Alternative B would not substantially impair the activities, features, and/or attributes that qualify Centennial Park for protection under Section 4(f).

Water Quality

The discussion and analysis in this section is based on the *Water Quality Assessment Report* (November 2012) prepared for this project and Section 3.2.2 of the draft environmental impact statement/environmental impact report. Building Alternative B has potential to affect water quality. Potential pollutant sources associated with the construction phase of this alternative include construction activities and materials expected at the project site such as vehicle fluids; concrete and masonry products; landscaping and other products; and contaminated soils. Similarly, operation of this alternative has potential to affect water quality.

Potential pollutant sources associated with the operation of this alternative include motor vehicles, highway maintenance, illegal dumping, spills, and landscaping care. However, with minimization measures, short-term and long-term water quality impacts with Alternative B would not substantially impair the activities, features, and/or attributes that qualify Centennial Park for protection under Section 4(f).

In conclusion, based on the analysis above, it was determined that building Alternative B would not substantially impair the activities, features, and/or attributes that qualify the park or recreation facilities identified for analysis. Specifically, this alternative would not result in a direct use; would not result in a temporary use during

the construction period; would not have temporary effects on; would not result in changes to ownership; and would not restrict public vehicular access to these parks and recreation facilities during construction or operation. Therefore, Alternative B would not result in "use" of any of these parks or recreation facilities and the provisions of Section 4(f) are not triggered.

10.2.3 Jastro Park

Jastro Park is between Truxtun Avenue and 18th Street and just east of Oak Street at 2900 Truxtun Avenue. Jastro Park is within one-half mile of Alternative C and over one mile away from the Alternatives A and B alignments. As a result, no direct or temporary use of this property would occur from any of the alternatives.

Accessibility

The park could be accessed during project construction as well as when the project is operational.

Visual

Jastro Park is east of the nearest project alternative. The views from Jastro Park toward Alternative C (the nearest alternative) are partially blocked by vegetation planted along the park borders. Tall trees in the front yards of residences along Elm Street completely block the views of Alternative C. Alternatives A and B are farther away from Jastro Park than Alternative C. These same residential trees block the views of these alternatives as well. As a result, none of the alternatives would substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Noise

Similar to the reasons explained in Subsection 5.2.2., the activities at Jastro Park would not be impaired by noise both during construction and operation of the new freeway.

Vegetation and Wildlife

The project biologist has reviewed the Jastro Park location and confirmed that with the distance to the park from the proposed freeway alignments, no direct or indirect effect on biological resources in the park would occur from the construction and operation of the new freeway. Wildlife that occur within or use the park could continue to do so during project construction and operation. As a result, none of the alternatives would substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Air Quality

Similar to the reasons explained in Subsection 5.2.2., the activities at Jastro Park would not be impaired by air pollutant emissions during construction and operation of the new freeway.

Water Quality

Potential short-term water quality impacts associated with the construction phase of the Centennial Corridor Project would be minimized with the implementation of Construction Site Best Management Practices. Potential long-term water quality impacts associated with the operation and maintenance of the transportation facility would be minimized with the implementation of Treatment Best Management Practices. Preliminary engineering efforts have identified proposed Infiltration Device locations to address water quality impacts. Overall, with incorporation of Temporary and Permanent Best Management Practices, no water quality impacts are expected with implementation of the Centennial Corridor Project. Consequently, impacts to water quality as a result of the proposed project alternatives would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

10.2.4 Wayside Park

Wayside Park is on the corner of Ming Avenue and El Toro Drive at 1200 Ming Avenue. The park is directly south of the project alignment and is over 2,000 feet from all three alternatives alignments. As a result, no direct or temporary use of this property would occur from any of the alternatives.

Accessibility

The park could be accessed during project construction as well as when the project is operational.

Visual

All three alternatives are north of Wayside Park. Views from the northern end of Wayside Park are of single-story residential housing. Existing State Route 58 is not visible from Wayside Park. Since the proposed project would only widen State Route 58, proposed project alternatives would not be visible from Wayside Park; therefore, none of the Alternatives would substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Noise
Similar to the reasons explained in Subsection 5.2.2, the activities at Wayside Park would not be impaired by noise both during construction and operation of the new freeway.

Vegetation and Wildlife
The project biologist has reviewed the Wayside Park location and confirmed that with the distance of the park from the proposed freeway alignments, no direct or indirect effect on biological resources in the park would occur from the construction and operation of the new freeway. Wildlife that occurs within or uses the park could continue to do so during project construction and operation. As a result, none of the alternatives would substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Air Quality
Similar to the reasons explained in Subsection 5.2.2, the activities at Wayside Park would not be impaired by air pollutant emissions both during construction and operation of the new freeway.

Water Quality
Potential short-term water quality impacts associated with the construction phase of the Centennial Corridor Project would be minimized with the implementation of Construction Site Best Management Practices. Potential long-term water quality impacts associated with the operation and maintenance of the transportation facility would be minimized with the implementation of Treatment Best Management Practices. Preliminary engineering efforts have identified proposed Infiltration Device locations to address water quality impacts. Overall, with incorporation of Temporary and Permanent Best Management Practices, no water quality impacts are expected with implementation of the Centennial Corridor Project. Consequently, impacts to water quality as a result of the proposed project alternatives would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

10.2.5 Yokuts Park
Yokuts Park is just off Empire Drive north of the Truxtun Avenue extension at 4200 Empire Drive. The park is over 1,500 feet from the Alternative C alignment, over 0.5 mile from the Alternative B alignment, and over 1 mile from the Alternative A alignment. As a result, no direct or temporary use of this property would occur from any of the alternatives.

Accessibility
The park could be accessed during project construction as well as when the project is operational.

Visual
Yokuts Park sits in a depression compared to the surrounding built-up area. Thick vegetation blocks views along the Kern River toward the Union Pacific railroad bridge and toward the Westside Parkway Bridge. None of the project alternatives would be visible from the park; therefore, none of the alternatives would substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Noise
Similar to the reasons explained in Subsection 5.2.2., activities at Yokuts Park would not be impaired by noise during construction or operation of the new freeway.

Vegetation and Wildlife
The project biologist has reviewed the Yokuts Park location and confirmed that due to the distance of the park from the proposed freeway alignments, no direct or indirect effect on biological resources in the park would occur from the construction and operation of the new freeway. Wildlife that occur within or use the park could continue to do so during project construction and project operation. As a result, none of the alternatives would substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

Air Quality
Similar to the reasons explained in Subsection 5.2.2., activities at Yokuts Park would not be impaired by air pollutant emissions during construction or operation of the new freeway.

Water Quality
Potential short-term water quality impacts associated with the construction phase of the Centennial Corridor Project would be minimized with the implementation of Construction Site Best Management Practices. Potential long-term water quality impacts associated with the operation and maintenance of the transportation facility would be minimized with the implementation of Treatment Best Management Practices. Preliminary engineering efforts have identified proposed Infiltration Device locations to address water quality impacts. Overall, with incorporation of Temporary and Permanent Best Management Practices, no water quality impacts are expected

with implementation of the Centennial Corridor Project. Consequently, impacts to water quality as a result of the proposed project alternatives would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

10.2.6 Public School Recreational Areas

The following are publically owned schools within the study area that have recreational areas open to the public for after school use:

- Curran Junior High School
- Evergreen Elementary School
- Fremont Elementary School
- Harris Elementary School
- Mckinley Elementary School
- Munsey Elementary School
- Roosevelt Elementary School
- Sequoia Middle School
- Siebert Elementary School
- Van Horn Elementary School
- Vista Continuation High School

The closest school to any project alignment is Harris Elementary School. Harris Elementary School is about 500 feet from the Alternative B alignment, 800 feet from the Alternative C alignment, and 1,500 feet from the Alternative A alignment. The remaining schools are between 1,000 feet to 1 mile from the alternative alignments. As a result, no direct or temporary use of these properties would occur from any of the alternatives.

Accessibility

The Harris Elementary School playground could be accessed during project construction as well as when the project is operational.

Visual

Harris Elementary School is between Alternatives B and C. The school is also in a built-up area. Trees grow along the school property line to obscure views of structures next to the school. The area around the running track has clear views of the surrounding residential and multi-story structures. The trees and structures would block the views of Alternatives B and C. These same structures would block the view

of Alternative A farther to the west. As a result, none of the alternatives would substantially impair the activities, features, and/or attributes that qualify the school for protection under Section 4(f).

The remaining schools are in similar settings: surrounded by single and multi-story structures with trees along the property lines that limit views from a few feet to a few hundred feet. As a result, none of the alternatives would substantially impair the activities, features, and/or attributes that qualify the schools for protection under Section 4(f).

Noise

Similar to the reasons explained in Subsection 5.2.2., the activities at these school playgrounds would not be impaired by noise both during construction and operation of the new freeway.

Vegetation and Wildlife

The project biologist has reviewed the location of all schools within 0.25 and 0.5 mile of the project alignments and confirmed that due to the distance of the schools from the proposed freeway alignments, no direct or indirect effect on biological resources in the school playgrounds would occur from the construction and operation of the new freeway. As a result, none of the alternatives would substantially impair the activities, features, and/or attributes that qualify the school playgrounds for protection under Section 4(f).

Air Quality

Similar to the reasons explained in Subsection 5.2.2., the activities at these school playgrounds would not be impaired by air pollutant emissions both during construction and operation of the new freeway.

Water Quality

Potential short-term water quality impacts associated with the construction phase of the Centennial Corridor Project would be minimized with the implementation of Construction Site Best Management Practices. Potential long-term water quality impacts associated with the operation and maintenance of the transportation facility would be minimized with the implementation of Treatment Best Management Practices. Preliminary engineering efforts have identified proposed Infiltration Device locations to address water quality impacts. Overall, with incorporation of Temporary and Permanent Best Management Practices, no water quality impacts are expected with implementation of the Centennial Corridor Project. Consequently, impacts to

water quality as a result of the proposed project alternatives would not substantially impair the activities, features, and/or attributes that qualify the Harris Elementary School playgound for protection under Section 4(f).

10.3 Historic Properties

In accordance with Federal Highway Administration regulations and guidance, the requirements for protection of cultural resources under Section 4(f) are triggered only by significant historic properties, defined as sites on or eligible for listing on the National Register of Historic Places, or sites otherwise determined significant by the Federal Highway Administration Administrator (23 CFR 771.135[e]).

Four properties were determined to be eligible for the National Register of Historic Places within the Area of Potential Effects for the Centennial Corridor project. These properties were evaluated for Section 4(f) protection. One property triggered protection under Section 4(f). This property is discussed in Section 3.3.1, Rancho Vista Historic District. The other three properties (discussed below) did not trigger the requirements for protection under Section 4(f).

10.3.1 Friant-Kern Canal

The Friant-Kern Canal is a 152-mile-long gravity-fed earth- and concrete-lined canal that terminates at the Kern River northwest of Bakersfield. As a key component of California's Central Valley Project, the canal has been determined eligible for listing in the National Register of Historic Places. It is historically significant at the state level under Criterion A within the context of development, construction, and operation of the Central Valley Project. The period of significance is 1945 to 1951, its period of construction. Character-defining features include its overall length, width, and its major contributing structures: major canal siphons, wasteways, checks, overchutes, an equalizing reservoir, culverts, drains, pumps, turnouts, recording houses/structures, the operation roads next to the canal on either side along its entire length, and miscellaneous structures such as irrigation pipe crossings, minor siphons, and drainage inlets). Noncontributing features consist of farm, county, state, and railroad bridges; power and utility crossings; cattle guards; historic wood trapezoidal canal; and Central Valley Project signs, fencing, and levees. The property historic boundary encompasses the canal and contributing features attached to the canal.

The Alternative A alignment would follow the recently built Westside Parkway that crosses the Friant-Kern Canal (see Photo 4—Existing View). Alternative A would provide an additional bridge crossing Friant-Kern Canal for the eastbound Coffee

Road on-ramp connector, in addition to the Westside Parkway, which has already been constructed at this location (see Photo 4—Simulated Future View). As proposed, this project feature will have no adverse effect on the historically significant canal. The architectural design of the new bridge will be similar in character to another recently constructed bridge structure over the Friant-Kern Canal, for the Westside Parkway project, for which the State Historic Preservation Officer concurred there was no adverse effect. While the Project would add a second bridge over the canal, in the context of it being a 152-mile long linear feature, there would be no direct or indirect adverse and no cumulative effect due to the length of the property. Further, the footings and abutments of the new bridge will be located outside of the National Register boundaries of the historic canal. The short bridge crossings over the canal do not diminish the historic character nor significant qualities that qualify the Friant-Kern Canal for National Register eligibility.

Therefore, Alternative A would cause no direct or indirect adverse effects to the Friant-Kern Canal. Section 4(f) provisions are not triggered by Alternative A under 36 CFR 800.5(a)(2)(i), (ii), (iii), (iv), or (v).

The Alternative B and Alternative C alignments would follow the recently built Westside Parkway that crosses the Friant-Kern Canal. Both alternatives would not require new construction over the Friant-Kern Canal or the Westside Parkway. The view of the Friant-Kern Canal will be the same as that shown in Photo 4—Existing View. Therefore, there would be no effect under Section 106 and no use of this Section 4(f) historic property.

Existing View

Simulated View with Alternative A Alignment

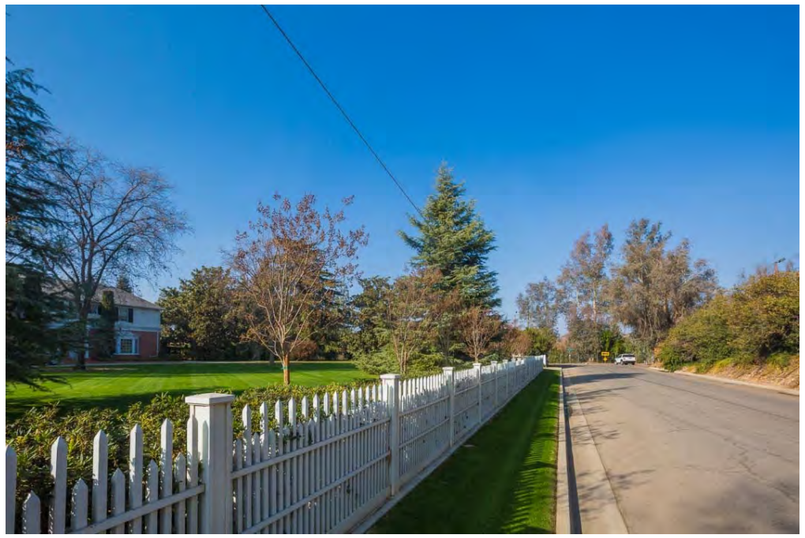
Photo 4. Friant-Kern Canal looking north toward the recently constructed Westside Parkway

10.3.2 Lester H. Houchin Residence

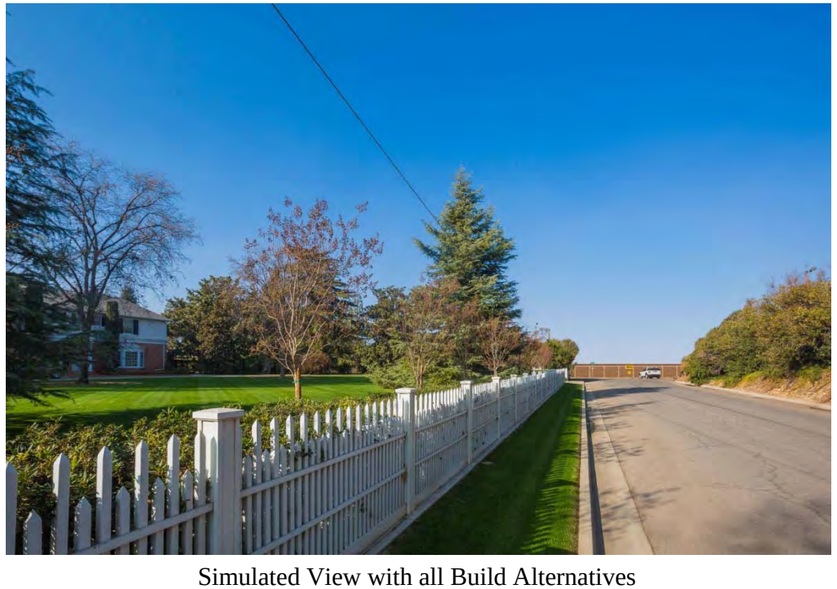
The Lester H. Houchin residence and associated detached garage, 307 South Oleander in Bakersfield (see Photo 5—Existing View), is eligible for listing in the National Register of Historic Places at the local level under Criterion A (historically important events) and Criterion C (historically important architecture) as an important local example of Colonial Revival architecture. The period of significance is 1939, the date of construction. The historic property boundary is defined by the legal parcel.

Contributing elements include the residence, two-story garage, circular driveway, and landscaping on the north, south, and east sides of the residence and garage. The pool, cabana, veranda, and other hardscape west of the residence and garage are noncontributing elements. Character-defining features include the near rectangular footprint, hip roof with flat deck, rounded portico entrance with paneled door and multi-light transom, multi-pane double-hung windows, a near symmetrical façade, stucco siding, brick veneer, elaborate detailed molding, bay windows with flared hip roofs, wood shutters, special relationships with the surrounding features on the property (circular driveway, secondary driveway leading to the garage, garage setback), open lawns, and mature trees and bushes to the side and rear of the house.

The alignment of all build alternatives would follow the existing State Route 58 located approximately 56 feet from the northern edge of this historic property's boundary and about 150 feet from the elevation on the north side of the residence. None of the alternatives would encroach into the Lester H. Houchin residential property boundaries, nor cause a change in the physical setting of the resource that would compromise the characteristics or features that qualify the resource for the National Register. Under this alternative a retaining wall and soundwall will be constructed near this historic property. The retaining wall would rise 25 feet from the base of the existing depressed freeway (State Route 58). The top of the retaining wall would be at the same level as Brite Street. The 8-foot-tall soundwall would be built atop the retaining wall along the north side of Brite Street. All proposed construction activities would be conducted within the state right-of-way; therefore, there would be no direct effects to this historic property. The soundwall, as well as construction activity, would be shielded by the existing mature and dense landscaping located along the north side of the property except for a small part at the end of Oleander Street, as shown in Photo 5—Simulated Future View with all build alternatives. No indirect adverse effects to this historic property would be expected from the introduction of new visual elements, which would be barely discernible. In addition, no adverse noise or vibration effects to this historic property would be expected.



Existing View



Simulated View with all Build Alternatives

Photo 5. Lester H. Houchin residence from Oleander Street looking north toward State Route 58 (depressed freeway)

There would be no impacts to this historic property under 36 CFR 800.5(a)(2)(i), (ii), (iii), (iv), or (v) from the construction of Alternatives A, B, or C. No indirect adverse effects to this historic property from the introduction of new visual elements are anticipated. Also, no noise or vibration from either construction or operation of any of the alternatives is anticipated to affect this historic property. Therefore, the provisions of Section 4(f) are not triggered.

10.3.3 3904 Marsha Street Property

The property at 3904 Marsha Street, Bakersfield, California is a one-story residence located in the Rancho Vista Historic District (see Photo 6). The house was built in 1956, and the garage was probably built at the same time. The house also has a fallout shelter that was probably constructed in about 1960-62. While this property is a contributor to the Rancho Vista Historic District, this property is also individually eligible for the National Register of Historic Places Criterion A (historically important events) for its association with Cold War tension between the United States and the Soviet Union, and the fear of nuclear war between the two countries. The fallout shelter at the rear of the property conveys in a stark and visceral manner the grim mindset of the time, and the lengths to which people were willing to go to survive a nuclear holocaust. Home fallout shelters provide the physical evidence that people did make such considerations, and that they calculated the probability of nuclear war in a way that justified the expense of building an underground shelter.

There would be no impacts to this historic property under 36 CFR 800.5(a)(2)(i), (ii), (iii), (iv), or (v) from the construction of Alternatives A, B, or C. The residence is located 180 feet, 1,200, and over 2,300 feet away from the southern construction limits of Alternative A, B, and C, respectively, and cannot be visualized in the simulated view of Photo 6. Therefore, none of the proposed alternatives would cause any direct or indirect adverse effects to the character-defining features of the historic property which cause it to be individually eligible, namely the entry hatch and ventilation pipe of the bomb shelter above ground, and the shelter itself buried underground in the rear yard. There would be no use under Section 4(f).

No soundwalls are proposed in the vicinity of this property under any of the alternatives, and all construction activity would be shielded by the landscaping along the north side of this property. There would be no anticipated indirect adverse effects to this historic property from the introduction of new visual elements. Also, it is anticipated no noise or vibration from either construction or operation of any of the alternatives would affect this historic property. Therefore, the provisions of Section 4(f) are not triggered.

Photo 6. 3904 Marsha Street residence taken from Marsha Street looking north-northeast toward the new freeway alignment (Alternatives A, B, and C).

11.0 List of Preparers

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ATTACHMENT A: KERN RIVER PARKWAY MEMORANDUM

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MEMORANDUM

Project:	**Bakersfield TRIP – Centennial Corridor, 24th Street and Hageman Road Flyover Projects**
Subject:	**Kern River Parkway Acreage Estimates and Section 6(f) Funding**
Prepared by:	**David Clark; Gary Petersen**
Date:	**May 1, 2012**

The purpose of this Memorandum is to review several sources of information that have led to differing estimates of the acreage associated with the Kern River Parkway and to recommend an appropriate accounting of its acreage and location, for purposes of the Centennial Corridor, 24th Street and Hageman Flyover Section 4(f) Evaluations and their associated analysis. The purpose of this memo is also to document Section 6(f) funding, which automatically triggers consultation on "anti-conversion". Caltrans intends to informally consult with State Parks to close out any potential Section 6(f) as an issue. The Department of the Interior requires Section 6(f) close-out as part of its Section 4(f) review.

The following sources of information are reviewed:

a. Planning Level Documents:
   a. Kern River Plan Element (July 1985; Updated – August 2007)
   b. Kern River Parkway Foundation website
   c. City of Bakersfield General Plan Update, Section 4.12 Parks and Recreation (June 2002)
   d. County of Kern Parks & Recreation Master Plan (May 2010)
   e. Metropolitan Bakersfield General Plan Update – Draft Existing Conditions, Constraints and Opportunities Report; Section 2.4: Parks and Open Space Element (April 2009)
b. Environmental Documents:
   a. Final Route 58 Route Adoption Project Tier I Environmental Impact Statement/Environmental Impact Report (May 2001)
   b. Westside Parkway Tier 2 Environmental Assessment/Final Environmental Impact Report (January 2007)
c. GIS Based Estimate:
   a. City of Bakersfield Geographic Information Systems (GIS): Property Ownership/ Kern River Plan Element Land Uses/Kern River Parkway Boundary and Trail Map

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I. PLANNING LEVEL DOCUMENTS

Kern River Plan Element (1985)

The Kern River Plan Element is an integral part of the City of Bakersfield General Plan and the Kern County General Plan that was initially prepared in 1985 and updated in 2007. The Kern River Plan was proposed as a General Plan Element to both the City and County General Plans. The Plan included the primary and secondary floodways of the Kern River which comprises an estimated 14,250 acres. **Exhibit 1** shows the Kern River Plan extended from the mouth of the Kern River, approximately 5.5 miles east of Ming Lake, and to the crossing of I-5 and Kern River, for a total estimated length of 35 miles. Areas under the jurisdiction of both the City of Bakersfield and County of Kern are included in the Plan. No other jurisdiction is referenced.

The Kern River Plan Element addresses major issues facing the development of the Kern River. These issues include access, open space and development, riparian vegetation and wildlife habitat, flood plain management, private property and public use, mineral and petroleum. Goals and policies are provided for each of the aforementioned issues facing the Kern River. In addition, the underlying land use designations include non-jurisdictional lands (state and federal lands), physical constraint (seismic and flood hazard), public facilities (such as public and private recreation areas), residential development of varying housing densities, commercial, industrial, and resource management (agriculture, mineral and petroleum, and resource management). In view of Section 4(f) public facilities are basic physical structures and infrastructure which are provided for public service and support. Included in this land use designation is Parks and Recreation Areas (Map Code 3.1) which delineates public and private recreation facilities, campground or park areas.

The Kern River Plan references, in the Environmental Setting section, under the heading "Parks and Recreation", Kern River Park (a County facility) and non-structured uses occurring along the length of the river (e.g., rafting, hiking, riding, off road vehicle use, passive study, sight-seeing and bicycling). This section describes the Kern River Park as the largest park in the plan area. The Kern River Park "consists of Hart memorial Park, a campground, picnic areas, Lake Ming, Kern River-Foss Golf Course, and the California Living Museum (CALM). There is no reference to the Kern River Parkway in this section of the Plan. However, the Kern River Plan provides the basis for the development of the Kern River Parkway Master Plan discussed in the next section.

In Section 2.3 – History of Planning in the Kern River Area, it is stated that the focus of the Kern River Plan, from the outset, was the preservation and maintenance of the floodway channel of the Kern River.

In Section 2.6 – General Qualifications and Provisions, it is stated that "the relationship between Kern River Plan designations and City of Bakersfield zone district designations are approximations only …. correlation between the Kern River Plan land use designations and City zoning intensities and permitted uses are approximate and consistent in the City with existing zone districts."

In Section 4.11 – Recreation, a number of contemplated recreational uses are identified as proposed within the Kern River Plan area, including bikeway, foot access, fishing, nature study, photography, hiking and equestrian trails, etc., but no reference to the Kern River Parkway is mentioned.

Multi-sheet mapping of the Kern River Plan area is provided as an Appendix, but no reference to the Kern River Parkway is shown. Section 4.4-1 Parks and recreation Area (Map Code 3.1) delineates public and private recreation facilities, campground, or park areas. In addition, the Kern River Plan (Sheet 5 Golden State to Calloway Road) clearly shows the proposed future freeway alignment known at that time as the future State Highway 178 but later became known as Westside Parkway. Exhibit 2 is provided showing the land use designations and Map Codes for areas between Mohawk Street, the Truxtun Extension, and State Route 99. Within this area land use designations include Resource Management (8.5), General Commercial (6.2), Public Facilities/ Parks and Recreation and Other Facilities (3.1), and Flood Hazards (2.5).

Finding: Based on the above information, the Kern River Plan provides overall planning guidance for the Kern River, functioning primarily as a floodway and secondarily for other purposes (including recreation). The Kern River Plan Element formed the basis for the later development of the Kern River Parkway Plan (June 1988). The Kern River Plan Element, at that time, did not quantify acreages of any of the later components of the Kern River Parkway which developed later over the years.

Kern River Parkway Final Environmental Impact Report (September 1988)

The City of Bakersfield approved the Final EIR for the Kern River Parkway and Final Master Plan that would allow the continuation of the Parkway's current flood control and water conservation uses but also represented the City's long term vision of the Kern River within the City limits. The Kern River Parkway is described in the Final EIR as almost 8 miles in length and ranges from 30 to 2, 200 feet in width and comprises an estimated 1,400 acres between Manor Street on the east and the Stockdale Highway on the west. No changes were anticipated in the primary floodway but some changes within the secondary floodway were proposed with some changes outside the secondary floodway. The City Bakersfield City Council Resolutions 228-88 and 229-88 (dated November 30, 1988) certified the final environmental impact report and amended the Kern River Plan Element to allow the development of recreational areas, parking lots and protection of sensitive habitat.

Exhibit 3 shows the Final Master Plan for the Kern River Parkway approved in 1988. A detailed breakout of the existing and proposed land uses are shown in the table below.

Kern River Parkway Master Plan
Land Use Categories

Proposed Land Use Categories	Acreage	Percent Of Parkway
Primary River Channel	320	22.9
Natural Open Space	77	5.5
Service Industrial	28	1.5
Riparian Marsh	75	5.4
Riparian Area	120	8.6
Educational Studies Area	460	32.6
Landscape Areas	65	4.6
*Existing Recreation Areas	145	10.4
**Proposed Recreation Areas	75	5.4
Rest Areas	2	0.1
Recharge Basins	25	1.8
Parking Areas	8	0.6
Total	**1,400**	**100**

*Existing recreation areas include City owned Beach Park (30 acres) and County owned Riverview Park (15 acres) and Metro Park (100 acres)

** Includes 300-seat amphitheater

An important point is that the 1,400 acres comprising the Kern River Parkway, approximately 255 acres, or 18.2 percent are privately owned. Approximately 950 acres (68 percent) are owned by the City, and 195 acres (13.9) are publicly owned by other public agencies. To complete the Parkway Plan the City will purchase as much private land as possible by the time the Kern River Parkway is built out within an estimated 10-year time frame (1988-1998).

Finding: The Kern River Parkway Plan was an outgrowth of the Kern River Plan Element. The Kern River Parkway Plan is the mid- to long term vision of the City of Bakersfield. The 1,400 acres represents the best guess estimate for the Kern River Parkway within the City limits and was the most accurate accounting at the time.

Kern River Parkway Foundation (Non- Profit)

The Kern River Parkway Foundation is a 501(c)(3) non-profit foundation whose stated mission is "The restoration, preservation and improvement . . . of the lower Kern River as it flows through Bakersfield." It goes on to state "The Foundation works to establish and

maintain . . . a system of . . . river trails, parks and native flora and fauna to be called 'The Kern River Parkway.'"

On the Home Page of the Foundation's website are the following statements:

1) The Kern River Parkway (KRP) has one of the most extensive bike trails (32 miles) in the state;
2) The KRP includes 9 Bakersfield City parks (Beach, Yokuts, Park at River Walk, River Oaks, Aera, Truxtun Lake, Kern River Uplands, San Miguel Grove, & Upland) and 4 Kern County Parks (Buena Vista, Panorama, Metro Recreational Center, Kern River County Park Complex [Hart Park, Soccer Park, CALM, Kern River Golf Course & Lake Ming], and Riverview Park (in Oildale));
3) The Water Recharge/Wildlife Natural Area west of town is part of the Parkway; and
4) Over all, the Parkway encompasses 1,400 acres of wetland preserves and natural riparian area for a total of 6,000 acres of public space.

The Foundation's website features a sketch plan (**Exhibit 4**) showing a vicinity map of the Kern River extending from Buena Vista Lake on the southwest to Lake Isabella (61 miles in length) on the northeast on which is shown a highlighted conceptual plan map, identified as the Kern River Parkway, roughly corresponding to the area between Buena Vista Road on the west and Manor Street on the east, a distance of 8 miles. A sketch Map Detail is also shown that corresponds to the above limits. Sources documenting the statements as to facilities and parks encompassed are not provided, nor are sources provided for either of the maps, other than the website itself. No official boundaries are shown or indicated.

Several of the listed "as included" facilities are located in the Kern River County Park Complex which is northeast of metropolitan Bakersfield at a distance of approximately 7 miles (following the river course) from the Manor Street overcrossing of the Kern River, or approximately 5.5 miles (as the crow flies). The Bakersfield eastern city limit that includes the Kern River extends to the vicinity of China Grade Loop (to a point just west of Discovery Well Historic Site). That limit is approximately 2.5 miles west of the Kern River County Park Complex (as the crow flies). Other parks listed (e.g., Panorama, Riverview), while perhaps associated with the River, are not contiguous to it.

Since sources, boundaries or accurate mapping are not provided for the estimates of 1,400 acres of wetlands/riparian areas and 6,000 acres of public space, these estimates could not be verified.

Finding: The Kern River Foundation description of the Kern River Parkway and its associated facilities is conceptual and does not provide an accurate description, for purposes of the Centennial Corridor Section 4(f) Evaluation, because: (a) distances and acreages cannot be verified; (b) a number of the cited facilities are located beyond the Bakersfield city limits, and are therefore outside the area of potential direct effect of any of the TRIP roadway improvement projects, and the Centennial Corridor, in particular; and (c) there is no formal description provided as to the jurisdictional limits or boundaries

that constitutes the Kern River Parkway, as envisioned by the Foundation, nor is there any evidence or assertion of jurisdiction on the part of the Foundation, or any other identified public entity.

City of Bakersfield General Plan Update, Section 4.12 Parks and Recreation (June 2002)

The General Plan Update evaluated the parks and facilities in metro Bakersfield and assessed with the implementation of the General Plan Update. As indicated in Table 4.12-2, Parks Master List (**Exhibit 5**) the City provides one regional park identified as the Kern River Parkway with 580.14 acres. This information was based on data from the City of Bakersfield Department of Recreation and Parks Master Plan 2000-2005 (January 2000), City of Bakersfield web site (October 18, 2001), and the Kern County web site (October 18, 2001). The total estimated area of 580 acres for the Kern River Parkway in 2002 seems reasonable given that in 1988 the Kern River Parkway had estimated park acreage of 220 acres for existing and proposed recreation areas. It more than doubled in a 14-year time frame. It does indicate that the City is expanding recreational park facilities within the Parkway.

County of Kern Parks & Recreation Master Plan (May 2010)

This document references the Kern River County Park and several related facilities, which are located well to the east of the project vicinity. The Kern River Park is estimated to contain 1,445 acres of parkland and the collection of other facilities (Camp Okihi, Hart Memorial Park, Kern River Campground, Kern River Picnic Area, and Lake Ming & Metropolitan Recreation Center) together comprises an estimated 735 acres. Several maps of County facilities in the metropolitan Bakersfield area are shown, but none make reference to the Kern River Parkway, nor is there any assertion of County participation or jurisdiction in the Parkway.

Finding: Because there is not an apparent connection between the County of Kern and the Kern River Parkway, this source of information is judged not relevant to the inquiry at hand.

Metropolitan Bakersfield General Plan Update (April 2009) – Draft Existing Conditions, Constraints and Opportunities Report; Section 2.4: Parks and Open Space Element

This portion of the General Plan Update (April 2009) identifies the Kern River Parkway as being under the jurisdiction of the City of Bakersfield, as part of a system of more than 50 parks. Table 2.4.1-1 lists the Kern River Parkway Park as having 1,138.2 acres (**Exhibit 6**). Figure 2.4.1-1, which accompanies the text and table, identifies an area as Kern River Parkway Park (**Exhibit 7**), which corresponds visually to the area defined in terms of GIS mapping (see next Section III of this memo), but is not at a scale allowing a side-by-side comparison.

Finding: This Draft Plan Update was never approved by the City of Bakersfield, however the information is provided on the City's website. Based upon the limited information available as published in this information source, it is not possible to determine the basis for the 1,138.2 acre estimate.

II. ENVIRONMENTAL DOCUMENTS

Final Route 58 Route Adoption Tier 1 Environmental Impacts Statement/Environmental Impact Report (May 2001)

Section 4.4.8 Park, Recreational Facilities, Wildlife Refuges and Historic Properties Evaluated for Proximity Effects of the Tier 1 environmental document describes the Kern River Parkway Plan as providing for the development of recreational opportunities and habitat preservation on 1,400 acres along the Kern River from Manor Street to Stockdale Highway, a distance of approximately 14 kilometers (8.7 miles). The section includes a Conceptual Master Site Plan for the Kern River Corridor. The Conceptual Site Plan mirrors the Kern River Parkway Master Plan that was approved in 1988. Unfortunately, the environmental document does not quantify or updates the total acreage along the Kern River Parkway. In addition, Kern County Planning Department (letter dated January 20, 1998) stated that the Parkway Plan was adopted by the City of Bakersfield as an adjunct the Kern River Plan Element, and that the Parkway Plan was never adopted by the County.

Finding: The 1,400 acre estimate was based on the 1988 Kern River Parkway Master Plan. No current or updated acre estimates were provided in the environmental document.

Westside Parkway Tier 2 Environmental Assessment/Final Environmental Impact Report (January 2007)

The Westside Parkway environmental document relies heavily on information provided in the earlier Tier 1 for the Route 58 Route Adoption environmental document. The Westside Parkway environmental document incorrectly refers to the Kern River Plan as the Kern River Parkway Plan which was approved in 1988. The Kern River Plan identifies the proposed location of a future freeway alignment and proposed interchange locations; therefore, the Westside Parkway is consistent with the Kern River Plan. The Tier 2 document also indicates that the Kern River Parkway is 8.1 miles long and consists of about 1,400 acres and is bounded by Manor Street on the east and the Stockdale Highway Bridge on the west. The Tier 2 document did not reference a conceptual level site plan for the Kern River Parkway. As with the Tier I environmental document there was no verification of park acreage along the Kern River Parkway.

Finding: The 1,400 acre estimate was based on the 1988 Kern River Parkway Master Plan. No current or updated acre estimates were provided in the environmental document.

III. GIS BASED ESTIMATES

City of Bakersfield Geographic Information Systems (GIS)

The Kern River Parkway Corridor: City-Owned Property (April 2012) is attached as **Exhibit 8**. The Kern River Parkway is estimated to include 1,053 acres that is currently owned by the City within the Kern River Parkway boundaries. The estimate was determined based on the following resource file and process.

Parsons conducted GIS mapping and delineations by beginning with GIS Spatial Data, "Parks, Updated: 02/12," downloaded from the City of Bakersfield, California: GIS website, (www.bakersfieldcity.us/gis/downloads/gis_spatial_data.htm). The ownership of the parcels within this boundary shape were checked for City of Bakersfield ownership and all were confirmed except for two parcels: (1) a 1.23-acre (APN: 332-200-37) area north of and along the Union Pacific Railroad Track, where the track crosses over the Kern River north of Golden State Ave (State Route 204), and (2) 0.55 acres (APN: 122-011-40) at the northern end of the Kern River Parkway Park Boundary off of Cattani Street, owned by Jensen Revocable Living Trust, 5101 Cattani Dr. Bakersfield, CA 93308. The Kern River Parkway Park Boundary was modified to exclude these two parcels, which resulted in the park acreage of 1,053.0 acres. These two areas were excluded from the Parkway Boundary Map because the parcels contained land uses such as an operating railroad track or residential properties that did not allow for public access and do not constitute public recreational areas.

The Kern River Plan Element/Kern River Parkway Multi-Use Trail Map **(Exhibit 9)** shows the various land use designations from the 1988 Kern River Plan Element within the Kern River Parkway boundaries superimposed on a recent aerial with the existing uses within the Parkway and adjacent areas. As shown on the exhibit, Public and Private Recreation Areas (Map Coded 3.1) directly correspond to uses proposed in the 1988 Kern River Parkway Master Plan. In addition, the primary flood channel is excluded from the Kern River Parkway boundaries and is used as primary floodway.

Finding: The above-discussed GIS mapping represents the most accurate definition available for the Kern River Parkway, as it is registered directly to parcel boundaries that are cross referenced to property ownership and therefore it constitutes a verifiable source of information. In addition, the development of the Kern River Parkway is proceeding and directly correlates to land uses in the 1988 Kern River Plan Element. Both the City of Bakersfield Planning and the Recreation and Parks Departments have reviewed Exhibits 8 and 9 and have approved the accuracy of the maps. Letters of acceptance are attached **(Exhibit 10)**.

Conclusion

The GIS-based information referenced above is the most reliable source of data with which to map the area within the Kern River Parkway Park. The data are taken from the

City's GIS database and accurate real estate parcel boundaries are registered and cross referenced. In the absence of better information, the source of which is not known, this mapping is recommended for purposes of: (a) defining the general boundaries of the Kern River Parkway Park, and (b) determining areas of potential direct use pertaining to the Section 4(f) Evaluation being done for the Centennial Corridor project.

Yet to be resolved is an apparent discrepancy of 84.53 acres between the GIS-based estimate of 1,053.67 acres and the General Plan Update estimate of 1,138.2 acres. Since the General Plan Update remains a draft and unapproved by the City Planning or Parks and Recreation Departments the estimate is questionable. Both City Departments were contacted but were unable to resolve the discrepancy.

However, even if the discrepancy between the two estimates can be resolved, it is likely that the result would not have a bearing on the Section 4(f) Evaluation, since it is reasonably certain that the identified areas for Alternatives A, B and C subject to analysis for purposes of the Centennial Corridor, are sufficiently precise to assure that the findings of the Section 4(f) Evaluation would not be affected.

DESCRIPTION OF SECTION 6(F) PROPERTIES

Section 6(f)(3) of the Land and Water Conservation Fund Act (16 United States Code §4601-4) contains provisions to protect federal investments in park and recreation properties and the quality of those assisted properties. The law recognizes the likelihood that changes in land use or development may make some assisted areas obsolete over time, particularly in rapidly changing urban areas. At the same time, the law discourages casual discards of park and recreation facilities by ensuring that changes or conversations from recreation use will bear a cost – a cost that assures taxpayers that investments in the park and recreation properties will not be squandered. The Land and Water Conservation Fund Act include a clear mandate to protect grant-assisted areas from conversions:

> *SEC. 6 (f) (3) – No property acquired or developed with assistance under this section shall, without the approval of the Secretary, be converted to other than public outdoor recreation use. The Secretary shall approve such conversion only if he finds it to be in accord with the then existing comprehensive statewide outdoor recreation plan and only upon such conditions as he deems necessary to assure the substitution of other recreation properties of at least equal fair market value and of reasonably equivalent usefulness and location.*

This "anti-conversion" requirement applies to all parks and other sites that have been the subject of Land and Water Conservation Fund grants of any type, whether for acquisition of parkland, development or rehabilitation of facilities.

A review of the Land and Water Conservation Fund grants database indicated that one grant for $157,050 was provided in the 1988/1989 timeframe and that a second grant for $87,832 was provided in the 1989/1990 timeframe for the Kern River Parkway. Upon consultation with City of Bakersfield officials from the Recreation and Parks Department

(dated January 17 and March 21, 2012), it was determined that these grants were used to develop group picnic areas, open turf areas with irrigation and landscaping, and support facilities. City of Bakersfield City Council Resolutions 43-89 and 32-90 contains 6(f)(3) Boundary Maps indicating the area where the Section 6(f) funding was used. Both City Council Resolutions and attached 6(f)(3) Boundary Maps are provided as **Exhibits 10 and 11.** At the time of the grants, the area was considered part of the Kern River Parkway; however, this area is known today as Yokuts Park. Yokuts Park became an independent park in 1993. The location of the Section 6(f) funding is outside of the project footprint.

City of Bakersfield Water Resources Department records were also reviewed for information regarding Section 6(f) funding used for the Kern River Parkway. All other funding related to development of the Kern River Parkway has resulted from voter approved local proposition funding only, and is not related to Section 6(f) funding. Therefore, no park or recreational facilities within the project footprint have been developed under Section 6(f) of the Land and Water Conservation Fund Act.

EXHIBIT 1
Kern River Plan Element
Extent of Kern River Plan

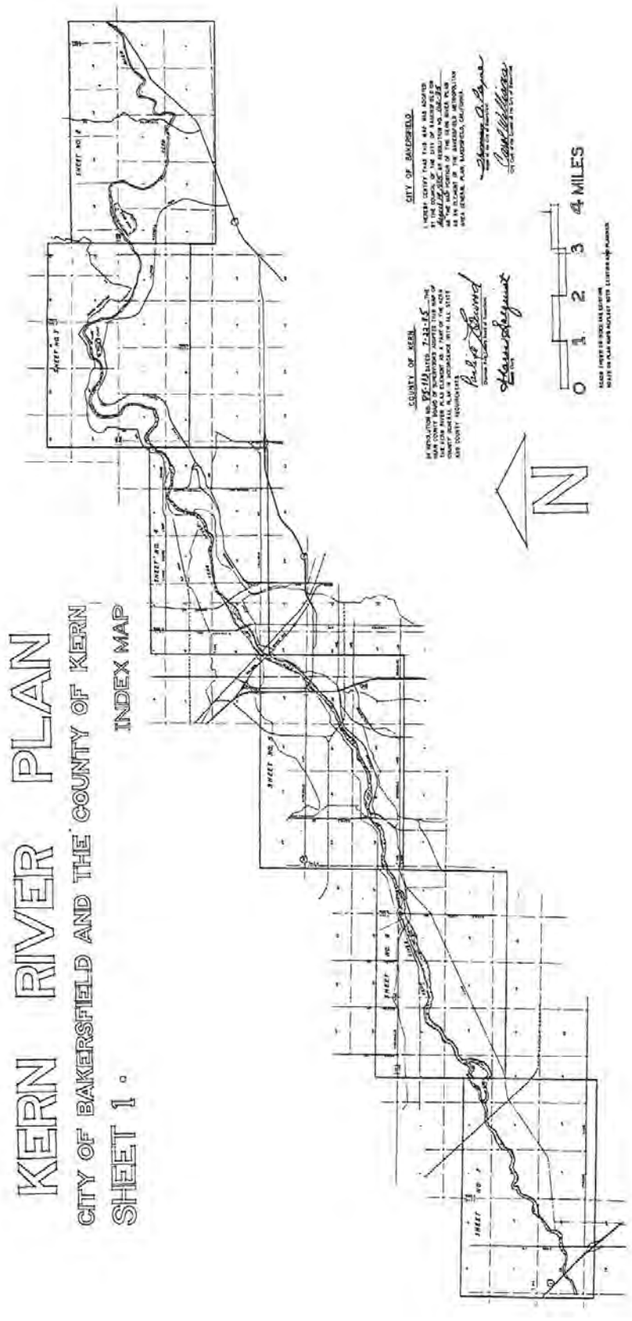


EXHIBIT 2

Kern River Plan Element

Land Use Designations within City of Bakersfield

KERN RIVER PLAN ELEMENT
LAND USE

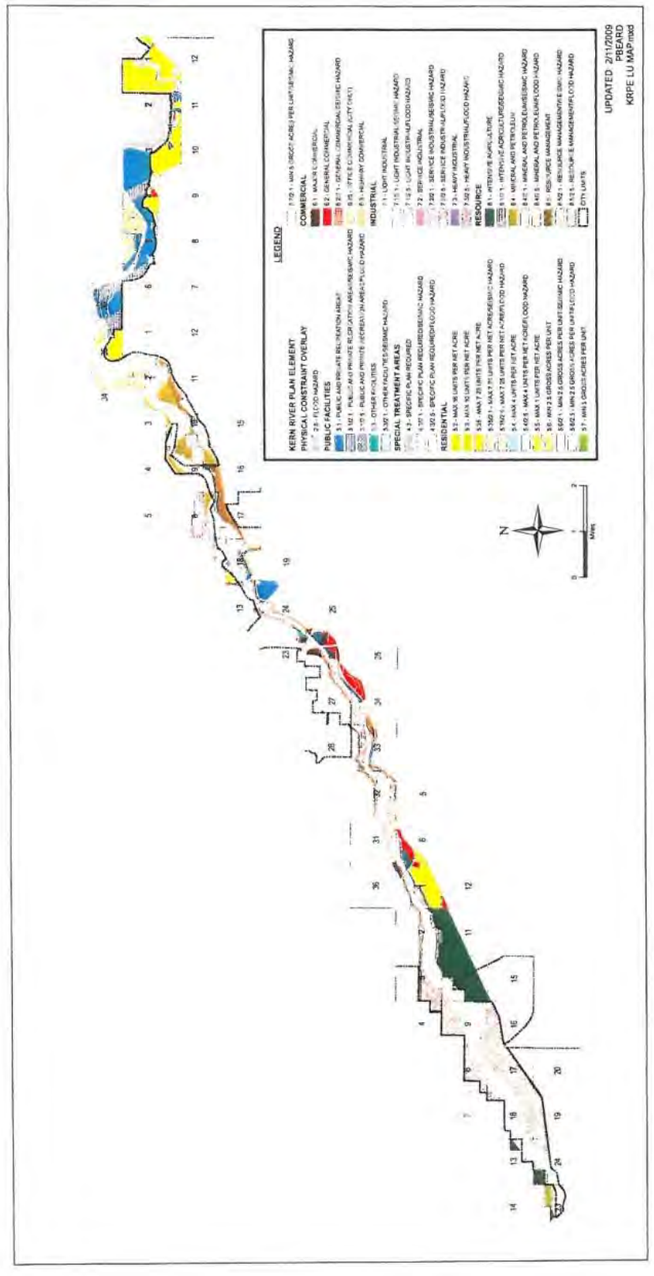


EXHIBIT 3
Kern River Parkway Master Plan
City of Bakersfield
Approved September 1988

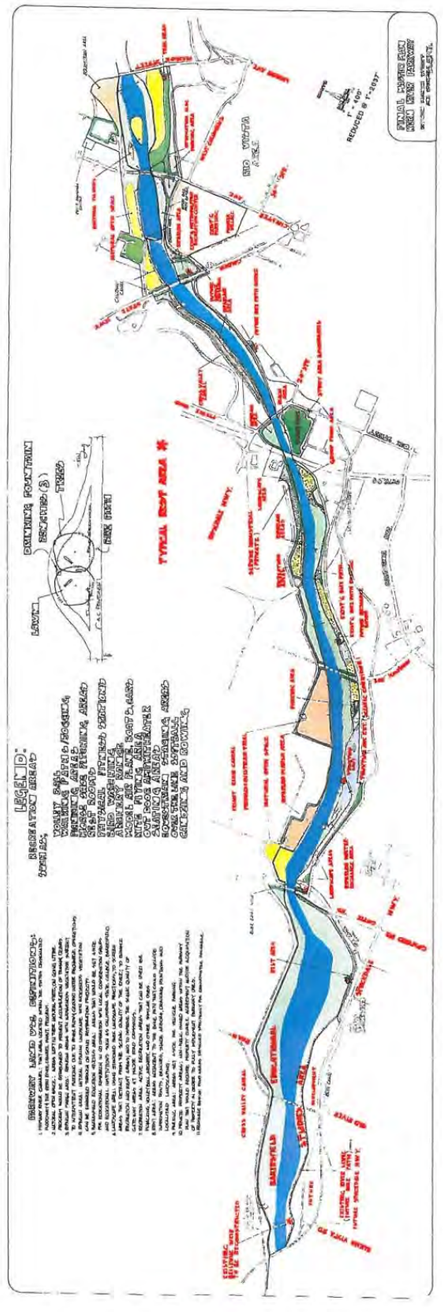


EXHIBIT 4
Kern River Parkway Foundation
Conceptual Plan

EXHIBIT 5

City of Bakersfield General Plan Update, Section 4.12 Parks and Recreation
Table 4.12-2 Parks Master List

TABLE 4.12-2
PARKS MASTER LIST

Map Ref. No.	Park Name	Category	Acreage	Jurisdiction	Status
1	Almondale Park	Neighborhood	11.34	City	Developed
2	Amberton Park	Mini	2.69	City	Developed
3	Beach Park	Neighborhood	26.47	City	Developed
4	Beale Park	Neighborhood	6.98	City	Developed
5	Bear Mountain Park	Community	16.00	County	Developed
6	Belle Terrace Park	Community	20.71	County	Developed
7	Bill Park Greens	Mini	2.69	City	Developed
8	Campus Park North	Neighborhood	11.07	City	Developed
9	Campus Park South	Neighborhood	12.12	City	Developed
10	Casa Loma Park	Neighborhood	9.72	City	Developed
11	Castle Park	Mini	3.76	City	Developed
12	Centennial Park	Neighborhood	8.96	City	Developed
13	Centennial Plaza	Mini	0.63	City	Developed
14	Central Park	Neighborhood	11.41	City	Developed
15	Challenger Park	Mini	5.62	City	Developed
16	Circle Park	Neighborhood	0.12	County	Developed
17	College Park	Neighborhood	13.88	City	Developed
18	Coral Keys Park	Mini	2.25	City	Developed
19	Corvallis Park	Neighborhood	5.54	City	Developed
20	Deer Park	Neighborhood	6.04	City	Developed
21	District Office	Mini	4.01	County	Developed
22	Emerald Cove Park	Neighborhood	9.78	City	Developed
23	Fruitvale/Norris Park	Neighborhood	17.04	County	Developed
24	Garden Park	Neighborhood	5.85	City	Developed
25	Green Acres Park	Community	10.41	County	Developed
26	Greenfield Park	Neighborhood	4.87	County	Developed
27	Grissom Park	Neighborhood	11.34	City	Developed
28	Haggin Oaks Park	Neighborhood	8.87	City	Developed
29	Heritage Park	Neighborhood	19.36	County	Developed
30	International Square	Mini	1.32	City	Developed
31	Jastro Park	Neighborhood	6.71	City	Developed
32	Jefferson Park	Neighborhood	8.90	City	Developed
33	Jenkins & Hageman Park	Neighborhood	8.91	County	Undeveloped
34	Kern Delta Park	Community	12.09	County	Undeveloped
35	Kern River County Park*	Regional	13335.77	County	Developed
36	Kern River Parkway	Regional	580.14	City	Developed
37	Kroll Park	Mini	4.24	City	Developed
38	Lamont Park	Neighborhood	7.83	County	Developed
39	Liberty Park	Community	21.71	City	Developed
40	Lowell Park	Neighborhood	10.17	City	Developed
41	Madison Grove Park	Neighborhood	11.02	City	Undeveloped
42	Martin Luther King Jr. Park	Community	14.94	City	Developed
43	McCray Park	Mini	1.78	County	Developed
44	Metro Recreation Center	Regional	96.64	City	Developed
45	Mondavi Park	Neighborhood	9.13	City	Developed
46	North Beardsley Park	Neighborhood	6.58	County	Developed

Appendix B • Attachment A

METROPOLITAN BAKERSFIELD
GENERAL PLAN UPDATE EIR

TABLE 4.12-2 – CONTINUED
PARKS MASTER LIST

Map Ref. No.	Park Name	Category	Acreage	Jurisdiction	Status
47	North Highland Park	Neighborhood	9.58	County	Developed
48	North Meadows Park	Neighborhood	8.03	County	Undeveloped
49	North Rosedale Park	Neighborhood	12.70	City/County	Developed
50	Olive Park East	Mini	2.53	County	Developed
51	Olive Park West	Mini	2.51	County	Developed
52	Panorama Park	Community	24.98	City	Developed
53	Patriots Park	Neighborhood	20.02	City	Developed
54	Pin Oak Park	Neighborhood	16.81	City	Developed
55	Pioneer Park	Community	14.05	County	Developed
56	Planz Park	Neighborhood	8.25	City	Developed
57	Polo Community Park	Community	38.28	City	Undeveloped
58	Potomac Park	Neighborhood	4.34	County	Developed
59	Quailwood Park	Neighborhood	6.07	City	Developed
60	Rasmussen Senior Center	Mini	3.67	County	Developed
61	Rexland Acres Park	Neighborhood	4.44	County	Developed
62	Rio Vista Park	Community	31.31	City	Undeveloped
63	River Lakes Ranch Park	Community	28.57	City	Undeveloped
64	River Oaks Park	Neighborhood	12.36	City	Developed
65	Riverview Park	Community	17.59	County	Developed
66	Rosedale Park	Community	19.60	County	Undeveloped
67	Saunders Park	Neighborhood	8.92	City	Developed
68	Sears Park	Mini	2.05	County	Developed
69	Seasons Park	Neighborhood	9.78	City	Developed
70	Seimon Park	Neighborhood	8.20	City	Developed
71	Silver Creek Park	Community	14.44	City	Developed
72	Standard Park	Community	15.37	County	Developed
73	Steirn Park	Neighborhood	5.12	City	Developed
74	Stonecreek Park	Mini	3.32	City	Developed
75	Tevis Park	Neighborhood	7.50	City	Developed
76	University Park	Neighborhood	10.76	City	Developed
77	Virginia Avenue Park	Community	9.47	County	Developed
78	Wayside Park	Neighborhood	13.02	City	Developed
79	Weedpatch Park	Neighborhood	8.00	County	Developed
80	Weill Park	Mini	2.71	City	Developed
81	Westdale Park	Neighborhood	8.11	County	Developed
82	Westwold Park	Mini	3.90	City	Developed
83	Wilderness Park	Mini	4.87	City	Developed
84	Wilkins Park	Neighborhood	2.88	County	Developed
85	Wilson Park	Neighborhood	6.75	City	Developed
86	Windermere Park	Neighborhood	5.87	City	Undeveloped
87	Windsor Park	Neighborhood	6.01	City	Developed
88	Yokuts Parks	Community	18.94	City	Developed

*Includes Hart Memorial Park.

EXHIBIT 6

City of Bakersfield Draft General Plan Update (April 2009)
Table 2.4.1-1

Appendix B • Attachment A

DRAFT EXISTING CONDITIONS, CONSTRAINTS AND OPPORTUNITIES REPORT

6. Create a master trails plan for the Metropolitan Bakersfield planning area to include trails and trail alignments identified in the various plans. This may include recission of some existing plans that would no longer be necessary.

TABLE 2.4.1-1
EXISTING PARKS IN METROPOLITAN BAKERSFIELD

	Park Name[1]	Agency	Acreage
1	Solera Garden	City of Bakersfield	3.7
2	Kern River Parkway Park	City of Bakersfield	1138.2
3	University Park	City of Bakersfield	10.8
4	Siemon Park	City of Bakersfield	8.2
5	Mesa Marin Ball Diamonds	City of Bakersfield	17.7
6	Jefferson Park	City of Bakersfield	8.0
7	Joshua Park	City of Bakersfield	0.6
8	Weill Park	City of Bakersfield	1.7
9	Central Park	City of Bakersfield	11.2
10	Yokuts Park	City of Bakersfield	16.4
11	Jastro Park	City of Bakersfield	8.7
12	Centennial Plaza	City of Bakersfield	1.1
13	MC Murtrey Aquatic Center	City of Bakersfield	2.0
14	Martin Luther King Park	City of Bakersfield	14.0
15	Saunders Park	City of Bakersfield	9.1
16	Beale Park	City of Bakersfield	6.4
17	Lowell Park	City of Bakersfield	10.2
18	Centennial Park	City of Bakersfield	9.0
19	Quailwood Park	City of Bakersfield	10.6
20	Future Park	City of Bakersfield	38.0
21	The Park at River Walk Park	City of Bakersfield	33.2
22	Bill Park Greens Park	City of Bakersfield	2.7
23	River Oaks Park	City of Bakersfield	20.0
24	Windsor Park	City of Bakersfield	6.0
25	Kroll Park	City of Bakersfield	4.2
26	Wayside Park	City of Bakersfield	14.0
27	Deer Peak Park	City of Bakersfield	6.0
28	Patriots Park	City of Bakersfield	20.0

DRAFT EXISTING CONDITIONS, CONSTRAINTS AND OPPORTUNITIES REPORT

	Park Name[1]	Agency	Acreage
29	Amberton Park	City of Bakersfield	2.7
30	Wilson Park	City of Bakersfield	6.8
31	Haggin Oaks Park	City of Bakersfield	8.9
32	Westwold Park	City of Bakersfield	8.0
33	Castle Park	City of Bakersfield	10.6
34	Pin Oak Park	City of Bakersfield	16.8
35	Windermer Park	City of Bakersfield	6.2
36	Corvallis Park	City of Bakersfield	8.8
37	Garden Park	City of Bakersfield	5.7
38	Planz Park	City of Bakersfield	8.3
39	Campus Park N.	City of Bakersfield	11.1
40	Tevis Park	City of Bakersfield	10.7
41	Grissom Park	City of Bakersfield	11.3
42	Campus Park S.	City of Bakersfield	12.1
43	Stiern Park	City of Bakersfield	7.9
44	Silver Creek Park	City of Bakersfield	14.4
45	Coral Keys Park	City of Bakersfield	2.3
46	Wilderness Park	City of Bakersfield	4.9
47	Seasons Park	City of Bakersfield	9.8
48	Challenger Park	City of Bakersfield	5.1
49	Stone Creek Park	City of Bakersfield	6.1
50	Beach Park	City of Bakersfield	21.6
51	Weston Park	City of Bakersfield	6.0
52	Tradewinds Park	City of Bakersfield	7.9
53	Greystone Park	City of Bakersfield	10.4
54	Granite Point Park	City of Bakersfield	4.0
55	Hart Memorial Park	County of Kern	451.2
56	Kern River Golf Course	County of Kern	182.1
57	Lake Ming	County of Kern	496.6
58	College Park	County of Kern	17.1
59	Panorama Park	County of Kern	30.7
60	Wilkins Park	County of Kern	1.1
61	Metropolitan Recreation Center	County of Kern	99.5

DRAFT EXISTING CONDITIONS, CONSTRAINTS AND OPPORTUNITIES REPORT

	Park Name[1]	Agency	Acreage
62	Heritage Park	County of Kern	19.3
63	Pioneer Park	County of Kern	9.5
64	Potomac Park	County of Kern	4.4
65	Virginia Avenue Park	County of Kern	9.5
66	Belle Terrace Park	County of Kern	20.7
67	Kern Delta Park	County of Kern	12.1
68	Greenfield Park	County of Kern	4.8
69	Bear Mountain Park	County of Kern	9.1
70	Lamont Park	County of Kern	7.9
71	Rexland Acres Park	County of Kern	4.5
72	North Highland Park	North Bakersfield Parks and Recreation District	15.0
73	North Park	North Bakersfield Parks and Recreation District	4.5
74	McCray Park	North Bakersfield Parks and Recreation District	1.7
75	Sears Park	North Bakersfield Parks and Recreation District	2.1
76	Fruitvale Norris Park	North Bakersfield Parks and Recreation District	17.1
77	Standard Park	North Bakersfield Parks and Recreation District	15.4
78	North Beardley Park	North Bakersfield Parks and Recreation District	6.6
79	Olive Park West	North Bakersfield Parks and Recreation District	2.5
80	Olive Park East	North Bakersfield Parks and Recreation District	2.5
81	Riverview Park	North Bakersfield Parks and Recreation District	20.0
82	Emerald Cove Park	North Bakersfield Parks and Recreation District	10.0
83	North Rosedale Park	North Bakersfield Parks and Recreation District	13.0
84	Greenacres Park	North Bakersfield Parks and Recreation District	15.1
85	Westdale Park	North Bakersfield Parks and Recreation District	8.1
86	Liberty Park	North Bakersfield Parks and Recreation District	21.7
87	Mondavi Park	North Bakersfield Parks and Recreation District	9.1
88	Almondale Park	North Bakersfield Parks and Recreation District	11.5
89	San Lauren Park	North Bakersfield Parks and Recreation District	8.1
90	Madison Grove Park	North Bakersfield Parks and Recreation District	11.0
91	North Meadows Park	North Bakersfield Parks and Recreation District	8.8
92	Rasmussen Center	North Bakersfield Parks and Recreation District	1.3
93	Riverlakes Ranch Park	North Bakersfield Parks and Recreation District	25.7
94	Polo Community Park	North Bakersfield Parks and Recreation District	38.3

DRAFT EXISTING CONDITIONS, CONSTRAINTS AND OPPORTUNITIES REPORT

	Park Name[1]	Agency	Acreage
95	Rosedale Park	North Bakersfield Parks and Recreation District	19.6
96	Silver Oak Park	North Bakersfield Parks and Recreation District	8.9
97	Austin Creek Park	North Bakersfield Parks and Recreation District	4.8
98	Kern County Soccer Park	Soccer Park Foundation	134.0
99	Kern River State Recreation Area	State of California	130.7
	Total Acreage		**3,606.6**

[1] *Does not include water banks, private facilities or the Kern County Fairgrounds*

EXHIBIT 7

City of Bakersfield Draft General Plan Update (April 2009)
Kern River Parkway Park

Appendix B • Attachment A

DRAFT EXISTING CONDITIONS, CONSTRAINTS AND OPPORTUNITIES REPORT

FIGURE 2.4.1-1
EXISTING PARKS

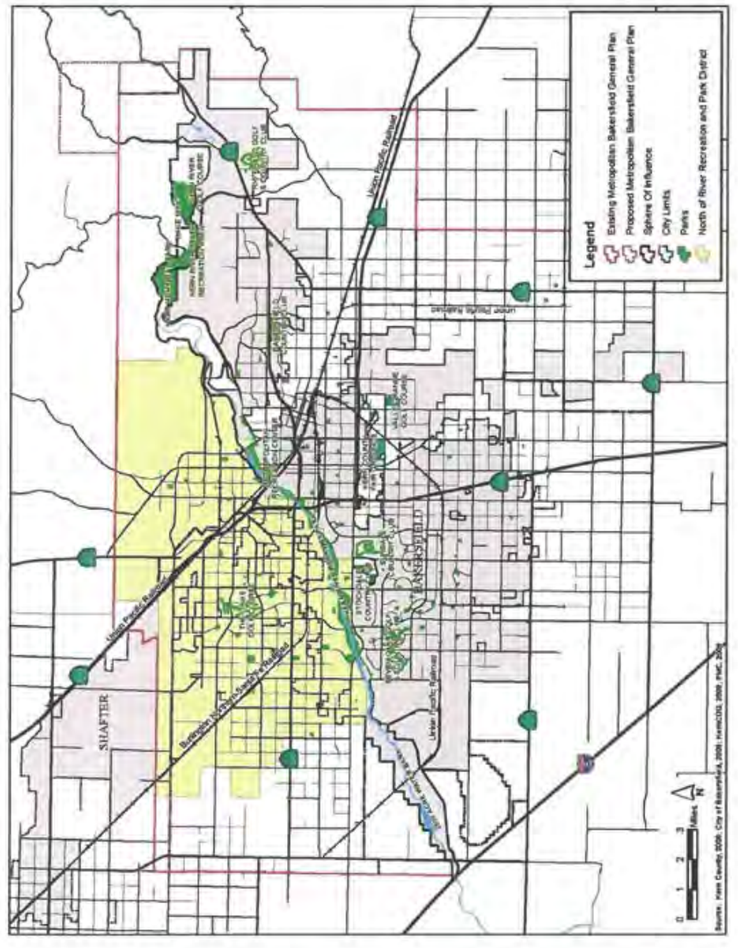


EXHIBIT 8

City of Bakersfield: Kern River Parkway Corridor: City-Owned Property
GIS Files (April 2012)

Appendix B • Attachment A

EXHIBIT 9

City of Bakersfield: Kern River Plan Element/Kern River Parkway Multi- Use Trail Map
(May 2012)

Appendix B • Attachment A

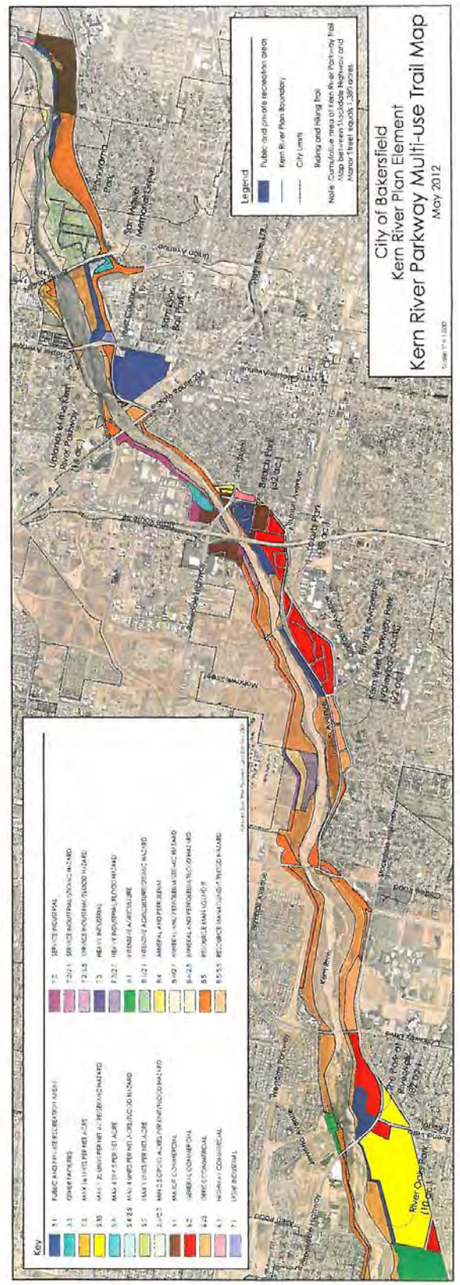


EXHIBIT 10
Acceptance from the City of Bakersfield
Planning Department
Recreation and Parks Department
(May 2012)

Appendix B • Attachment A

B A K E R S F I E L D

DEPARTMENT OF RECREATION & PARKS

DIANNE HOOVER, DIRECTOR

May 2, 2012

David Clark
TRIP – Environmental Program Manager
900 Truxtun Avenue
Bakersfield, Ca 93311

Dear Mr. Clark,

Thank you for providing a copy of the memorandum regarding the Kern River Parkway acreage estimates and section 6(f) funding for the Bakersfield TRIP Project.

The maps and corresponding acreage of public property in exhibits 8 and 9 are accurate. These exhibits reflect the public parks and the Kern River Parkway trails as they currently exist.

If you have further questions, I can be reached at (661) 326-3014.

Sincerely,

Dianne Hoover

Dianne Hoover, Director
Recreation & Parks Department

City of Bakersfield - Department of Recreation & Parks - 1600 Truxtun Avenue, 3rd Floor
Bakersfield - California - 93301
(661) 326-3866 - Fax (661) 852-2140

BAKERSFIELD
Development Services Department – Planning Division

MEMORANDUM

MAY 2, 2012

TO: DAVID CLARK, TRIP ENVIRONMENTAL PROGRAM MANAGER

FROM: JIM EGGERT, PLANNING DIRECTOR

SUBJECT: KERN RIVER PARKWAY ACREAGE ESTIMATES

I have read through the information contained in the May 1, 2012 memorandum regarding the Kern River Parkway Acreage Estimates and Section 6(f) Funding.

The information presented within that memorandum is factual with respect to the planning and land use documents prepared and on file with the Bakersfield Planning Department. Furthermore, the information depicted in the exhibits is correctly referenced and documented. Concerning Exhibits 8 and 9, they accurately represent the park boundary and the Kern River Plan Element parkway land use designations and trail system consistent with the records contained in this office.

EXHIBIT 11

City of Bakersfield City Council Resolution No. 32-90

RESOLUTION NO. 32-90

RESOLUTION OF THE COUNCIL OF THE CITY OF BAKERSFIELD AUTHORIZING APPLICATION FOR LAND AND WATER CONSERVATION FUNDS TO DEVELOP A KERN RIVER PARKWAY GROUP PICNIC AREA (PHASE 2), SUPPORT FACILITIES, AND TURF AREAS ON 15 ACRES LOCATED WEST OF STATE HIGHWAY 99, NORTH OF EMPIRE DRIVE.

WHEREAS, the Congress under Public Law 88-578 has authorized the establishment of a Federal Land and Water Conservation Fund Grant-In-Aid Program, providing matching funds to the State of California and its political subdivisions for acquiring lands and developing facilities for public outdoor recreation purposes; and

WHEREAS, the State Department of Parks and Recreation is responsible for administration of the program in the state, setting up necessary rules and procedures governing application by local agencies under the program; and

WHEREAS, said adopted procedures established by the State Department of Parks and Recreation require the applicant to certify by resolution the approval of applications and the availability of local matching funds prior to submisaion of said applications to the state; and

WHEREAS, the proposed Kern River Parkway Group Picnic, support facilities and open space turf project is consistent with the Statewide Comprehensive Recreation Resources Plan: California Outdoor Recreation Plan - 1988; and

WHEREAS, the City of Bakersfield wishes to construct a group picnic, support facilities and open space turf area on approximately 15 acres generally located west of Highway 99, south of the Kern River, and north of Empire Drive; and

WHEREAS, the project must be compatible with the land use plans of those jurisdictions immediately surrounding the project.

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Bakersfield as follows:

1. The Council hereby approves the filing of an application for Land and Water Conservation Fund assistance; and

CITY OF BAKERSFIELD ORIGINAL

2. The Council hereby certifies that said agency has matching funds from the following source of the California Wildlife, Coastal, and Park Land Conservation Act of 1988 (Proposition 70), Per Capita Grant Program, Fiscal Year 1990/91 appropriation, and can finance 100 percent of the project, half of which will be reimbursed; and

3. The Council hereby certifies that the project is compatible with the land use plans of those jurisdictions immediately surrounding the project; and

4. The Council hereby appoints the City Manager as agent of the City of Bakersfield to conduct all negotiations and execute and submit all documents, including, but not limited to, applications, agreements, amendments, billing statements and so on which may be necessary for the completion of the aforementioned project.

----------o0o----------

I HEREBY CERTIFY that the foregoing Resolution was passed and adopted by the Council of the City of Bakersfield on MAR 21 1990, by the following vote:

AYES: COUNCILMEMBERS: EDWARDS, DeMOND, SMITH, BRUNNI, PETERSON, McDERMOTT, SALVAGGIO
NOES: COUNCILMEMBERS: NONE
ABSENT: COUNCILMEMBERS: NONE
ABSTAIN: COUNCILMEMBERS: NONE

CITY CLERK and Ex Officio Clerk of the Council of the City of Bakersfield

APPROVED MAR 21 1990

CLARENCE E. MEDDERS
MAYOR of the City of Bakersfield

APPROVED as to form:

ARTHUR J. SHALFIELD
CITY ATTORNEY of the City of Bakersfield

pjt/meg
r/reepl
3/13/90

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATI

LAND AND WATER CONSERVATION FUND PROGRAM APPLICATION

This Form and Required Attachments Must Be Submitted for Each Project Site

TYPE OF PROJECT *(check one below)*

☐ Acquisition
☒ Development

PROJECT NAME Kern River Parkway Group Picnic and Open Space Area (Phase 2)	AMOUNT OF GRANT REQUESTED $ 150,000 ESTIMATED TOTAL PROJECT COST $ 300,000
GRANT APPLICANT *(Agency and address-incl. zip code)* City of Bakersfield 1501 Truxtun Avenue Bakersfield, CA 93301	COUNTY: Kern — NEAREST CITY: Bakersfield PROJECT ADDRESS: 4200 Empire Drive NEAREST CROSS STREET: Empire Drive and Truxtun Avenue CONGRESSIONAL DIST. NO.: 20 — SENATE DIST. NO.: 16 — ASSEMBLY DIST. NO.: 33

Grant Applicant's Representative Authorized in Resolution

Name *(type)*	Title	Phone
J. Dale Hawley	City Manager	(805) 326-3751

Person with day-to-day responsibility for project *(if different from authorized representative)*

Name *(type)*	Title	Phone
Paul Dow	Community Services Manager	(805) 326-3715

Brief description of project

Development of Phase 2 on a 15 acre site in the Kern River Parkway master plan as a group picnic area and open space turf area including support facilities. Phase 2 development includes large group, single and double picnic stations. The stations include tables, benches, barbecue stoves and utilities. Support facilities include utility systems, parking lot expansion, landscaping, irrigation and security lighting.

For Dev. projects Land Tenure — Project is: 15 acres:	For Acquisition projects Projects land will be _____ acres
15 Acres owned in fee simple by Grant Applicant	_____ Acquired in fee simple by Grant Applicant
_____ Acres available under a _____ year lease	_____ Acquired in other than fee simple *(explain)* _____
_____ Acres other interest *(explain)* _____	

I certify that the information contained in this project application form, including required attachments, is accurate and that this project is consistent with the park and recreation element of the applicable city or county general plan or the district park and recreation plan and will satisfy a high priority need.

Signed J Dale Hawley — Grant Applicant's Authorized Representative as shown in Resolution — 3-27-90 — Date

DPR 823 (1/89) (over)

CHECKLIST OF APPLICATION MATERIALS

1. LWCF Application Form (1 copy)
2. Resolution (1 copy)
3. Program Narrative (Part IV) (2 copies)
4. Development Cost Estimate or Acquisition Schedule (2 copies)
5. Applicant's Source of Funds (1 copy)
6. Location Map (2 copies)
7. 6(f)(3) Boundary Map (2 copies)
8. Site Plan or Acquisition Plan Map (2 copies)
9. Floor Plans of Buildings (2 copies)
10. Part II, Section A (OMB Form 80-R0184) (1 copy)
11. Part II, Section B (OMB Form 80-R0184) (1 copy)
12. Evidence of CEQA Compliance (2 copies of one of the following)
    a. Notice of Exemption
    b. Notice of Determination with Negative Declaration, Initial Study, and State Clearinghouse responses
    c. Notice of Determination with Final EIR, Initial Study, and State Clearinghouse responses
13. Evidence of NEPA Compliance (2 copies of one of the following)
    a. Environmental Assessment
    b. Environmental Certification
    c. Final EIR
14. Assurance of Compliance and Addendum (Title VI) (1 copy)
15. Assurance Section 504, Federal Rehabilitation Act of 1973 (1 copy)
16. Certification of Compliance — Relocation Act (PL 91-646) (1 copy)
17. Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion (1 copy)
18. SHPO Memorandum of Understanding (1 copy)
19. Approved Lease or Operating Agreement (1 copy)
20. Corps of Engineers Permit (1 copy)
21. Other required permits
22. Photographs of Site

DPR 823 (1/89) (Back)

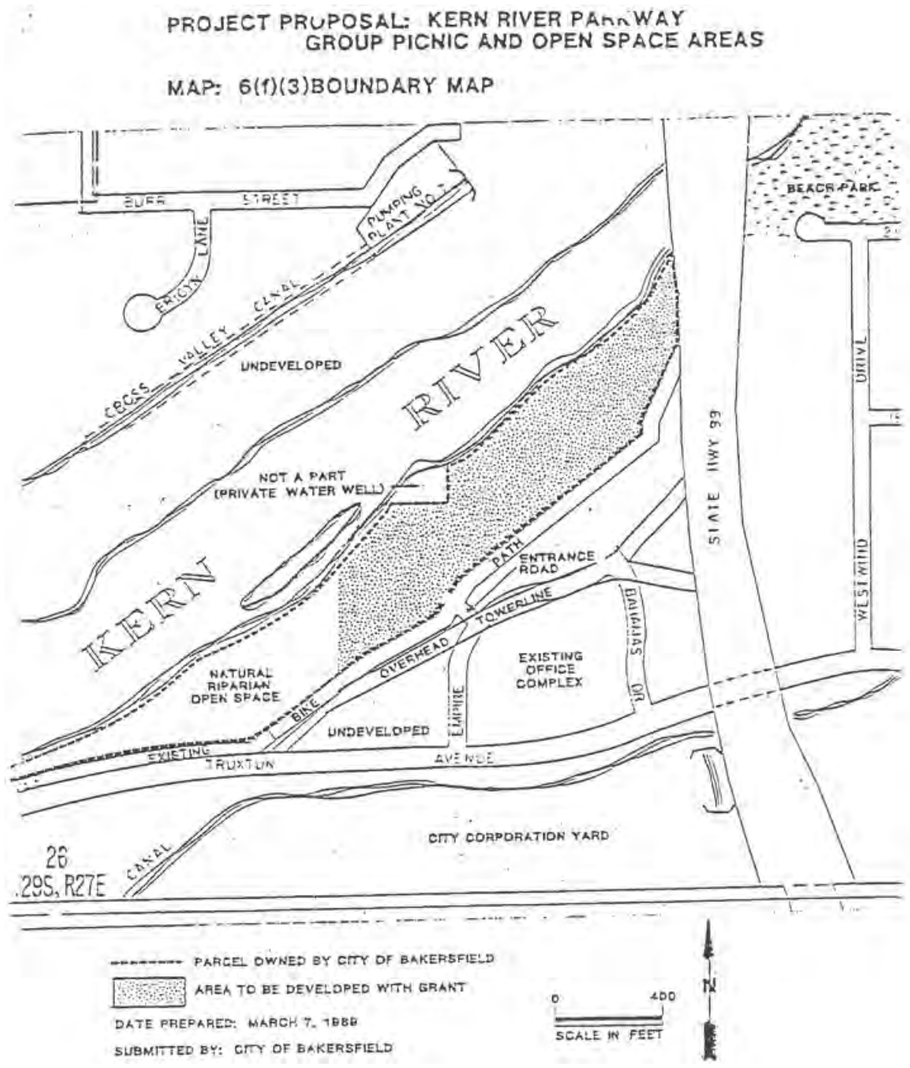


EXHIBIT 12

City of Bakersfield City Council Resolution No. 43-89

RESOLUTION NO. 43-89

RESOLUTION OF THE COUNCIL OF THE
CITY OF BAKERSFIELD

RESOLUTION AUTHORIZING APPLICATION FOR LAND AND WATER CONSERVATION FUNDS TO DEVELOP A KERN RIVER PARKWAY GROUP PICNIC AREA, SUPPORT FACILITIES, AND TURF AREAS ON 15 ACRES LOCATED WEST OF STATE HIGHWAY 99, NORTH OF EMPIRE DRIVE.

WHEREAS, the Congress under Public Law 88-578 has authorized the establishment of a Federal Land and Water Conservation Fund Grant-In-Aid Program, providing matching funds to the State of California and its political subdivisions for acquiring lands and developing facilities for public outdoor recreation purposes; and

WHEREAS, the State Department of Parks and Recreation is responsible for administration of the program in the state, setting up necessary rules and procedures governing application by local agencies under the program; and

WHEREAS, said adopted procedures established by the State Department of Parks and Recreation require the applicant to certify by resolution the approval of applications and the availability of local matching funds prior to submission of said applications to the state; and

WHEREAS, the proposed Kern River Parkway Group Picnic, support facilities and open space turf project is consistent with the Statewide Comprehensive Recreation Resources Plan: California Outdoor Recreation Plan - 1988; and

WHEREAS, the City of Bakersfield wishes to construct a group picnic, support facilities and open space turf area on approximately 15 acres generally located west of Highway 99, south of the Kern River, and north of Empire Drive; and

WHEREAS, the project must be compatible with the land use plans of those jurisdictions immediately surrounding the project;

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Bakersfield as follows:

1. Approves the filing of an application for Land and Water Conservation Fund assistance; and

2. Certifies that said agency has matching funds from the following source of the California Wildlife, Coastal, and Park Land Conservation Act of 1988 (Proposition 70), Per Capita Grant Program, Fiscal Year 1989/90 appropriation; and

3. Certifies that the project is compatible with the land use plans of those jurisdictions immediately surrounding the project; and

4. Appoints the City Manager as agent of the City of Bakersfield to conduct all negotiations and execute and submit all documents, including, but not limited to, applications, agreements, amendments, billing statements, and so on which may be necessary for the completion of the aforementioned project.

----------o0o----------

I HEREBY CERTIFY that the foregoing Resolution was passed and adopted by the Council of the City of Bakersfield at a regular meeting thereof held on the 29th day of March, 1989 by the following vote:

AYES: COUNCILMEMBERS: DeMOND, SMITH, RATTY, PETERSON, McDERMOTT, SALVAGGIO
NOES: COUNCILMEMBERS: None
ABSENT: COUNCILMEMBERS: Childs
ABSTAINING: COUNCILMEMBERS: None

Carol Williams
CITY CLERK and Ex Officio Clerk of the Council of the City of Bakersfield

APPROVED this 29th day of March, 19 89

Clarence E. McFadden
MAYOR of the City of Bakersfield

APPROVED as to form:

CITY ATTORNEY of the City of Bakersfield

pjt
a:res.lwl

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LAND AND WATER CONSERVATION FUND PROGRAM
APPLICATION

This Form and Required Attachments Must Be Submitted for Each Project Site

TYPE OF PROJECT *(check one below)*

☐ Acquisition
☒ Development

PROJECT NAME: Kern River Parkway Group Picnic and Open Space Area with Support Facilities	AMOUNT OF GRANT REQUESTED: $ 84,050 ESTIMATED TOTAL PROJECT COST: $ 168,100
GRANT APPLICANT *(Agency and address/str., zip code)*: City of Bakerfield 1501 Truxtun Avenue Bakersfield, CA 93301	COUNTY: Kern; NEAREST CITY: Bakersfield PROJECT ADDRESS: 4200 Empire Drive NEAREST CROSS STREET: Truxtun Avenue CONGRESSIONAL DIST. NO.: 20; SENATE DIST. NO.: 16; ASSEMBLY DIST. NO.: 33

Grant Applicant's Representative Authorized in Resolution

J. Dale Hawley (Name *(type)*) — City Manager (Title) — (805) 326-3751 (Phone)

Person with day-to-day responsibility for project *(if different from authorized representative)*

Paul Dow (Name *(type)*) — Community Services Manager (Title) — (805) 326-3715 (Phone)

Brief description of project

Development of Phase I on a 15 acre site in the Kern River Parkway master plan as a group picnic area and open space turf area including support facilities. Phase I Development includes two group picnic stations accommodating up to 80 people each. The stations include concrete slab, serving shelter, tables, benches, barbecue stoves, and utilities. In addition, serveral single and double picnic tables will be placed throughout the site. Support facilities include utility systems, access road, bicycle bypass, and parking lot. The site is locate west of Highway 99, south side of the Kern River, north of Empire Drive.

For Dev. projects Land Tenure – Project is: 15 acres:	For Acquisition projects Projects land will be _____ acres
15 Acres owned in fee simple by Grant Applicant	_____ Acquired in fee simple by Grant Applicant
_____ Acres available under a _____ year lease	_____ Acquired in other than fee simple *(explain)* _____
_____ Acres other interest *(explain)* _____	

I certify that the information contained in this project application form, including required attachments, is accurate and that this project is consistent with the park and recreation element of the applicable city or county general plan or the district park and recreation plan and will satisfy a high priority need.

Signed: J Dale Hawley — Grant Applicant's Authorized Representative as shown in Resolution — 3-20-89 — Date

DPR 823 (1/89) (over) 11

CHECKLIST OF APPLICATION MATERIALS

1. LWCF Application Form (1 copy)
2. Resolution (1 copy)
3. Program Narrative (Part IV) (2 copies)
4. Development Cost Estimate or Acquisition Schedule (2 copies)
5. Applicant's Source of Funds (1 copy)
6. Location Map (2 copies)
7. 6(f)(3) Boundary Map (2 copies)
8. Site Plan or Acquisition Plan Map (2 copies)
9. Floor Plans of Buildings (2 copies)
10. Part II, Section A (OMB Form 80-R0184) (1 copy)
11. Part II, Section B (OMB Form 80-R0184) (1 copy)
12. Evidence of CEQA Compliance (2 copies of one of the following)
    a. Notice of Exemption
    b. Notice of Determination with Negative Declaration, Initial Study, and State Clearinghouse responses
    c. Notice of Determination with Final EIR, Initial Study, and State Clearinghouse responses
13. Evidence of NEPA Compliance (2 copies of one of the following)
    a. Environmental Assessment
    b. Environmental Certification
    c. Final EIR
14. Assurance of Compliance and Addendum (Title VI) (1 copy)
15. Assurance Section 504, Federal Rehabilitation Act of 1973 (1 copy)
16. Certification of Compliance – Relocation Act (PL 91-646) (1 copy)
17. Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion (1 copy)
18. SHPO Memorandum of Understanding (1 copy)
19. ~~Approved Lease or Operating Agreement (1 copy)~~
20. ~~Corps of Engineers Permit (1 copy)~~
21. ~~Other required permits~~
22. Photographs of Site

DPR 823 (1/89) (Back) 12

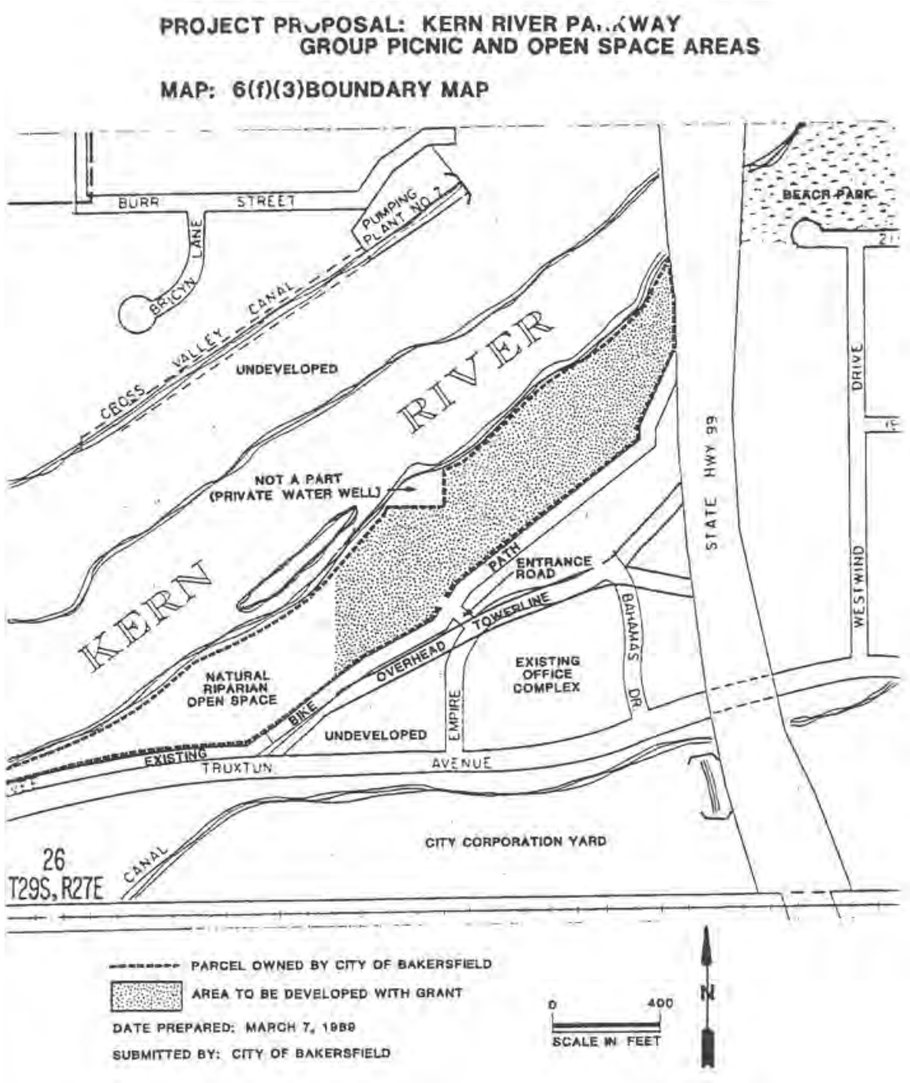
Kern River Parkway in
Group Picnic/Open Space Area

DEVELOPMENT COST ESTIMATE SCHEDULE

CONSTRUCTION COSTS FOR PHASE I

Earthwork site preparation (parking lot, road preparation)	$25,000
Picnic stations (2 group stations, serving shelter, concrete slab, barbecues, single & double nooks, utilities)	48,100
Restroom/concession	35,000
Sewer System	5,000
Water System (irrigation, domestic)	45,000
Electric system	2,000
Landscaping	7,000
Misc. site amenities (signage, trash receptacles)	1,000
Total	$168,100

L&WCF GRANT AMOUNT REQUESTED: $84,050


PROJECT PROPOSAL: KERN RIVER PARKWAY
GROUP PICNIC AND OPEN SPACE AREAS
MAP: 6(f)(3)BOUNDARY MAP
BURR STREET
PUMPING PLANT NO. 7
BRICYN LANE
CROSS VALLEY CANAL
UNDEVELOPED
RIVER
KERN
NOT A PART (PRIVATE WATER WELL)
BEACH PARK
DRIVE
STATE HWY 99
WESTWIND
ENTRANCE ROAD
PATH
TOWERLINE
OVERHEAD
BAHAMAS DR
EMPIRE
EXISTING OFFICE COMPLEX
NATURAL RIPARIAN OPEN SPACE
BIKE
UNDEVELOPED
EXISTING
TRUXTUN AVENUE
CITY CORPORATION YARD
CANAL
26
T29S, R27E
PARCEL OWNED BY CITY OF BAKERSFIELD
AREA TO BE DEVELOPED WITH GRANT
DATE PREPARED: MARCH 7, 1989
SUBMITTED BY: CITY OF BAKERSFIELD
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SCALE IN FEET
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Appendix C Title VI Policy Statement

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-5266
FAX (916) 654-6608
TTY 711
www.dot.ca.gov

Flex your power!
Be energy efficient!

March 2013

NON-DISCRIMINATION
POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, 1823 14th Street, MS-79, Sacramento, CA 95811. Telephone: (916) 324-0449, TTY: 711, or via Fax: (916) 324-1949.

MALCOLM DOUGHERTY
Director

"Caltrans improves mobility across California"

Appendix D Summary of Relocation Benefits

The City of Bakersfield and the County of Kern will be the agencies responsible for acquiring the necessary right-of-way for the project. These agencies will follow the same process that Caltrans uses, which is outlined in the Caltrans Relocation Assistance Program, which is provided below.

California Department of Transportation Relocation Assistance Program

Relocation Assistance Advisory Services

Declaration of Policy

"The purpose of this title is to establish a ***uniform policy for fair and equitable treatment*** of persons displaced as a result of federal and federally assisted programs in order that such persons ***shall not suffer disproportionate injuries*** as a result of programs designed for the benefit of the public as a whole."

The Fifth Amendment to the U.S. Constitution states, "No Person shall…be deprived of life, liberty, or property, without due process of law, nor shall private property be taken for public use without just compensation." The Uniform Act sets forth in statute the due process that must be followed in Real Property acquisitions involving federal funds. Supplementing the Uniform Act is the government-wide single rule for all agencies to follow, set forth in 49 CFR, Part 24. Displaced individuals, families, businesses, farms, and nonprofit organizations may be eligible for relocation advisory services and payments, as discussed below.

Fair Housing

The Fair Housing Law (Title VIII of the Civil Rights Act of 1968) sets forth the policy of the United States to provide, within constitutional limitations, for fair housing. This act, and as amended, makes discriminatory practices in the purchase and rental of most residential units illegal. Whenever possible, minority persons shall be given reasonable opportunities to relocate to any available housing regardless of neighborhood, as long as the replacement dwellings are decent, safe, and sanitary and are within their financial means. This policy, however, does not require Caltrans to provide a person a larger payment than is necessary to enable a person to relocate to a comparable replacement dwelling.

Any persons to be displaced will be assigned to a relocation advisor, who will work closely with each displace in order to see that all payments and benefits are fully utilized, and that all regulations are observed, thereby avoiding the possibility of displaces jeopardizing or forfeiting any of their benefits or payments. At the time of the initiation of negotiations (usually the first written offer to purchase), owner-occupants are given a detailed explanation of the state's relocation services. Tenant occupants of properties to be acquired are contacted soon after the initiation of negotiations, and also are given a detailed explanation of the Caltrans Relocation Assistance Program. To avoid loss of possible benefits, no individual, family, business, farm, or nonprofit organization should commit to purchase or rent a replacement property without first contacting a Caltrans relocation advisor.

Relocation Assistance Advisory Services

In accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, Caltrans will provide relocation advisory assistance to any person, business, farm or nonprofit organization displaced as a result of the acquisition of real property for public use, so long as they are legally present in the United States. Caltrans will assist eligible displaces in obtaining comparable replacement housing by providing current and continuing information on the availability and prices of both houses for sale and rental units that are "decent, safe and sanitary." Nonresidential displaces will receive information on comparable properties for lease or purchase (for business, farm and nonprofit organization relocation services, see below).

Residential replacement dwellings will be in a location generally not less desirable than the displacement neighborhood at prices or rents within the financial ability of the individuals and families displaced, and reasonably accessible to their places of employment. Before any displacement occurs, comparable replacement dwellings will be offered to displaces that are open to all persons regardless of race, color, religion, sex, national origin, and consistent with the requirements of Title VIII of the Civil Rights Act of 1968. This assistance will also include the supplying of information concerning federal and state assisted housing programs, and any other known services being offered by public and private agencies in the area.

Persons who are eligible for relocation payments and who are legally occupying the property required for the project will not be asked to move without first being given at least 90 days written notice. Residential occupants eligible for relocation payment(s) will not be required to move unless at least one comparable "decent, safe

and sanitary" replacement dwelling, available on the market, is offered to them by Caltrans.

Residential Relocation Payments

The Relocation Assistance Program will help eligible residential occupants by paying certain costs and expenses. These costs are limited to those necessary for or incidental to the purchase or rental of a replacement dwelling and actual reasonable moving expenses to a new location within 50 miles of the displacement property. Any actual moving costs in excess of the 50 miles are the responsibility of the displace. The Residential Relocation Assistance Program can be summarized as follows:

Moving Costs

Any displaced person, who lawfully occupied the acquired property, regardless of the length of occupancy in the property acquired, will be eligible for reimbursement of moving costs. Displaces will receive either the actual reasonable costs involved in moving themselves and personal property up to a maximum of 50 miles, or a fixed payment based on a fixed moving cost schedule. Lawful occupants who move into the displacement property after the initiation of negotiations must wait until Caltrans obtains control of the property in order to be eligible for relocation payments.

Purchase Differential

In addition to moving and related expense payments, fully eligible homeowners may be entitled to payments for increased costs of replacement housing.

Homeowners who have owned and occupied their property for 180 days or more prior to the date of the initiation of negotiations (usually the first written offer to purchase the property), may qualify to receive a price differential payment and may qualify to receive reimbursement for certain nonrecurring costs incidental to the purchase of the replacement property. An interest differential payment is also available if the interest rate for the loan on the replacement dwelling is higher than the loan rate on the displacement dwelling, subject to certain limitations on reimbursement based upon the replacement property interest rate. The maximum combination of these three supplemental payments that the owner-occupant can receive is $22,500. If the total entitlement (without the moving payments) is in excess of $22,500, the Last Resort Housing Program will be used (see the explanation of the Last Resort Housing Program below).

Rent Differential

Tenants and certain owner-occupants (based on length of ownership) who have occupied the property to be acquired by Caltrans prior to the date of the initiation of negotiations may qualify to receive a rent differential payment. This payment is made when Caltrans determines that the cost to rent a comparable "decent, safe and sanitary" replacement dwelling will be more than the present rent of the displacement dwelling. As an alternative, the tenant may qualify for a down payment benefit designed to assist in the purchase of a replacement property and the payment of certain costs incidental to the purchase, subject to certain limitations noted under the Down Payment section below. The maximum amount payable to any eligible tenant and any owner-occupant of less than 180 days, in addition to moving expenses, is $5,250. If the total entitlement for rent supplement exceeds $5,250, the Last Resort Housing Program will be used.

In order to receive any relocation benefits, the displaced person must buy or rent and occupy a "decent, safe and sanitary" replacement dwelling within one year from the date Caltrans takes legal possession of the property, or from the date the displace vacates the displacement property, whichever is later.

Down Payment

The down payment option has been designed to aid owner-occupants of less than 180 days and tenants in legal occupancy prior to Caltrans' initiation of negotiations. The down payment and incidental expenses cannot exceed the maximum payment of $5,250. The one-year eligibility period in which to purchase and occupy a "decent, safe and sanitary" replacement dwelling will apply.

Last Resort Housing

Federal regulations (49 CFR 24) contain the policy and procedure for implementing the Last Resort Housing Program on federal-aid projects. Last Resort Housing benefits are, except for the amounts of payments and the methods in making them, the same as those benefits for standard residential relocation as explained above. Last Resort Housing has been designed primarily to cover situations where a displace cannot be relocated because of lack of available comparable replacement housing, or when the anticipated replacement housing payments exceed the $22,500 and $5,250 limits of the standard relocation procedure, because either the displace lacks the financial ability or other valid circumstances.

After the initiation of negotiations, Caltrans will within a reasonable length of time, personally contact the displaces to gather important information, including the following:

- Number of people to be displaced
- Specific arrangements needed to accommodate any family member(s) with special needs
- Financial ability to relocate into comparable replacement dwelling which will adequately house all members of the family
- Preferences in area of relocation
- Location of employment or school

Nonresidential Relocation Assistance

The Nonresidential Relocation Assistance Program provides assistance to businesses, farms and nonprofit organizations in locating suitable replacement property, and reimbursement for certain costs involved in relocation. The Relocation Advisory Assistance Program will provide current lists of properties offered for sale or rent, suitable for a particular business's specific relocation needs. The types of payments available to eligible businesses, farms and nonprofit organizations are: searching and moving expenses, and possibly reestablishment expenses; or a fixed in lieu payment instead of any moving, searching and reestablishment expenses. The payment types can be summarized as follows:

Moving Expenses

Moving expenses may include the following actual, reasonable costs:

- The moving of inventory, machinery, equipment and similar business-related property, including: dismantling, disconnecting, crating, packing, loading, insuring, transporting, unloading, unpacking, and reconnecting of personal property. Items acquired in the Right of Way contract may not be moved under the Relocation Assistance Program. If the displace buys an Item Pertaining to the Realty back at salvage value, the cost to move that item is borne by the displace.
- Loss of tangible personal property provides payment for actual, direct loss of personal property that the owner is permitted not to move.
- Expenses related to searching for a new business site, up to $2,500, for reasonable expenses actually incurred.

Reestablishment Expenses

Reestablishment expenses related to the operation of the business at the new location, up to $10,000 for reasonable expenses actually incurred.

Fixed In Lieu Payment

A fixed payment in lieu of moving, searching, and reestablishment payments may be available to businesses which meet certain eligibility requirements. This payment is an amount equal to half the average annual net earnings for the last two taxable years prior to the relocation and may not be less than $1,000 nor more than $20,000.

Additional Information

Reimbursement for moving costs and replacement housing payments are not considered income for the purpose of the Internal Revenue Code of 1954, or for the purpose of determining the extent of eligibility of a displace for assistance under the Social Security Act, or any other law, except for any federal law providing local "Section 8" Housing Programs.

Any person, business, farm or nonprofit organization which has been refused a relocation payment by the Caltrans relocation advisor or believes that the payment(s) offered by the agency are inadequate, may appeal for a special hearing of the complaint. No legal assistance is required. Information about the appeal procedure is available from the relocation advisor.

California law allows for payment for lost goodwill that arises from the displacement for a pubic project. A list of ineligible expenses can be obtained from Caltrans Right of Way. California's law and the federal regulations covering relocation assistance provide that no payment shall be duplicated by other payments being made by the displacing agency.

Residential Relocation Payments Program

For more information or a brochure on the residential relocation program, please contact Chanin McKeighen at Chanin_McKeighen@dot.ca.gov, or (559) 445-6237.

The brochure on the residential relocation program is also available in English at http://www.dot.ca.gov/hq/row/pubs/residential_english.pdf and in Spanish at http://www.dot.ca.gov/hq/row/pubs/residential_spanish.pdf.

If you own or rent a mobile home that may be moved or acquired by Caltrans, a relocation brochure is available in English at

http://www.dot.ca.gov/hq/row/pubs/mobile_eng.pdf and in Spanish at http://www.dot.ca.gov/hq/row/pubs/mobile_sp.pdf.

Business and Farm Relocation Assistance Program

For more information or a brochure on the relocation of a business or farm, please contact Chanin McKeighen at Chanin_McKeighen @dot.ca.gov, or (559) 445-6237.

The brochure on the business relocation program is also available in English at http://www.dot.ca.gov/hq/row/pubs/business_farm.pdf and in Spanish at http://www.dot.ca.gov/hq/row/pubs/business_sp.pdf.

Additional Information

No relocation payment received would be considered as income for the purpose of the Internal Revenue Code of 1954 or for the purposes of determining eligibility or the extent of eligibility of any person for assistance under the Social Security Act or any other federal law (except for any federal law providing low-income housing assistance).

Appendix E Project Plans/Right-of-Way Requirements

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

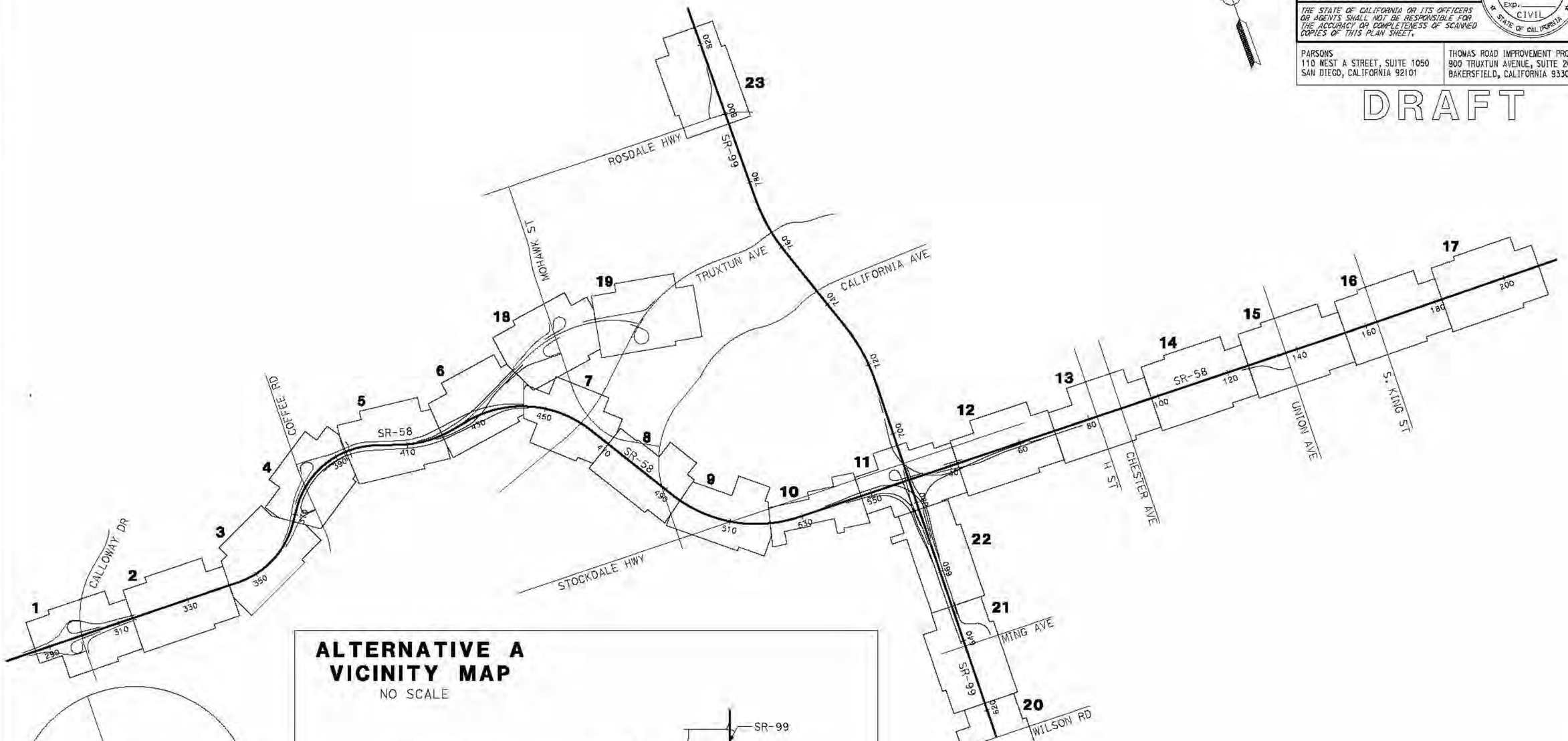
REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

PARSONS
110 WEST A STREET, SUITE 1050
SAN DIEGO, CALIFORNIA 92101

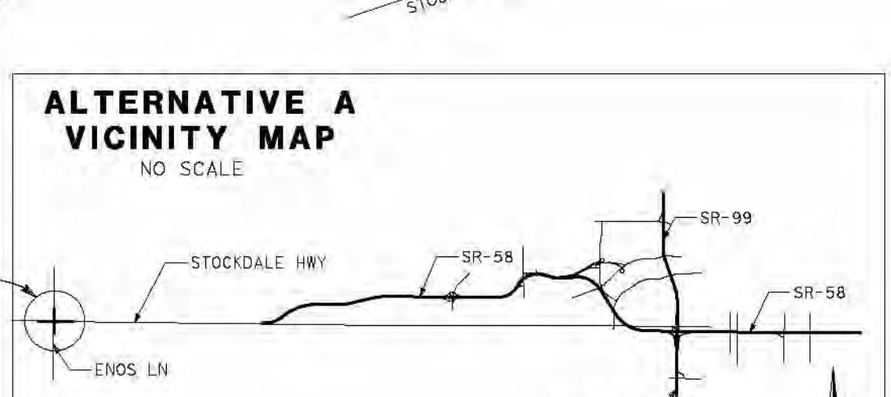
THOMAS ROAD IMPROVEMENT PROGRAM
900 TRUXTUN AVENUE, SUITE 200
BAKERSFIELD, CALIFORNIA 93301

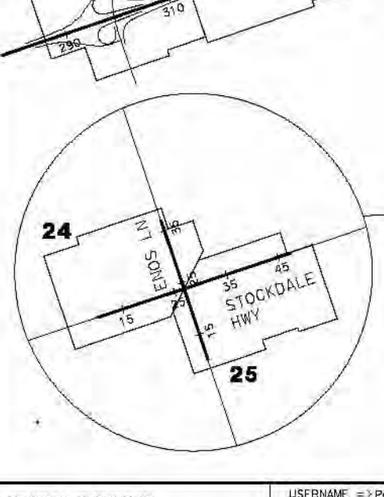
DRAFT



ALTERNATIVE A VICINITY MAP

NO SCALE





ALTERNATIVE A KEY MAP

NO SCALE

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BORDER LAST REVISED 7/2/2010 | USERNAME => Poodle | DGN FILE => Alt_A_KeyMap.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE | EA 06-48460

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	500-150-01	X			
2	500-560-01	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	1	

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BAKERSFIELD, CALIFORNIA 93301

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SIOUX CREEK DR
VERDUGO LN
BAY COLONY DR
CALLOWAY DR
METHERLY HILL RD
MAIDENSFORD DR
BATTERSEA PARK DR
ASHBOURN DR
LAKEHILL WAY
GLENEAGLES DR
CROSS VALLEY CANAL

MATCH LINE STA 314+00 SEE SHEET 2

LEGEND

- EXISTING PARCEL BOUNDARY
- EXISTING STATE RIGHT OF WAY
- PROPOSED STATE RIGHT OF WAY
- PROPOSED ROADWAY
- EXISTING ROADWAY
- RETAINING WALL
- SOUNDWALL
- GRADING LIMIT (CUT)
- GRADING LIMIT (FILL)
- DRAINAGE BASIN
- TEMPORARY CONSTRUCTION EASMENT
- WALL EASEMENT
- CLOSED RAMP

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

1

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	500-150-01	X			
2	501-010-39	X			
3	501-010-24	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	2	

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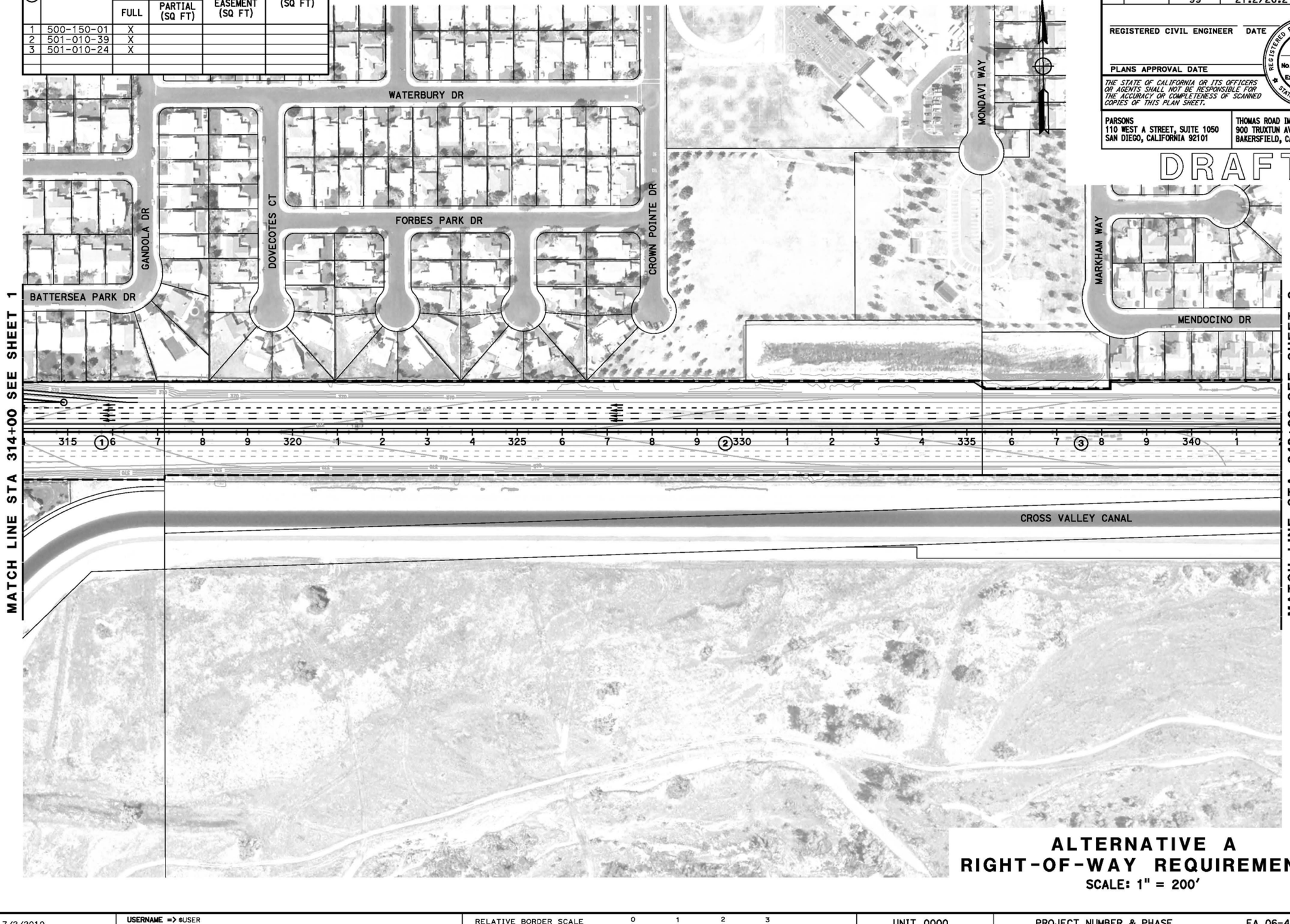

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

2

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	501-010-24	X			
2	501-010-23	X			
3	501-010-22	X			
4	501-010-12		20		
5	501-010-10		4,034		
6	501-010-14	X			
7	501-010-15	X			
8	501-010-48	X			
9	501-010-58	X			
10	501-010-56	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	3	

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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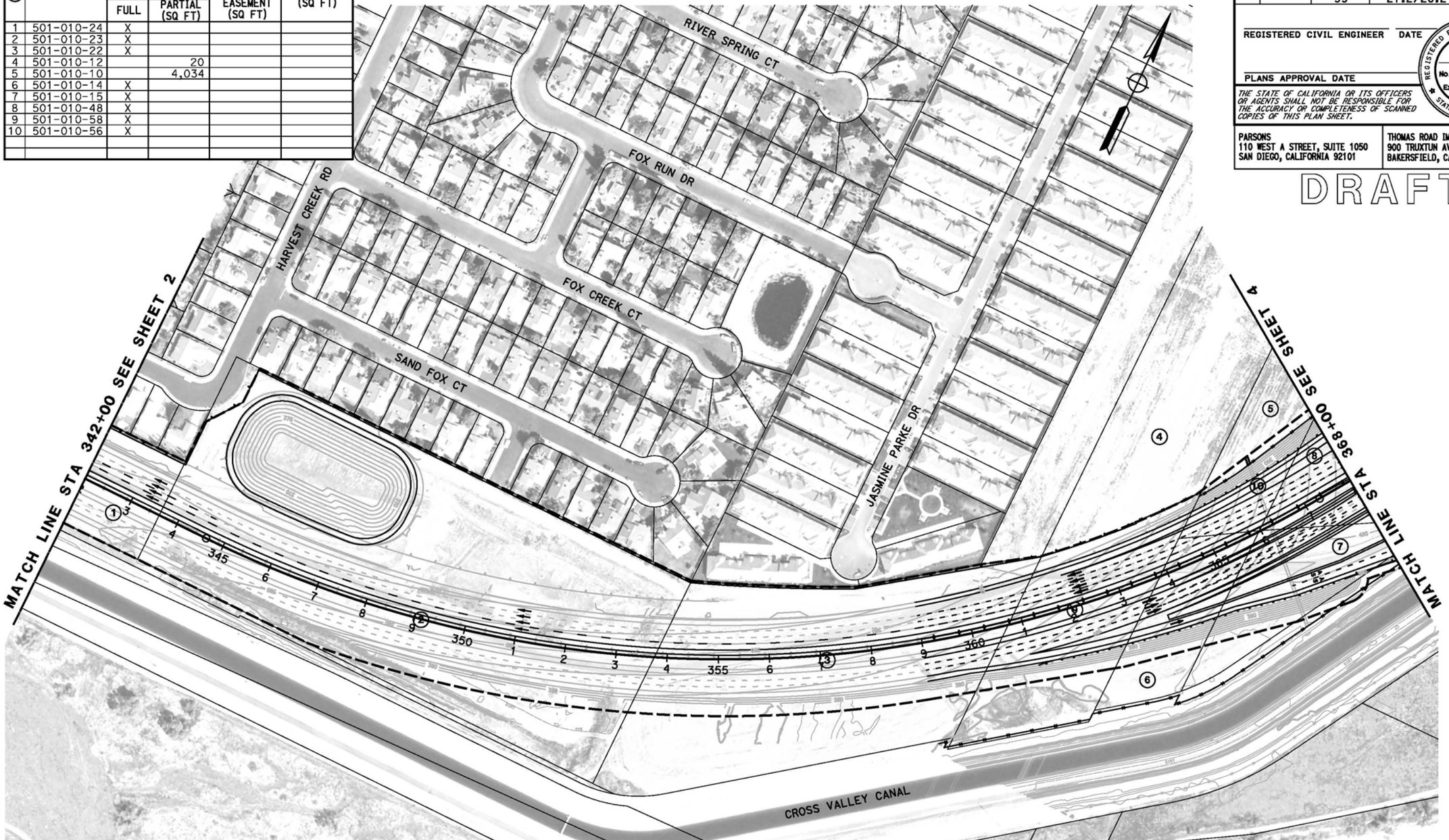

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

3

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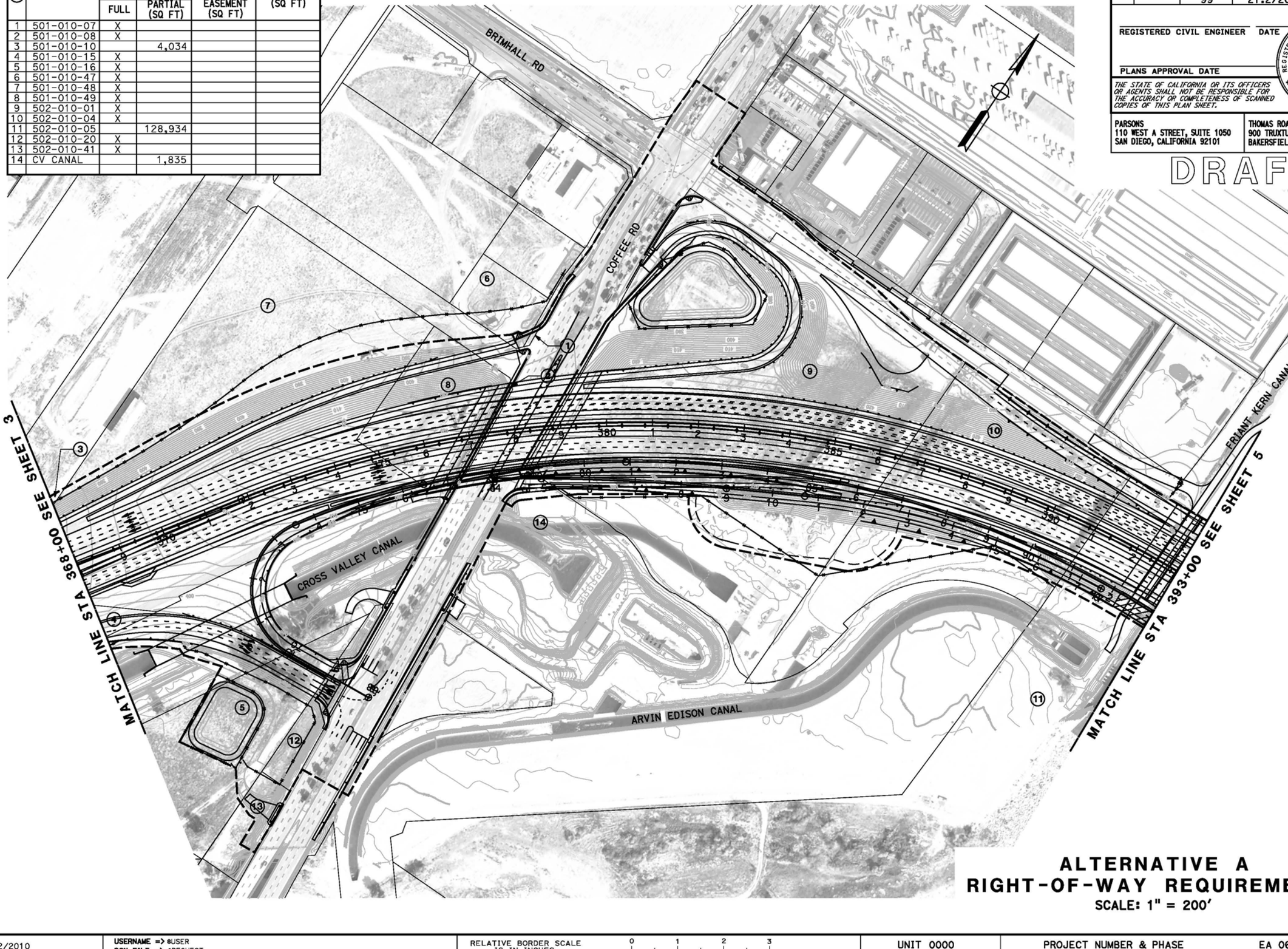
UNIT 0000

PROJECT NUMBER & PHASE EA 06-48460

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	501-010-07	X			
2	501-010-08	X			
3	501-010-10		4,034		
4	501-010-15	X			
5	501-010-16	X			
6	501-010-47	X			
7	501-010-48	X			
8	501-010-49	X			
9	502-010-01	X			
10	502-010-04	X			
11	502-010-05		128,934		
12	502-010-20	X			
13	502-010-41	X			
14	CV CANAL		1,835		



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	4	

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ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	C.O.B	X			
2	502-010-05		128,933		
3	502-010-44	X			
4	502-010-46		217,878		
5	502-010-47	X			
6	368-040-32		3,993		
7	F.K. CANAL		8,985		
8	502-010-45	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	5	

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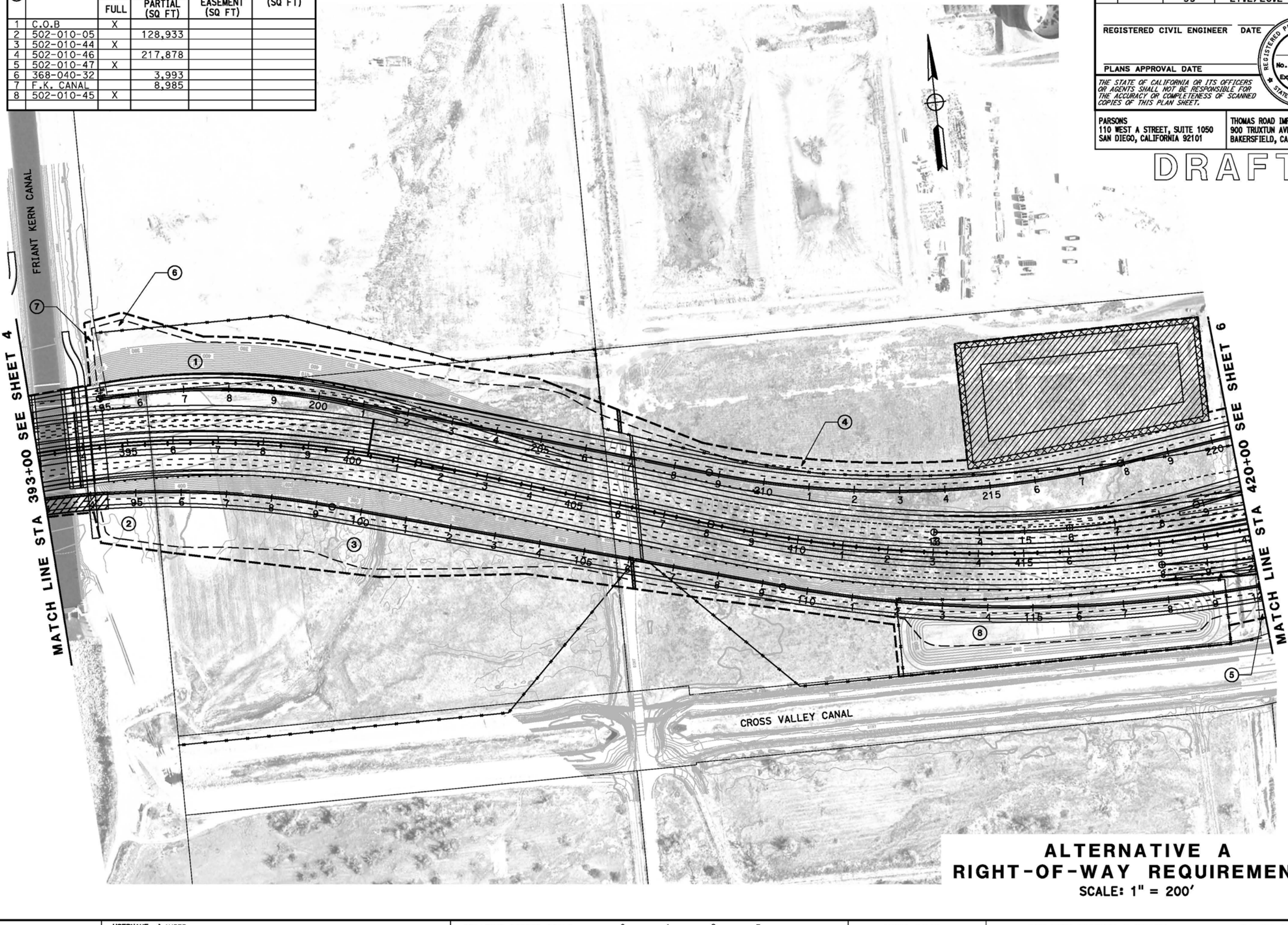

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

5

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	331-021-02		572,712		
2	C.O.B	X			
3	368-040-26	X			
4	502-010-46		12,956		
5	502-010-48	X			
6	502-010-12	X			
7	332-280-17		674		
8	C.O.B	X			
9	502-010-12	X			
10	C.O.B	X			
11	332-280-28		12,280		
12	502-010-12		19,596		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	6	

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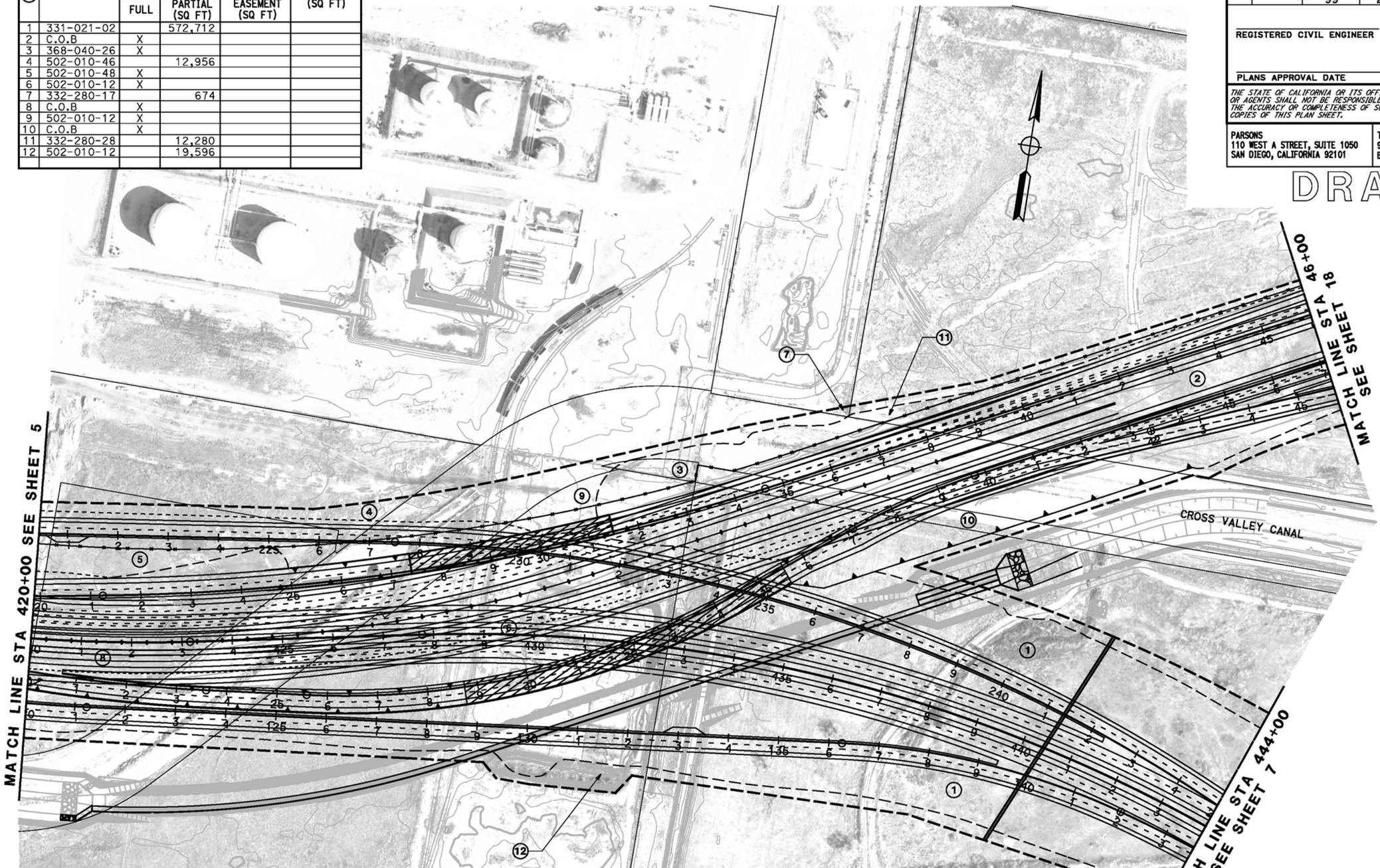

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

6

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2		

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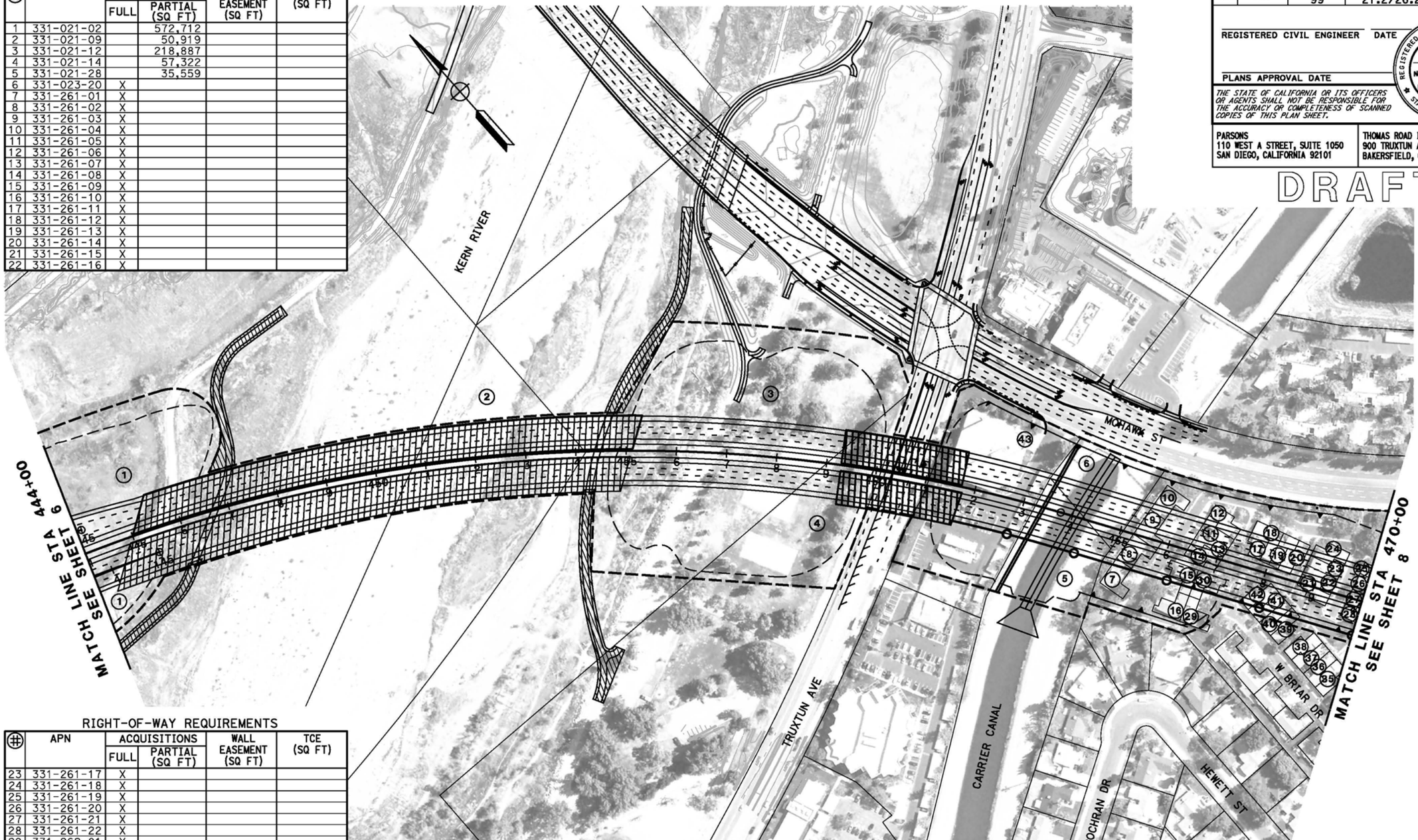
RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	331-021-02		572,712		
2	331-021-09		50,919		
3	331-021-12		218,887		
4	331-021-14		57,322		
5	331-021-28		35,559		
6	331-023-20	X			
7	331-261-01	X			
8	331-261-02	X			
9	331-261-03	X			
10	331-261-04	X			
11	331-261-05	X			
12	331-261-06	X			
13	331-261-07	X			
14	331-261-08	X			
15	331-261-09	X			
16	331-261-10	X			
17	331-261-11	X			
18	331-261-12	X			
19	331-261-13	X			
20	331-261-14	X			
21	331-261-15	X			
22	331-261-16	X			



RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
23	331-261-17	X			
24	331-261-18	X			
25	331-261-19	X			
26	331-261-20	X			
27	331-261-21	X			
28	331-261-22	X			
29	331-262-01	X			
30	331-262-02	X			
31	NOT USED				
32	NOT USED				
33	NOT USED				
34	NOT USED				
35	331-262-51	X			
36	331-262-52	X			
37	331-262-53	X			
38	331-262-54	X			
39	331-262-55	X			
40	331-262-56	X			
41	331-262-57	X			
42	331-262-58	X			
43	331-340-05	X			

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

7

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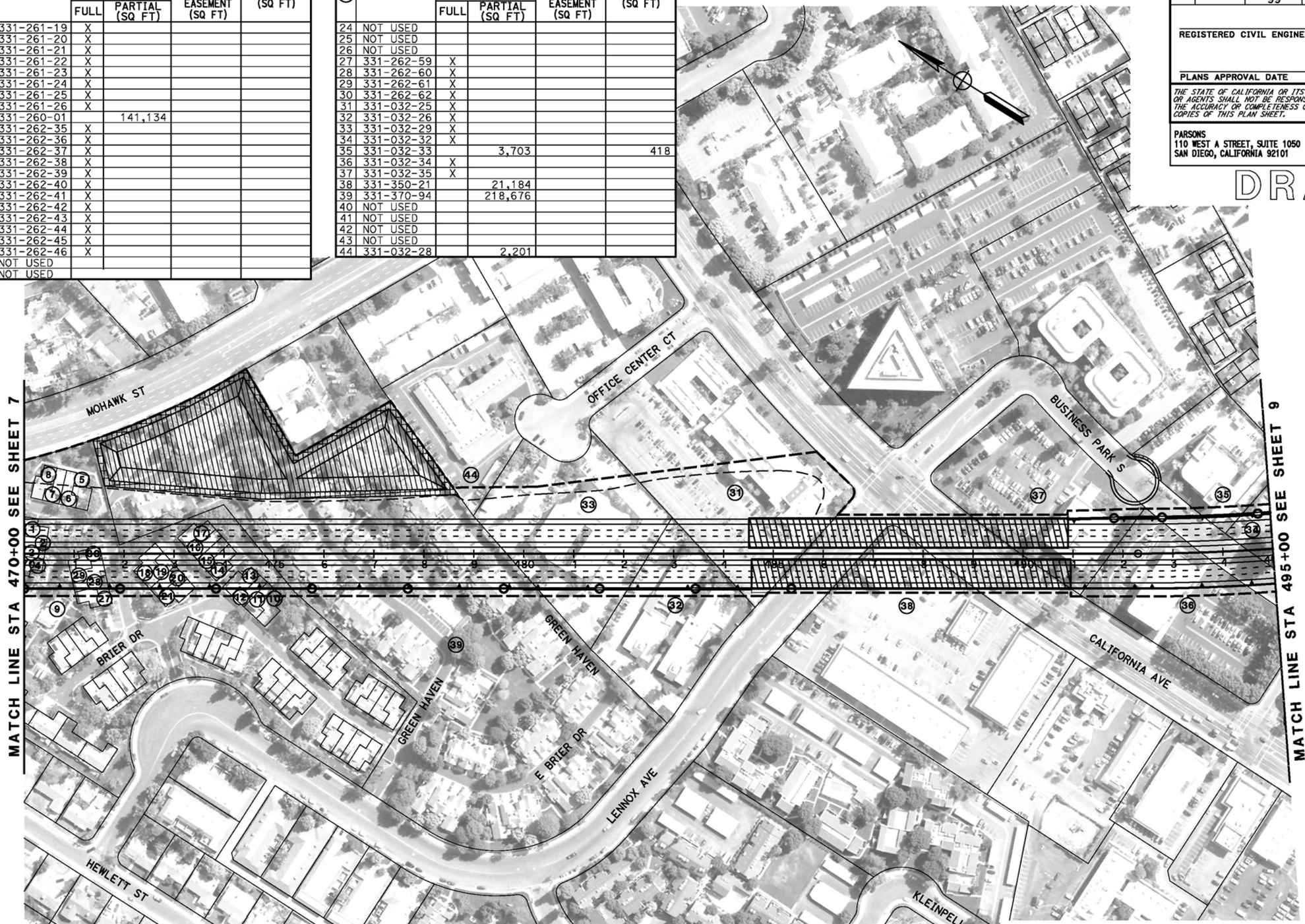
RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	331-261-19	X			
2	331-261-20	X			
3	331-261-21	X			
4	331-261-22	X			
5	331-261-23	X			
6	331-261-24	X			
7	331-261-25	X			
8	331-261-26	X			
9	331-260-01		141,134		
10	331-262-35	X			
11	331-262-36	X			
12	331-262-37	X			
13	331-262-38	X			
14	331-262-39	X			
15	331-262-40	X			
16	331-262-41	X			
17	331-262-42	X			
18	331-262-43	X			
19	331-262-44	X			
20	331-262-45	X			
21	331-262-46	X			
22	NOT USED				
23	NOT USED				

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
24	NOT USED				
25	NOT USED				
26	NOT USED				
27	331-262-59	X			
28	331-262-60	X			
29	331-262-61	X			
30	331-262-62	X			
31	331-032-25	X			
32	331-032-26	X			
33	331-032-29	X			
34	331-032-32	X			
35	331-032-33		3,703		418
36	331-032-34	X			
37	331-032-35	X			
38	331-350-21		21,184		
39	331-370-94		218,676		
40	NOT USED				
41	NOT USED				
42	NOT USED				
43	NOT USED				
44	331-032-28		2,201		



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	8	

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

8

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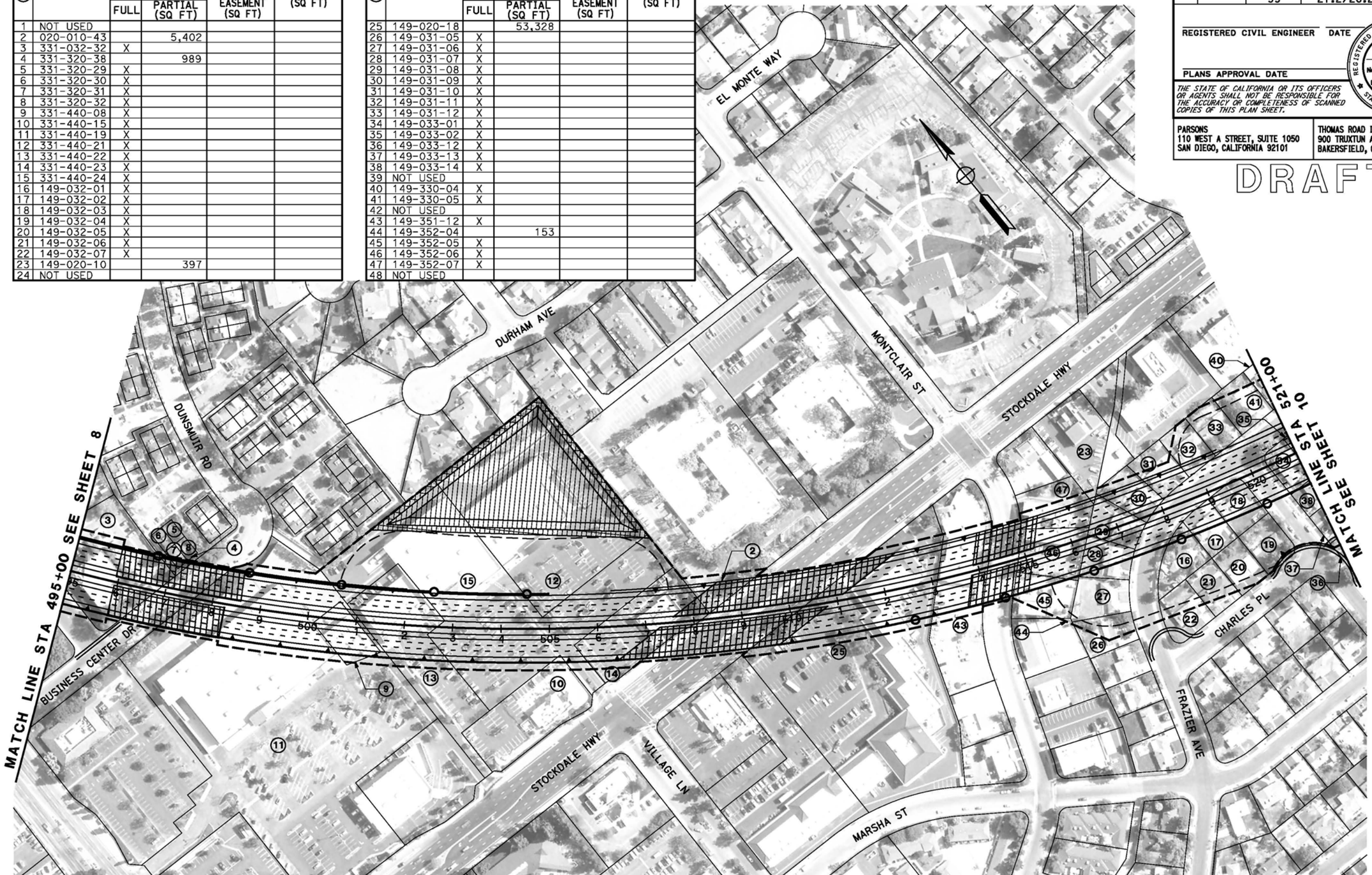
RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	NOT USED				
2	020-010-43		5,402		
3	331-032-32	X			
4	331-320-38		989		
5	331-320-29	X			
6	331-320-30	X			
7	331-320-31	X			
8	331-320-32	X			
9	331-440-08	X			
10	331-440-15	X			
11	331-440-19	X			
12	331-440-21	X			
13	331-440-22	X			
14	331-440-23	X			
15	331-440-24	X			
16	149-032-01	X			
17	149-032-02	X			
18	149-032-03	X			
19	149-032-04	X			
20	149-032-05	X			
21	149-032-06	X			
22	149-032-07	X			
23	149-020-10		397		
24	NOT USED				

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
25	149-020-18		53,328		
26	149-031-05	X			
27	149-031-06	X			
28	149-031-07	X			
29	149-031-08	X			
30	149-031-09	X			
31	149-031-10	X			
32	149-031-11	X			
33	149-031-12	X			
34	149-033-01	X			
35	149-033-02	X			
36	149-033-12	X			
37	149-033-13	X			
38	149-033-14	X			
39	NOT USED				
40	149-330-04	X			
41	149-330-05	X			
42	NOT USED				
43	149-351-12	X			
44	149-352-04		153		
45	149-352-05	X			
46	149-352-06	X			
47	149-352-07	X			
48	NOT USED				



ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

9

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	9	

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BAKERSFIELD, CALIFORNIA 93301

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE EA 06-48460

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	149-033-01	X			
2	149-033-02	X			
3	149-033-03	X			
4	149-033-04	X			
5	149-033-05	X			
6	149-033-06	X			
7	149-033-12	X			
8	149-033-13	X			
9	149-033-14	X			
10	149-101-04	X			
11	149-101-05	X			
12	149-101-06	X			
13	149-101-07	X			
14	149-101-08	X			
15	149-101-09	X			
16	149-101-10	X			
17	149-101-11	X			
18	149-101-12	X			
19	149-101-17	X			
20	149-101-18	X			
21	149-101-19	X			
22	149-101-20	X			
23	149-101-21	X			
24	149-101-22	X			
25	149-101-23	X			
26	149-101-24	X			
27	149-101-25	X			
28	149-101-26	X			
29	149-102-04	X			
30	149-102-05	X			
31	149-102-06	X			
32	149-102-07	X			
33	149-102-08	X			
34	149-102-09	X			
35	149-102-10	X			
36	149-102-11	X			
37	149-102-12	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
38	149-102-13	X			
39	149-102-16	X			
40	149-102-17	X			
41	149-102-18	X			
42	149-102-19	X			
43	149-102-20	X			
44	149-102-21	X			
45	149-102-22	X			
46	149-102-23	X			
47	149-102-24	X			
48	149-120-04	X			
49	149-120-05	X			
50	149-120-06	X			
51	149-120-07	X			
52	149-120-08	X			
53	149-120-09	X			
54	149-120-10	X			
55	149-120-11	X			
56	149-120-12	X			
57	149-120-13	X			
58	149-120-14	X			
59	149-120-15	X			
60	149-120-16	X			
61	149-120-17	X			
62	149-120-18	X			
63	149-120-19	X			
64	149-120-20	X			
65	149-120-21	X			
66	149-141-02	X			
67	149-141-03	X			
68	149-141-04	X			
69	149-141-05	X			
70	149-141-06	X			
71	149-142-01	X			
72	149-142-03	X			
73	149-142-04	X			
74	149-142-05	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
75	149-142-06	X			
76	149-142-07	X			
77	149-142-08	X			
78	149-142-09	X			
79	149-142-10	X			
80	149-142-11	X			
81	149-142-12	X			
82	149-142-14	X			
83	149-142-16	X			
84	149-142-17	X			
85	149-142-18	X			
86	149-142-19	X			
87	149-170-04		35,614		
88	149-170-05		9,188		
89	NOT USED				
90	NOT USED				
91	149-221-10	X			
92	149-221-11	X			
93	149-221-12	X			
94	149-221-13	X			
95	149-221-15	X			
96	149-221-16		1,936		
97	149-221-21	X			
98	149-221-24	X			
99	149-221-26		4,227		
100	149-221-27	X			
101	149-222-01	X			
102	149-222-12	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	10	

REGISTERED CIVIL ENGINEER DATE

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PLANS APPROVAL DATE

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
103	149-222-14	X			
104	149-222-15	X			
105	149-222-16	X			
106	149-222-17	X			
107	149-222-18	X			
108	149-222-26	X			
109	149-222-31	X			
110	149-222-33	X			
111	149-222-34	X			
112	149-222-35	X			
113	149-232-01	X			
114	149-232-02	X			
115	149-233-01	X			
116	149-233-02	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
117	149-233-04	X			
118	149-320-01	X			
119	149-320-02	X			
120	149-320-03	X			
121	149-320-04	X			
122	149-320-05	X			
123	149-320-06	X			
124	149-320-07	X			
125	149-320-08	X			
126	149-320-09	X			
127	149-330-03	X			
128	149-330-04	X			
129	149-340-11	X			
130	149-033-07		160		201
131	149-033-08		203		229
132	149-033-11		23		95
133	149-102-15		562		

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RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

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PROJECT NUMBER & PHASE EA 06-48460

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	11	

REGISTERED CIVIL ENGINEER DATE

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	147-031-27	X			
2	147-032-27	X			
3	149-180-02	X			
4	149-180-03	X			
5	149-180-21	X			
6	149-180-24	X			
7	149-180-25	X			
8	149-190-17	X			
9	149-190-06	X			
10	149-190-08	X			
11	149-190-09	X			
12	149-190-10	X			
13	149-190-11	X			
14	149-190-16	X			
15	149-200-20	X			
16	149-200-21		13,459	2,034	9,304
17	149-190-18	X			
18	149-211-09	X			
19	149-211-10	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
35	147-032-13		1,385		389
36	147-031-35			520	520
37	147-031-28			498	498
38	147-031-08			498	498
39	149-222-38				1,234
40	147-032-25			830	832
41	147-026-14		1,001	497	498
42	147-026-16		1,399	458	439
43	147-032-06			532	540

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
20	149-222-04	X			
21	149-222-05	X			
22	149-222-06	X			
23	149-222-07	X			
24	149-222-08	X			
25	149-222-09	X			
26	149-222-26	X			
27	149-222-39	X			
28	149-233-02	X			
29	149-233-03	X			
30	149-233-04	X			
31	149-240-18	X			
32	149-240-19	X			
33	149-200-05				1,857
34	149-211-01				539

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RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

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06	Ker	58 99	T31.7/R55.6 21.2/26.2	12	

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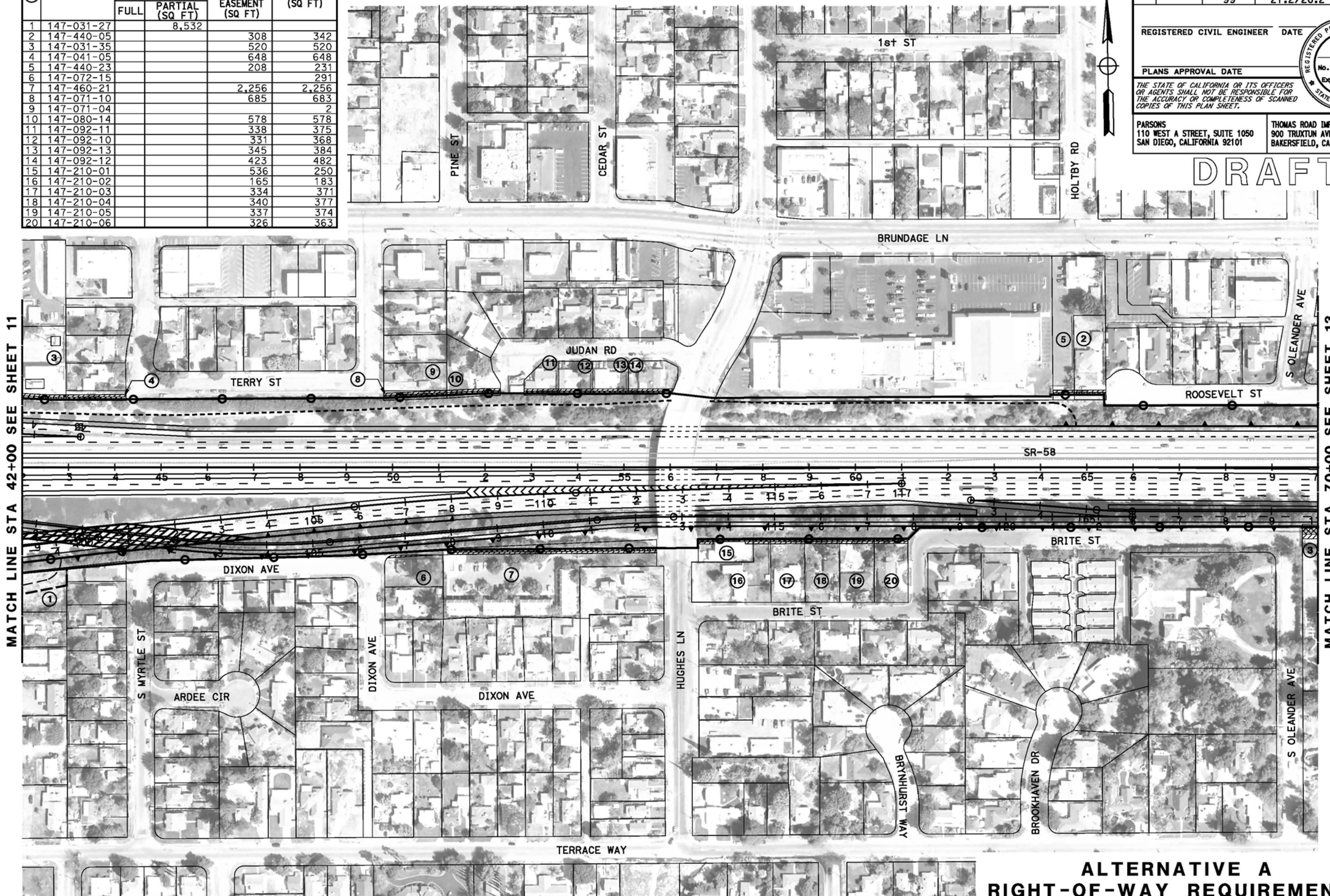
RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	147-031-27		8,532		
2	147-440-05			308	342
3	147-031-35			520	520
4	147-041-05			648	648
5	147-440-23			208	231
6	147-072-15				291
7	147-460-21			2,256	2,256
8	147-071-10			685	683
9	147-071-04				2
10	147-080-14			578	578
11	147-092-11			338	375
12	147-092-10			331	368
13	147-092-13			345	384
14	147-092-12			423	482
15	147-210-01			536	250
16	147-210-02			165	183
17	147-210-03			334	371
18	147-210-04			340	377
19	147-210-05			337	374
20	147-210-06			326	363



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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	011-111-09	X			
2	011-111-10	X			
3	011-111-11	X			
4	011-111-26	X			
5	011-111-27	X			
6	011-111-28	X			
7	011-111-37	X			
8	NOT USED				
9	147-280-01			4,210	3,837
10	147-290-11			534	534
11	147-290-02			279	279
12	011-101-09		407		252
13	011-122-18		214		131
14	011-122-17		512		302
15	011-122-16		1,016		293
16	011-122-15		358		307
17	011-122-14		209		236
18	011-122-13		115		29
19	011-101-08		332		245
20	011-101-10		799		328
21	147-310-23			1,743	1,939

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	13	

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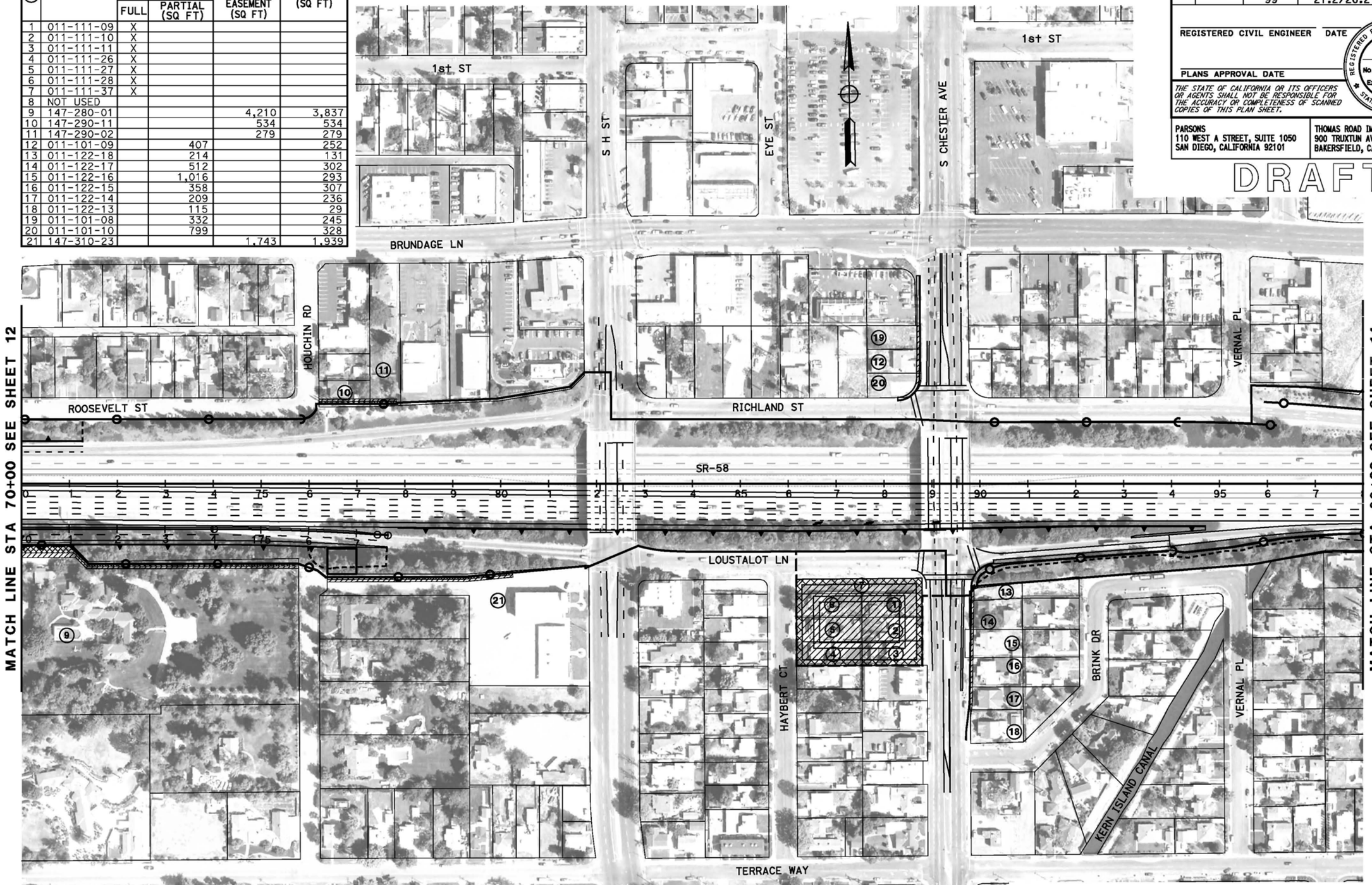

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1					
2					
3					

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	14	

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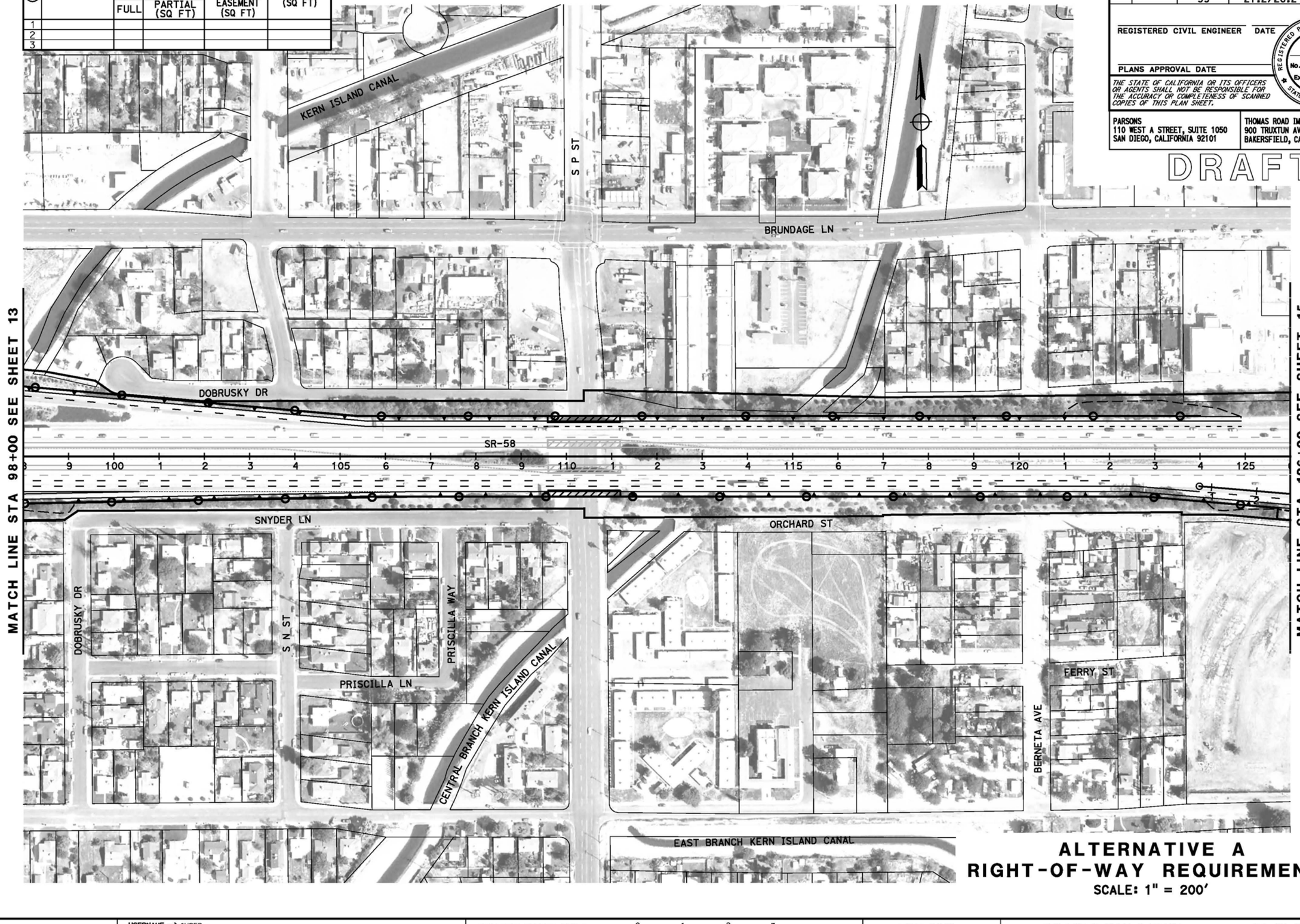

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RIGHT-OF-WAY REQUIREMENTS

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	169-110-14			611	609
2	169-101-07			573	580
3	169-092-01			100	111
4	169-092-30			959	1025
5	169-093-11			486	381

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	15	

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ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1					
2					
3					

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	16	

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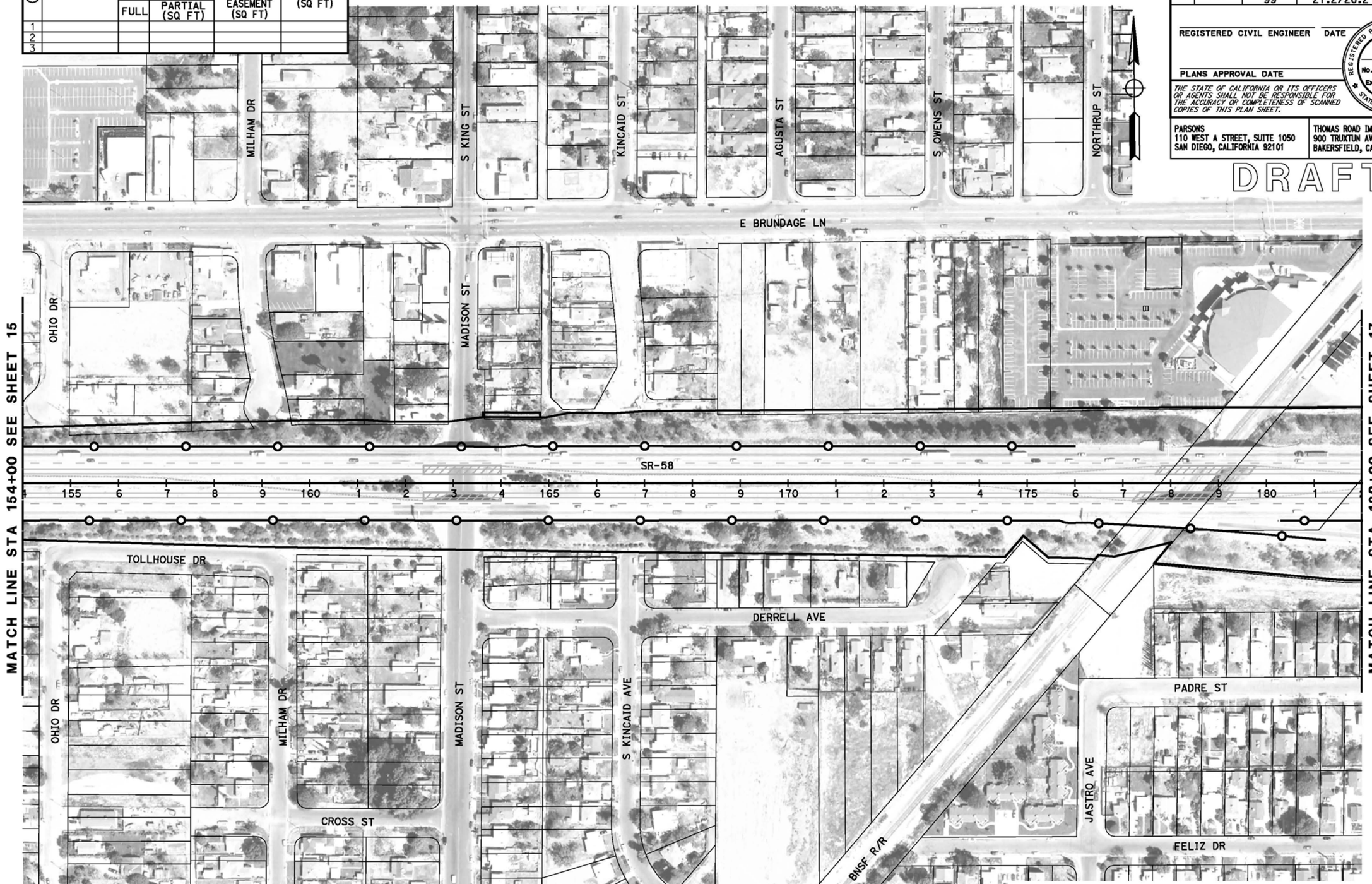

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1					
2					
3					

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	17	

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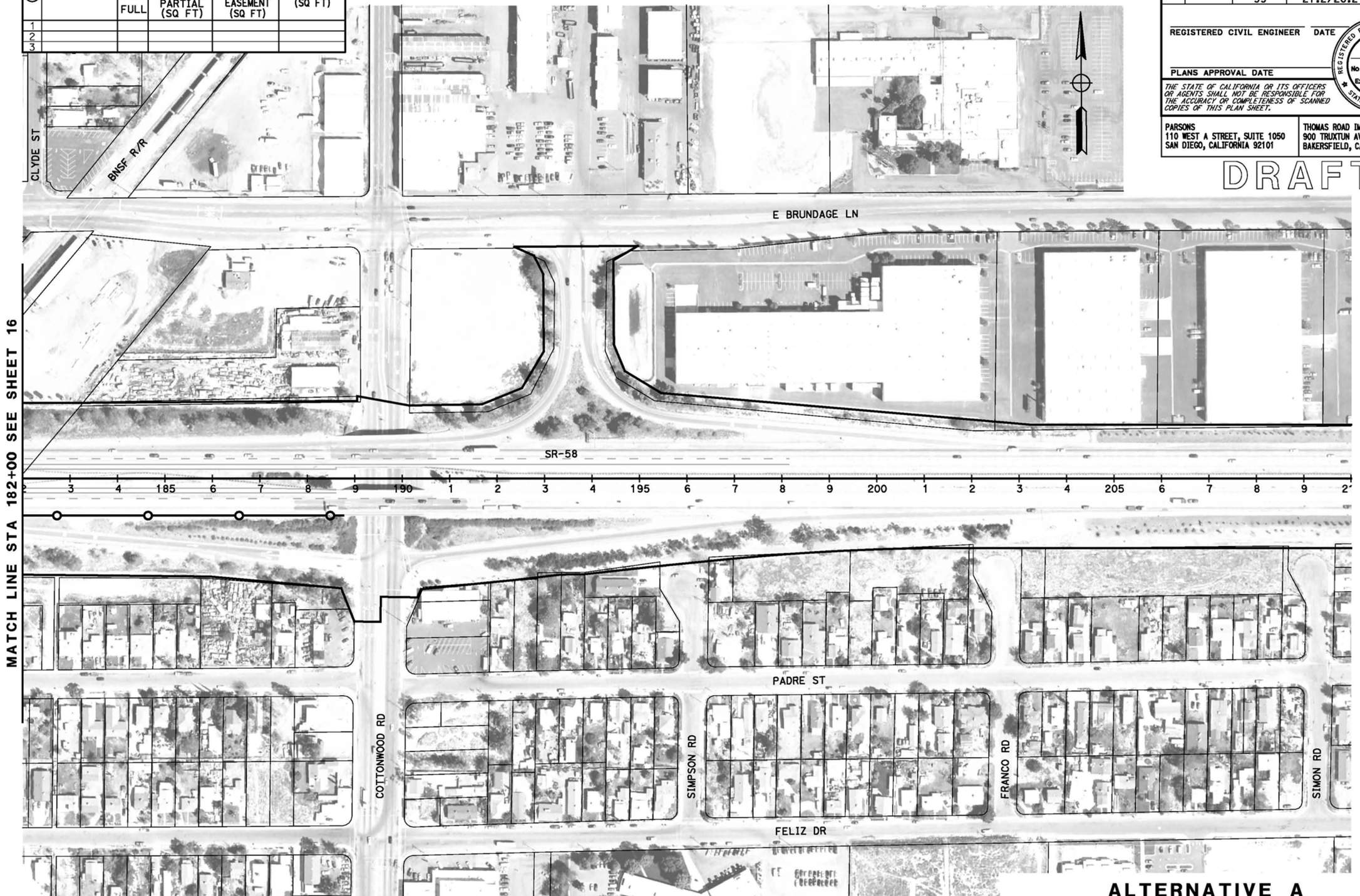

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	C.O.B	X			
2	C.O.B	X			
3	C.O.B	X			
4	C.O.B	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	18	

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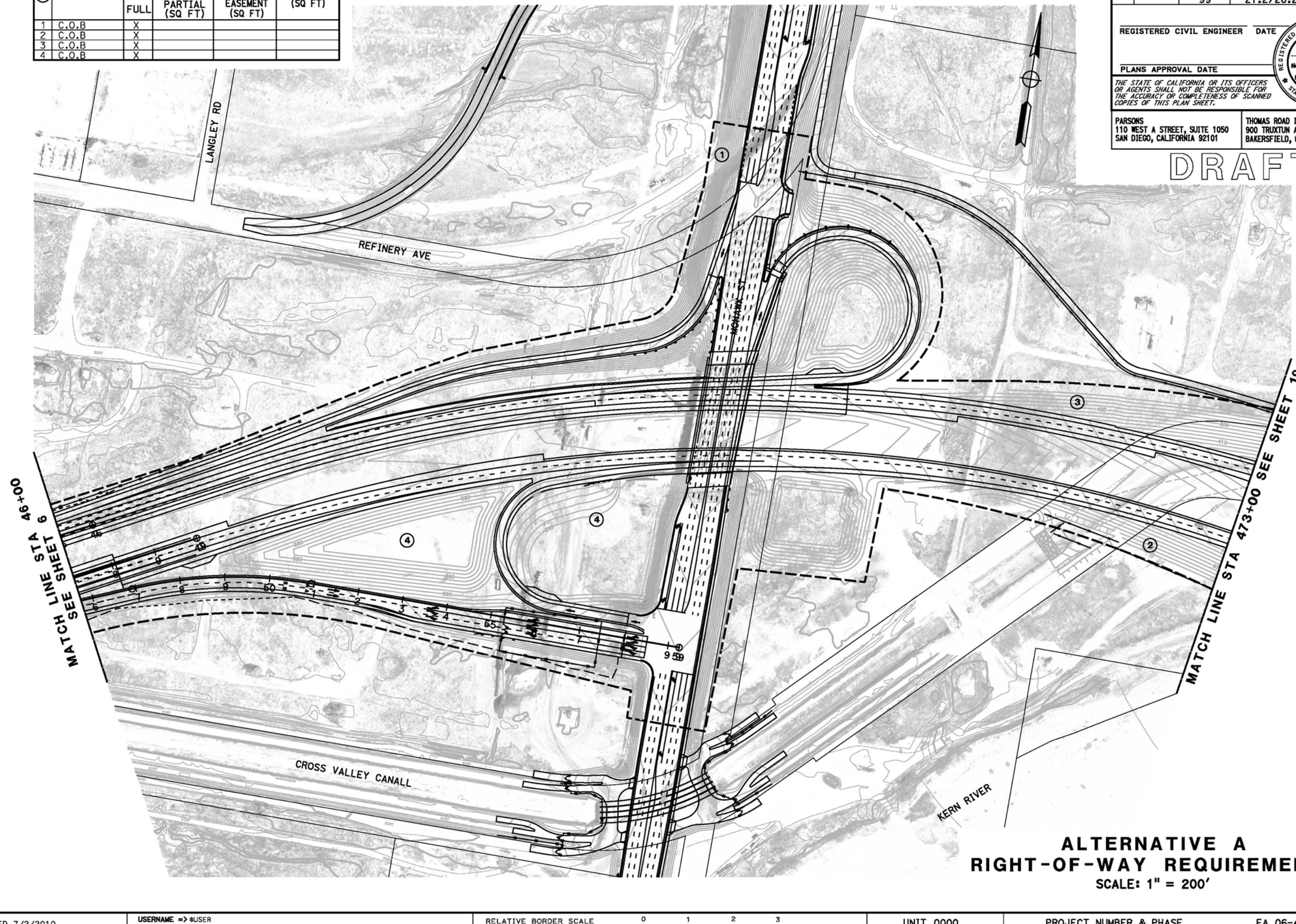

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

18

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	332-280-31		169		
2	C.O.B	X			
3	C.O.B	X			
4	C.O.B	X			
5	C.O.B	X			
6	C.O.B	X			
7	C.O.B	X			
8	C.O.B	X			
9	331-330-41		1,262		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	19	

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

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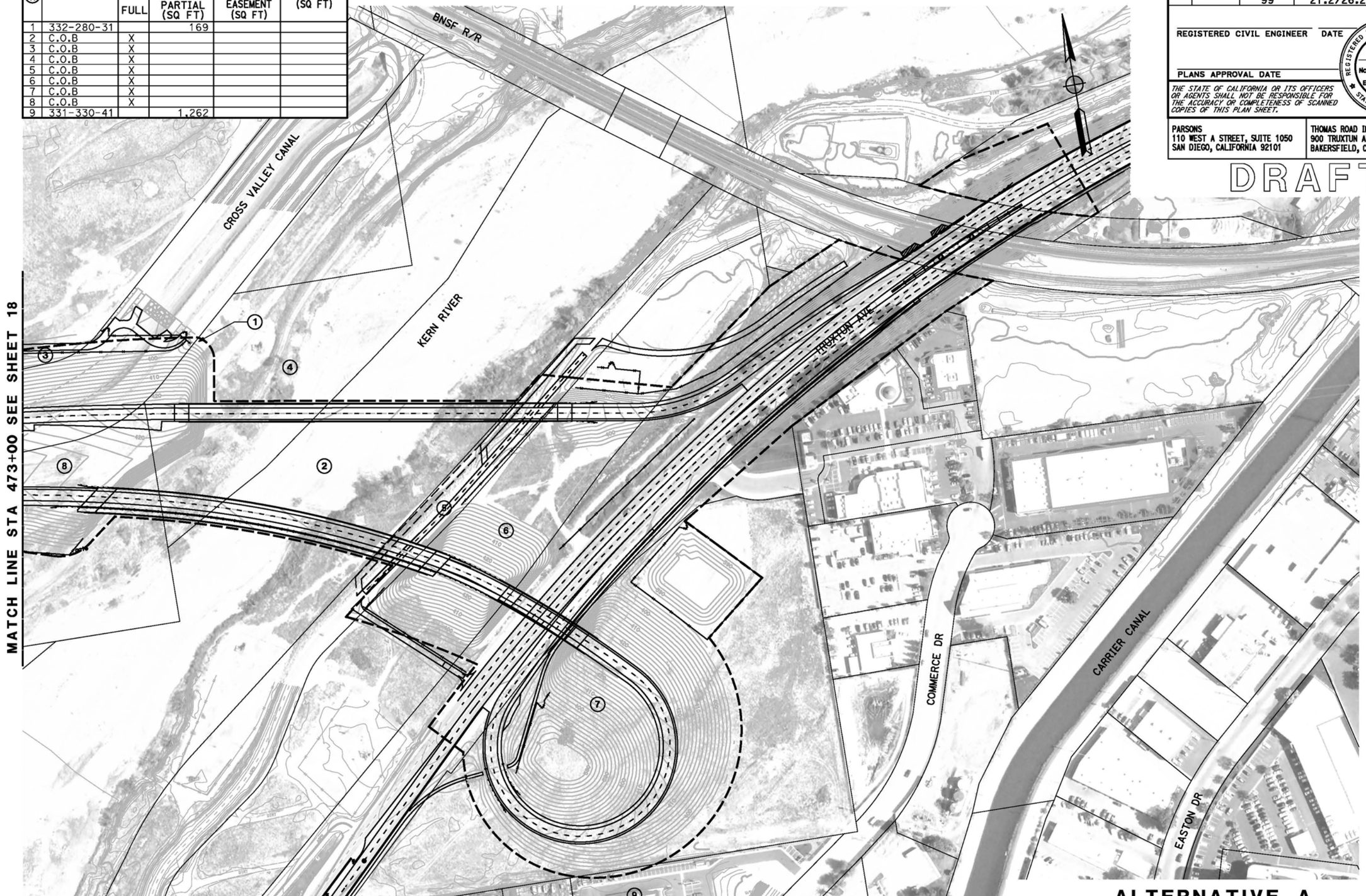

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

19

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	20	

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER
No.
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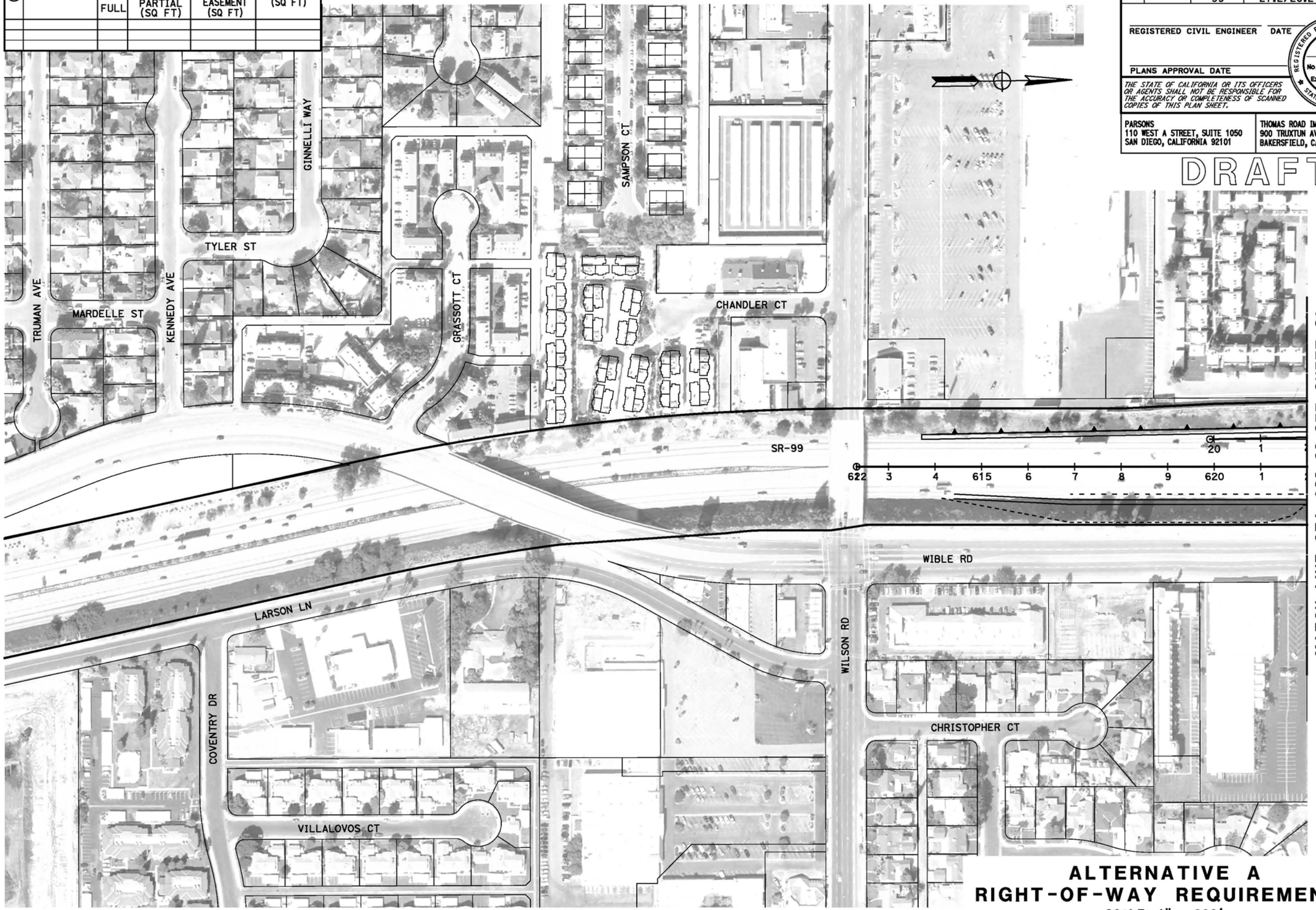

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

20

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1					
2					
3					

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	21	

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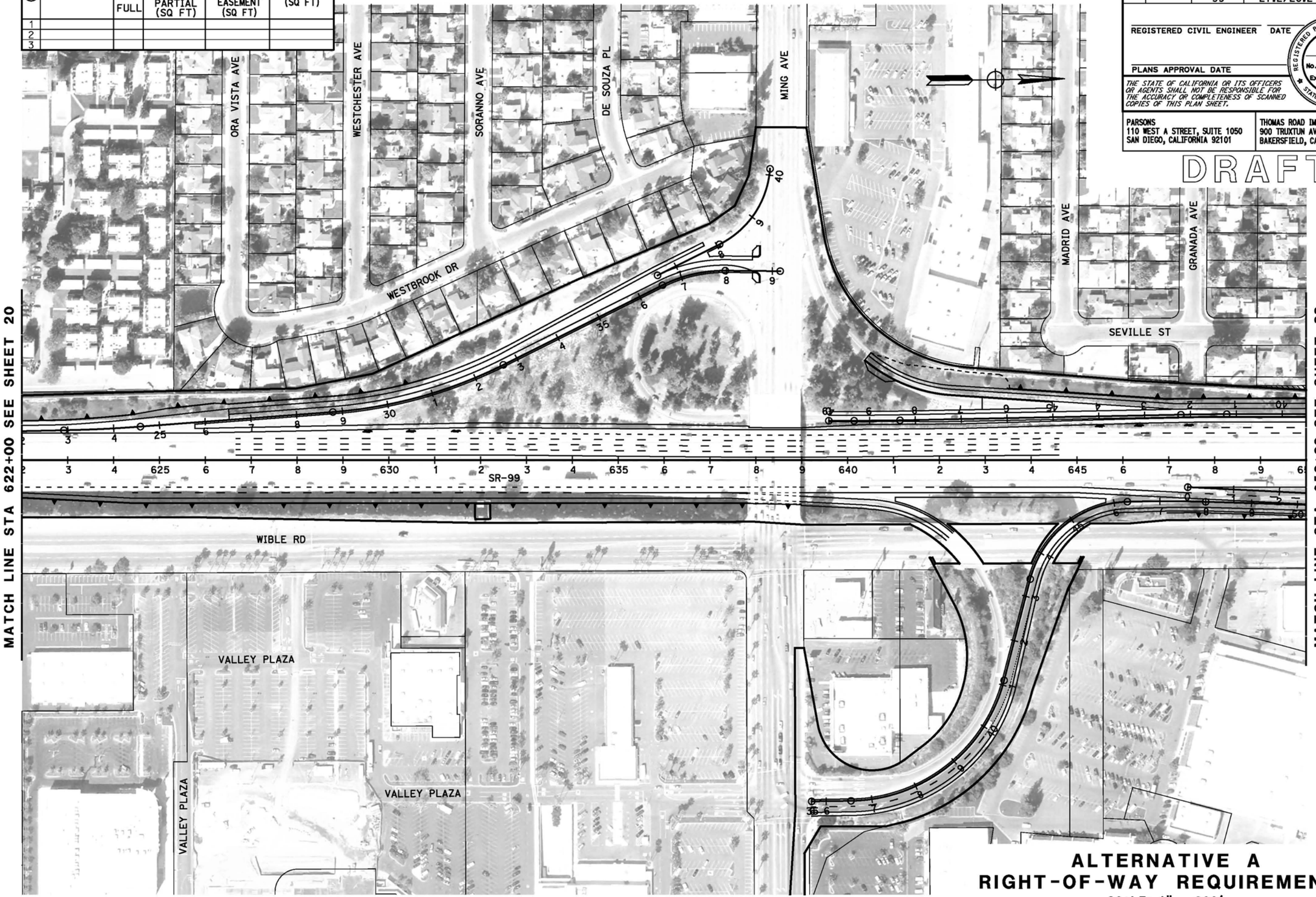

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SCALE: 1" = 200'

21

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	164-010-08				138
2	NOT USED				
3	NOT USED				
4	149-250-50		36		255
5	148-240-37		4,263		
6	148-240-38		1,753		
7	NOT USED				
8	148-240-55		2,767		
9	149-240-07	X			
10	149-240-18	X			
11	149-240-19	X			
12	149-250-09		2,025		331
13	149-250-10	X			
14	149-250-42	X			
15	149-250-43	X			
16	149-250-47	X			
17	149-250-48	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
18	149-250-49	X			
19	164-010-09				98
20	164-010-10	X			
21	164-010-18	X			
22	164-010-19	X			
23	164-010-20	X			
24	164-010-38	X			
25	164-040-30		3,037	5,140	3,605
26	164-390-02		10	230	335
27	NOT USED				
28	164-390-01	X			
29	NOT USED				
30	NOT USED				
31	NOT USED				
32	NOT USED				
33	NOT USED				
34	NOT USED				

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
35	NOT USED				
36	147-111-07				688
37	147-111-09				402
38	147-111-11				432
39	147-111-13				550
40	147-112-01				398
41	148-240-02				250
42	148-240-01	X			
43	147-112-06				10
44	147-112-07	X			
45	148-240-39	X			
46	147-112-08	X			
47	147-112-09	X			
48	147-103-12			552	535
49	147-101-14			55	164
50	147-101-21			472	460
51	147-101-20			374	277

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	22	

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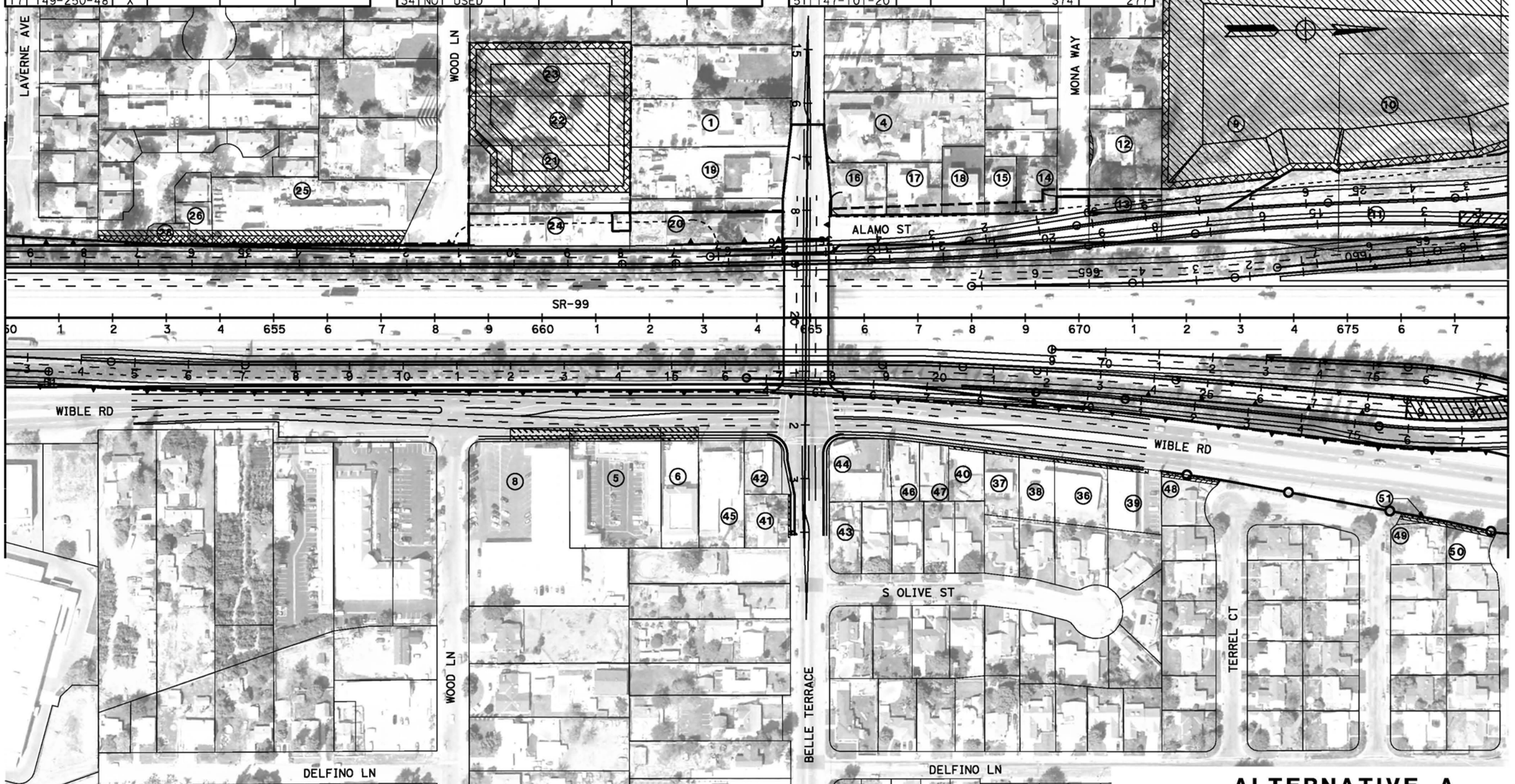

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

22

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	332-152-31			57	
2	332-152-32			3,244	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	23	

REGISTERED CIVIL ENGINEER DATE

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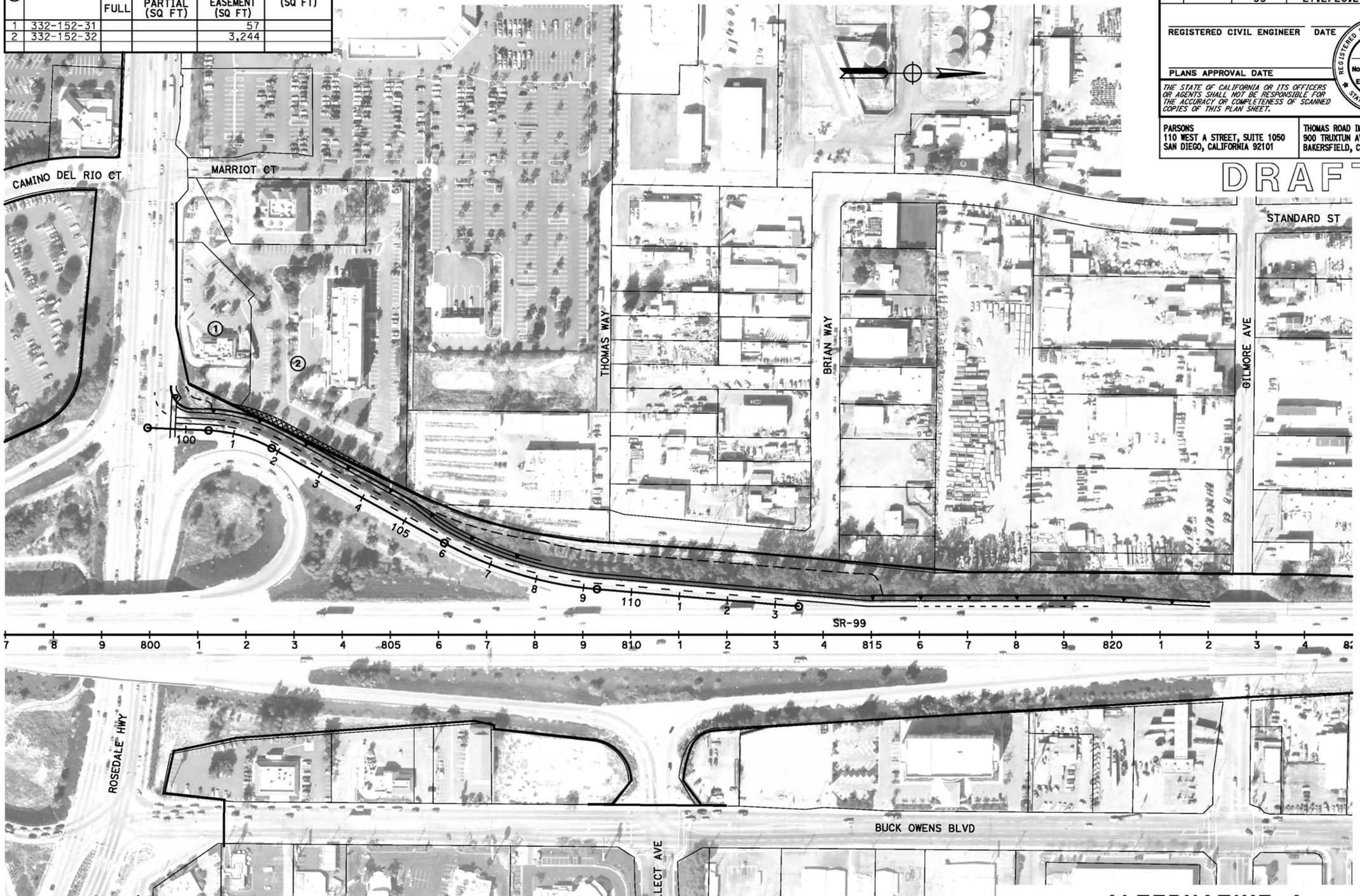

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

23

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	104-291-31		404		
2	104-291-32		10,889		
3	104-291-33		12,582		
4	104-292-04		16,332		
5	160-010-07		49,505		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	24	

REGISTERED CIVIL ENGINEER DATE

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ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

24

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	25	

REGISTERED CIVIL ENGINEER DATE

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	104-292-04		16,332		
2	160-010-07		49,505		
3	160-010-42		86,325		

ALTERNATIVE A
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

25

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2		

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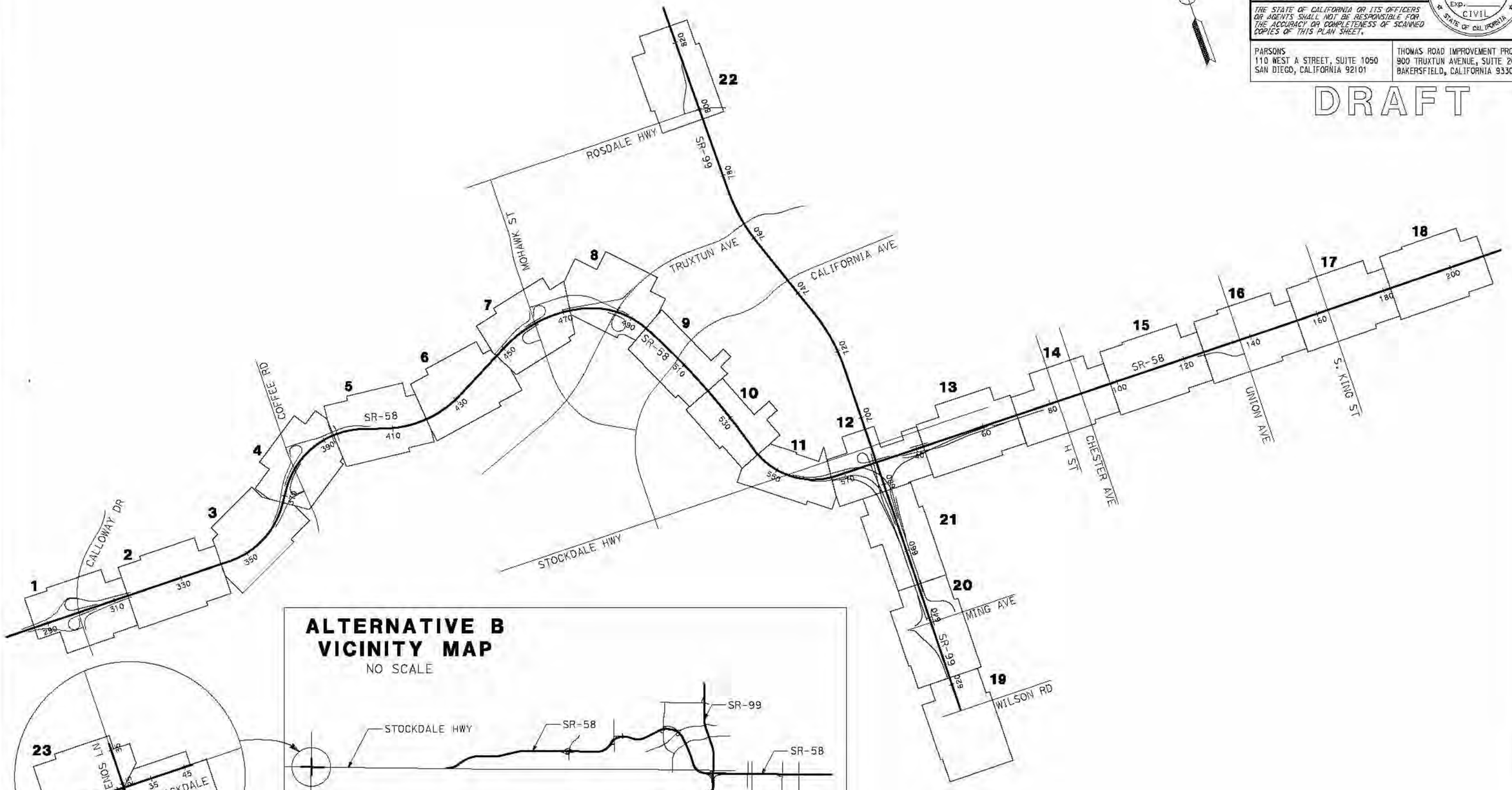
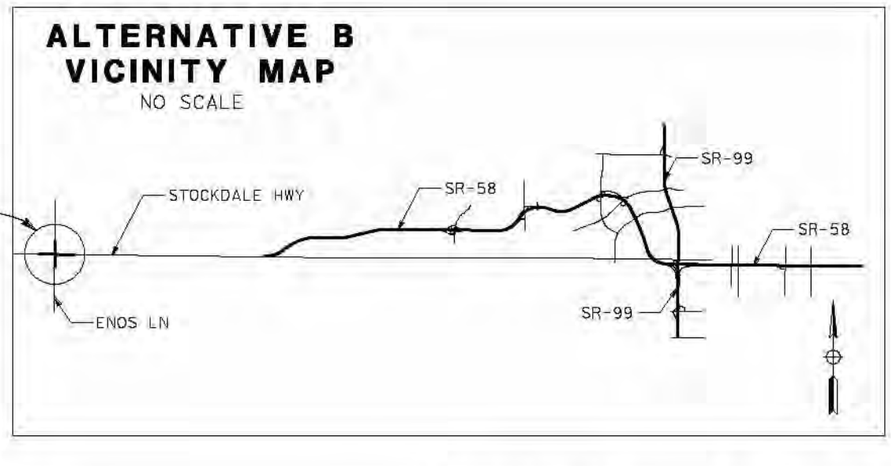


ALTERNATIVE B VICINITY MAP

NO SCALE



ALTERNATIVE B KEY MAP

NO SCALE

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	500-150-01	X			
2	500-560-01	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	1	

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SIOUX CREEK DR
VERDUGO LN
BAY COLONY DR
CALLOWAY DR
METHERLY HILL RD
MAIDENSFORD DR
BATTERSEA PARK DR
ASHBOURN DR
LAKEHILL WAY
GLENEAGLES DR
CROSS VALLEY CANAL

MATCH LINE STA 314+00 SEE SHEET 2

LEGEND

- EXISTING PARCEL BOUNDARY
- EXISTING STATE RIGHT OF WAY
- PROPOSED STATE RIGHT OF WAY
- PROPOSED ROADWAY
- EXISTING ROADWAY
- RETAINING WALL
- SOUNDWALL
- GRADING LIMIT (CUT)
- GRADING LIMIT (FILL)
- DRAINAGE BASIN
- TEMPORARY CONSTRUCTION EASMENT
- WALL EASEMENT
- CLOSED RAMP

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

1

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	500-150-01	X			
2	501-010-24	X			
3	501-010-39	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	2	

REGISTERED CIVIL ENGINEER DATE

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ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

2

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	501-010-24	X			
2	501-010-23	X			
3	501-010-22	X			
4	501-250-16		20		
5	501-010-10		4,034		
6	501-010-14	X			
7	501-010-15	X			
8	501-010-48	X			
9	501-010-58	X			
10	501-010-56	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	3	

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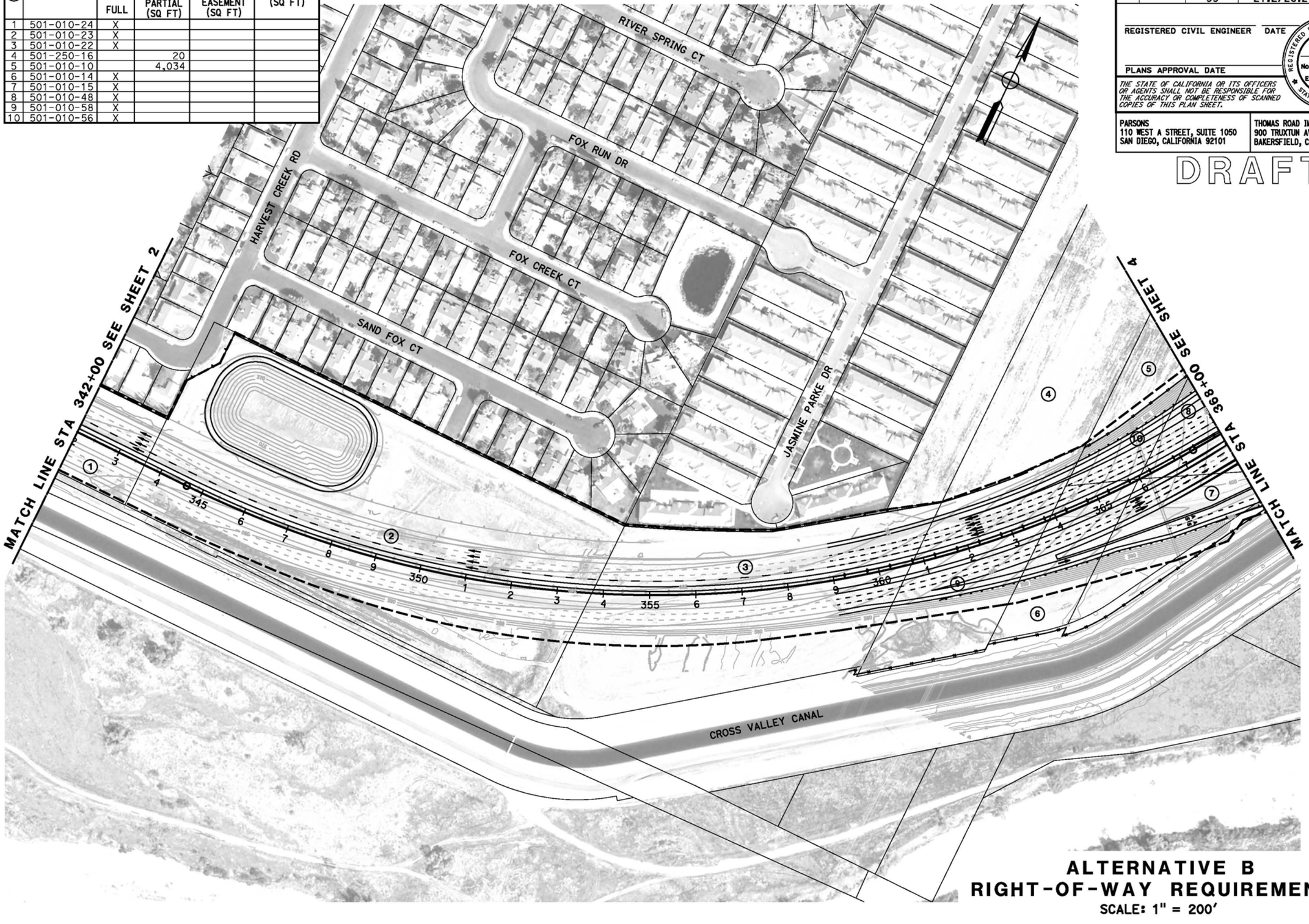

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

3

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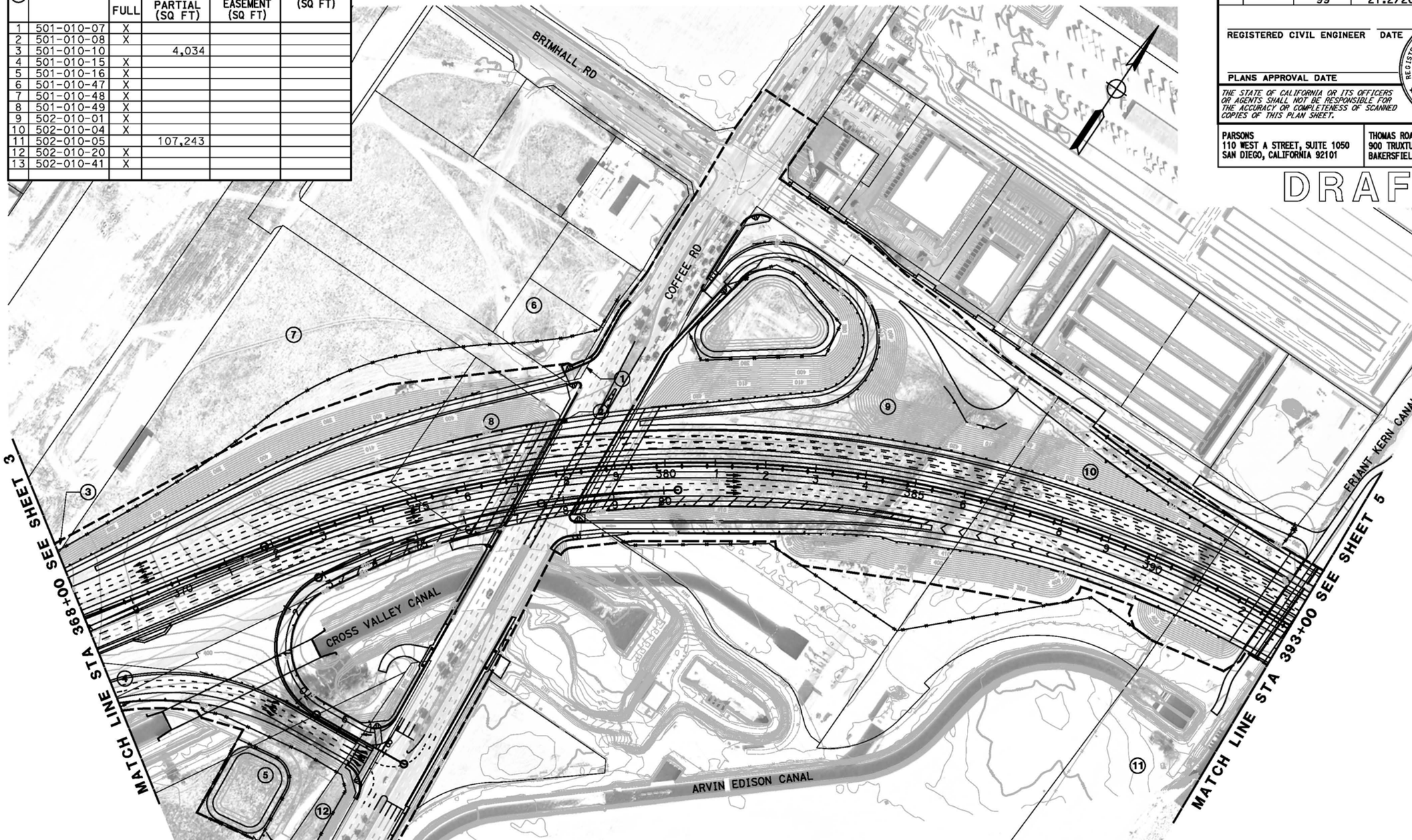
RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	501-010-07	X			
2	501-010-08	X			
3	501-010-10		4,034		
4	501-010-15	X			
5	501-010-16	X			
6	501-010-47	X			
7	501-010-48	X			
8	501-010-49	X			
9	502-010-01	X			
10	502-010-04	X			
11	502-010-05		107,243		
12	502-010-20	X			
13	502-010-41	X			



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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	4	

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

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BAKERSFIELD, CALIFORNIA 93301

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

4

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UNIT 0000

PROJECT NUMBER & PHASE

EA 06-48460

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	C.O.B	X			
2	502-010-05		107,243		
3	502-010-44	X			
4	502-010-45	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	5	

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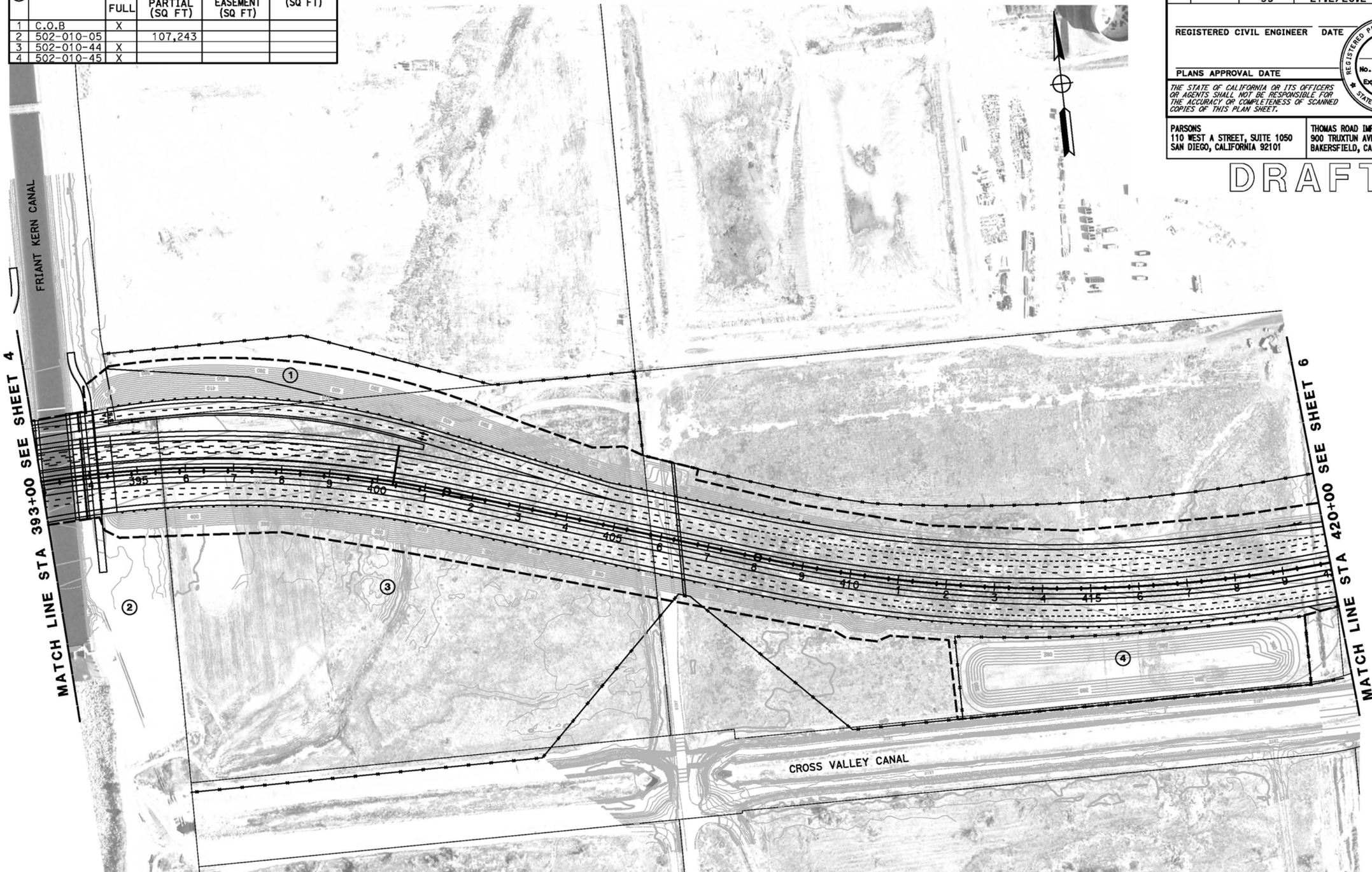

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

5

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	331-021-02	X			
2	C.O.B	X			
3	502-010-47		4		
4	C.O.B	X			
5	502-010-12	X			
6	C.O.B	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	6	

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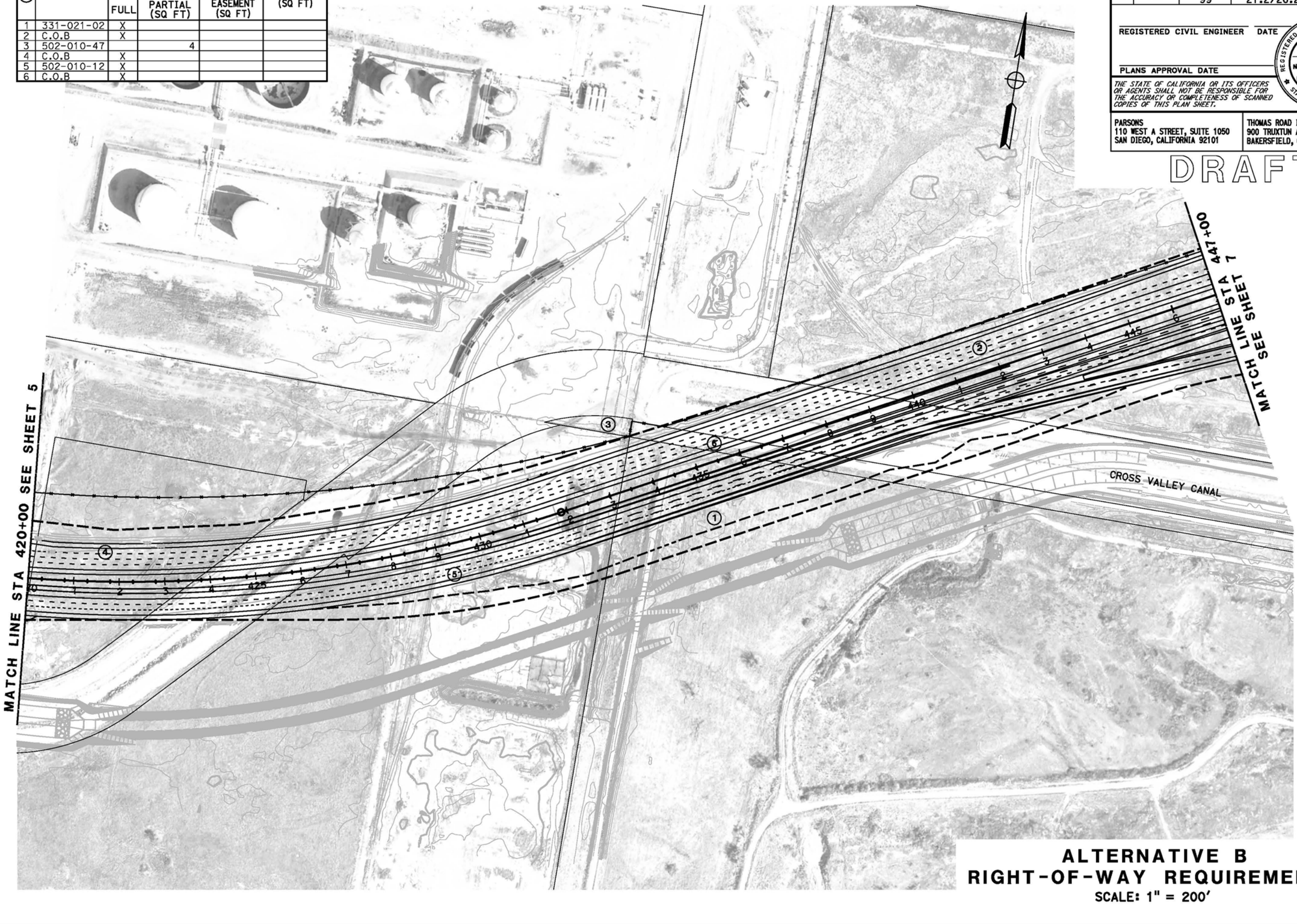

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

6

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	C.O.B	X			
2	332-280-28		22,446		
3	332-280-27		333,803		
4	C.O.B	X			
5	C.O.B	X			
6	C.O.B	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	7	

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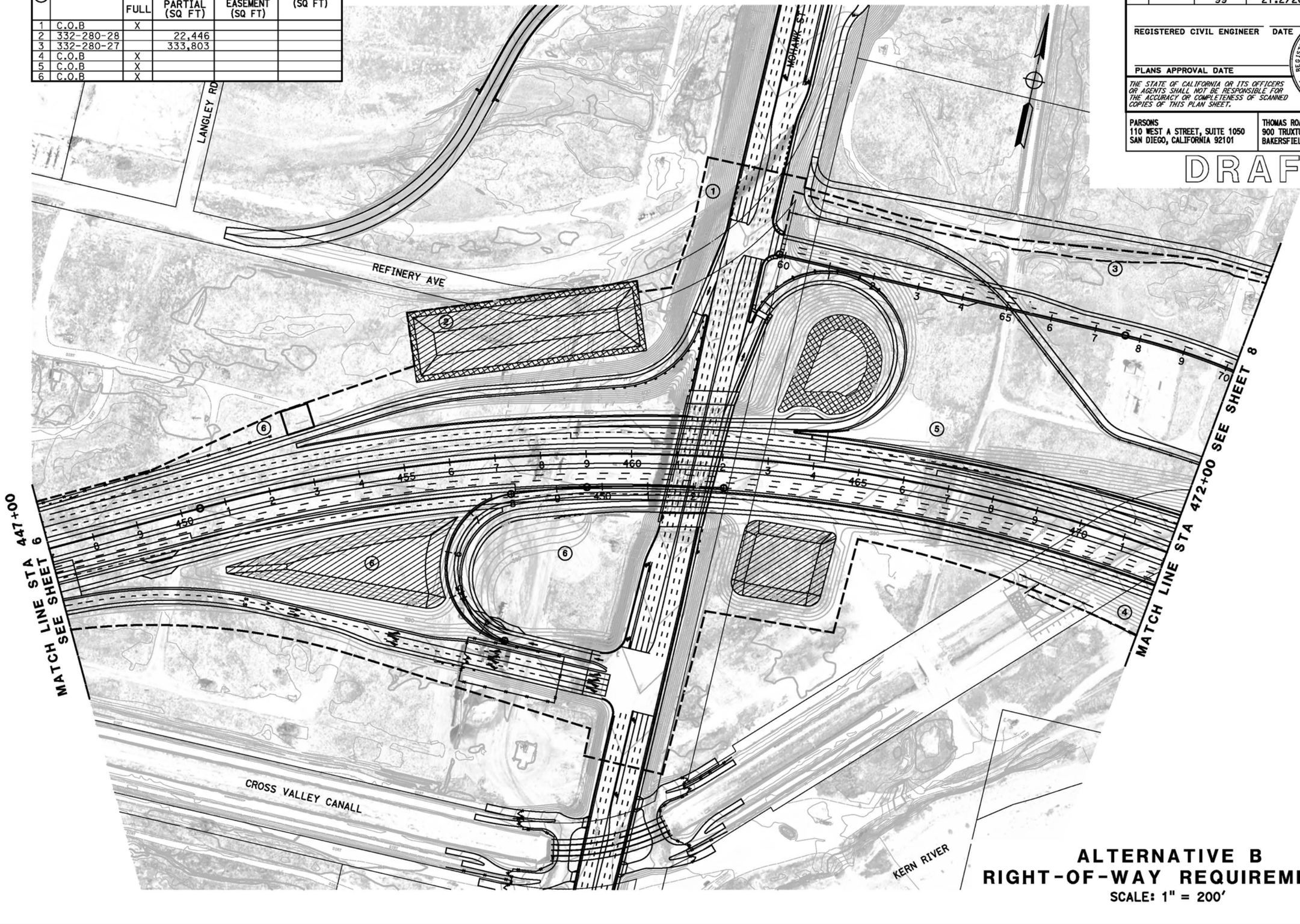

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

7

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	020-600-08		20,378		
2	331-330-28		8		
3	331-330-41		1,262		
4	NOT USED				
5	332-256-05		11,985		
6	NOT USED				
7	332-256-48	X			
8	NOT USED				
9	NOT USED				
10	332-280-27		333,803		
11	332-280-31		16,322		
12	C.O.B	X			
13	NOT USED				
14	NOT USED				
15	C.O.B	X			
16	C.O.B	X			
17	C.O.B	X			
18	C.O.B	X			
19	C.O.B	X			
20	C.O.B	X			
21	C.O.B	X			
22	332-280-32		7,049		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2		

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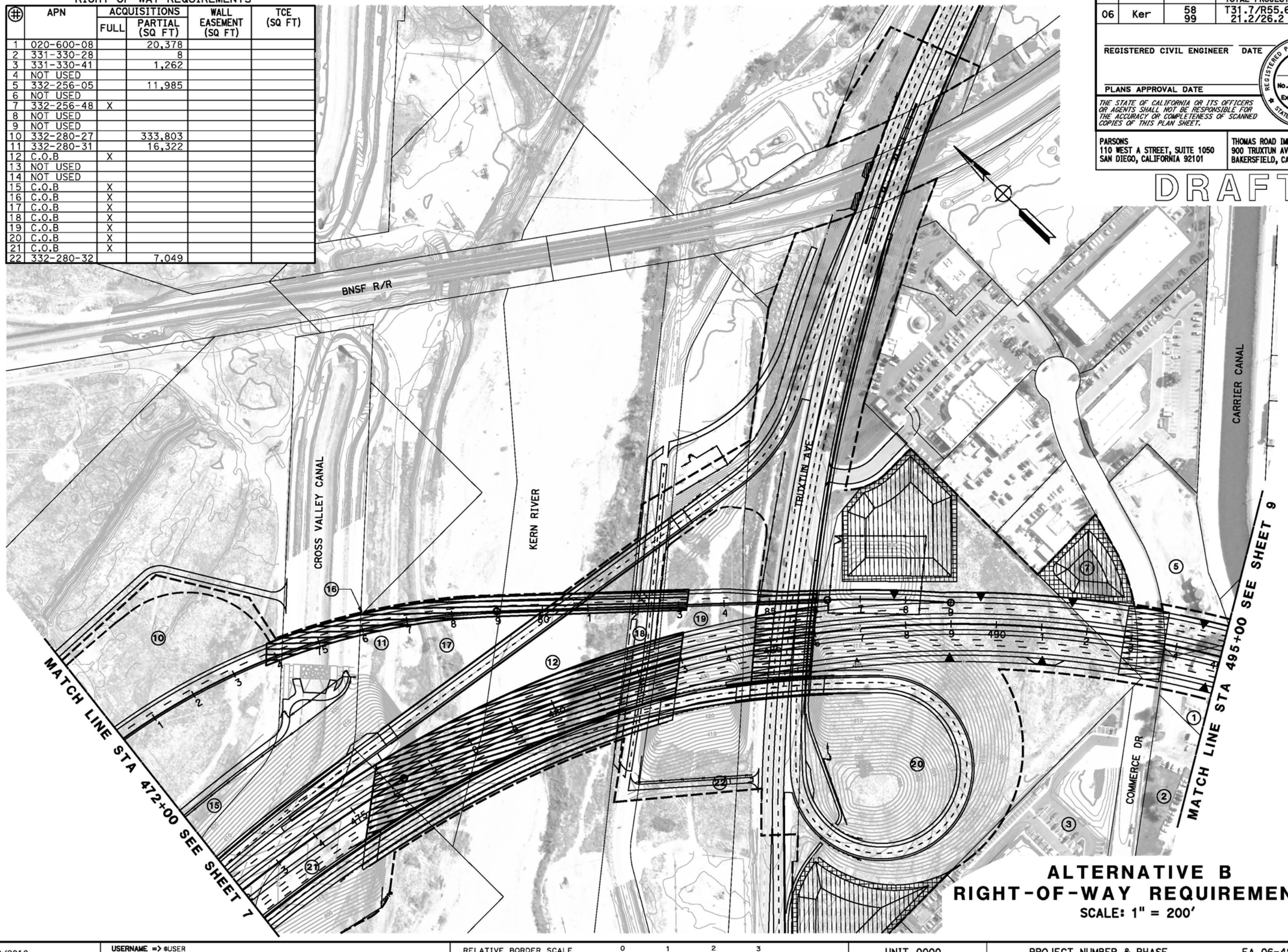

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

8

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RIGHT-OF-WAY REQUIREMENTS

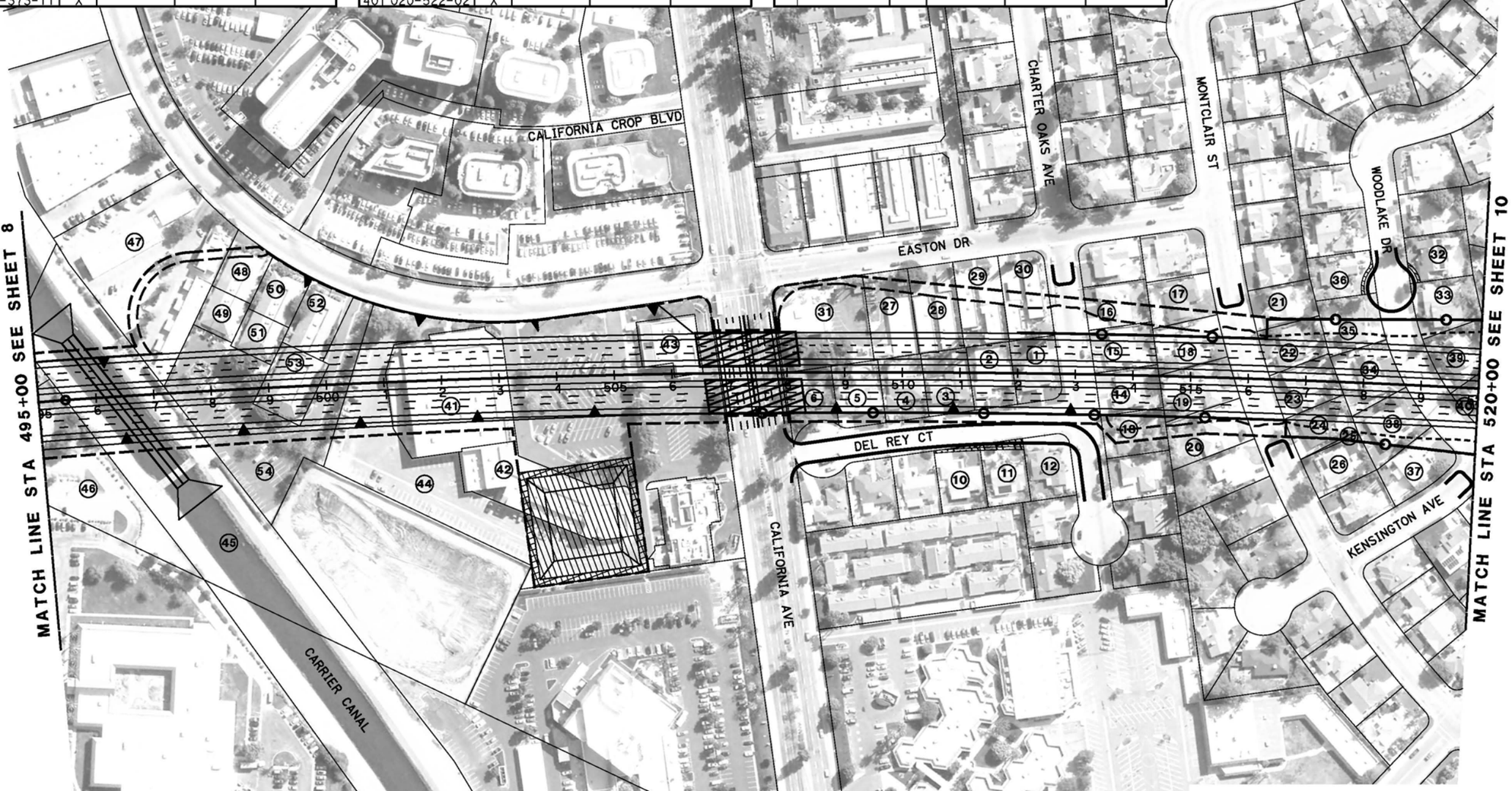
#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	020-371-01	X			
2	020-371-02	X			
3	020-371-03	X			
4	020-371-04	X			
5	020-371-05	X			
6	020-371-06	X			
7	NOT USED				
8	NOT USED				
9	NOT USED				
10	020-372-04			165	396
11	020-372-05		334	377	377
12	020-372-06	X			
13	020-373-02	X			
14	020-373-03	X			
15	020-373-04	X			
16	020-373-05	X			
17	020-373-08	X			
18	020-373-09	X			
19	020-373-10	X			
20	020-373-11	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
21	020-374-04	X			
22	020-374-10	X			
23	020-374-11	X			
24	020-374-12	X			
25	020-374-13	X			
26	020-383-02	X			
27	020-401-03	X			
28	020-401-04	X			
29	020-401-05	X			
30	020-401-06	X			
31	020-401-07	X			
32	020-512-09		270		192
33	020-512-10	X			
34	020-513-01	X			
35	020-513-02	X			
36	020-513-03		673		332
37	020-521-01	X			
38	020-521-02	X			
39	020-522-01	X			
40	020-522-02	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
41	020-600-01	X			
42	020-600-02	X			
43	020-600-04	X			
44	020-600-05	X			
45	020-600-07		32,692		
46	020-600-08		20,378		
47	332-332-13		22,012		
48	332-332-14	X			
49	332-332-15	X			
50	332-332-16	X			
51	332-332-17	X			
52	332-332-18	X			
53	332-332-19	X			
54	332-332-20	X			



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	9	

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

9

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	NOT USED				
2	020-261-02		35	101	162
3	020-261-03	X			
4	020-261-04	X			
5	020-261-05	X			
6	020-261-06	X			
7	020-261-07	X			
8	020-262-01		78		
9	020-262-02	X			
10	020-262-03	X			
11	020-262-04	X			
12	020-262-05	X			
13	020-262-06	X			
14	020-262-07	X			
15	020-262-08	X			
16	020-265-01	X			
17	020-265-02	X			
18	020-265-03	X			
19	020-265-04	X			
20	020-265-05	X			
21	020-265-06	X			
22	020-265-07	X			
23	020-265-08	X			
24	020-265-21	X			
25	020-295-01		322		
26	NOT USED				
27	NOT USED				
28	NOT USED				
29	NOT USED				
30	NOT USED				
31	020-265-22	X			
32	020-295-02	X			
33	020-351-52		551		354
34	020-351-53		347		314
35	NOT USED				
36	020-351-55	X			
37	020-352-01	X			
38	020-352-02		590		354
39	020-352-03		198		356
40	NOT USED				
41	020-471-01	X			
42	020-471-02	X			
43	020-471-03	X			
44	020-471-04	X			
45	020-741-05	X			
46	020-471-06	X			
47	020-471-07	X			
48	020-471-08	X			
49	020-471-09	X			
50	020-471-10	X			
51	020-471-11	X			
52	020-471-12		919	694	1136
53	020-471-13		167	400	477
54	NOT USED				
55	NOT USED				
56	NOT USED				
57	NOT USED				
58	020-474-04		74		171
59	020-474-05		325		283
60	020-474-06		785		366
61	020-474-07		1109		327
62	020-474-08	X			
63	020-474-09	X			
64	020-474-10	X			
65	020-474-11	X			
66	020-474-12	X			
67	020-474-13	X			
68	020-474-14	X			
69	020-474-15	X			
70	020-474-16	X			
71	020-474-17	X			
72	020-474-18	X			
73	020-474-19	X			
74	020-474-23	X			
75	020-474-24	X			
76	NOT USED	X			
77	020-481-05	X			
78	020-481-06	X			
79	020-481-07	X			
80	020-481-08	X			
81	020-481-09	X			
82	020-481-10	X			
83	020-481-11	X			
84	NOT USED				
85	020-481-15	X			
86	020-481-16	X			
87	NOT USED				
88	020-482-06	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
89	020-482-07	X			
90	020-482-08	X			
91	020-482-09	X			
92	020-482-10	X			
93	020-482-11	X			
94	020-482-12	X			
95	020-482-13	X			
96	020-482-14	X			
97	020-482-15	X			
98	020-482-16	X			
99	020-482-17	X			
100	020-482-18	X			
101	020-482-19	X			
102	020-482-20	X			
103	020-482-21	X			
104	020-482-22	X			
105	020-482-23	X			
106	020-482-24	X			
107	020-482-25	X			
108	020-482-26	X			
109	020-482-27	X			
110	020-482-28	X			
111	020-482-29			393	366
112	020-482-30			333	370

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
113	020-522-02	X			
114	020-522-03	X			
115	020-522-04	X			
116	020-522-05		747		
117	020-522-09	X			
118	020-524-06		32	87	69
119	020-524-07	X			
120	020-524-08	X			
121	020-524-09	X			
122	020-524-10	X			
123	020-524-11	X			
124	020-524-12	X			
125	020-524-16		57		488
126	020-524-17	X			
127	020-524-18	X			
128	020-524-19	X			
129	020-524-20	X			
130	020-524-21	X			
131	020-524-24	X			
132	020-524-25	X			
133	020-524-26	X			
134	020-524-28	X			
135	020-524-29	X			
136	020-295-03	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	10	

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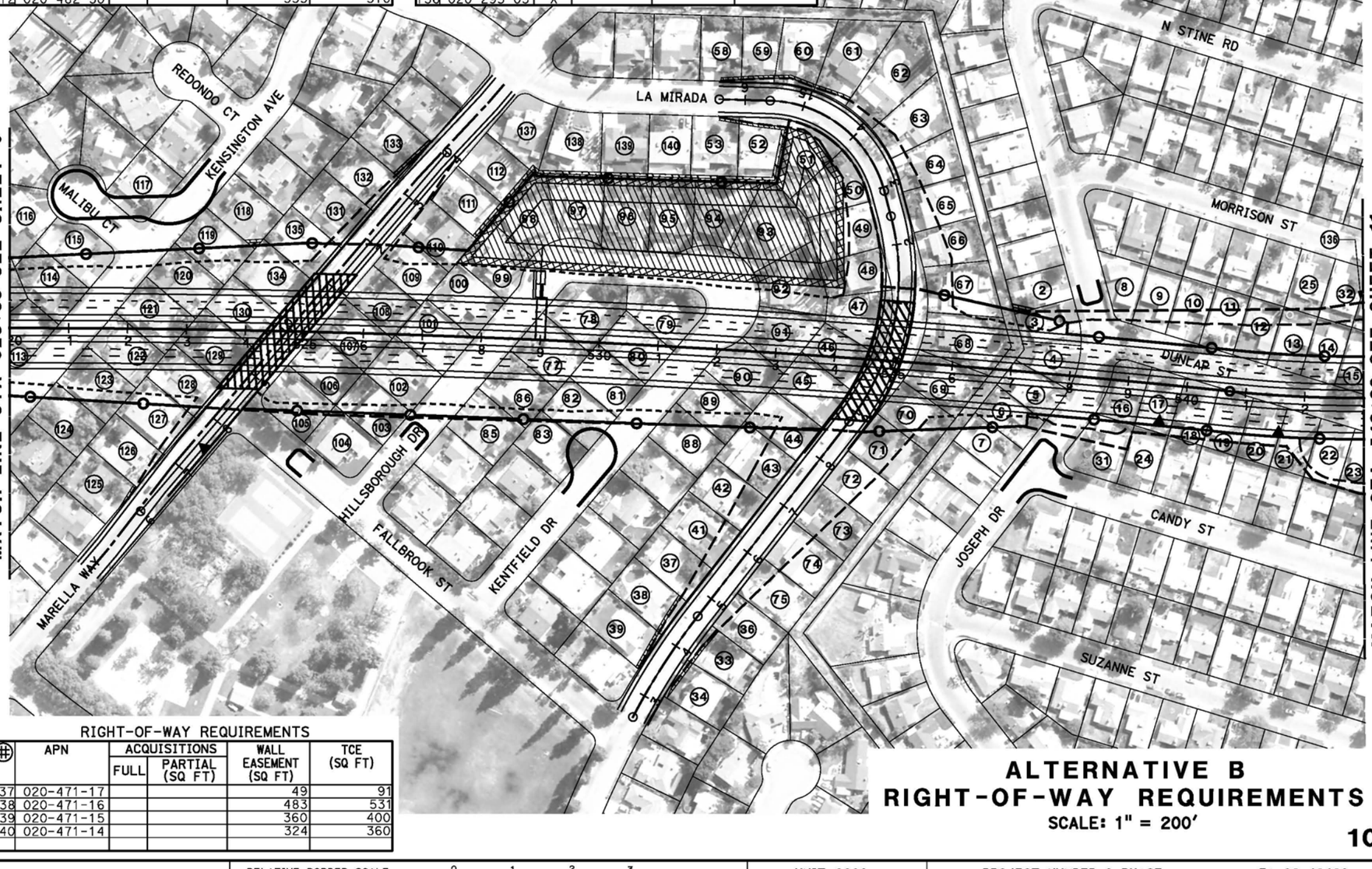

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
137	020-471-17			49	91
138	020-471-16			483	531
139	020-471-15			360	400
140	020-471-14			324	360

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

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UNIT 0000

PROJECT NUMBER & PHASE

EA 06-48460

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	020-262-08	X			
2	020-262-09	X			
3	020-262-10	X			
4	020-262-11	X			
5	020-262-12	X			
6	020-263-01	X			
7	020-263-02	X			
8	020-263-03	X			
9	020-263-04				53
10	020-265-08	X			
11	020-265-09	X			
12	020-265-10	X			
13	020-265-11	X			
14	020-293-02	X			
15	020-293-03	X			
16	020-293-04	X			
17	020-293-05	X			
18	020-293-06	X			
19	020-293-07	X			
20	020-293-08	X			
21	020-293-09	X			
22	020-293-10	X			
23	020-293-11	X			
24	020-293-12	X			
25	020-293-13	X			
26	020-293-14	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
27	020-294-01	X			
28	020-294-02	X			
29	020-294-03	X			
30	020-294-04	X			
31	020-294-05	X			
32	020-294-06	X			
33	020-295-03	X			
34	020-295-04	X			
35	020-295-05	X			
36	020-295-06	X			
37	020-295-07	X			
38	149-101-01	X			
39	149-221-03	X			
40	149-221-04	X			
41	020-293-01		130		
42	NOT USED				
43	149-221-16	X			
44	149-221-15	X			
45	149-221-17	X			
46	NOT USED				
47	149-221-21	X			
48	149-221-26	X			
49	149-221-27	X			
50	149-222-01	X			
51	149-222-12	X			
52	149-222-14	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
53	149-222-15	X			
54	149-222-16	X			
55	149-222-17	X			
56	149-222-18	X			
57	NOT USED				
58	149-222-26	X			
59	149-222-31	X			
60	149-222-33	X			
61	149-222-34	X			
62	149-222-35	X			
63	149-232-01		628		234
64	149-232-02	X			
65	149-233-01	X			
66	149-233-04	X			
67	149-233-05	X			
68	149-233-08	X			
69	149-320-01	X			
70	149-320-02	X			
71	149-320-03	X			
72	149-320-04	X			
73	149-320-05	X			
74	149-320-06	X			
75	149-320-07	X			
76	149-320-08		564		232
77	149-320-09		369		214
78	149-221-20		942		
79	149-221-05		589		
80	149-221-08		592		

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

11

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	11	

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

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THOMAS ROAD IMPROVEMENT PROGRAM
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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	147-032-13		1,001	497	498
2	149-190-17	X			
3	147-026-14		1,001	497	498
4	147-026-16		1,399	458	439
5	147-031-08			498	
6	147-031-27	X			
7	147-032-06			477	538
8	147-032-25			746	831
9	147-032-27	X			
10	149-180-02	X			
11	149-180-03	X			
12	149-180-21	X			
13	149-180-24	X			
14	149-180-25	X			
15	149-190-18	X			
16	149-190-06	X			
17	149-190-08	X			
18	149-190-09	X			
19	149-190-10	X			
20	149-190-11	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
21	149-190-16	X			
22	149-190-05		2,845		1,102
23	149-200-20	X			
24	149-200-21		11,008	2,033	7,561
25	149-211-01		863		419
26	149-211-02		603		258
27	149-211-08	X			
28	149-211-09	X			
29	149-211-10	X			
30	149-222-04	X			
31	149-222-05	X			
32	149-222-06	X			
33	149-222-07	X			
34	149-222-08	X			
35	149-222-09	X			
36	149-222-29				434
37	149-222-38	X			
38	149-222-39	X			
39	149-233-02	X			
40	149-233-03	X			
41	149-233-04	X			
42	147-031-28			448	498
43	149-212-09			300	300
44	149-212-10			750	800
45	149-213-09			234	
46	149-213-07			410	
47	149-211-07		151	146	198

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	12	

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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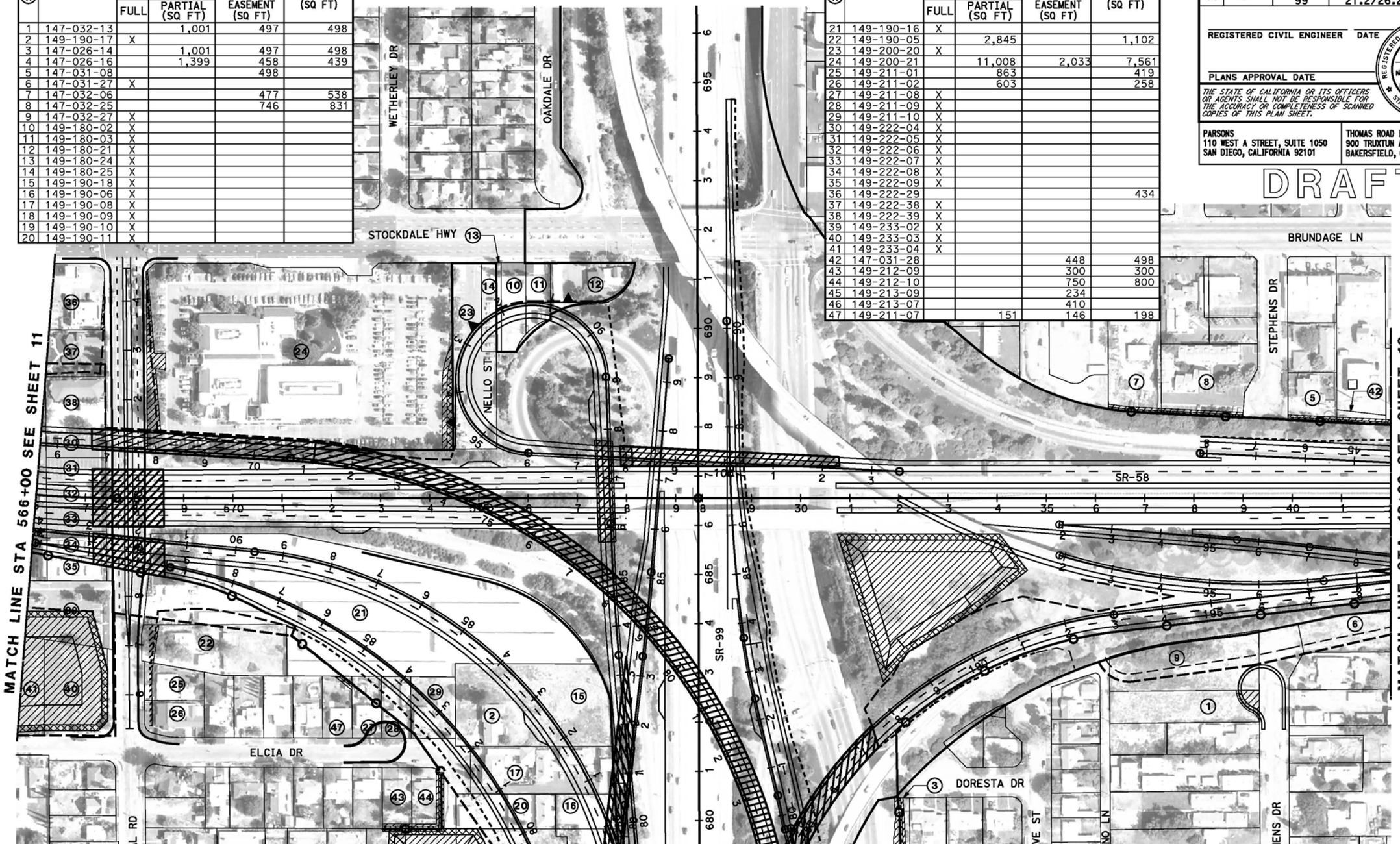

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

12

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	13	

REGISTERED CIVIL ENGINEER DATE

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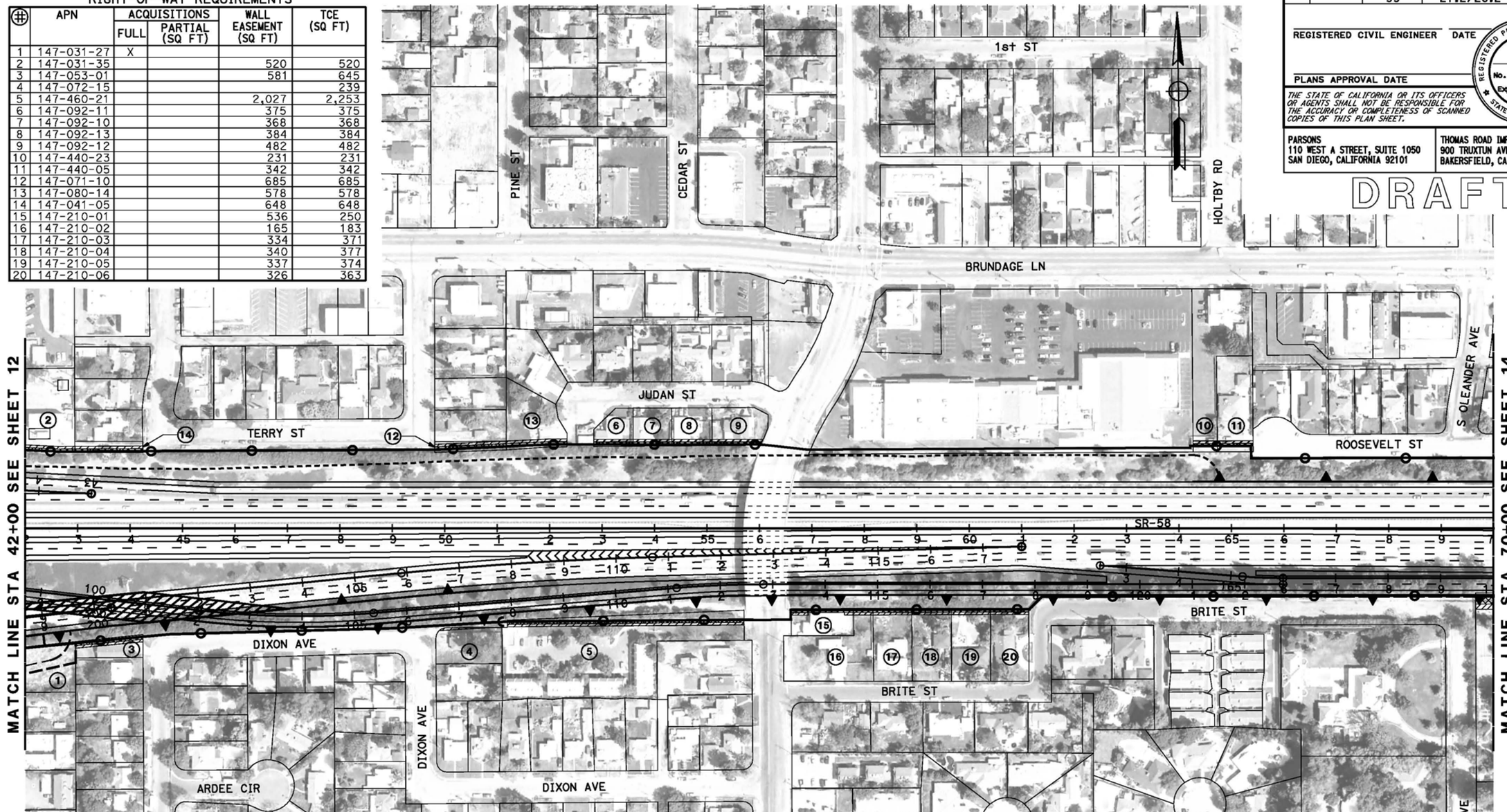
RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	147-031-27	X			
2	147-031-35			520	520
3	147-053-01			581	645
4	147-072-15				239
5	147-460-21			2,027	2,253
6	147-092-11			375	375
7	147-092-10			368	368
8	147-092-13			384	384
9	147-092-12			482	482
10	147-440-23			231	231
11	147-440-05			342	342
12	147-071-10			685	685
13	147-080-14			578	578
14	147-041-05			648	648
15	147-210-01			536	250
16	147-210-02			165	183
17	147-210-03			334	371
18	147-210-04			340	377
19	147-210-05			337	374
20	147-210-06			326	363



ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

13

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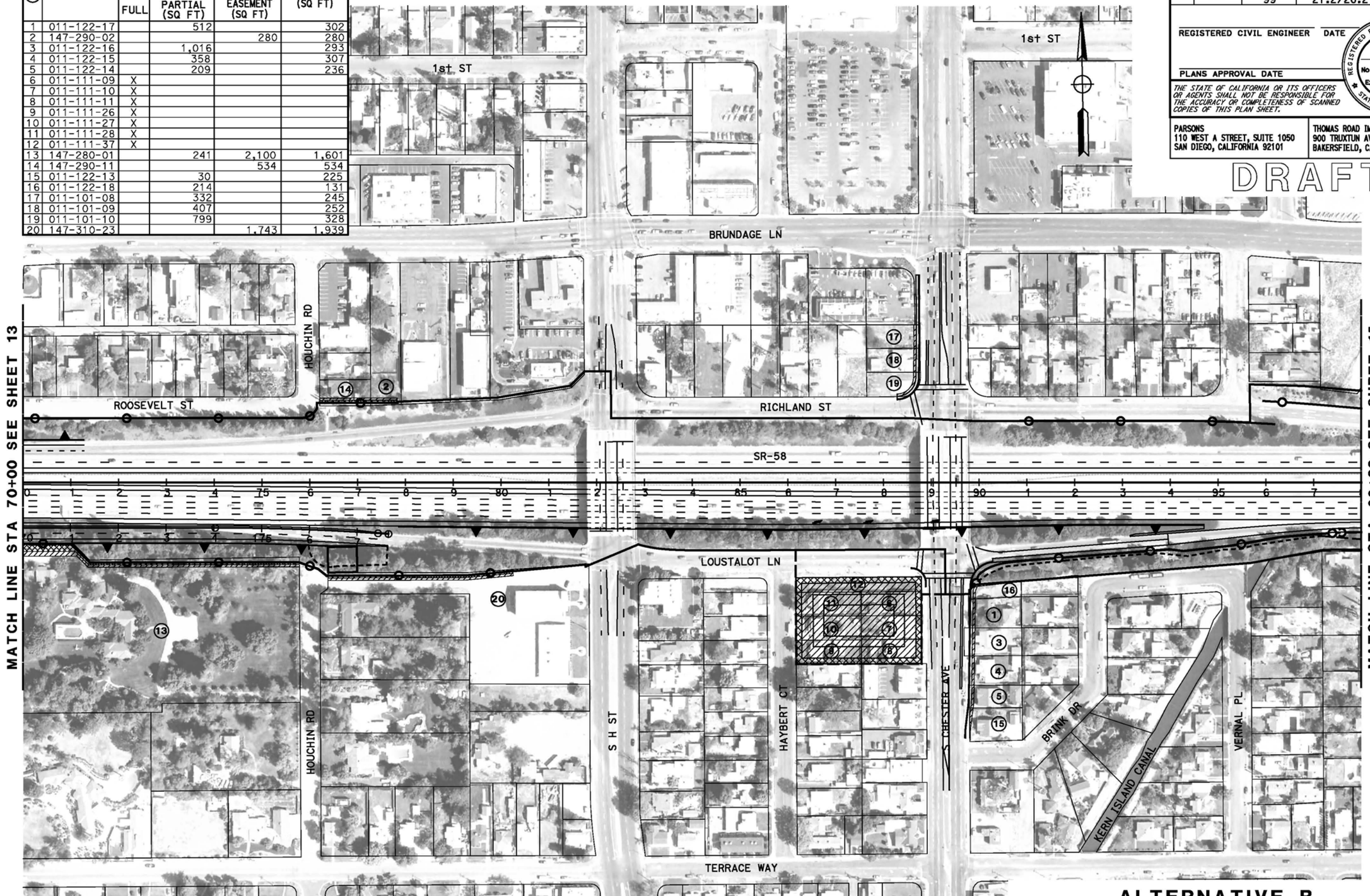
RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	011-122-17		512		302
2	147-290-02			280	280
3	011-122-16		1,016		293
4	011-122-15		358		307
5	011-122-14		209		236
6	011-111-09	X			
7	011-111-10	X			
8	011-111-11	X			
9	011-111-26	X			
10	011-111-27	X			
11	011-111-28	X			
12	011-111-37	X			
13	147-280-01		241	2,100	1,601
14	147-290-11			534	534
15	011-122-13		30		225
16	011-122-18		214		131
17	011-101-08		332		245
18	011-101-09		407		252
19	011-101-10		799		328
20	147-310-23			1,743	1,939



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	14	

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ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

14

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RIGHT-OF-WAY REQUIREMENTS

APN	ACQUISITIONS		WALL EASEMENT (SQ FT)	TCE (SQ FT)
	FULL	PARTIAL (SQ FT)		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	15	

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DRAFT

KERN ISLAND CANAL

BRUNDAGE LN

DOBRUSKY DR

SR-58

MATCH LINE STA 98+00 SEE SHEET 14

MATCH LINE STA 126+00 SEE SHEET 16

SNYDER LN

DOBRUSKY DR

PRISCILLA WAY

PRISCILLA LN

S N ST

CENTRAL BRANCH KERN ISLAND CANAL

S P ST

ORCHARD ST

BERNETA AVE

FERRY ST

TERRACE WAY

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

15

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PROJECT NUMBER & PHASE EA 06-48460

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	16	

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	169-101-07			503	580
2	169-110-14			550	610
3	169-092-01			100	111
4	169-092-30			959	1025
5	169-093-11			486	381

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

16

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BORDER LAST REVISED 7/2/2010

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DGN FILE => #REQUEST

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE

EA 06-48460

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	17	

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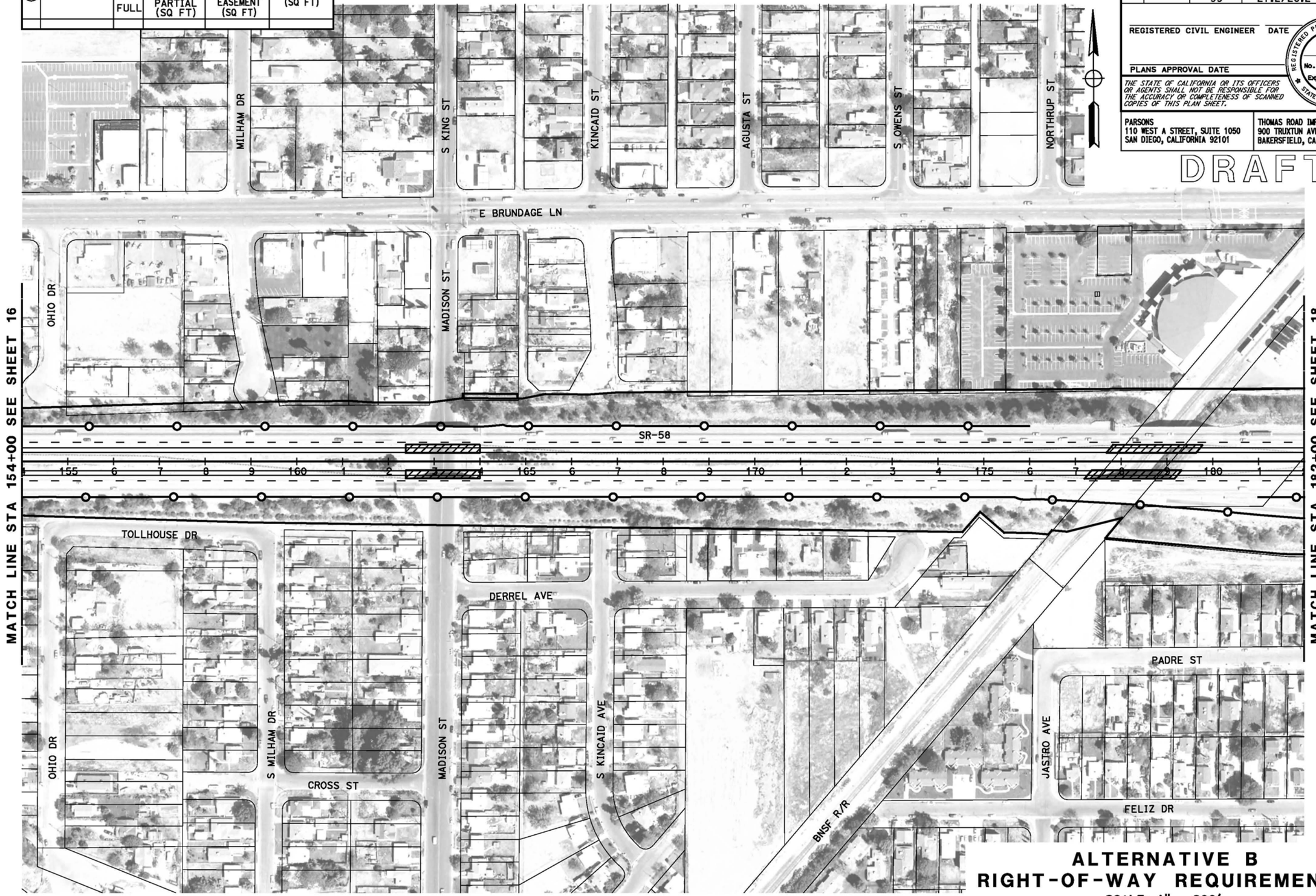

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

17

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RIGHT-OF-WAY REQUIREMENTS

APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	18	

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DRAFT

CLYDE ST

BNSF R/R

E BRUNDAGE LN

SR-58

182+00 SEE SHEET 17

2 3 4 185 6 7 8 9 190 1 2 3 4 195 6 7 8 9 200 1 2 3 4 205 6 7 8 9 2

MATCH LINE STA 182+00 SEE SHEET 17

PADRE ST

COTTONWOOD RD

SIMPSON RD

FELIZ DR

FRANCO RD

SIMON RD

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

18

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UNIT 0000

PROJECT NUMBER & PHASE

EA 06-48460

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	19	

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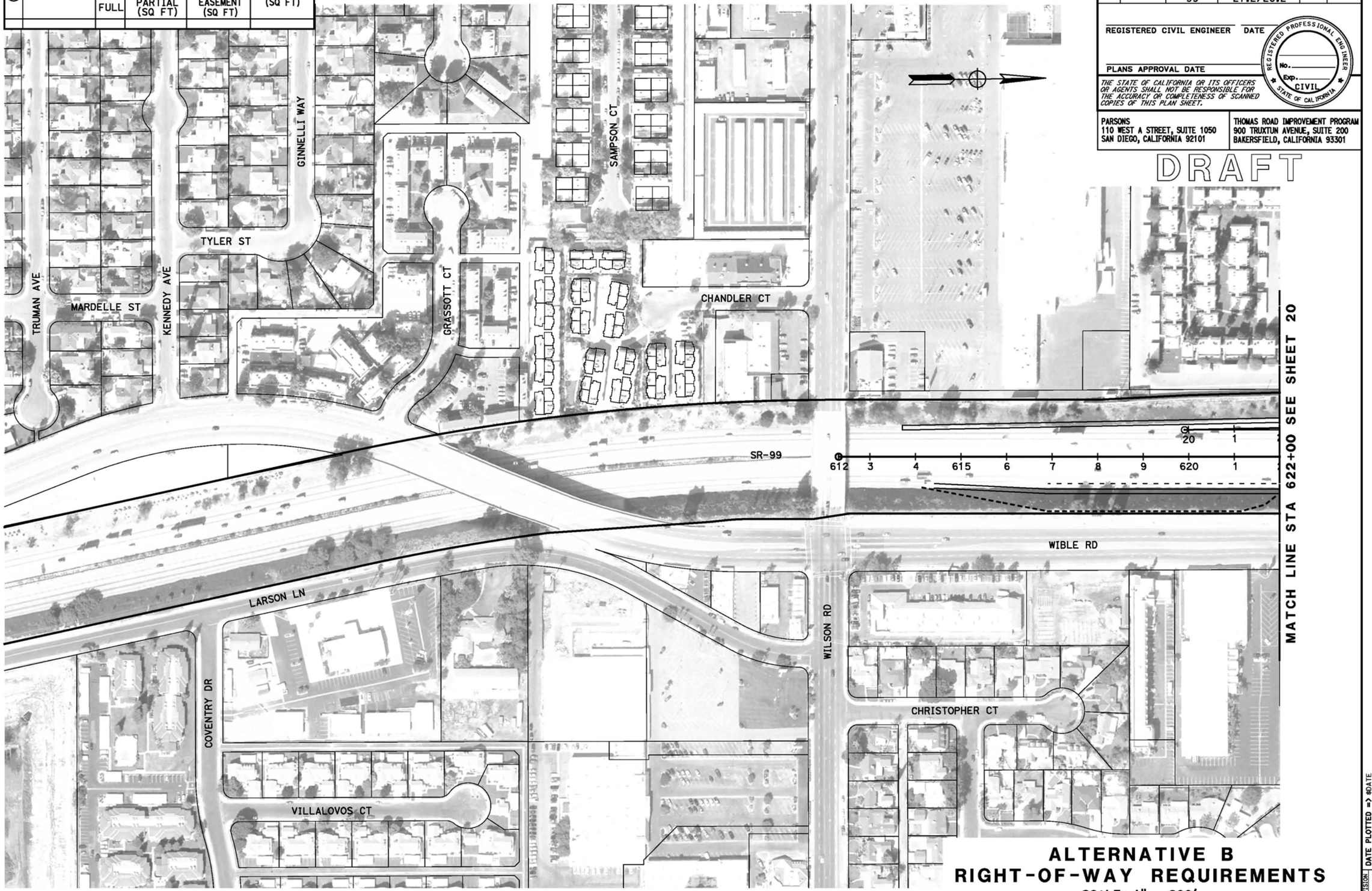
RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)



ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

19

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	20	

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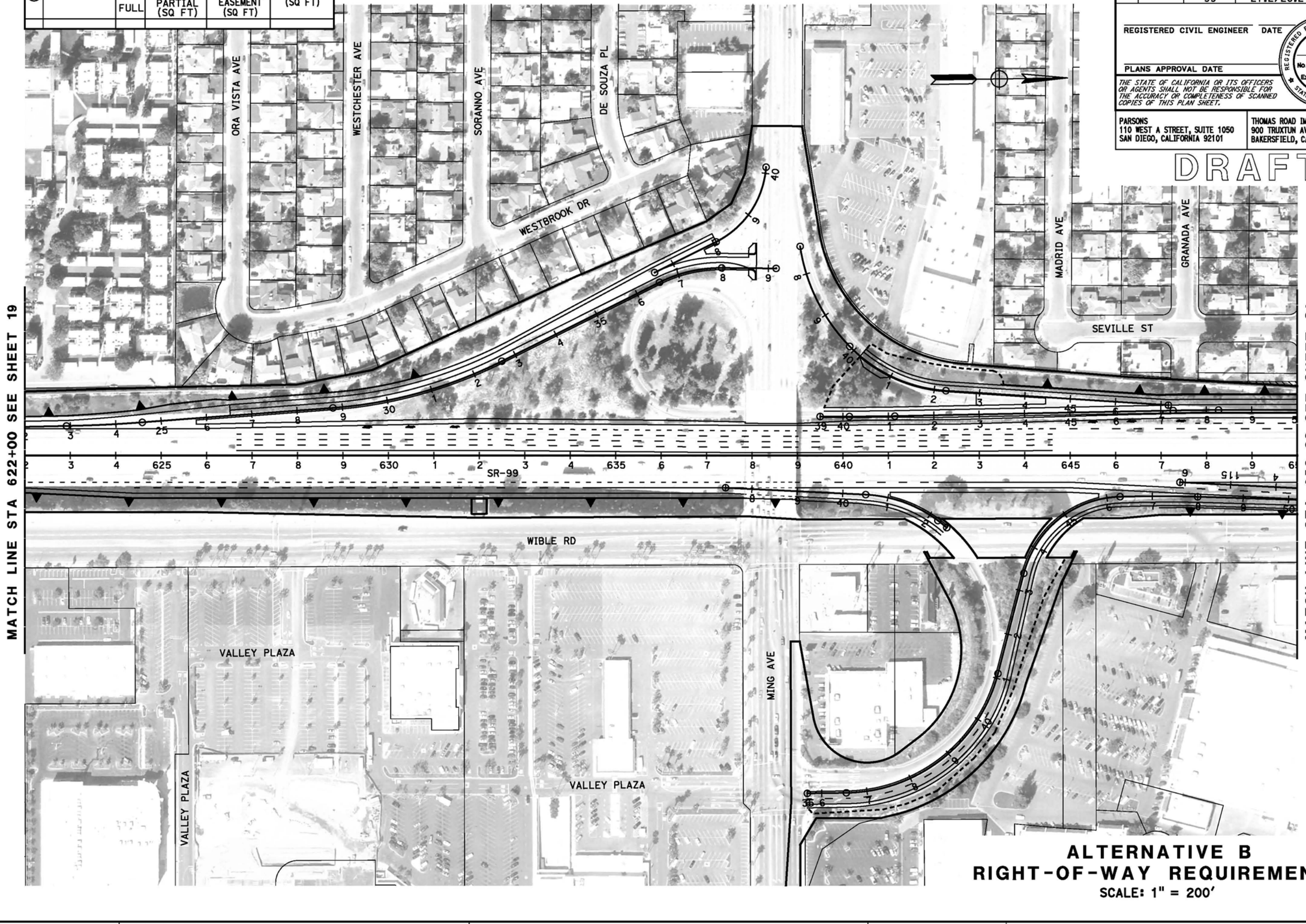
RIGHT-OF-WAY REQUIREMENTS

APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)



ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

20

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UNIT 0000

PROJECT NUMBER & PHASE

EA 06-48460

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	21	

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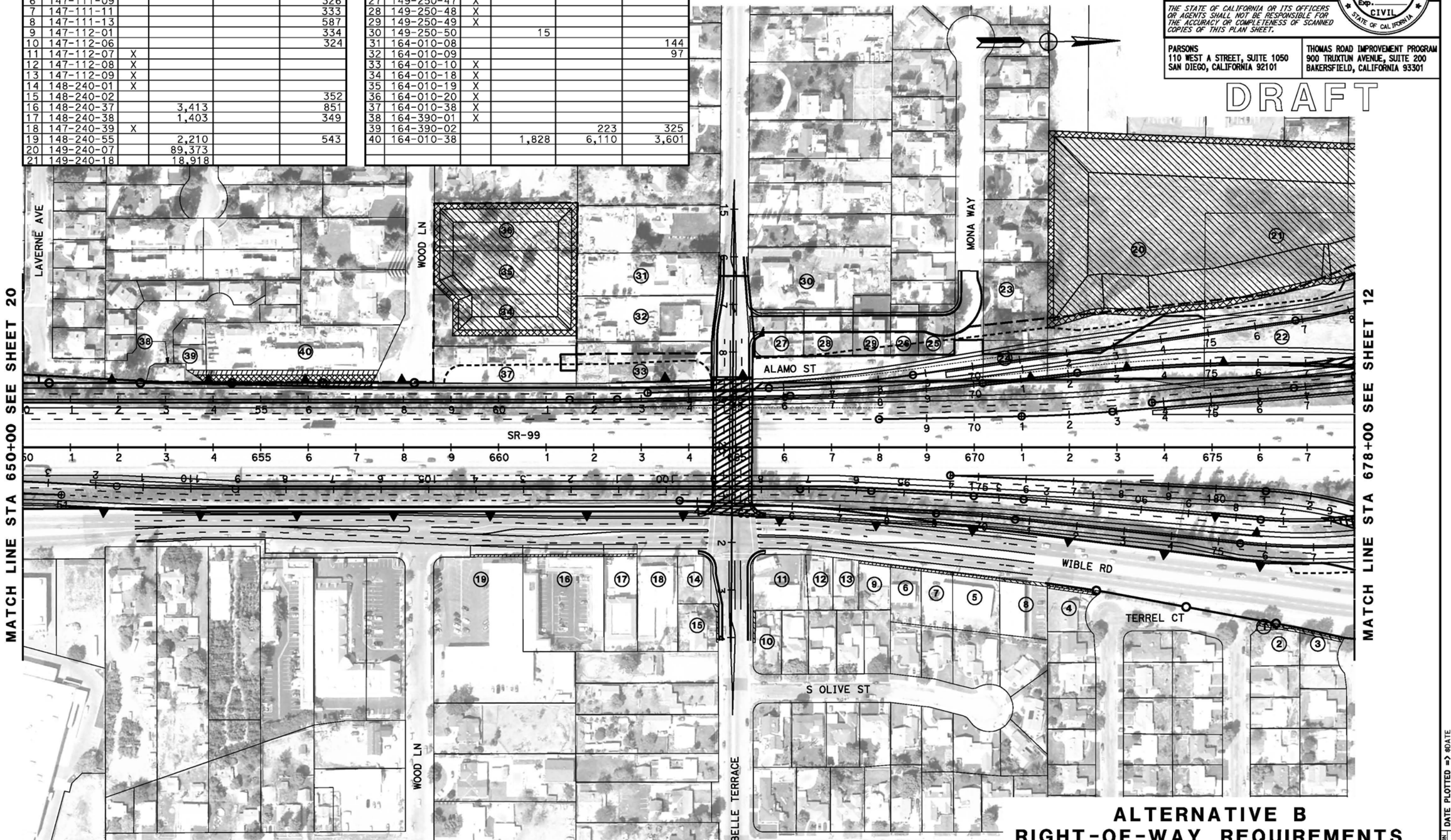
RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	147-101-12			325	283
2	147-101-14			52	152
3	147-101-21			471	458
4	147-103-12			552	535
5	147-111-07				499
6	147-111-09				326
7	147-111-11				333
8	147-111-13				587
9	147-112-01				334
10	147-112-06				324
11	147-112-07	X			
12	147-112-08	X			
13	147-112-09	X			
14	148-240-01	X			
15	148-240-02				352
16	148-240-37		3,413		851
17	148-240-38		1,403		349
18	147-240-39	X			
19	148-240-55		2,210		543
20	149-240-07		89,373		
21	149-240-18		18,918		

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
22	149-240-17	X			
23	149-250-09		5,272		
24	149-250-10	X			
25	149-250-42	X			
26	149-250-43	X			
27	149-250-47	X			
28	149-250-48	X			
29	149-250-49	X			
30	149-250-50		15		
31	164-010-08				144
32	164-010-09				97
33	164-010-10	X			
34	164-010-18	X			
35	164-010-19	X			
36	164-010-20	X			
37	164-010-38	X			
38	164-390-01	X			
39	164-390-02			223	325
40	164-010-38		1,828	6,110	3,601



ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

21

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LAST REVISION 06-07-12 | DATE PLOTTED => #DATE | TIME PLOTTED => #TIME

BORDER LAST REVISED 7/2/2010 | USERNAME => #USER | DGN FILE => #REQUEST | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE | EA 06-48460

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	332-152-31			57	
2	332-152-32			3,244	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	22	

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

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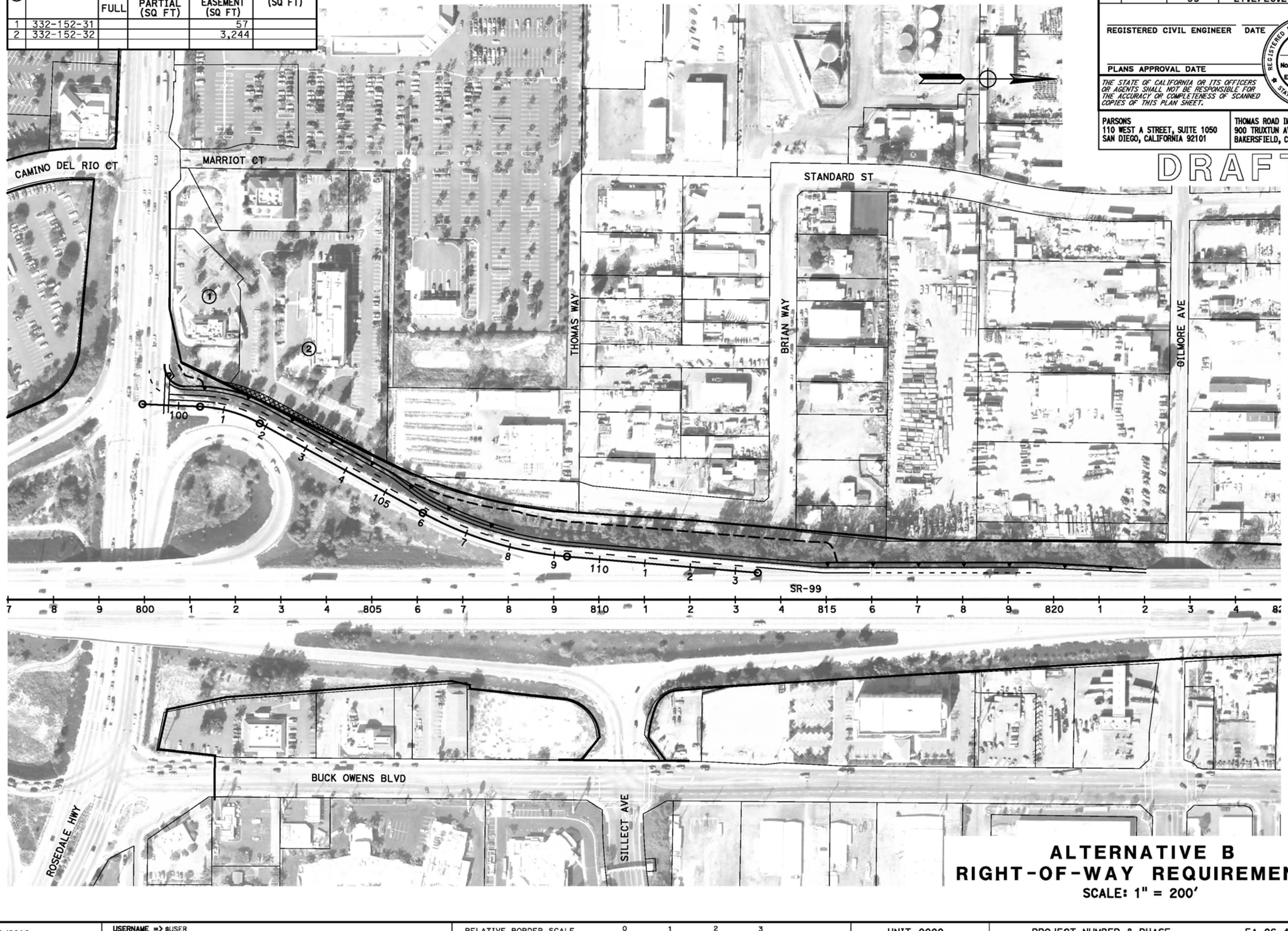

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

22

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	104-291-31		404		
2	104-291-32		10,889		
3	104-291-33		12,582		
4	104-292-04		16,332		
5	160-010-07		49,505		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	23	

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

23

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LAST REVISION 06-25-12 | DATE PLOTTED => &DATE | TIME PLOTTED => &TIME

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	24	

REGISTERED CIVIL ENGINEER DATE

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	104-292-04		16,332		
2	160-010-07		49,505		
3	160-010-42		86,325		

ALTERNATIVE B
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

24

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2		

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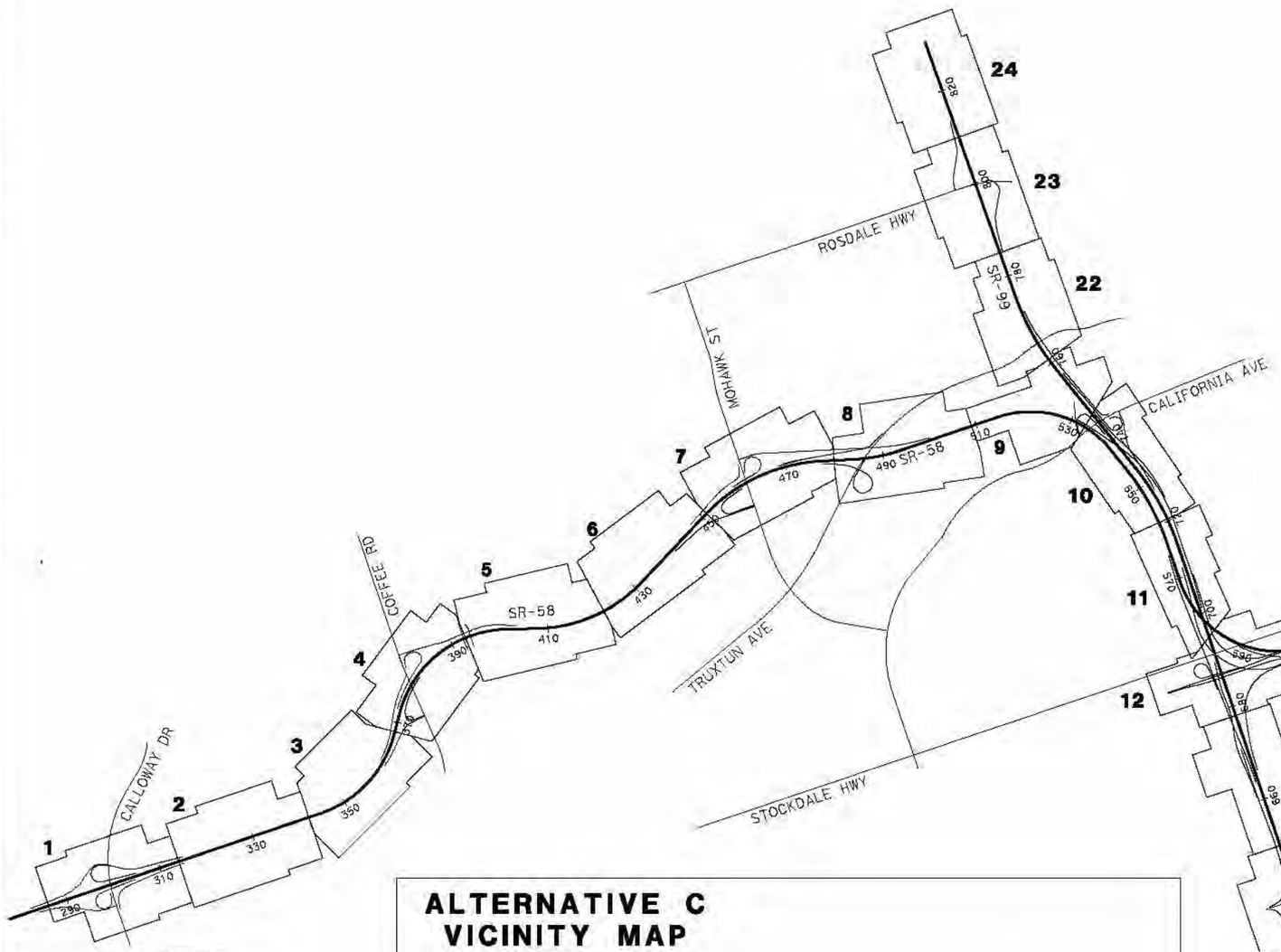
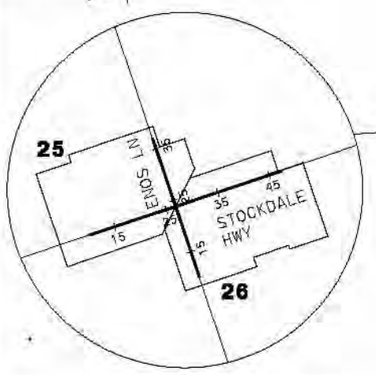
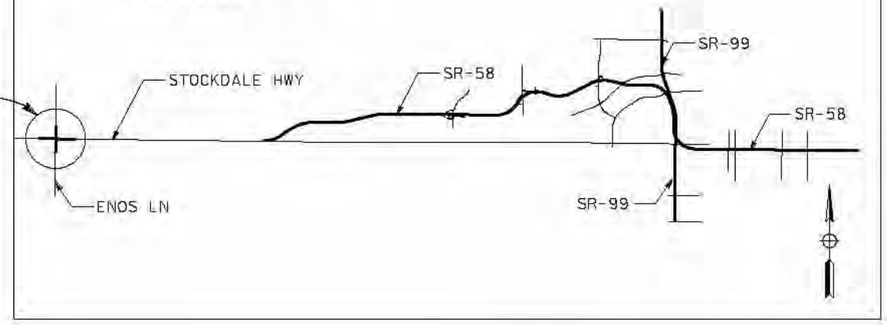




ALTERNATIVE C VICINITY MAP

NO SCALE



ALTERNATIVE C KEY MAP

NO SCALE

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DATE REVISED

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03-23-12 TIME PLOTTED => 11:58:28 AM

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	500-150-01	X			
2	500-560-01	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	1	

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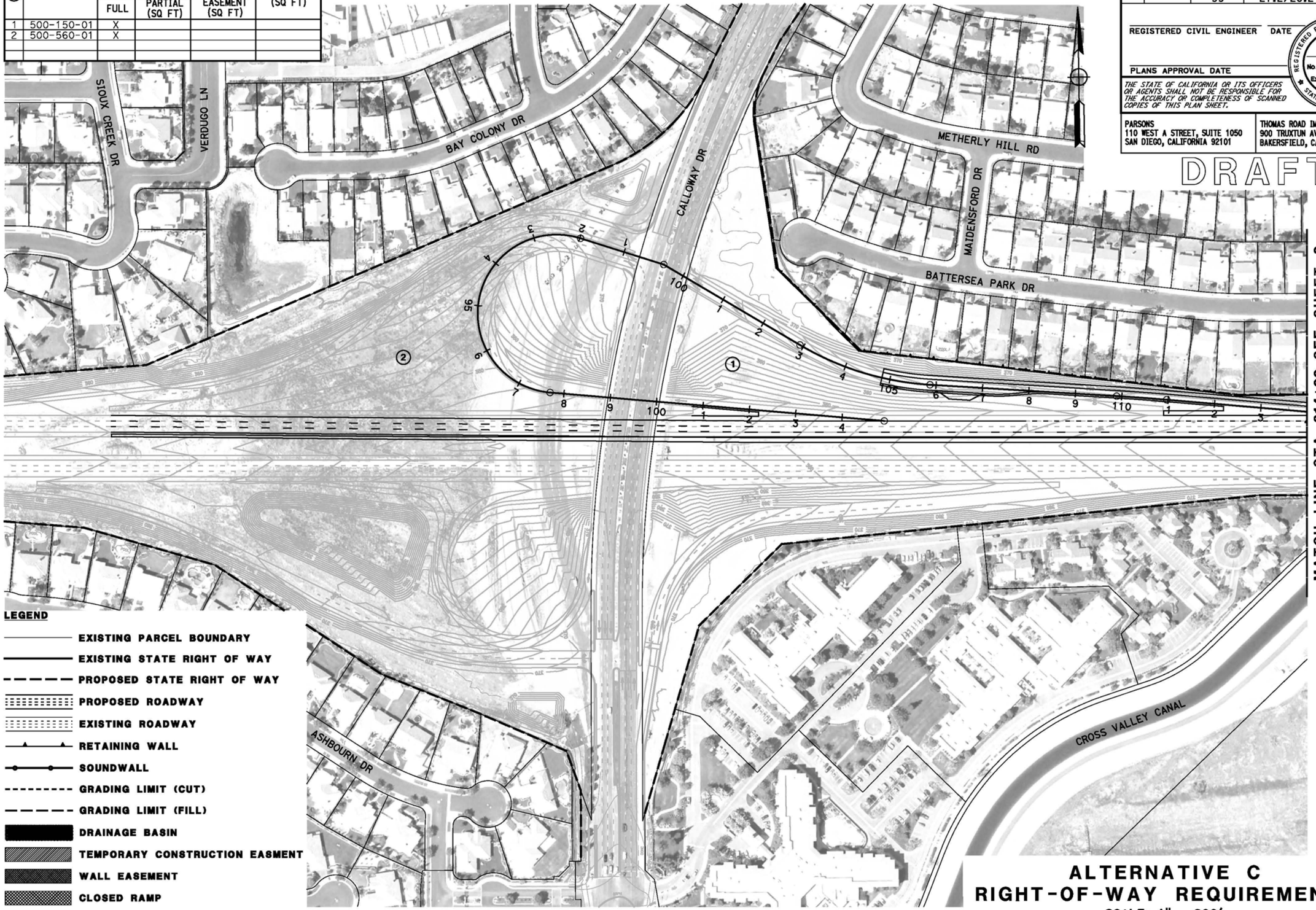

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

1

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	500-150-01	X			
2	501-010-24	X			
3	501-010-39	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	2	

REGISTERED CIVIL ENGINEER DATE

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ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

2

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	501-010-24	X			
2	501-010-23	X			
3	501-010-22	X			
4	501-010-12		20		
5	501-010-10		4,034		
6	501-010-14	X			
7	501-010-15	X			
8	501-010-48	X			
9	C.O.B	X			
10	C.O.B	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	3	

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PLANS APPROVAL DATE

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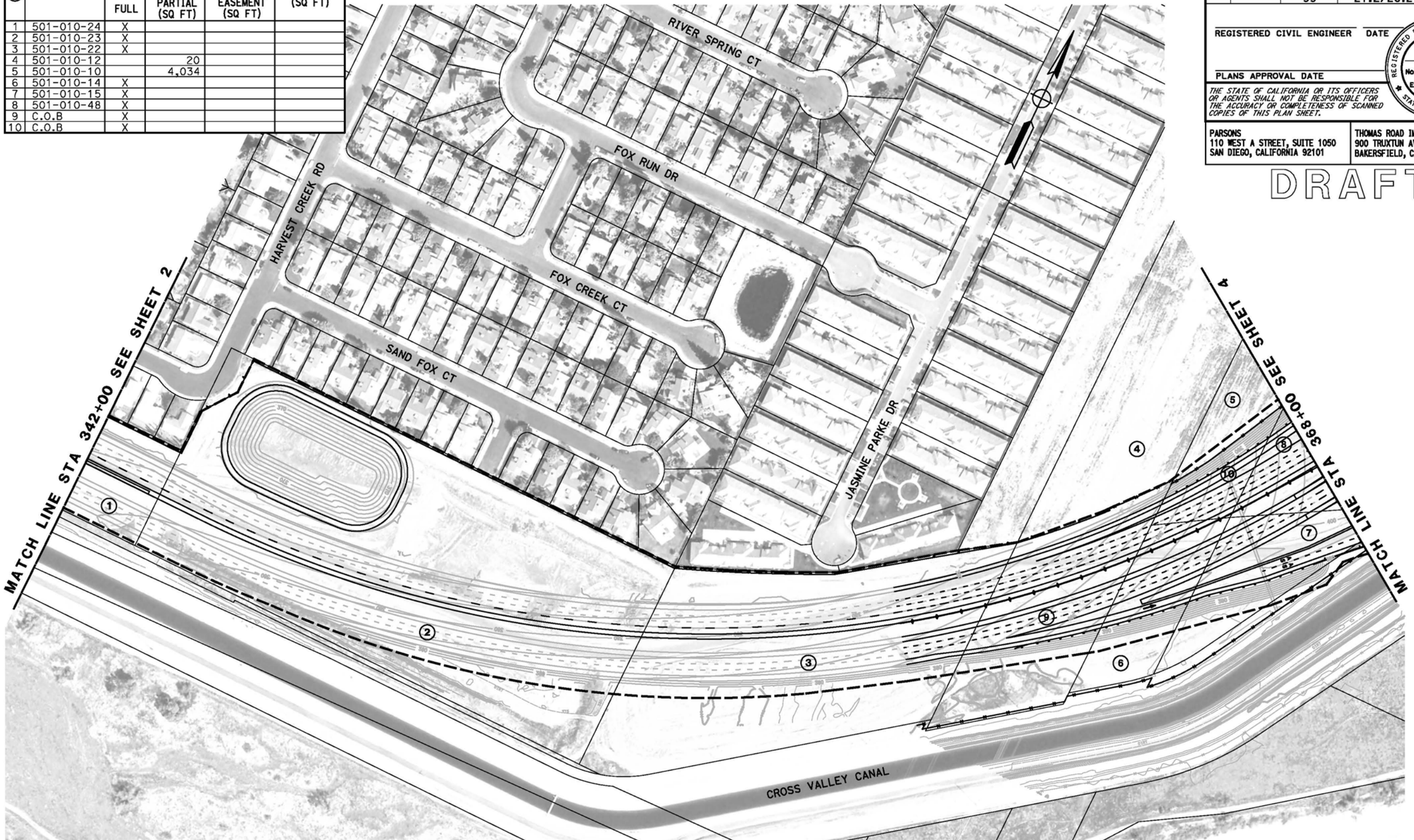

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

3

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BORDER LAST REVISED 7/2/2010 | USERNAME => @USER | DGN FILE => @REQUEST | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE EA 06-48460

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	501-010-07	X			
2	501-010-08	X			
3	501-010-10		4,034		
4	501-010-15	X			
5	501-010-16	X			
6	501-010-47	X			
7	501-010-48	X			
8	501-010-49	X			
9	502-010-01	X			
10	502-010-04	X			
11	502-010-05		107,036		
12	502-010-20	X			
13	502-010-41	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	4	

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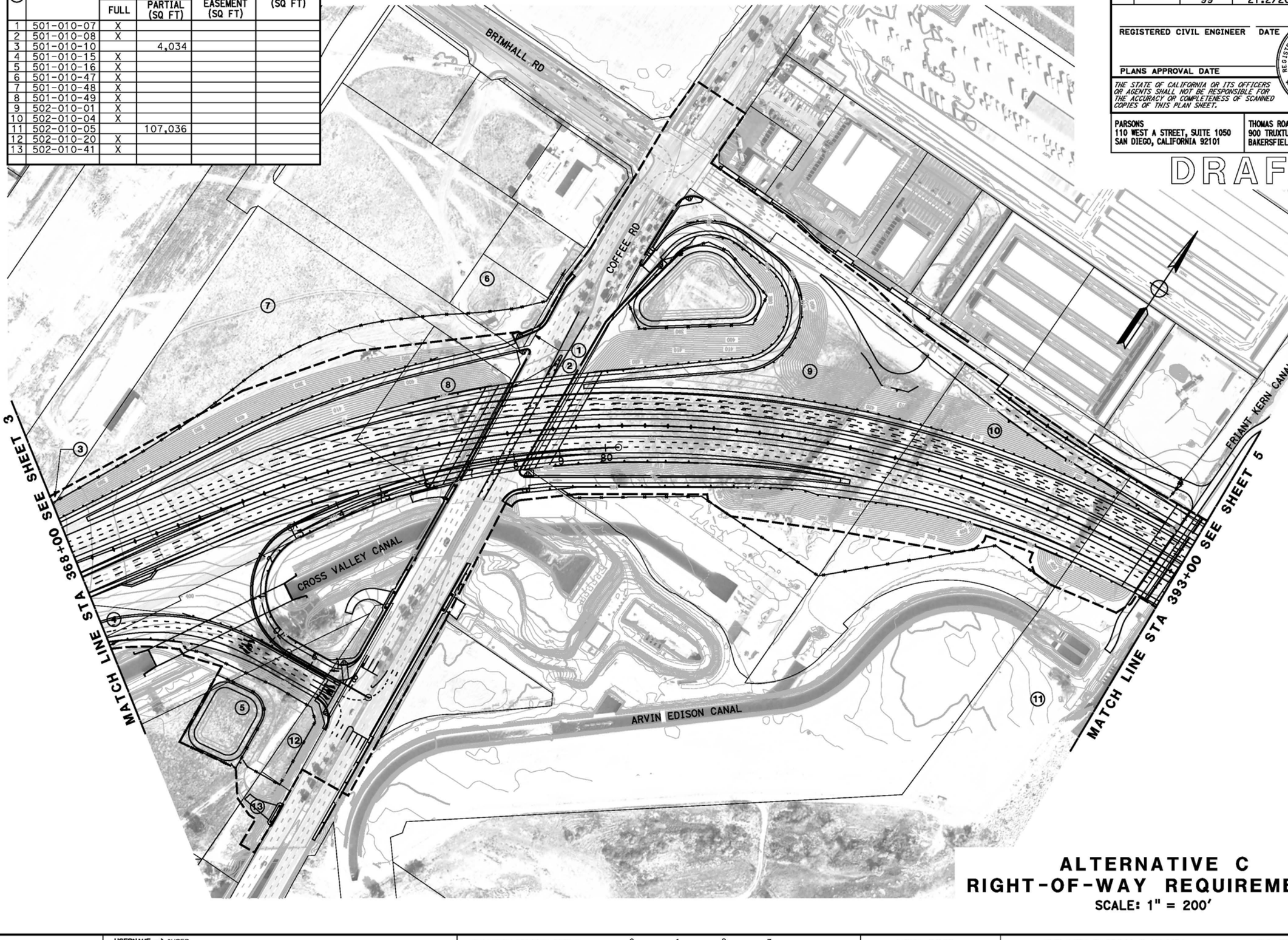

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

4

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS		WALL EASEMENT (SQ FT)	TCE (SQ FT)
		FULL	PARTIAL (SQ FT)		
1	C.O.B	X			
2	502-010-05		107,036		
3	502-010-44	X			
4	502-010-45	X			
5	502-010-47	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	5	

REGISTERED CIVIL ENGINEER DATE

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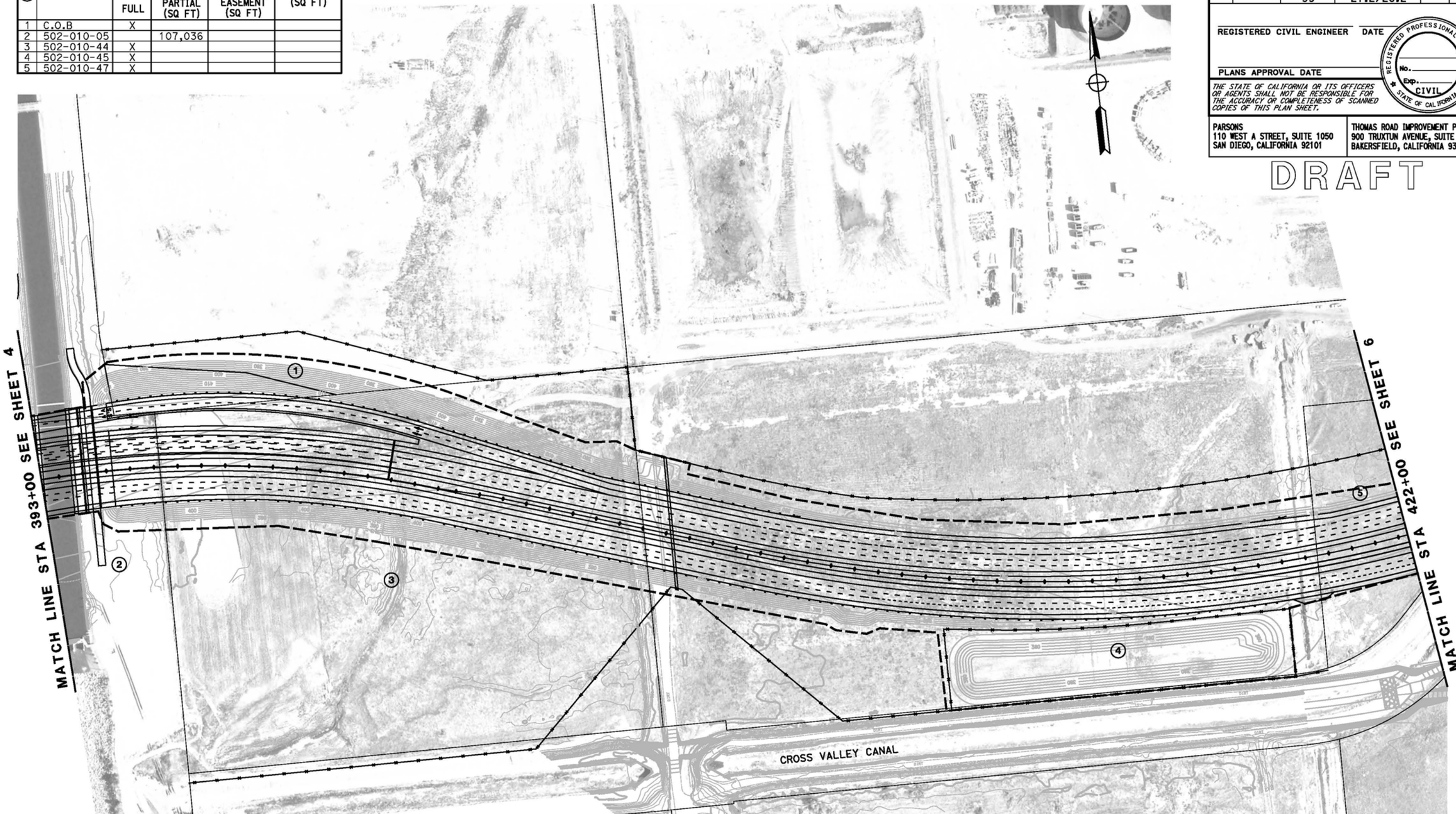

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

5

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USERNAME => $USER
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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE EA 06-48460

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS		WALL EASEMENT (SQ FT)	TCE (SQ FT)
		FULL	PARTIAL (SQ FT)		
1	C.O.B	X			
2	C.O.B	X			
3	368-040-26		4		
4	C.O.B	X			
5	C.O.B	X			
6	C.O.B	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	6	

REGISTERED CIVIL ENGINEER DATE

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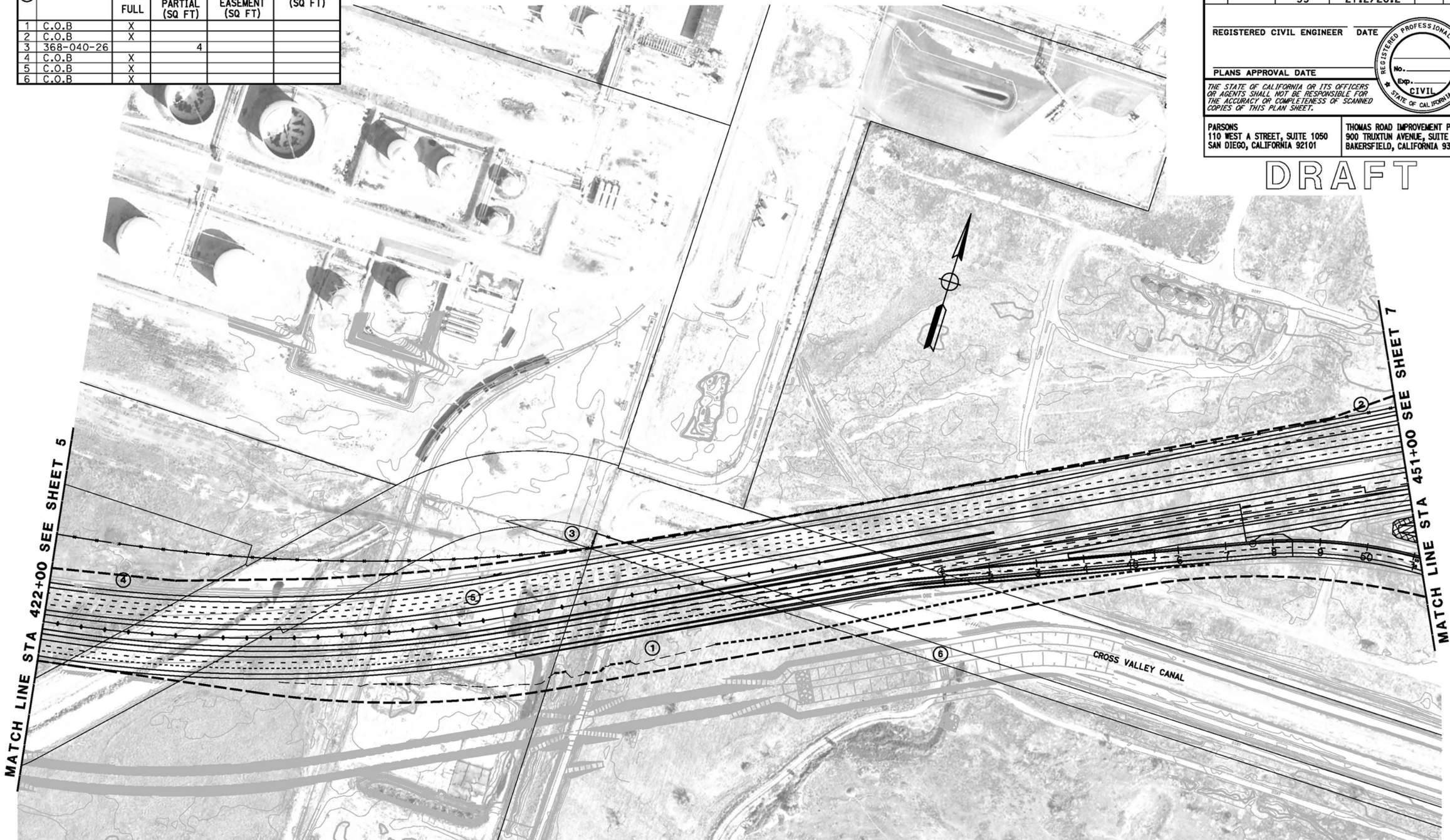

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

6

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	C.O.B	X			
2	C.O.B	X			
3	C.O.B	X			
4	C.O.B	X			
5	C.O.B	X			
6	C.O.B	X			
7	332-280-28		23,338		
8	332-280-27		102,651		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	7	

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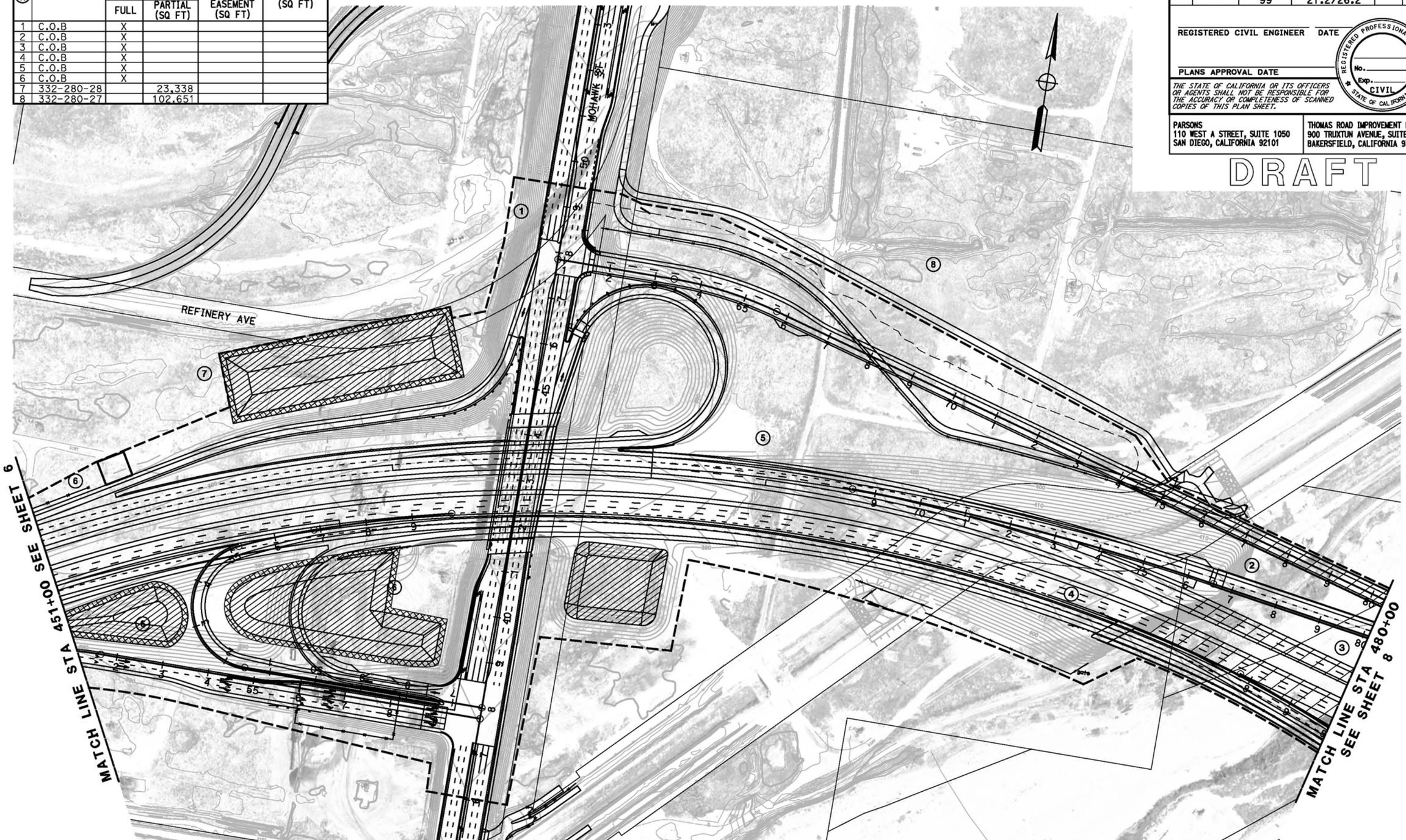

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

7

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	332-332-22	X			
2	332-332-23	X			
3	NOT USED				
4	NOT USED				
5	332-256-07	X			
6	332-256-08		49,180		
7	332-256-10		63,409		
8	332-256-11	X			
9	332-256-12	X			
10	332-256-13	X			
11	332-256-14	X			
12	332-256-15	X			
13	332-256-16	X			
14	332-256-48	X			
15	NOT USED				
16	332-256-50	X			
17	332-256-53	X			
18	332-256-54	X			
19	332-256-56	X			
20	C.O.B	X			
21	C.O.B	X			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	8	

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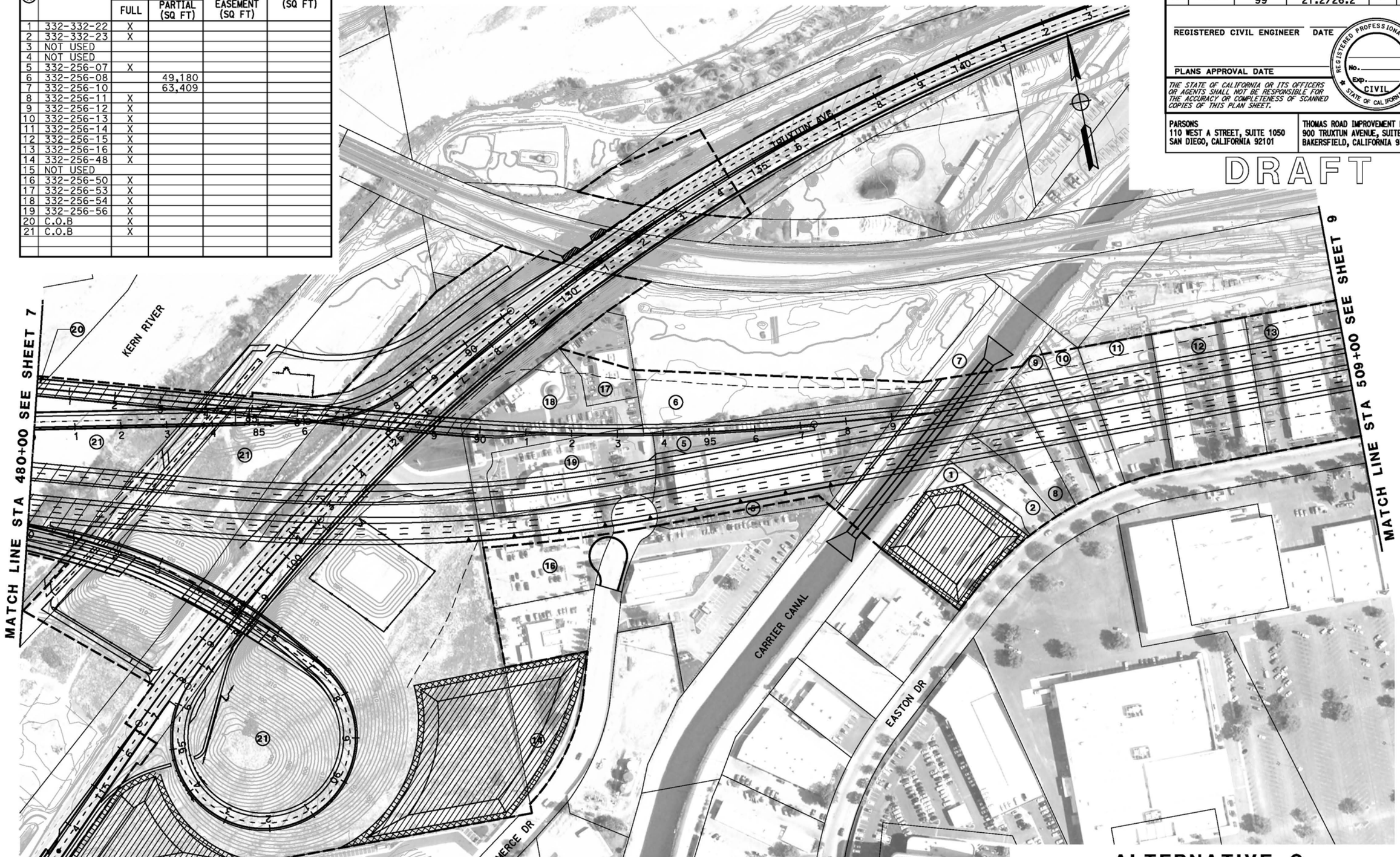

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

8

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	9	

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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SAN DIEGO, CALIFORNIA 92101

THOMAS ROAD IMPROVEMENT PROGRAM
900 TRUXTUN AVENUE, SUITE 200
BAKERSFIELD, CALIFORNIA 93301

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	332-256-16	X			
2	332-256-17	X			
3	332-256-18	X			
4	332-256-19	X			
5	332-256-26		5,528		
6	332-256-27		11,588		
7	332-321-06	X			
8	NOT USED				
9	332-321-08	X			
10	332-321-09	X			
11	332-321-12	X			
12	332-321-14	X			
13	332-321-15	X			
14	332-321-16	X			
15	332-321-17	X			
16	332-321-18	X			
17	332-322-04		22,982		
18	332-380-01	X			
19	332-380-02	X			
20	332-380-03	X			
21	332-380-04	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
22	332-380-05	X			
23	332-380-06	X			
24	332-380-07	X			
25	332-380-08	X			
26	332-380-09	X			
27	332-380-10	X			
28	332-380-11	X			
29	332-380-12	X			
30	332-380-13	X			
31	332-380-14	X			
32	332-380-15	X			
33	332-380-16	X			
34	332-380-17	X			
35	332-380-18	X			
36	332-380-19	X			
37	332-380-20	X			
38	332-380-21	X			
39	332-380-22	X			
40	332-380-23	X			
41	332-380-24	X			
42	332-380-25	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
43	332-380-26	X			
44	332-380-27	X			
45	332-380-28	X			
46	332-380-29	X			
47	332-380-30	X			
48	332-380-31	X			
49	332-380-32	X			
50	332-380-33	X			
51	332-380-34	X			
52	332-380-35	X			
53	332-380-36	X			
54	332-380-37	X			
55	332-380-38	X			
56	332-380-39	X			
57	332-380-40	X			
58	332-380-41	X			
59	332-380-42	X			
60	332-380-43	X			
61	332-380-44	X			
62	332-380-45	X			
63	332-380-46	X			
64	332-380-47	X			
65	332-380-48	X			
66	332-380-49	X			
67	332-380-50	X			
68	332-380-51	X			
69	332-380-52	X			

MATCH LINE STA 761+00 SEE SHEET 22

MATCH LINE STA 509+00 SEE SHEET 8

MATCH LINE STA 533+00 SEE SHEET 10

SR-99

EASTON DR

CHESTER LN

REAL RD

EASTON DR

CALIFORNIA AVE

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

9

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	020-100-03		3,475		
2	020-100-24		1,104	234	1,055
3	020-100-28		3,278		
4	020-110-06	X			
5	020-110-11	X			
6	020-100-26		2,134		
7	020-110-16	X			
8	020-110-22		2,302		
9	020-110-23	X			
10	020-110-24	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
11	020-110-25	X			
12	020-130-06	X			
13	NOT USED				
14	020-140-06				144
15	020-130-10	X			
16	020-110-14		216		
17	020-130-18	X			
18	020-130-20	X			
19	020-130-21	X			
20	020-130-22	X			
21	020-130-23	X			
22	NOT USED				
23	NOT USED				
24	020-140-07	X			
25	020-140-08	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
26	020-140-25	X			
27	020-140-27	X			
28	020-140-32	X			
29	020-140-35	X			
30	020-140-41	X			
31	020-140-42	X			
32	020-150-09		84,398		
33	020-150-21	X			
34	020-150-22	X			
35	020-150-23	X			
36	020-150-24	X			
37	020-150-25	X			
38	NOT USED				
39	NOT USED				
40	020-100-16		3,348	2,822	1,079

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	10	

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA

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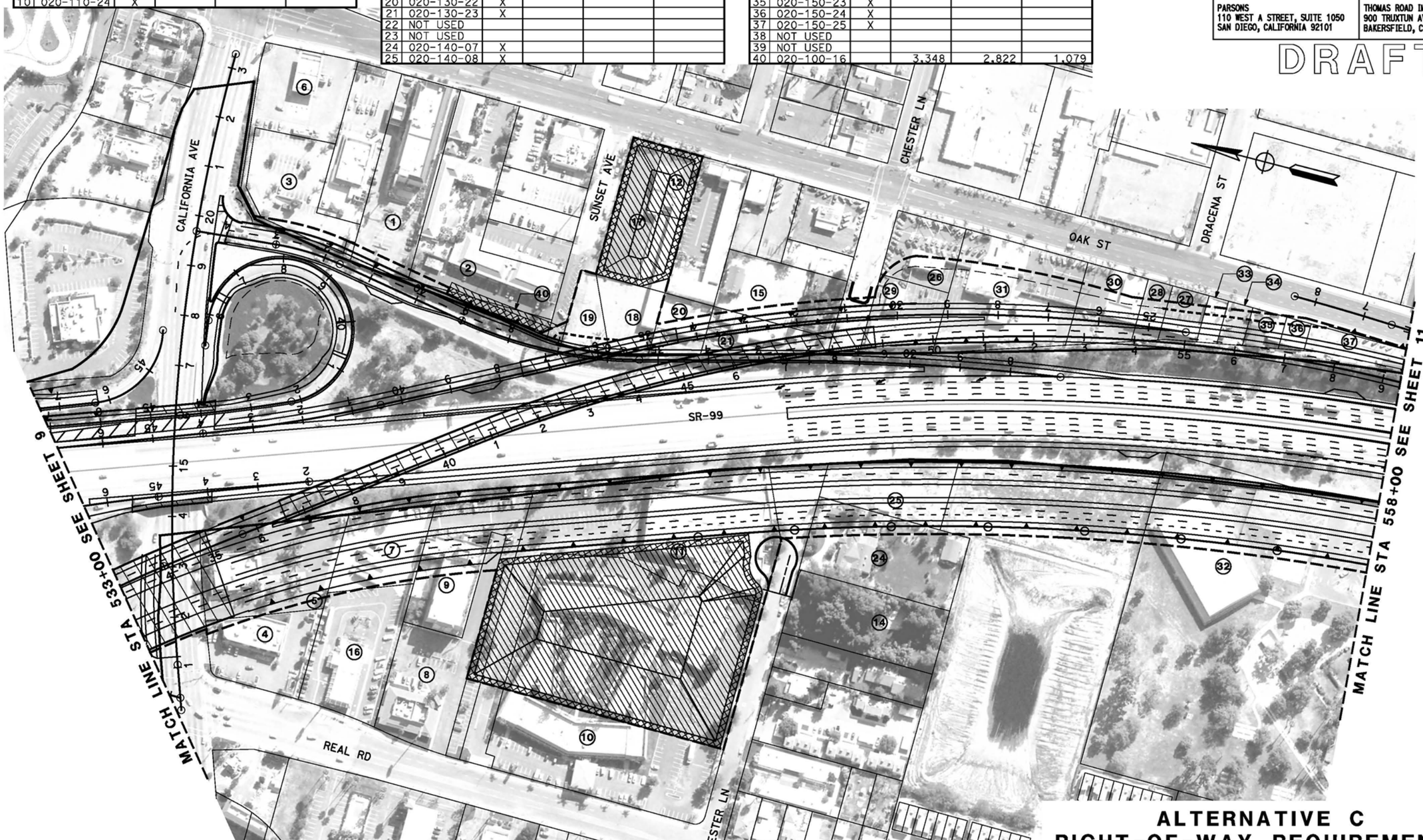

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

10

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UNIT 0000

PROJECT NUMBER & PHASE EA 06-48460

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	020-061-09	X			
2	020-061-10	X			
3	020-064-01	X			
4	020-064-02	X			
5	020-064-03	X			
6	020-064-04	X			
7	020-081-01	X			
8	020-081-02	X			
9	020-081-03	X			
10	020-081-04	X			
11	020-081-05	X			
12	020-081-06	X			
13	020-081-07	X			
14	020-081-08	X			
15	020-081-09	X			
16	020-081-10	X			
17	020-081-11	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
18	020-081-12	X			
19	020-081-13	X			
20	020-081-14	X			
21	020-081-15	X			
22	020-081-16	X			
23	020-081-17	X			
24	020-081-18	X			
25	020-081-19	X			
26	020-081-20	X			
27	020-081-21	X			
28	020-081-22	X			
29	020-082-07	X			
30	020-082-08	X			
31	020-083-01	X			
32	020-083-02	X			
33	020-083-03	X			
34	020-083-04	X			
35	020-083-05	X			
36	020-084-01	X			
37	020-084-02	X			
38	020-084-03	X			
39	020-084-04	X			
40	020-084-05	X			
41	020-084-06	X			

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
42	020-084-07	X			
43	020-084-08	X			
44	020-084-09	X			
45	020-084-10	X			
46	020-084-11	X			
47	020-084-12	X			
48	020-084-13	X			
49	020-084-14	X			
50	020-084-15	X			
51	020-084-16	X			
52	020-084-17	X			
53	020-084-18	X			
54	020-084-19	X			
55	020-084-20	X			
56	020-084-21	X			
57	020-084-22	X			
58	020-084-33	X			
59	020-084-34	X			
60	020-084-35	X			
61	020-084-36	X			
62	020-084-37	X			
63	020-084-38	X			
64	020-084-39	X			
65	020-084-40	X			
66	020-084-41	X			
67	020-084-42	X			
68	020-084-43	X			
69	020-084-44	X			
70	NOT USED				
71	008-020-02				1,087

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	11	

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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BAKERSFIELD, CALIFORNIA 93301

DRAFT

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

11

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	12	

REGISTERED CIVIL ENGINEER DATE

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	008-062-10		1,587		
2	008-062-12	X			
3	008-062-13	X			
4	008-062-15	X			
5	008-062-16	X			
6	008-062-17	X			
7	008-062-18		1,791		
8	NOT USED				
9	147-021-01	X			
10	147-021-27	X			
11	147-022-13	X			
12	147-022-14	X			
13	147-022-15	X			
14	147-031-07	X			
15	147-031-08	X			
16	147-031-28			1123	924
17	147-031-35			1130	1040
18	NOT USED				
19	NOT USED				
20	NOT USED				
21	147-032-03	X			
22	147-032-06	X			
23	147-032-25	X			

MATCH LINE STA 583+00 SEE SHEET 11

STOCKDALE HWY

BRUNDAGE LN

CYPRESS ST

BEECH ST

OAK ST

S REAL RD

NELLO ST

SR-58

SR-99

WIBLE RD

ELICIA DR

DORESTA DR

S OLIVE ST

STEPHENS DR

TERRACE WAY

MATCH LINE STA 599+00 SEE SHEET 13

MATCH LINE STA 678+00 SEE SHEET 21

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
24	147-032-26	X			
25	149-180-02	X			
26	149-180-03	X			
27	149-180-21	X			
28	149-180-24	X			
29	149-180-25	X			
30	149-190-18		12,914	672	840
31	149-190-06	X			
32	149-190-08		7,983	388	486
33	149-190-10	X			
34	NOT USED				
35	149-190-16		2,306	315	404
36	149-200-20	X			
37	149-200-21		3,739	1,505	2,704
38	147-026-14		1,034	498	499
39	147-026-16		1,532	452	435
40	147-031-37				69

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

12

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	13	

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BAKERSFIELD, CALIFORNIA 93301

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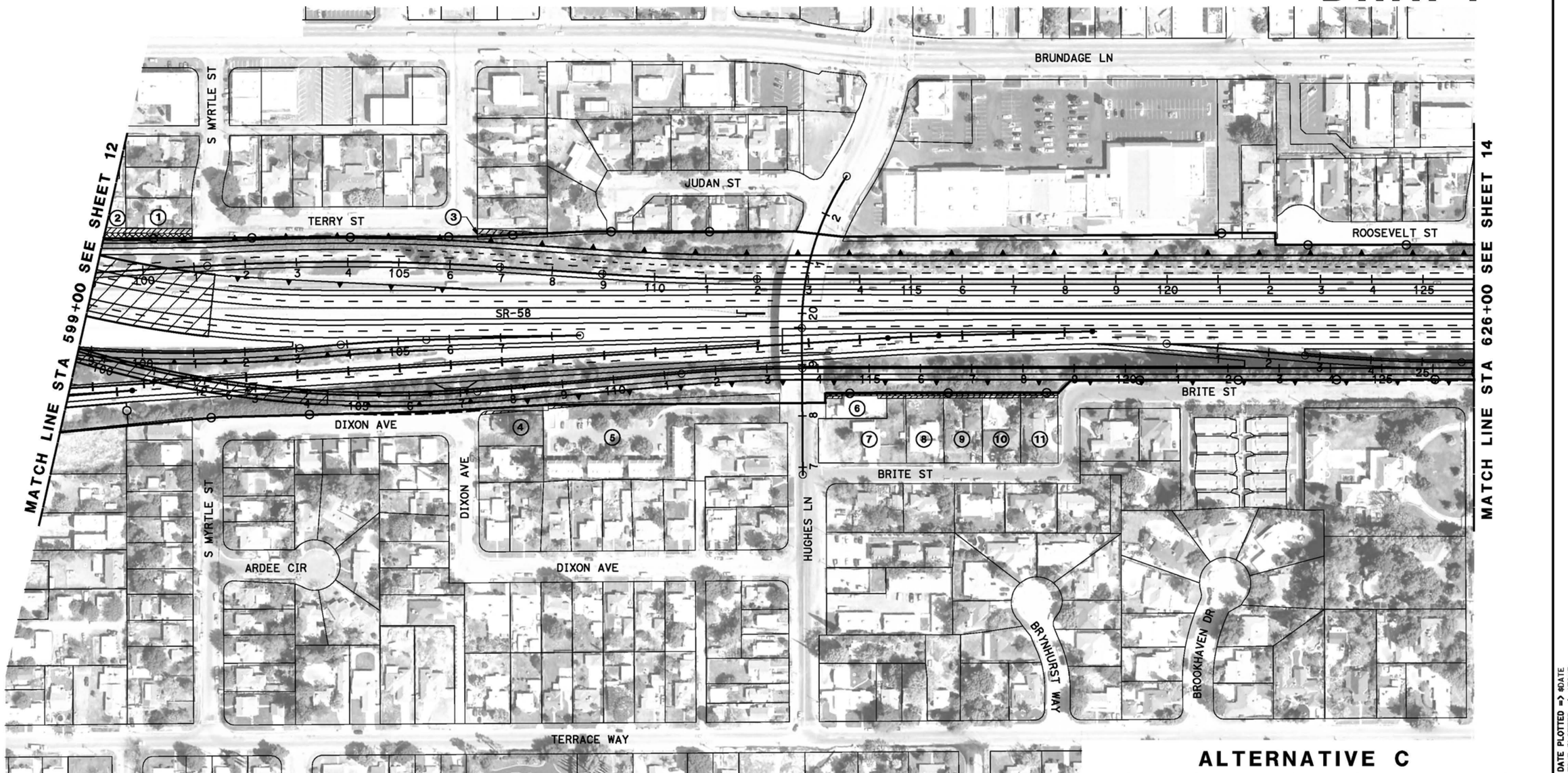
RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	147-041-05			1189	1225
2	147-031-35			1130	1040
3	147-071-10			125	927
4	147-072-15				321
5	147-460-21				353
6	147-210-01			536	250
7	147-210-02			165	183
8	147-210-03			334	371
9	147-210-04			340	377
10	147-210-05			337	374
11	147-210-06			326	363



ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS
SCALE: 1" = 200'

13

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	NOT USED				
2	011-111-09	X			
3	011-111-10	X			
4	011-111-11	X			
5	011-111-12	X			
6	011-111-24	X			
7	011-111-25	X			
8	011-111-26	X			
9	011-111-27	X			
10	011-111-28	X			
11	011-111-37	X			
12	147-280-01			4,210	3,837
13	NOT USED				
14	NOT USED				
15	NOT USED				

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
16	147-310-23			1,743	2,099
17	011-122-16		1,016		293
18	011-122-17		512		302
19	011-122-18		214		131
20	011-122-15		357		307
21	011-122-14		208		236
22	011-122-13		29		142
23	011-101-08		332		245
24	011-101-09		407		252
25	011-101-10		799		328

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	14	

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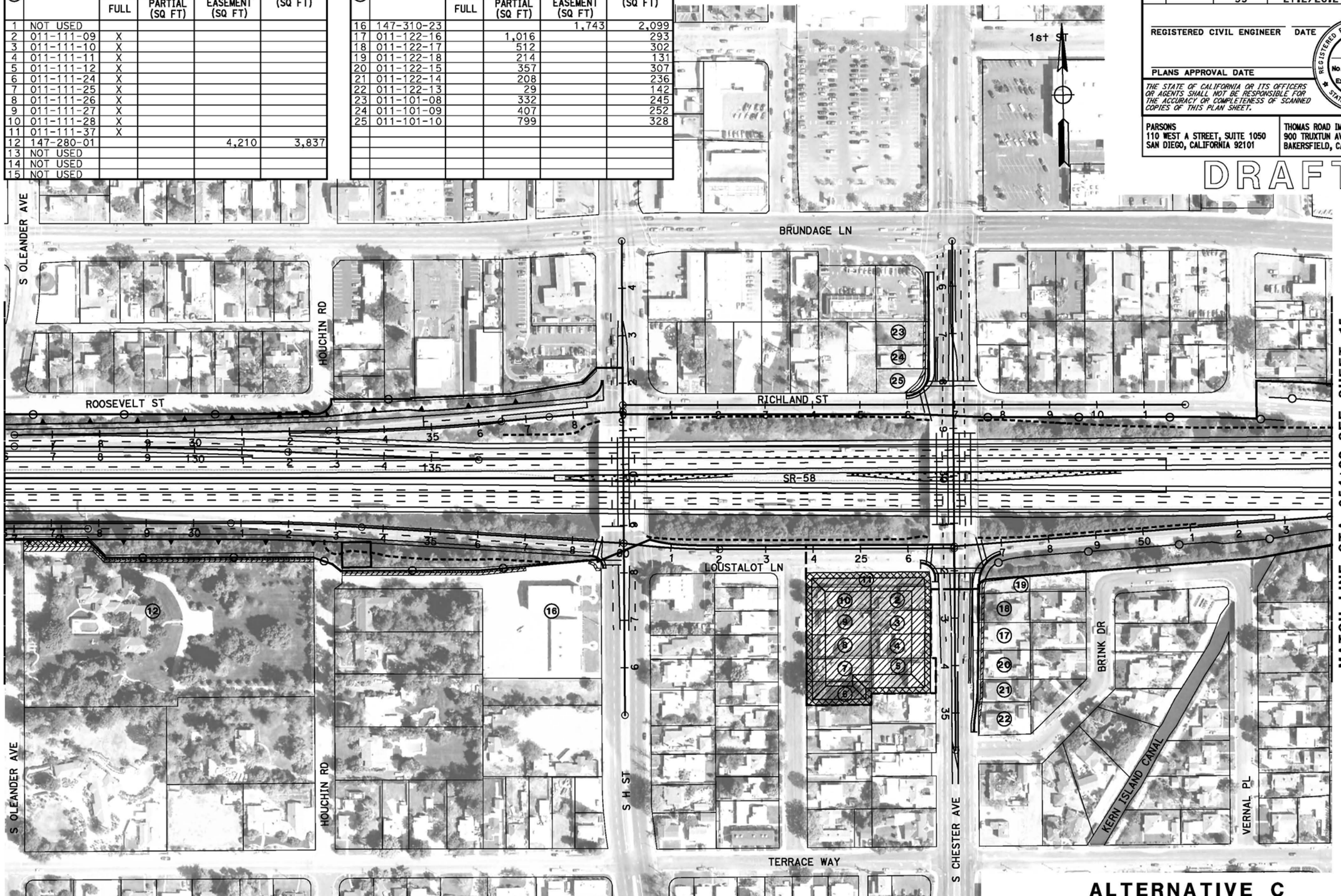

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

14

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	15	

REGISTERED CIVIL ENGINEER DATE

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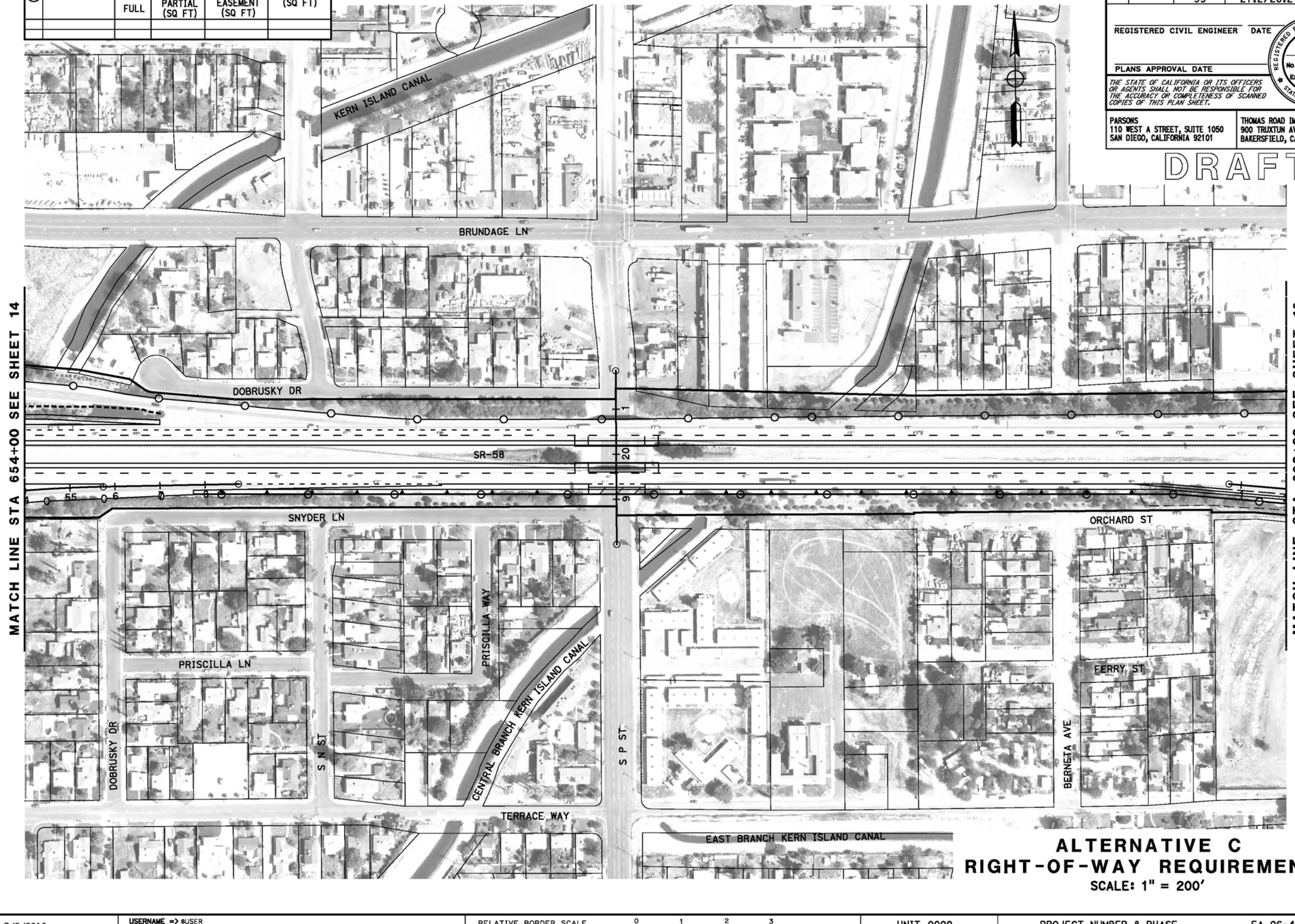

ALTERNATIVE C
RIGHT-OF-WAY REQUIREMENTS

SCALE: 1" = 200'

15

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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	169-101-07			503	580
2	169-110-14			550	610
3	169-092-01			100	111
4	169-092-30			959	1025
5	169-093-11			486	381

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	16	

REGISTERED CIVIL ENGINEER DATE

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	17	

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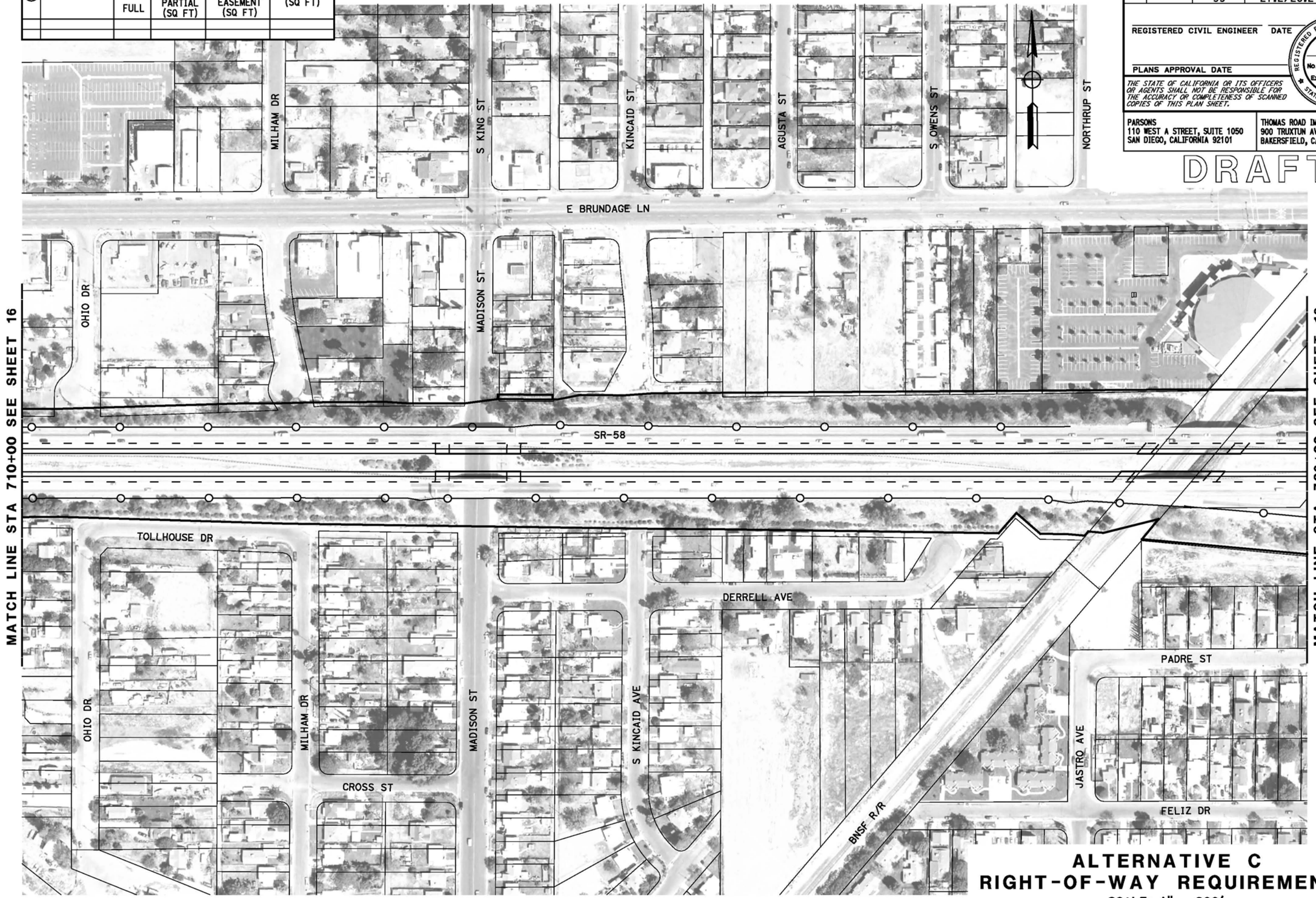

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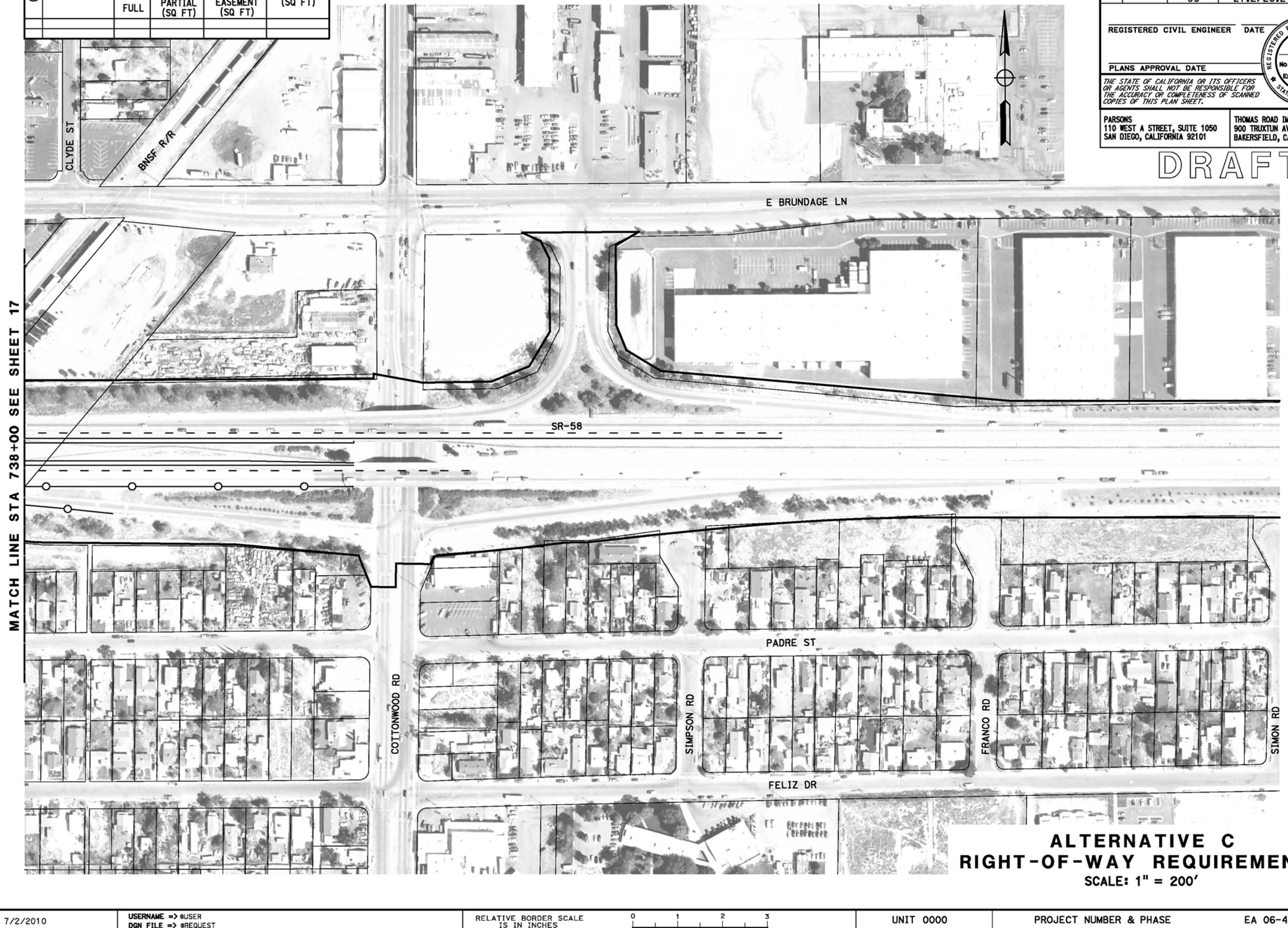

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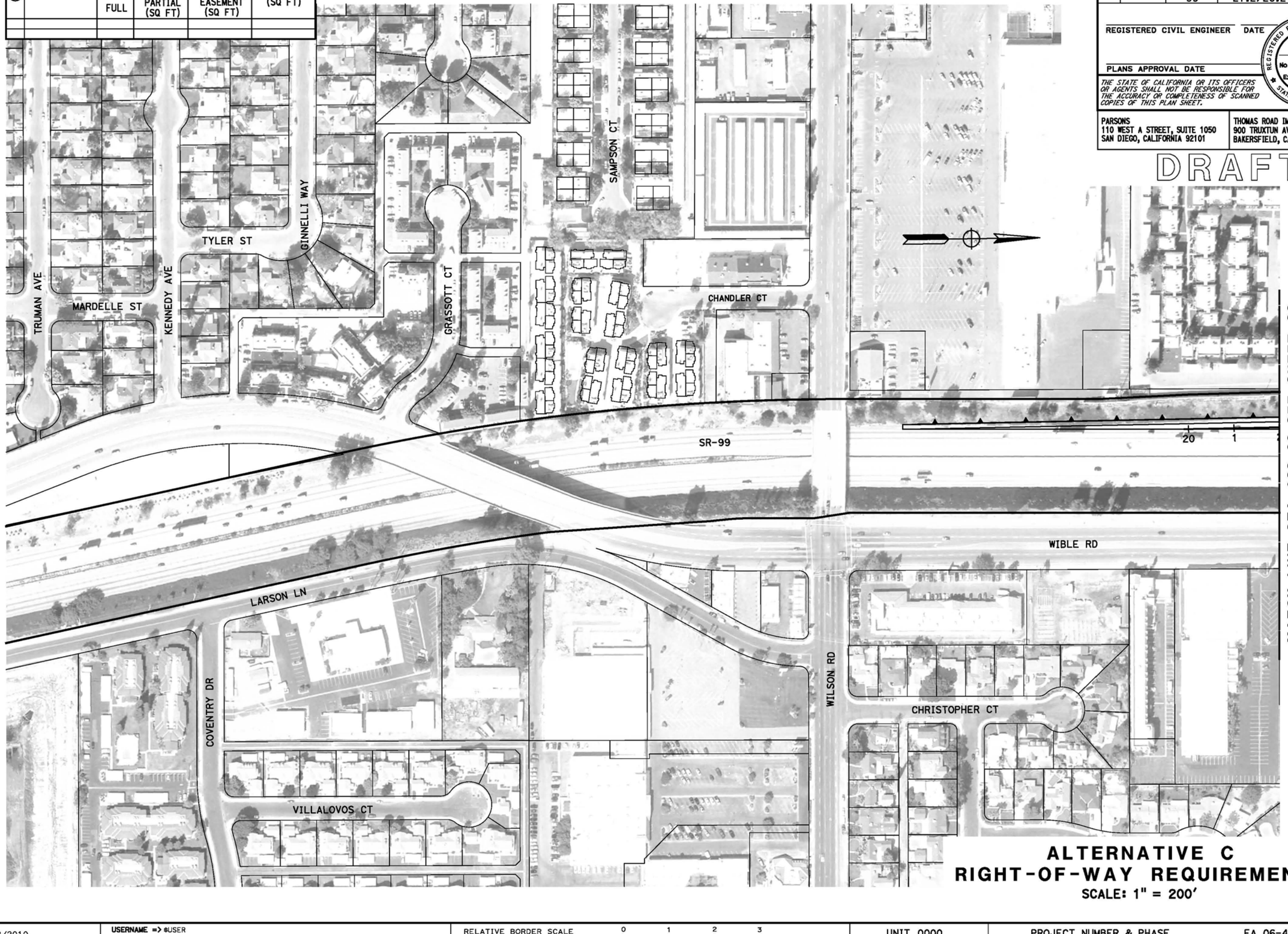

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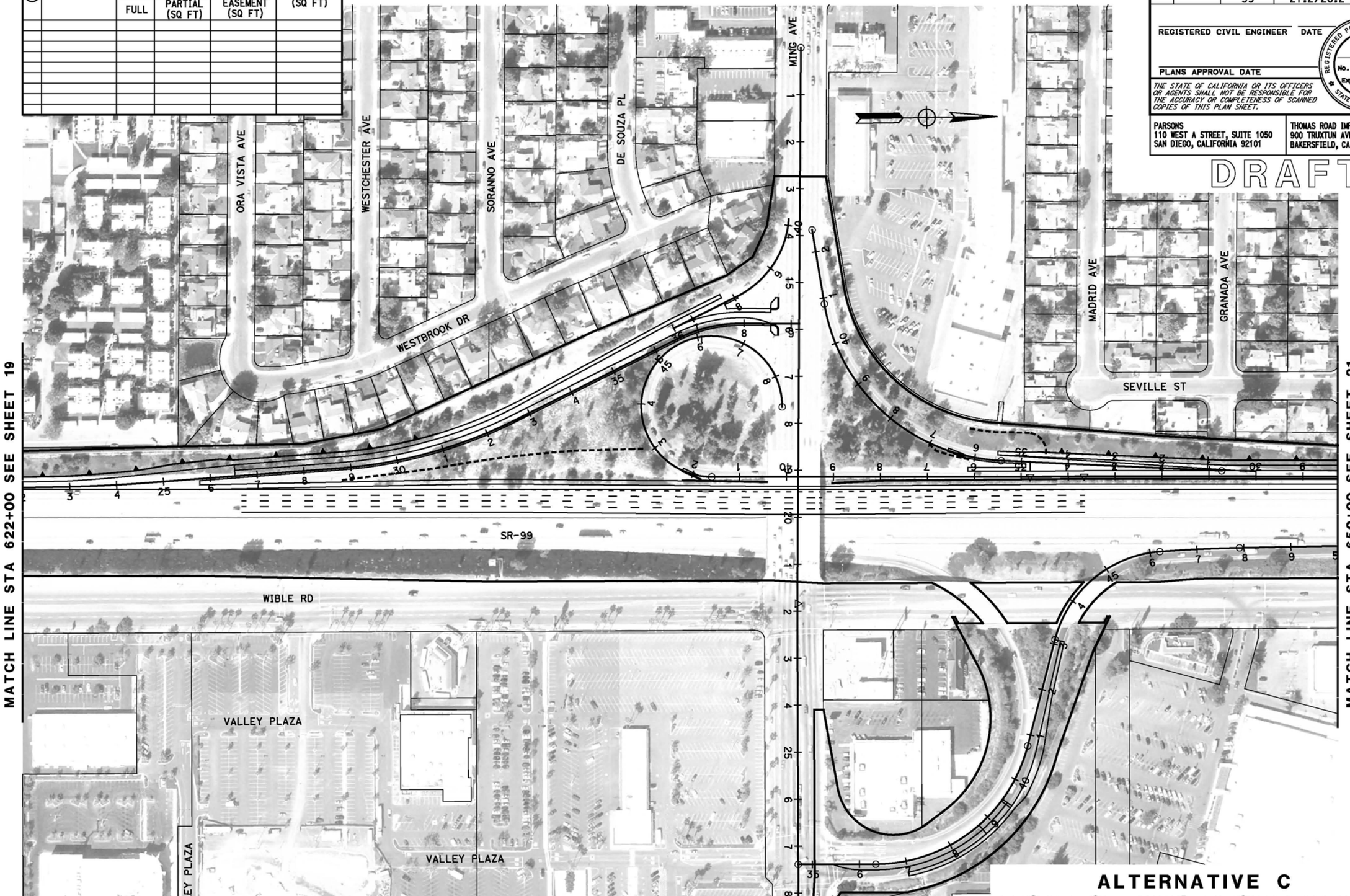

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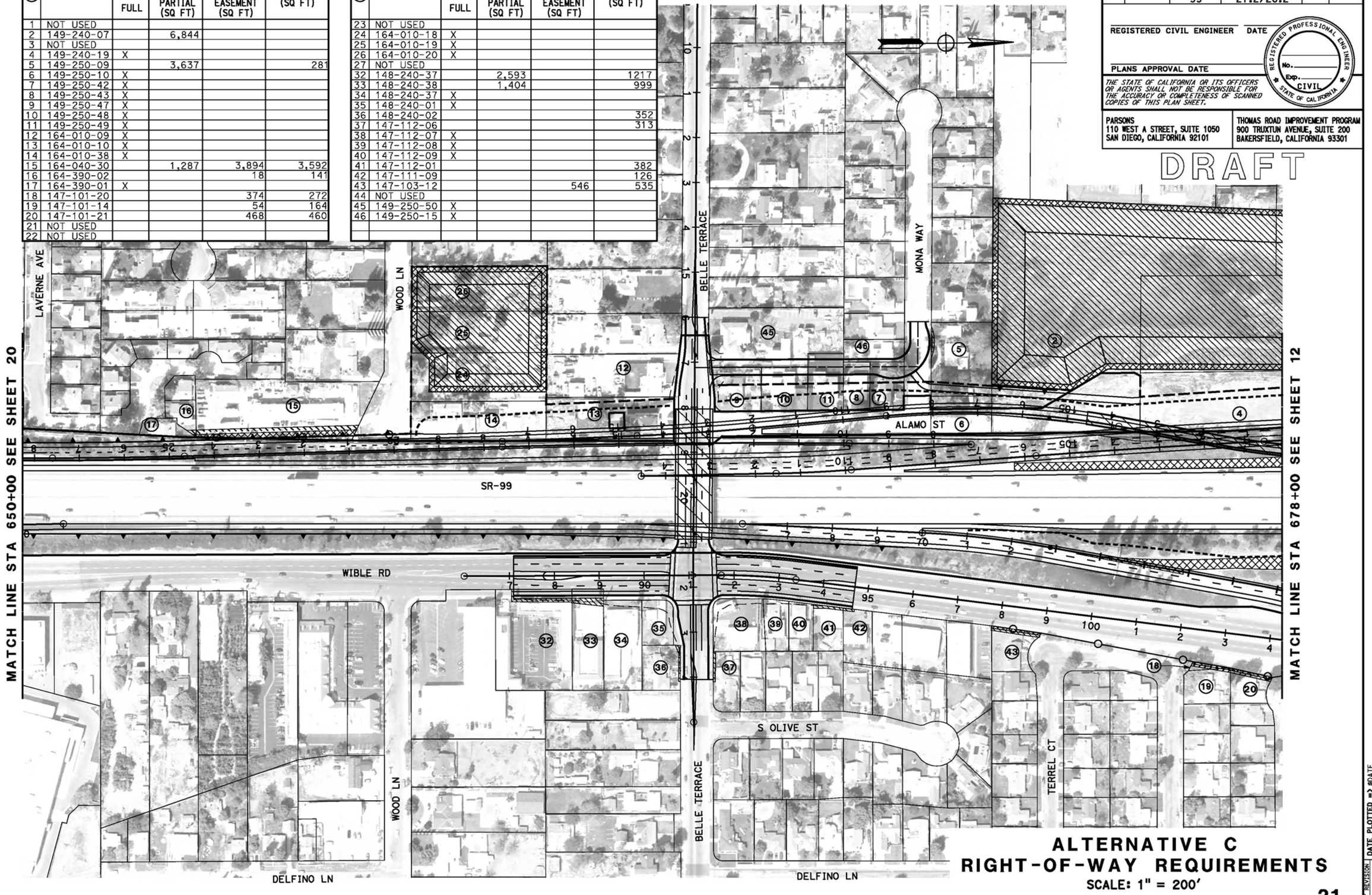
RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	NOT USED				
2	149-240-07		6,844		
3	NOT USED				
4	149-240-19	X			
5	149-250-09		3,637		281
6	149-250-10	X			
7	149-250-42	X			
8	149-250-43	X			
9	149-250-47	X			
10	149-250-48	X			
11	149-250-49	X			
12	164-010-09	X			
13	164-010-10	X			
14	164-010-38	X			
15	164-040-30		1,287	3,894	3,592
16	164-390-02			18	141
17	164-390-01	X			
18	147-101-20			374	272
19	147-101-14			54	164
20	147-101-21			468	460
21	NOT USED				
22	NOT USED				

RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
23	NOT USED				
24	164-010-18	X			
25	164-010-19	X			
26	164-010-20	X			
27	NOT USED				
32	148-240-37		2,593		1217
33	148-240-38		1,404		999
34	148-240-37	X			
35	148-240-01	X			
36	148-240-02				352
37	147-112-06				313
38	147-112-07	X			
39	147-112-08	X			
40	147-112-09	X			
41	147-112-01				382
42	147-111-09				126
43	147-103-12			546	535
44	NOT USED				
45	149-250-50	X			
46	149-250-15	X			



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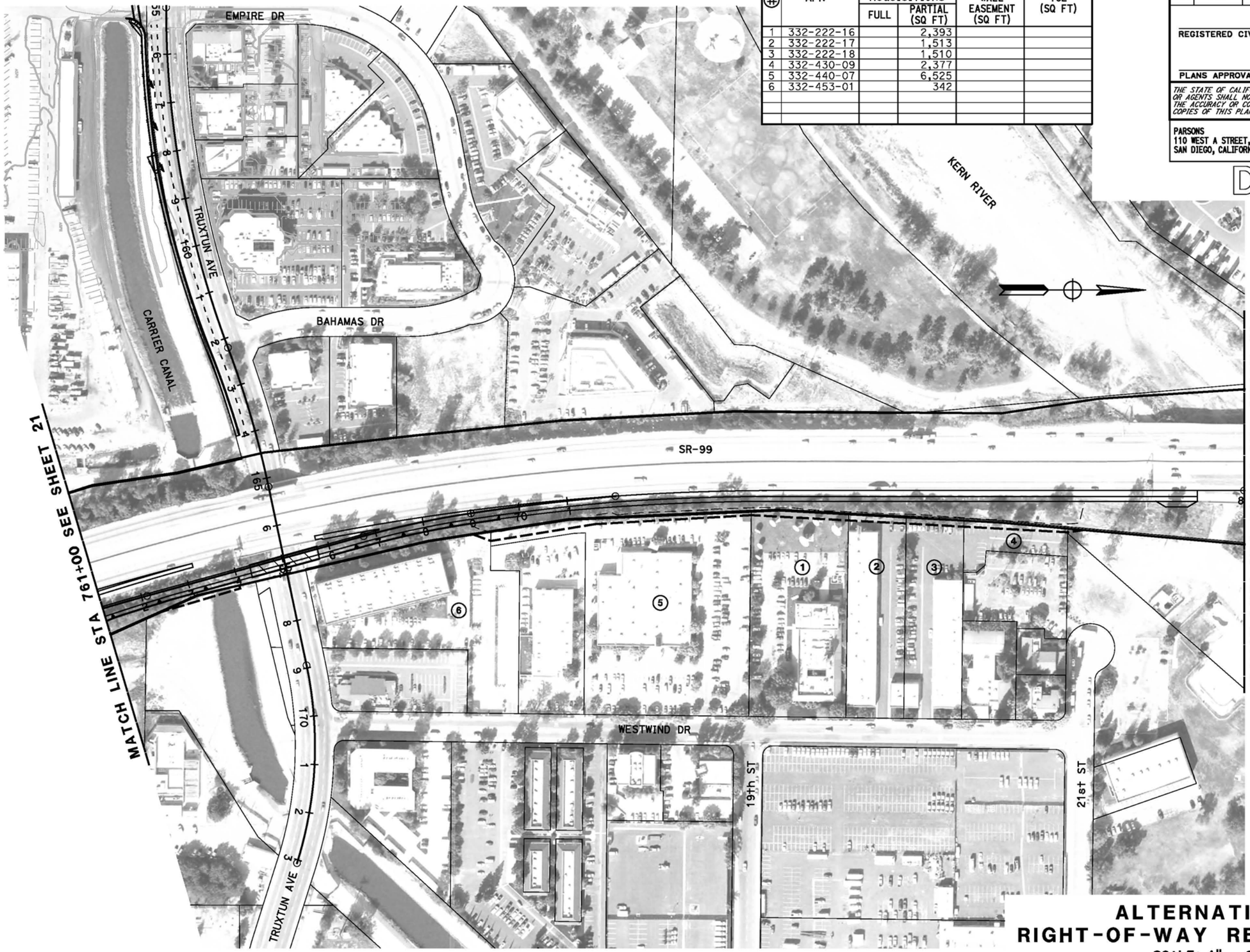
RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	332-222-16		2,393		
2	332-222-17		1,513		
3	332-222-18		1,510		
4	332-430-09		2,377		
5	332-440-07		6,525		
6	332-453-01		342		



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RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	332-152-31		57	57	
2	332-152-32		3,244	3,244	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58 99	T31.7/R55.6 21.2/26.2	23	

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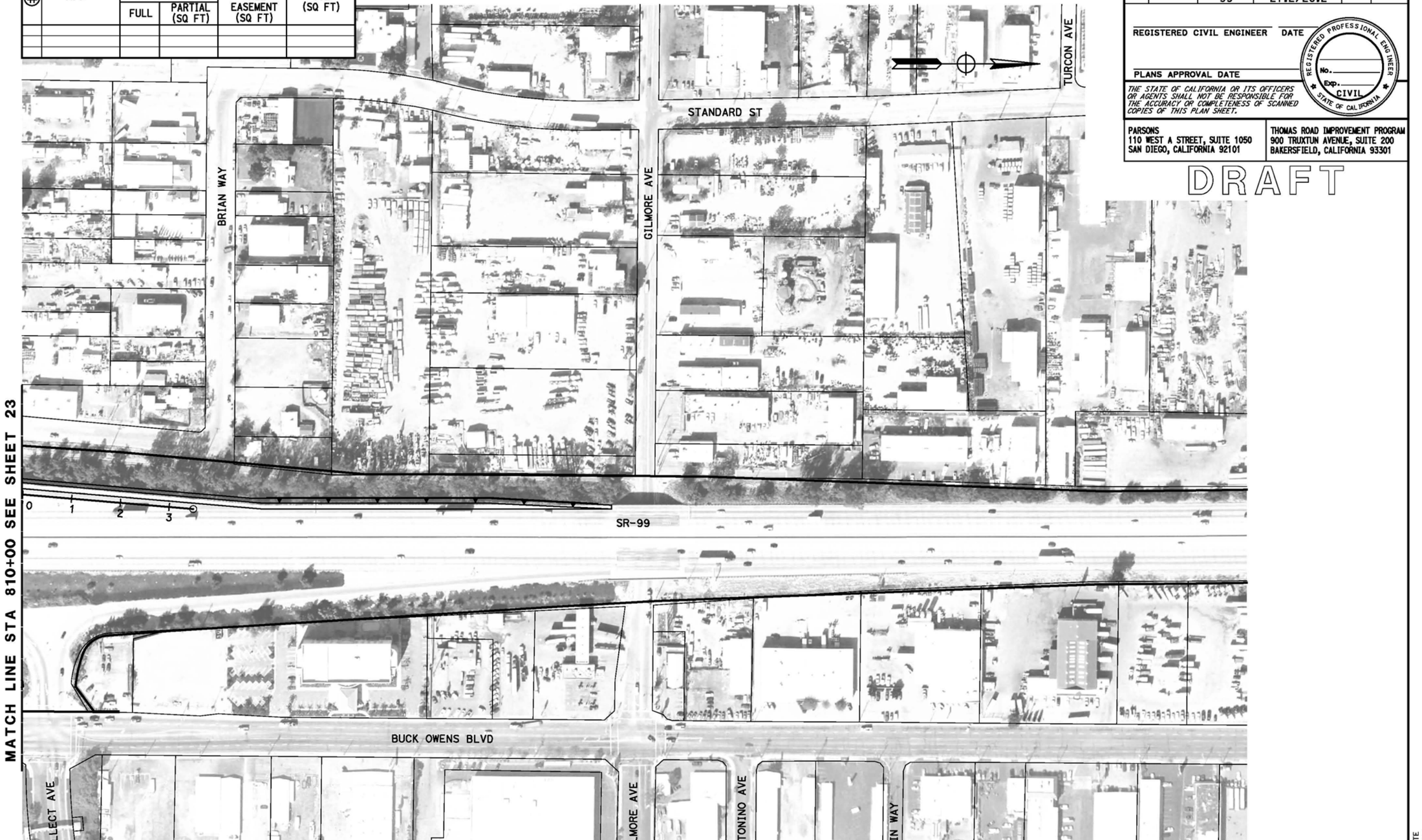

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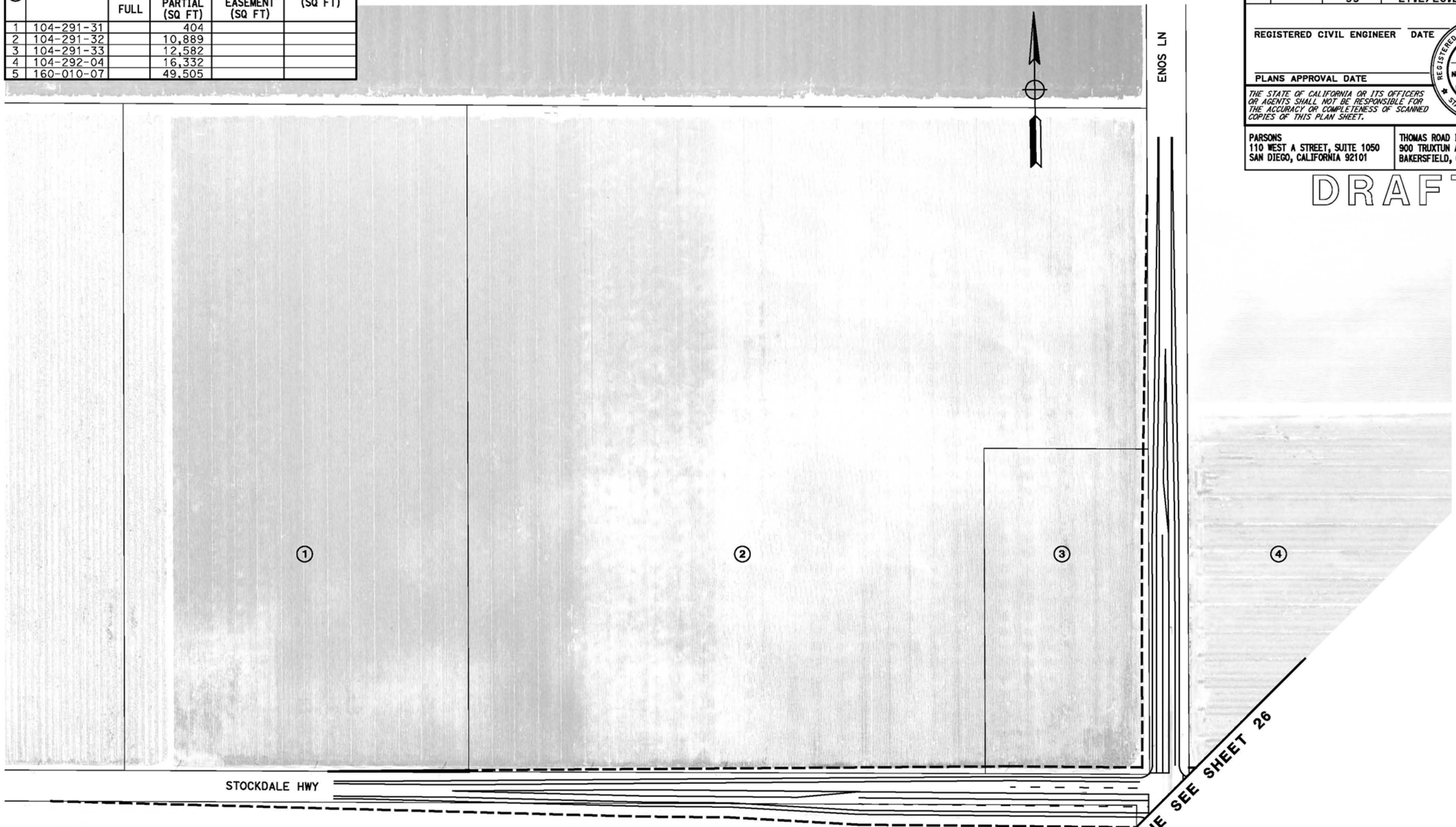
RIGHT-OF-WAY REQUIREMENTS

#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	104-291-31		404		
2	104-291-32		10,889		
3	104-291-33		12,582		
4	104-292-04		16,332		
5	160-010-07		49,505		



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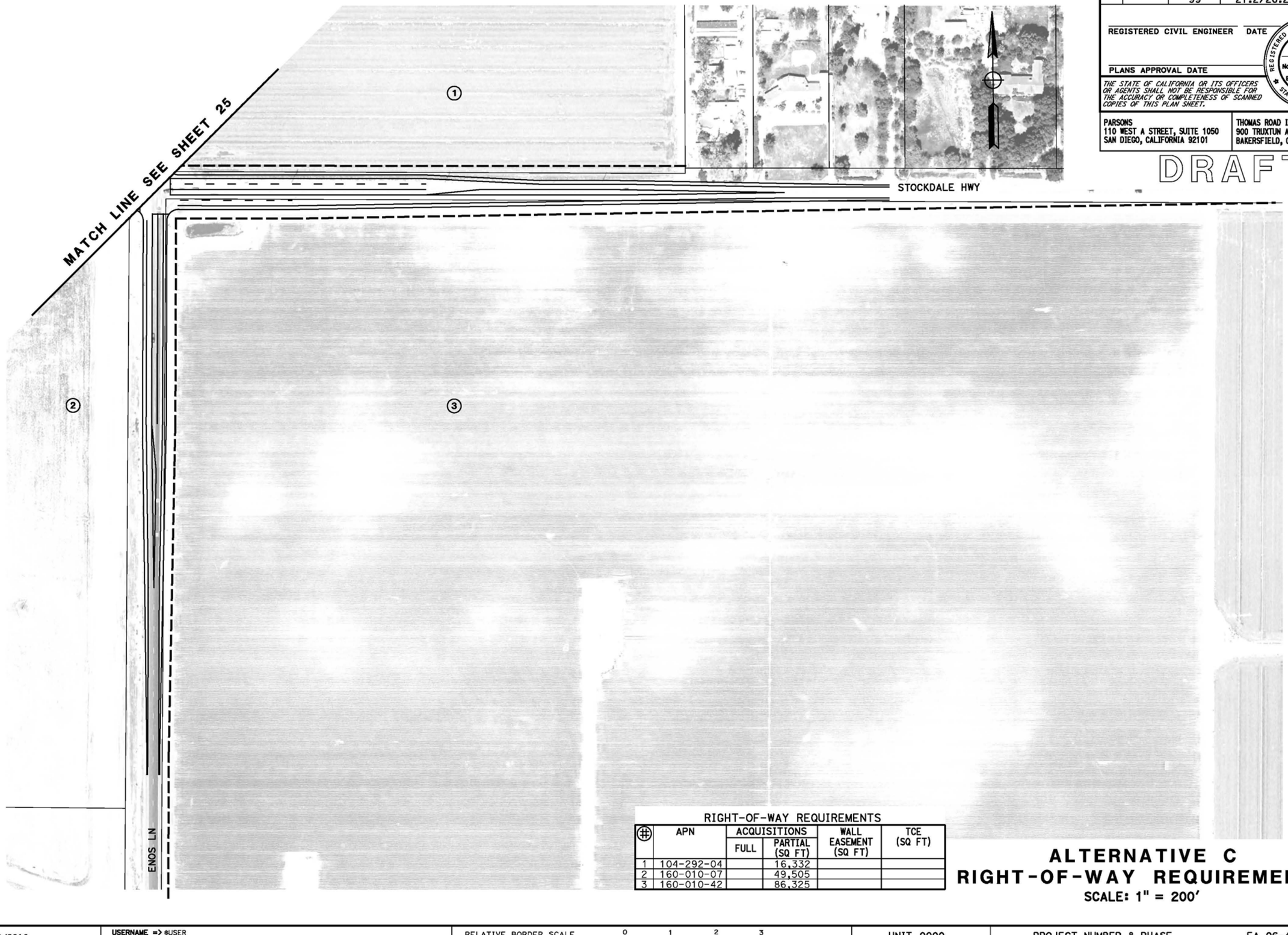

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#	APN	ACQUISITIONS FULL	ACQUISITIONS PARTIAL (SQ FT)	WALL EASEMENT (SQ FT)	TCE (SQ FT)
1	104-292-04		16,332		
2	160-010-07		49,505		
3	160-010-42		86,325		

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Appendix F Avoidance, Minimization and/or Mitigation Summary

The following measures are a compilation of the avoidance, minimization, and mitigation measures identified in Chapter 3 of this environmental impact report/ environmental impact statement.

Parks and Recreation

Mitigation Measures

The following mitigation measures would apply if Alternative A is selected:

PR-1 Caltrans, in coordination with the City of Bakersfield, shall implement the following measures to minimize impacts to the Kern River Parkway:

- Prior to construction, reconstruct the Kern River Multi-Use Trail and equestrian trail that would be affected by construction activities. Locate the new realigned trails at underpasses beneath the overhead structures.

- Access to the pedestrian, bicycle, and equestrian trails shall be maintained to the extent practicable during the construction period. Signs shall be furnished for all paths and for any paths temporarily closed for public safety and security.

- Prior to construction, replace the volleyball courts and other park uses potentially displaced by the project construction at a new location within the Kern River Parkway, to be identified by the City of Bakersfield.

- After construction, replant native vegetation that would be cleared during construction of the project using similar plant materials approved by the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife. All mature trees will be replaced at a 1:1 ratio.

The following measures would apply if Alternative C is selected:

PR-2 Caltrans, in coordination with the City of Bakersfield, shall implement the following measures to minimize impacts to Saunders Park that would result from implementing Alternative C:

- Assemble and consolidate excess land in the vicinity of the park to redefine a new park boundary that is estimated to comprise an estimated 12.95 acres, a net increase of 1.65 acres.

- The park shall be developed consistent with the concept plan provided in Section 7.2, Measures to Minimize Harm to Saunders Park of the *Section 4(f) Evaluation* provided in Appendix B, Volume 2. All affected facilities shall be replaced. As shown in the concept layout, the new Saunders Park includes the following relocated facilities: basketball courts, roller hockey facility, splash/water play area, group picnic areas, and parking areas. Security lighting shall be incorporated.

Farmland

Mitigation Measure

AG-1 In conjunction with right-of-way acquisition for the improvements to the Stockdale Highway/State Route 43 intersection, Caltrans shall coordinate with the County of Kern to amend the applicable Williamson Act contract to reflect the removal of the right-of-way purchased for roadway improvements from the contract.

Community Character and Cohesion

Project design would minimize impacts to the neighborhoods as much as feasible and practicable. Mitigation measures presented in Parks and Recreation, Section 3.1.1.3, Traffic and Transportation/Pedestrian and Bicycle Facilities, Section 3.1.6; Air Quality, Section 3.2.6; Noise, Section 3.2.7; and Construction Impacts, Section 3.6 of this environmental document in Volume 1, have been developed to minimize impacts to the neighborhoods affected by the project construction and operation. The following mitigation measures are provided in addition to specific measures in respective sections indicated earlier. These specifically include the aesthetic design theme, and the assistance mandated by the Uniform Relocation Act, as amended, provided during the relocation process.

Minimization and Mitigation Measures

C-1 The overall Centennial Corridor aesthetic design theme shall be compatible with surrounding neighborhoods and in keeping with the overall Westside Parkway design theme, to the extent feasible, including landscaping, aesthetic soundwall, and bridge treatments.

C-2 Caltrans, in coordination with the City of Bakersfield, shall prepare a relocation analysis as part of the Final Relocation Impact Report. The results will be incorporated into the final environmental document. The relocation analysis will enable the relocation activities to be planned so that the problems associated with the displacement of individuals, families, and businesses are recognized in advance of moves and so that solutions are developed to minimize the adverse impacts of displacement. The scope of planning will be based on the complexity and nature of the anticipated displacement activity, including the evaluation of program resources available to carry out timely and orderly relocations.

C-3 Close coordination with the Kern County Department of Human Services shall be undertaken to prepare a special publication for the residents of the

Centennial Corridor project area that will identify the variety of social service providers available from metropolitan Bakersfield and Kern County public and private community-based organizations, including local religious institutions. The publication, which will be prepared in both English and Spanish, will also include contact numbers and the methods to obtain those services. Hard copies of the publication will be widely distributed in addition to online versions being placed on a website for viewing and downloading. The following services should be anticipated: employment opportunities and workforce development; legal services; information about financial and tax consequences of relocation; possible homeowner credit-repair counseling; first-time buyer counseling; and other services for special needs populations, including disabled, low-income, and senior citizens.

Relocation and Property Acquisition

Standard Condition

SC-R-1 Caltrans, in coordination with the City of Bakersfield, shall implement all property acquisition and relocation activities in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act) of 1970 (Public Law 91-646, 84 Stat. 1894). The Uniform Act mandates that certain relocation services and payments be made available to eligible residents, businesses, and non-profit organizations displaced by the project. The Uniform Act provides uniform and equitable treatment by federal or federally assisted programs of persons displaced from their homes, businesses, or farms, and establishes uniform and equitable land acquisition policies. See Appendix D in Volume 2 for more information on the Caltrans Relocation Assistance Program.

Mitigation Measure

R-1 The following measures may be considered by Caltrans and the City of Bakersfield for incorporation into the relocation plan to minimize impacts to displaced businesses and residences:

- Disruption of children's education shall be minimized to the extent feasible. This may include, where possible, scheduling the relocation of families with school-aged children during the months of June through August, and identifying, as a priority, replacement housing options within the same Bakersfield public and private school district for those families who wish to keep their children there.
- All relocation assistance materials shall be written in a non-technical way and be available in Spanish and English. One or more of the relocation specialists shall be fluent in Spanish; have demonstrated training/be certified from the International Right-of-Way Association; and have no fewer than five years of experience in explaining to

potentially affected homeowners, tenants, and businesses, the provisions of the Uniform Relocation Act, as amended.

- To the extent applicable, relocation of residential and non-residential properties shall be phased over time so that displacees have an opportunity to select the best replacement sites without competing with other affected property owners within the same community.
- To the extent applicable, a lease-back of non-residential properties shall be considered to allow those proprietors who wish to continue to conduct their business at their current location as long as it is feasible.
- Last Resort Housing Program payments shall be used to relocate residential households being displaced, if necessary, as provided for by the Uniform Relocation Act, as amended.
- One or more specialists on the relocation team with prior experience working with people with special needs—especially the elderly, disabled, and low-income population groups—shall be made available to facilitate the relocation process.
- Supplemental transportation at no cost shall be offered for displaced persons to inspect potential relocation housing should they be unable to use their own transportation.
- At least one "business fair" shall be conducted to provide information to those businesses facing displacement. The fair will be an opportunity to provide businesses with the information and resources concerning how to optimize the impending relocations. Among people expected to participate are those working in the commercial leasing sector, moving companies, and others.
- In advance of potential relocations of minority-owned businesses, outreach to such organizations as the Kern County Black Chamber of Commerce and Kern County Hispanic Chamber of Commerce shall be undertaken to identify resources that may be of particular help to such businesses.

Utilities/Emergency Services

Minimization Measure

SC-U-1 Existing oil wells within the proposed right-of-way would be abandoned in accordance with the requirements in the California Code of Regulations. This includes filing a Notice of Intent and preparing an abandonment plan for approval by the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources. Completion of the well abandonment process in compliance with existing regulations would ensure that no environmental hazards are created by the plugging operations or the abandoned well.

Traffic and Transportation/Pedestrian and Bicycle Facilities

Minimization and Mitigation Measures

T-1 Modifications could include parking lot design modifications, space management (such as parking area restriping), or identifying parking lot replacement options.

The following measure would apply if Alternative A were selected:

T-2 For Alternative A, Caltrans shall take into consideration the means to minimize both operational and construction impacts to existing and planned bike routes and trails potentially affected by the project construction, such as rerouting the trails prior to the initiation of construction activities.

The following measure would apply if Alternative B were selected:

T-3 During final design, Caltrans shall work with the City of Bakersfield to amend the Metropolitan Bakersfield General Plan, Bikeway Master Plan to reflect the modified Class 3 bicycle route affected by Alternative B and shall take into consideration the means to minimize both operational and construction impacts to existing and planned bike routes and trails potentially affected by the project construction, including the Kern River Parkway bike path and Hoey Trail. The Kern River Parkway bike path and Hoey Trail shall be relocated, where necessary, to ensure connectivity with the existing facility on both sides of the bridge. All pedestrian facilities shall be designed to meet or exceed requirements of the Americans with Disabilities Act and current safety standards. Access to the pedestrian, bicycle, and equestrian trails shall be maintained to the extent practicable during the construction period.

The following measure would apply if Alternative C were selected:

T-4 With Alternative C, replacement parking shall be created to compensate for the loss of parking at Saunders Park. Sufficient parking shall be provided to meet zoning code requirements for the park.

Visual/Aesthetics

As identified above, the aesthetic treatment for walls, bridges, and landscaping would be consistent with the design used for the Westside Parkway to provide a cohesive visual character to the project. Figures 3-14 through 3-26 (Simulated Project View), provided in Volume 1, show the Westside Parkway treatments as they could look on the Centennial Corridor alternatives. Design features, such as depressing Alternative B between California Avenue and Ford Avenue, would minimize visual disruption of the roadway in the Westpark neighborhood. Mitigation and minimization measures listed below would be used to soften the imposition of new transportation corridor infrastructure, reduce visual impacts, and improve visual appeal to the residential, open space, and commercial areas along the proposed project alternatives. They are

also intended to mitigate the visual impacts of the proposed project for community residents, commercial employees, recreation viewers, and motorists traveling along commercial corridors near the proposed project.

Minimization Measures

V-1 In conjunction with final design, Caltrans shall develop, and the contractor shall implement, an irrigation plan that includes the following requirements:

- All drip zones of isolated trees shall be protected with fencing. In addition, the existing environmentally sensitive areas (parks, Kern River) shall remain to be protected.
- An irrigation system shall be provided to all new plantings.
- An extended three-year maintenance period after the construction is completed shall be provided for single-source maintenance through the establishment period.

V-2 The overall Centennial Corridor aesthetic design theme shall be compatible with surrounding neighborhoods and in keeping with the overall Westside Parkway design theme, to the extent feasible, including landscaping, aesthetic soundwalls, bridge treatments, and lighting fixtures. The architectural treatments are shown in the visual simulations and are primarily comprised of brick. Additionally, the simulations contain views with and without vines for walls. The City of Bakersfield and the County of Kern shall enter into maintenance agreements with Caltrans. The maintenance agreement with the City will include maintenance of the enhanced aesthetic treatment, including graffiti removal. It should be noted that the City will have to provide the beige color paint to Caltrans for graffiti removal so that it is matched with the Westside Parkway architectural treatments. In the event the City cannot provide the beige color paint, Caltrans will have to use grey color paint to remove graffiti.

V-3 As part of storm water runoff management, the infiltration basins will be designed to include buffer areas and/or plant screens to shield public views where practical.

V-4 Landscaping would be implemented upon completion of construction. Plant material would consist of native, drought tolerant, and self-sustaining species. Any adapted plant material shall be consistent with the Caltrans District 6-approved plant palette and would not include any invasive plant species.

V-5 Caltrans shall preserve as many mature trees as practical. The landscape plan will incorporate a tree replacement plan with a replacement ratio of 1:1—for every tree removed, a tree will be planted. Mature trees (larger than 20 feet high) that are to be removed shall be replaced using 20-inch box trees. A tree survey shall be completed during final design. Design

plans shall indicate locations of existing specimen-sized trees (larger than 20 feet high) to be preserved if possible. Tree replacement shall meet all Caltrans and city standards and policies.

Cultural Resources

Avoidance measures have been incorporated into the current design concepts for each of the alternative alignments near the Lester H. Houchin residence. Early design concepts assumed embankments (slopes at the edge of the freeway) would have resulted in the State Route 58 right-of-way extending onto the property of the Houchin residence. To avoid impacts to potentially eligible property, a retaining wall is proposed in this location to ensure the project does not affect this property. The retaining wall would be at the edge of right-of-way north of Brite Street. This avoids direct impacts to the Houchin residence. In addition, it allows the landscaping on the north side of the property to be retained, which provides a visual buffer to Brite Street and State Route 58.

Construction methods would also be used to avoid and minimize potential indirect adverse effects to the Rancho Vista Historic District due to vibration during construction if construction comes close to the homes. Alternative construction methods may include cast-in-drilled-hole piles rather than pile driving. Specific methods would be determined during final design.

Mitigation Measures

If either Alternative A or B is selected as the preferred alternative, a Memorandum of Agreement with the State Historic Preservation Officer and the Advisory Council on Historic Preservation would be required to identify mitigation measures to reduce the potential impacts to the Rancho Vista Historic District. Measure CR-1 provides the type of measure that would be appropriate. The following measures would apply if either Alternative A or B is selected as the preferred alternative, except as noted:

CR-1 The conceptual mitigation measures for effects to the Rancho Vista Historic District would include as appropriate:

1. Detailed documentation of the Rancho Vista Historic District as a whole, and of each adversely affected contributing property at a level specified by the State Historic Preservation Officer (similar to Historic American Building Survey Level II documentation, consisting of large format archival quality photographs, available as-built plans, and written historical data in the form of an historical report), distribution to the appropriate Regional Information Center, local public library, and other repositories to be determined.
2. Preparation of a brochure on the local history and architecture of the affected Rancho Vista Historic District.
3. Adding information to existing social media sites dealing with related architectural topics.

4. Incorporation of hardscape features (including soundwalls), landscape, and architectural treatments that are compatible with the historic character of the affected Rancho Vista Historic District, such as color, texture, and vine treatment as feasible. (See Section 3.2.7, Noise, for location and heights of proposed soundwalls.)
5. Before demolition of contributing properties (this would only occur with implementation of Alternative A) for which an adverse effect finding is made, strategies such as working with a local agency to identify appropriate sites or offering the properties for sale for $1 (or other reasonable amount) and paying up to the cost of demolition and removal of each contributing property would be attempted.
6. Architectural and structural elements or character-defining features would be made available for reuse in other buildings of the same age and style through an architectural salvage operation (this would only occur with implementation of Alternative A). No salvage would take place until an opportunity for the relocation described in item 5 above has taken place.
7. The Rancho Vista Historic District contributing buildings/structures affected by temporary construction easements would be protected by the establishment of Environmentally Sensitive Areas. After construction, the land, hardscape (e.g., residential walkways, garden walks/walls, etc.) and vegetation would be replaced in-kind per the Secretary of the Interior's *Standards for the Treatment for Historic Properties with Guidelines for Rehabilitation.*

CR-2 Contract specifications shall direct the contractor not to use pile driving for the construction of the bridge crossing at Stine Road and Stockdale Highway. The contractor shall use alternative construction methods (such as cast-in-drilled-hole piles) that would cause less than 0.12 inch per second peak particle velocity for the construction of the bridge to avoid any indirect adverse vibration effects to contributing elements of the Rancho Vista Historic District that is an Historic Property.

Hydrology and Floodplain

Standard Condition

SC-FP-1 The following measures will be incorporated into project design to minimize flood flow impacts on the Kern River:

1. Project design elements will include incorporation of bridge piers and abutments that are parallel to the direction of water flow to minimize flow obstruction.
2. Pier placement will be optimized to align the piers with existing piers in the Kern River.

3. Bridge abutments will be located outside of or as close to the limits of the floodplain as possible to minimize the reduction of conveyance capacity of the Kern River.
4. Bridges will be designed with sufficient freeboard above the 100-year flood water surface elevation to prevent the bridge deck from affecting flood flows.

Water Quality and Storm Water Runoff

Disturbed soil areas and slopes would be stabilized with permanent landscaping and/or permanent erosion-control measures as part of the Design Pollution Prevention best management practices in Caltrans' Storm Water Management Plan. In addition, velocity dissipation devices would be used in design to reduce erosion potential. Standard best management practices would maintain runoff patterns, volumes, and velocities, and would prevent erosion, channel scouring, and sediment deposition. Standard best management practices include the following:

- Consideration of downstream effects (such as flow rate and pollutant concentration) related to potentially increased flow, including peak-flow attenuation devices, reduction of paved surface, soil modification, and energy dissipation devices.
- Preservation of existing vegetation
- Concentrated flow conveyance systems (ditches, berms, dikes, and swales, overside drains, downdrains, paved spillways, channel linings, flared culvert end sections, outlet protection/velocity dissipation devices)
- Slope/Surface protection systems (specifically, vegetated surfaces, benching/terracing, slope rounding, reduce gradients, hard surfaces)

The treatment best management practices (which include use of biofiltration systems, infiltration devices, detention devices, dry weather flow diversions, gross solid removal devices, multi-chambered treatment trains, wet basins, traction sand traps, and media filters) have been evaluated for use throughout the alignments, as part of the *Storm Water Data Report*. The report found that the use of infiltration basins throughout the alignment of each build alternative would allow the storm water runoff to use the natural filtering ability of the soil to remove pollutants. Runoff from all new impervious surfaces would be directed into the infiltration basins for treatment and so would not create any surface water or groundwater quality impacts.

With the incorporation of project design features and standard best management practices into the project, no mitigation measures are required.

Hazardous Waste or Materials

Sites with potential contaminants shall be investigated, cleanup methods identified, and health and safety measures consistent with federal, state, and local requirements shall be implemented prior to and during project construction.

Minimization Measures

H-1 Prior to finalization of the environmental document, a Preliminary Site Investigation for the preferred alternative (Alternative B) shall be conducted to determine the existence and the level of contamination, if any. If contamination is identified, the wastes/materials shall be handled in accordance with all applicable federal, State, and local regulatory requirements.

H-2 Special provisions shall be included in the construction contract. Contractors will be required to prepare and work under a Health and Safety Contingency Plan(s), which will address worker safety when working with potentially hazardous materials including asbestos, lead-based paint, aerially-deposited lead and/or other construction-related materials within the project right-of-way. Asbestos-containing materials sampling and analysis of buildings subject to demolition will be done by the contractor, as needed, prior to demolition and the statement of work will be included in the specifications.

H-3 As part of project design, a Soil Management Plan shall be developed to ensure that soil excavated during the project construction which is impacted by metals or petroleum hydrocarbons is handled, stockpiled, and disposed of in accordance with federal, state, and local regulations. The Soil Management Plan will also establish Reuse Screening Levels for the excavated soils with contaminant concentrations below the Reuse Screening Levels, which may be reused during construction projects on the right-of-way, while soils with contaminant concentrations exceeding the Reuse Screening Levels will need to be managed as hazardous wastes and disposed of at a Class I landfill.

H-4 Prior to any soil disturbance at the former Tosco Coke Pile (APN#502-010-12), the Department of Toxic Substances Control shall be properly notified.

Noise

Abatement Measure

N-1 Based on the studies completed, Caltrans intends to incorporate noise abatement in the form of soundwalls that meet the criteria for reasonableness and feasibility. The recommended soundwalls would reduce the traffic noise levels by at least 5 decibels (dB) at the impacted receivers, would meet the design goal by providing a 7-decibel reduction for at least one receiver, and would cost less than the reasonableness cost allowance. If during final design, conditions have substantially changed, noise abatement may not be necessary. The final decision of the noise abatement will be made upon completion of the project design and the public involvement processes.

Prior to the formal selection of the Preferred Alternative and approval of the project, all property owners of the benefitted receptors located adjacent to each of the proposed soundwalls will be given an opportunity to vote if they want the soundwall to be constructed to abate the traffic noise in their

area or not. For soundwalls located within state right-of-way, if more than 50 percent of the votes from responding benefitted receptors oppose the abatement, the abatement will not be considered reasonable and will not be built. If the soundwall is to be located on private property (or properties), 100 percent of the property owners must vote in favor of the soundwall for it to be constructed. However, at this time, none of the recommended soundwalls are on private property.

The soundwalls that meet the feasibility and reasonableness criteria are shown in Tables F-1 through F-9 at the end of this Appendix.

Wetlands and Other Waters

Mitigation Measure

B-1 Prior to initiation of construction, Caltrans shall coordinate with and obtain necessary permits from the U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and Regional Water Quality Control Board regarding compensation for impact to jurisdictional habitat. Due to the small effect of the alternatives on jurisdictional areas, replacement habitat shall be incorporated into the jurisdictional habitat replacement plan developed for the Westside Parkway project. The mitigation approach will be negotiated with the resource agencies and will consist of a combination of the following: 1) purchase of credits at a jurisdictional resources mitigation bank; 2) enhancement of jurisdictional resources; 3) restoration of jurisdictional resources; or 4) purchase of existing jurisdictional resources and placing a conservation easement over it.

Plant Species

Mitigation Measure

The following measure would apply to Alternative A in Segment 1:

B-2 If Alternative A is selected as the preferred alternative and the two populations of Ferris' goldfields cannot be avoided, Caltrans shall develop a mitigation and monitoring program to compensate for the loss of Ferris' goldfields before this species is affected. The mitigation program shall include preservation and/or enhancement of occupied habitat for this species or it shall include seed collection within the impact area and planting within a suitable mitigation site. The mitigation and monitoring plan shall be prepared by a qualified biologist and shall contain appropriate performance criteria.

Threatened and Endangered Species

Mitigation Measures

B-3 Special Status Plant Species: Prior to project groundbreaking, a U.S. Fish and Wildlife-approved biologist(s) shall conduct updated protocol-level botanical surveys within the project footprint during the appropriate blooming periods for the following four species: the California

jewelflower, the Kern mallow, the San Joaquin woollythreads, and the Bakersfield cactus. Surveys shall be conducted in accordance with the most current protocols accepted by the U.S. Fish and Wildlife Service.

To the greatest extent practicable, efforts shall be made to avoid the species during project design. If one of these species is observed within the impact area at Stockdale Highway and State Route 43 and it cannot be avoided, Caltrans shall obtain a take authorization from the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife before impacts to this species. Caltrans shall consult with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife to determine the appropriate conservation measures to mitigate for impacts on this species. The mitigation shall include payment to an in-lieu fee program; preservation or enhancement of occupied habitat for the species; or collection of seed within the impact area and planting within a mitigation site with the appropriate microhabitat for this species. A detailed mitigation and monitoring program shall be prepared by a qualified biologist and approved by the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife.

B-4 S*an Joaquin kit fox:* Measures have been developed from standard recommendations described in the *USFWS Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011b). In addition, project design changes have been identified to reduce impacts on the kit fox and have been incorporated into the design plans for the project. The main objective of project design changes is to maintain opportunities for kit foxes to cross over the road surface while reducing the potential for unintentional vehicle strikes. Construction of the new roadway would also incorporate several features to allow continued kit fox movement, including maintaining existing movement corridors along existing linear habitat features. These features include:

- Permeable fencing shall be installed along the proposed right-of-way in all areas where there is known San Joaquin kit fox activity and lower traffic speeds/volumes. Permanent exclusionary fencing shall be installed along the proposed right-of-way in high-density residential areas and/or in areas with higher traffic speeds/volumes. In areas in need of new permeable fencing, at least one design option featured below shall be adopted to provide the San Joaquin kit fox with passage and movement opportunities, and to minimize the potential to disrupt species movement and habitat fragmentation of the project area: (1) elevate the bottom of the fence 5 inches above ground to allow unobstructed movement by San Joaquin kit fox under the fence; (2) install ground-level 8-inch-wide by 8-inch-wide gaps no more than 100 feet apart along the length of the fence to allow for San Joaquin kit fox movement at regular intervals along the right-of-way; and (3)

install fencing with a minimum mesh size of 3½ by 7 inches, preferably 5 by 12 inches, to allow unlimited movement through the fence.

- Curbed medians shall be used as part of the project design and their height shall be no greater than ten inches. Either 6-inch-high curbed medians with low vegetation (that is, less than 6 inches) or 10-inch-high unvegetated curbed medians shall be constructed so as not to obstruct the visual field of the San Joaquin kit fox near the roadway. Curbed medians less than 10 inches in height and which require landscaping shall be planted with low-level vegetation (i.e., less than 6 inches tall at maturity), or be mowed frequently to prevent overgrowth and provide an unobstructed line of sight for the species, or shall have gaps installed measuring no less than 4-feet-wide every 12 feet in areas landscaped with trees and shrubs. If required, landscaping shall be designed in conjunction with the curbed median design in order to allow unobstructed visibility to the San Joaquin kit fox and to maintain and/or enhance opportunities for movement across the roadway. Median barriers will be required in some areas of the project for the purpose of public safety. The Caltrans-designed modified median barrier type 60/S shall be used. Caltrans type 60/S design previously has been utilized in other projects (e.g., reinitiated Biological Opinion for the State Route 99 Goshen to Kingsburg 6-Lane Project, in Tulare and Fresno Counties; Service File number 81420-2009-F-0752) and includes 9-inch radius openings (semi-circular openings 9 inches high by 18 inches) spaced every 150 feet to allow passage by the San Joaquin kit fox. Maintaining permeability in this manner shall also reduce the potential to disrupt species movement and connectivity in the project area.

- In areas of known San Joaquin kit fox activity and high traffic volumes and/or speeds, existing San Joaquin kit fox movement corridors like the canal channels and the Kern River, as well as railroad right-of-ways (e.g., BNSF), shall be preserved through the use of bridges and/or culverts to facilitate crossings. Some segments of the canals under the new roadways shall be converted from trapezoidal channels to box culverts; other segments of the canals with existing box culverts shall be extended. Toe-of-road fill and bridge support walls shall be maintained and new walls will be designed no less than 20 feet from the centerlines of canal access roads and railroad.
  - An elevated bridge currently exists at the location where the Westside Parkway crosses the trapezoidal channel of the Friant-Kern Canal. Species access will continue to be provided along an elevated access road located parallel to the canal.
  - An above-grade bridge will be constructed over the trapezoidal channel of the Stine Canal. This will allow the species to move freely below the roadway.

  - An above-grade bridge (westbound Mohawk St. off-ramp) will be constructed over the Cross Valley Canal, which exists as a double box culvert. The Kern River corridor is located proximate to the canal and so it provides existing access for the species in the area; no additional crossing features are proposed at this canal site.

- Two design options are proposed for the location where the new roadway will cross the Carrier Canal: (1) box culvert – if this design is chosen, a crossing structure (with proposed 5 x 5 inch mesh size and 10 inch diameter escape pipes within a 60 inch diameter crossing culvert) will be installed to connect the access roads on the north side of the canal; (2) bridge – if this design is chosen, no additional crossing features will be necessary since the elevated bridge above the trapezoidal canal will allow the species to move freely below the roadway.

- Warning signage alerting drivers to potential kit fox presence is proposed at several locations. The need for and number of appropriate signage at intersections shall continue to be evaluated as project design advances.

- Caltrans shall verify that the City compensates for the permanent loss of 11.28 acres and temporary disturbance to 65.55 acres of habitat consisting of non-native grassland, riparian woodland/Great Valley cottonwood riparian forest, ruderal/disturbed areas, desiccated waterways, detention basins, and agricultural land suitable for the San Joaquin kit fox by purchasing 105.95 acres (using a 1:1 compensation ratio for permanent effects and 1.1:1 compensation ratio for temporary effects) through the Metropolitan Bakersfield Habitat Conservation Plan. Prior to construction, the limits of affected habitat acreage by vegetation type shall be verified and delineated on a map, and submitted for approval to the U.S. Fish and Wildlife Service. This shall be done prior to its submittal to the City Planning Department for fee payment.

Project design changes, when implemented together, are expected to reduce the potential for adverse effects on the kit fox. Project design shall be re-evaluated and adjusted as appropriate during the final project design phase and if changes are made plans shall be submitted for review and approval to the U.S. Fish and Wildlife Service.

The actions to be applied during construction are identified in Section 3.6, Construction Impacts, as part of Mitigation Measure CI-25. Mitigation CUM-1, provided in the Cumulative Impacts discussion, also addresses the San Joaquin kit fox.

Construction Impacts

Community Impacts

Standard Conditions

SC-CI-1 To the extent practical, street closures required during construction shall be scheduled to occur during nighttime hours. This requirement will be addressed in the Traffic Management Plan to be prepared during the final design phase of project development.

SC-CI-2 To the extent practical, the contractor shall avoid blocking or limiting access to businesses during construction during normal business hours. Businesses will be contacted and advised of nearby construction activities before their commencement.

SC-CI-3 Caltrans shall notify emergency service providers, such as fire, police, and ambulance services in advance of construction of the timing, location, and duration of construction activities and the locations of detours and lane closures.

SC-CI-4 During the final design phase, the City of Bakersfield and Caltrans in coordination with affected facility owners or operators shall develop and implement access plans for highly sensitive land uses such as police and fire stations, transit stations, hospitals, and schools.

Utilities and Emergency Services

Standard Conditions

SC-CI-5 Caltrans and the City of Bakersfield shall coordinate with all affected private and public service utilities in advance of the construction. Per Caltrans requirements, all linear underground utilities within Caltrans' right-of-way will be encased from right-of-way to right-of-way in either steel or concrete.

SC-CI-6 In accordance with the requirements in the California Code of Regulations, prior to the initiation of construction, the contractor shall coordinate and notify the operators of underground or overhead utility and service lines prior to any excavation activities. This coordination would avoid damage to existing utility lines and would limit disruption to existing utility services to the existing developments near the proposed alignments.

The following standard condition would avoid and/or minimize adverse effects of the Centennial Corridor on emergency services:

SC-CI-7 The contractor shall conduct construction activities in accordance with the approved Traffic Management Plan for the project and Caltrans' Manual of Uniform Traffic Control Devices to reduce impacts to emergency services and response. Coordination of roadway closures with appropriate

emergency services would be addressed in the Transportation Management Plan.

Traffic and Transportation/Pedestrian and Bicycle Facilities

Standard Conditions

SC-CI-8 Caltrans shall require the design team to develop a Traffic Management Plan to offset the effects of access restrictions and traffic congestion during construction of the freeway, ramps, and on local streets. The Traffic Management Plan will consider methods such as adjustment of signal timing and/or signal coordination to increase roadway efficiency; turn restrictions at intersections and roadways necessary to reduce congestion and improve safety; and parking restrictions on detour routes during work hours to increase capacity, reduce traffic conflicts, and improve access. The Traffic Management Plan will include a traffic contingency plan with procedures to be implemented for possible unforeseen circumstances and emergencies.

SC-CI-9 Caltrans shall require the contractor to provide motorist alert and awareness information during construction, as appropriate for the conditions, to include the following options: changeable message signs, stationary ground-mounted signs, traffic radio announcements, and the Caltrans Highway Information Network.

SC-CI-10 Caltrans, in coordination with the City of Bakersfield, shall coordinate with Golden Empire Transit and other affected transit providers to request and comply with applicable procedures for any required temporary bus stop relocations or other disruptions to transit service during construction.

Visual/Aesthetics

Measures V-1 presented in Section 3.1.7, Visual/Aesthetics would minimize visual impacts during construction.

Cultural Resources

In addition to the standard conditions and minimization measures listed below, Mitigation Measure CR-2 provided above and in Section 3.1.8, Cultural Resources, in Volume 1 and identified above, would reduce indirect adverse vibration effects to contributing elements of Rancho Vista Historic District, associated with the construction of Alternative A.

Standard Conditions

SC-CI-11 In accordance with Caltrans standard specifications, if cultural materials are discovered during construction, all earth-moving activities within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find. If human remains are discovered, Section 7050.5 of the State Health and Safety Code states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the county coroner shall be

contacted. Pursuant to Section 5097.98 of the Public Resources Code, if the remains are thought to be Native American, the coroner will notify the Resident Engineer and the Native American Heritage Commission, who will then notify the Most Likely Descendent. At this time, the Resident Engineer will contact the District 6 Environmental Branch so that staff may work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of Section 5097.98 of the Public Resources Code are to be followed as applicable.

SC-CI-12 It is Caltrans' policy to avoid cultural resources whenever possible. Further investigation may be needed if resources cannot be avoided by the project. Additional survey(s) will be required if the project changes to include areas not previously surveyed.

Minimization Measures

CI-1 Prior to finalization of the environmental document, Caltrans shall conduct Stage II of the archaeological sensitivity model to field-check the preliminary buried site sensitivity model and to further analyze the areas believed to have high and very high archaeological sensitivity. Phase II subsurface testing, will focus on those locations along the selected alternative that require excavation into native sediments that are identified as high and very high sensitivity.

Pursuant to Caltrans' policy regarding Native American monitoring during construction activities in areas where there is a high probability of buried resources, and to ensure that Native American concerns are considered, Caltrans shall retain a Native American monitor from the Santa Rosa Rancheria Tachi Yokut Tribe, or other tribe expressing interest in the project, to monitor all subsurface testing related to Stage II of the buried site sensitivity model.

CI-2 Before starting construction activities in the areas identified as a result of the Stage II of the archaeological sensitivity model, Caltrans shall retain a qualified archaeologist and Native American representative to observe grading activities and to salvage and catalogue archaeological resources, as necessary. The archaeologist and Native American representative shall also:

- Be present at the pre-construction conference.
- Establish areas of archaeological sensitivity that would need archaeological resource surveillance based on data gathered from the field survey and the Extended Phase I Geoarchaeological Study.
- In cooperation with the Caltrans Resident Engineer, establish procedures for temporarily halting or redirecting work (including sampling, identification, and evaluation) to be followed in the event artifacts are discovered.

Water Quality and Storm Water Runoff

Standard Conditions

SC-CI-13 The project shall conform to the requirements of the Caltrans' National Pollutant Discharge Elimination System Statewide Storm Water Permit (Order No. 2012-0011-DWQ, NPDES No. CAS000003), adopted by the State Water Resources Control Board on July 1, 2013, and any subsequent permit in effect at the time of construction. In addition, the contractor shall comply with the requirements of the General National Pollutant Discharge Elimination System Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002, as amended by 2010-0014-DWQ), also referred to as the Construction General Permit, as well as implementation of the best management practices specified in the Caltrans Storm Water Management Plan, to be prepared during the final design of the project.

SC-CI-14 The contractor shall develop an acceptable Storm Water Pollution Prevention Plan containing proven best management practices to minimize storm water pollution that have the potential to affect water quality. All construction site best management practices would follow the latest edition of the Storm Water Quality Handbooks and the Construction Site Best Management Practices Manual. In addition, the Storm Water Pollution Prevention Plan shall include implementation of specific stormwater effluent monitoring requirements based on the project's risk level to ensure water quality standards are met.

SC-CI-15 During construction, when dewatering is required, the contractor shall fully conform to the requirements specified in Order No. R5-00-175, General Waste Discharge requirements for Discharges to Surface Water which Pose an Insignificant (De Minimus) Threat to Water Quality, from the Central Valley Regional Water Quality Control Board.

SC-CI-16 The contractor shall comply with all requirements of the Section 404 Permit issued by the U.S. Army Corps of Engineers for the discharge of dredged or fill material into waters of the United States.

SC-CI-17 The contractor shall comply with all requirements of the Section 401 Certification issued by the Regional Water Quality Control Board to ensure that all discharges comply with applicable federal and state effluent limitations and water quality standards.

SC-CI-18 The contractor shall comply with all requirements of the Streambed Alteration Agreement per Section 1602 of the California Fish and Game Code.

Paleontology

Mitigation Measures

A Paleontological Mitigation Plan will be prepared prior to project construction. The plan would include the following mitigation measures:

CI-3 Specifications for paleontological mitigation shall be included in the construction contract special provisions section for this project to advise the construction contractor of the requirement to cooperate with the salvage of paleontological resources, particularly fossil remains and associated locality data.

CI-4 A qualified principal paleontologist approved by Caltrans shall prepare a detailed Paleontological Mitigation Plan before the start of construction. The paleontologist must have a Master of Science/Arts (M.S./M.A.) or Doctor of Philosophy (Ph.D.) degree in paleontology or geology and will be familiar with paleontological salvage or mitigation procedures and techniques. All geological work will be performed under the supervision of a California Professional Geologist.

CI-5 Caltrans will perform paleontological monitoring and salvage during construction-related excavation and other earth-moving activities. Within the boundaries of the project area, no earth-moving activity shall be allowed without written authorization of the Resident Engineer. Caltrans will provide a Paleontological Salvage Team consisting of a qualified Principal Paleontologist and Paleontological Monitors. The Resident Engineer will make arrangements for the Paleontological Salvage Team to be at the job site.

CI-6 If unanticipated fossils are discovered in an area of the project site not being actively monitored, the remains shall not be disturbed. The Resident Engineer shall direct that all work within a 60-foot radius of the discovery be stopped and that the area be protected. The Resident Engineer, in consultation with the paleontologist, will investigate and modify the dimensions of the protected area, if necessary. Paleontological resources will not be removed from the project site without authorization. Work will not resume within the specified radius of the discovery until authorized by the Resident Engineer.

CI-7 The Paleontological Salvage Team will be notified 15 days in advance of the start of excavation or any other earth-moving activity.

CI-8 The construction contractor shall attend a pre-construction meeting with the Paleontological Salvage Team and the Resident Engineer to establish procedures for cooperation in the event fossil remains are encountered and to provide for worker safety during monitoring and salvage activities. The Principal Paleontologist and the Caltrans paleontology coordinator will be

present at pre-grading meetings to consult with grading and excavation contractors.

CI-9 Before any earth-moving activity, the Principal Paleontologist shall conduct an employee environmental awareness training session for all persons involved in that earth-moving activity.

CI-10 Before the start of earth-moving activities, the Paleontological Salvage Team will conduct a pre-construction field survey of the project area, and any exposed fossil remains will be recovered. A qualified Paleontological Monitor, under the direction of the Principal Paleontologist, will be onsite to inspect cuts and debris piles to allow for the discovery and recovery of larger fossil remains. Monitoring will be conducted at all times during original grading in areas underlain by highly important rock units. If necessary, additional personnel will be assigned to recover an unusually large or numerous fossil occurrence.

CI-11 The Paleontological Salvage Team will salvage fossil remains exposed by excavation and other earth-moving activities. The Resident Engineer, at the request of the Paleontological Salvage Team, may temporarily divert or stop such activities in the vicinity of a fossil locality to avoid disturbing the locality pending removal of the remains. When fossil remains are discovered, the Paleontological Monitor will recover them and contact a Principal Paleontologist for assistance, if necessary. Earth-moving activities in these areas shall be halted or diverted to allow for the recovery of the remains in a timely manner.

CI-12 Bulk sediment or rock samples will be recovered from fossiliferous horizons and processed to allow for the recovery of microvertebrate and other microfossil remains, as determined necessary by the Principal Paleontologist.

CI-13 Fossil remains collected as a result of monitoring and salvage or sample processing will be cleaned, prepared, sorted, curated, and cataloged. Recovered specimens will be identified by appropriate paleontological specialists.

CI-14 Prepared fossils, along with copies of all pertinent field notes, photographs, and maps, shall then be deposited in a Caltrans-approved museum repository with paleontological collections and made available for future scientific study.

CI-15 A final report shall be completed by the Principal Paleontologist. The report shall outline the results of the mitigation program and will be signed by the Principal Paleontologist and Professional Geologist. A copy of the report will be supplied to the museum repository and to Caltrans.

CI-16 At the completion of the project, the Caltrans paleontological coordinator will prepare a paleontological stewardship summary with a list of any long-term commitments. The list will be provided to both Maintenance and Operations staff, including the Encroachment Permits office.

Hazardous Waste or Materials

Standard Conditions

SC-CI-19 A Health and Safety Contingency Plan shall be prepared as part of the standard engineering design process.

Air Quality

Standard Conditions

SC-CI-20 Caltrans shall incorporate requirements into the contract specifications requiring that the contractor comply with the San Joaquin Valley Air Pollution Control District's Rule 9510 (Indirect Source Review). This rule applies to transportation or transit projects with construction exhaust emissions of at least 2 tons of nitrogen oxides or 2 tons of particulate matter (PM_{10}) per year. These projects are required to reduce their construction exhaust emissions of nitrogen oxides and particulate matter (PM_{10}), by 20 and 45 percent, respectively, compared to the statewide average for construction equipment. If, after implementation of all feasible onsite mitigation measures, the required emission reduction is not achieved, the rule provides a mechanism by which Caltrans can pay an offsite mitigation fee to the district. Methods of calculating the offsite emission reduction fee are provided in Section 7.1.1 of Rule 9510 and the District's Rule 3180. District Rule 3180 establishes a 4 percent administration fee to cover the district's cost of operating an offsite emission reduction program.

Achieving a 20 percent nitrogen oxides reduction in exhaust emissions compared to the statewide fleet average can be met by implementing one or more of the following measures:

- Operate equipment with engines newer than 1996.
- Retrofit the existing equipment with control devices (e.g., exhaust oxidation catalyst).
- Use cleaner fuels such as liquid natural gas, compressed natural gas, or aqueous diesel fuel, where feasible.
- Prohibit truck idling in excess of 10 minutes, whenever practical.
- Use only well-maintained equipment; use proper planning to reduce rework and multiple handling of earth materials.
- Pay a mitigation fee to the air district to obtain reductions through incentive and other programs.

SC-CI-21 Caltrans shall incorporate requirements into the contract specifications requiring that the contractor comply with the San Joaquin Valley Air Pollution Control District's Regulation VIII (Fugitive PM_{10} Prohibitions) and shall implement all applicable control measures included in the District's Guide for Assessing and Mitigating Air Quality Impacts, specifically those measures listed in Table 6-2 (Regulation VIII Control Measures) and Table 6-3 (Enhanced and Additional Control Measures) of the document. Applicable mitigation measures as listed in these tables include the following:

- All disturbed areas, including storage piles that are not being actively used for construction purposes shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant, or they shall be covered with a tarp, another suitable cover, or vegetative ground cover.
- All onsite unpaved roads and offsite unpaved access roads shall be effectively stabilized of dust emissions using water or a chemical stabilizer/suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions by applying water or by pre-soaking.
- With the demolition of buildings up to six stories in height, all exterior surfaces of the building shall be wetted during demolition.
- When materials are transported offsite, all material shall be covered or effectively wetted to limit visible dust emissions, and at least 6 inches of freeboard space from the top of the container shall be maintained.
- All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.
- Within urban areas, an owner/operator shall prevent carryout and trackout, or immediately remove carryout and trackout when it extends 50 feet or more from the nearest unpaved surface exit point of the site.
- Any construction site with 150 or more vehicle trips per day shall prevent carryout and trackout.
- The following measures shall be implemented at construction sites with high emissions of fugitive dust:
  - Limit traffic speed on unpaved roads to 15 miles per hour.

- Install sandbags or other erosion-control measures to prevent silt runoff to public roadways from sites with a slope greater than 1 percent.

- The following measures shall be implemented at large construction sites near sensitive receptors:
  - Install wheel washers for all exiting trucks, or wash off tires of trucks and equipment leaving the site.
  - Install wind breaks at windward side(s) of construction areas.
  - Suspend excavation and grading activities when wind exceeds 20 miles per hour.
  - Limit areas subject to excavation, grading, and other earthwork activity at any one time.

SC-CI-22 Caltrans shall incorporate requirements into the contract specifications requiring that the contractor comply with the limitations of the National Emissions Standards for Hazardous Air Pollutants regulations as listed in the Code of Federal Regulations (CFR) requiring notification and inspection for the construction activities that are involved with demolition, renovation, or removal of asbestos-containing materials. Before starting any demolition or renovation of any building, Caltrans shall require the contractor to consult with the San Joaquin Valley Air Pollution Control District's Compliance Division to determine inspection and compliance requirements.

Noise and Vibration

In addition to the standard conditions and minimization measure listed below, Mitigation Measure CR-2 provided in Section 3.1.8, Cultural Resources, in Volume 1 and identified above, would reduce indirect adverse vibration effects to contributing elements of Rancho Vista Historic District, associated with the construction of Alternative A.

Standard Conditions

SC-CI-23 The contractor shall be required to adhere to the following equipment noise-control measures:

- Each internal combustion engine used for any purpose on the job or related to the job shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the job site without an appropriate muffler.
- Construction methods or equipment that will provide the lowest level of noise and ground vibration impact (for example, avoid impact pile driving near residences and consider alternative methods that are also suitable for the soil condition) shall be used.
- Idling equipment shall be turned off.

- Construction activities shall be coordinated to build recommended permanent soundwalls during the first phase of construction to protect sensitive receivers from subsequent construction noise, dust, light, glare, and other impacts, to the extent feasible.
- Temporary noise barriers shall be used and relocated, as needed, to protect sensitive receptors against excessive noise from construction activities involving large equipment and by small items such as compressors, generators, pneumatic tools, and jackhammers. Noise barriers can be made of heavy plywood, moveable insulated sound blankets, or other best available control techniques.
- Newer equipment with improved noise muffling shall be used, and all equipment items shall have the manufacturers' recommended noise-abatement measures (such as mufflers, engine covers, and engine vibration isolators) intact and operational. Newer equipment will generally be quieter in operation than older equipment. All construction equipment shall be inspected at periodic intervals to ensure proper maintenance and presence of noise-control devices (such as mufflers and shrouding).
- Construction activities shall be minimized to the extent possible in residential areas during evening, nighttime, weekend, and holiday periods. Noise impacts are typically minimized when construction activities are performed during daytime hours. However, nighttime construction may be desirable (such as in commercial areas where businesses may be disrupted during daytime hours) or necessary to avoid major traffic disruption. Coordination with the City or County shall occur before construction can be performed in noise-sensitive areas between 9:00 in the evening and 6:00 in the morning.
- Construction lay-down or staging areas shall be selected in industrially zoned districts. If industrially zoned areas are not available, commercially zoned areas may be used, or locations that are at least 100 feet from any noise-sensitive land use (such as residences, hotels, and motels).

SC-CI-24 The contractor shall be required to adhere to the following administrative noise control measures:

- Once details of the construction activities become available, the contractor shall work with local authorities to develop an acceptable approach to minimize interference with the business and residential communities, traffic disruptions, and the total duration of the construction.
- Good public relations shall be maintained with the community to minimize objections to unavoidable construction impacts. Frequent activity updates of all construction activities shall be provided. A

construction noise monitoring program to track sound levels and limit the impacts shall be implemented.

- In case of construction noise complaints by the public, the Resident Engineer shall coordinate with the construction manager, and the specific noise-producing activity may be changed, altered, or temporarily suspended, if necessary.

SC-CI-25 The contractor shall be required to adhere to the following vibration-control measures:

- Restrict the hours of vibration-intensive equipment or activities such as vibratory rollers so that impacts to residents are minimal (e.g., weekdays during daytime hours only when as many residents as possible are away from home.
- The owner of a building close enough to a construction vibration source that damage to that structure due to vibration is possible would be entitled to a pre-construction building inspection to document the pre-construction condition of that structure.
- Conduct vibration monitoring during vibration-intensive activities.

Minimization Measure

CI-17 The contractor shall prepare a Noise and Vibration Monitoring and Mitigation Plan by a qualified Acoustical Engineer and submit it for approval. The plan must outline noise- and vibration-monitoring procedures at predetermined noise- and vibration-sensitive sites as well as historic properties. The plan also must include calculated noise and vibration levels for various construction phases and mitigation measures that may need to meet the project specifications. The contractor shall not start any construction work or operate any noise-generating construction equipment at the construction site before approval of the plan. The plan must be updated every three months or sooner if there are any changes to the construction activities.

Energy

Standard Condition

SC-CI-26 The contractor shall identify specific measures that reduce the amount of refuse generated by construction of the proposed project, consistent with the waste reduction requirements established by the California Integrated Waste Management Act of 1989.

Biological Environment

Standard Condition

SC-CI-27 ***Invasive Species:*** In compliance with the Executive Order on Invasive Species (Executive Order 13112) and subsequent guidance from the Federal Highway Administration, Caltrans shall not use species listed as invasive as part of landscaping erosion control measures. In areas of

particular sensitivity, extra precautions shall be taken if invasive species are found in or adjacent to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur. To adhere to this requirement, any landscape designs shall be submitted to Caltrans for review and approval by a qualified biologist during the project design phase. The review shall verify that no noxious weeds/invasive exotic plant species are in the proposed landscaping plan. If the plan contains noxious weeds/invasive species, the reviewing biologist shall recommend suitable substitutes.

Minimization Measures

CI-18 ***Wetlands and Other Waters:*** Before starting any grading and/or construction-related activity within 50 feet of areas under the jurisdiction of the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and/or California Department of Fish and Wildlife, the contractor shall install fencing, flagging, lath and rope, or another device to delineate the jurisdictional areas that would not be affected by the project. The purpose of the fencing is to protect the jurisdictional areas from inadvertent disturbance. Placement of the fencing shall be done under the supervision of a qualified biological monitor.

CI-19 ***Western Spadefoot, Western Pond Turtle, Coast Horned Lizard, Silvery Legless Lizard:*** A pre-construction survey for western spadefoot, western pond turtle, coast horned lizard, and silvery legless lizard shall be conducted by a qualified biologist within the proposed impact area before construction. If these species are observed on or adjacent to the impact area and are in imminent danger from construction activities, a qualified biologist shall capture and relocate individuals to an appropriate location outside the impact area. Suitable habitat (such as pools for western spadefoot tadpoles or pond turtles) into which to relocate the individuals will be identified by the biologist and approved by the California Department of Fish and Wildlife before individuals are translocated. The biologist conducting the surveys shall hold necessary permits to handle the species. If animals are not in imminent danger, they shall be allowed to leave the impact area on their own.

CI-20 ***White-tailed Kite:*** A pre-construction survey for nesting raptors shall be done by a qualified biologist within the limits of project disturbance and shall be repeated annually. Any active nest found during survey efforts shall be mapped on the construction plans. If nesting activity is present, the active site shall be protected until nesting activity ends to ensure compliance with Section 3503.5 of the *California Fish and Game Code.*

Nesting activity for raptors in the region normally occurs from February 1 to August 31. If no active nests are found, no further mitigation would be

required. Results of the surveys shall be provided to the California Department of Fish and Wildlife.

To protect any white-tailed kite nest site, the following restrictions on construction would be required between February 1 and August 31 (or until nests are no longer active, as determined by a qualified biologist): (1) clearing limits shall be established a minimum of 600 feet in any direction from any occupied nest; (2) access and surveying shall be restricted within 600 feet of any occupied nest; and (3) full-time biological monitoring shall be required when construction is within 600 feet of an active nest. Any encroachment into the buffer area around the known nest shall be allowed only if it is determined by a qualified biologist that the proposed activity shall not disturb the nest occupants. Construction during the non-nesting season can occur only at the sites if a qualified biologist determines that fledglings have left the nest.

CI-21 ***Burrowing Owl****:* A pre-construction survey shall be conducted by a qualified biologist in accordance with the survey requirements detailed in the California Department of Fish and Game's March 7, 2012 *Staff Report on Burrowing Owl* no less than 14 days before initial ground-disturbing activities (California Department of Fish and Game 2012) and shall be repeated annually. Any active burrow found during pre-construction survey efforts shall be mapped and provided to the construction foreman. If no active burrows are found, no further mitigation shall be required.

No disturbance shall occur within buffers around burrows determined to be occupied. Recommended buffer distances are based on time of year and level of disturbance.

Time of Year	Level of Disturbance		
	Low	Medium	High
April 1 – August 15	656 feet	1,640 feet	1,640 feet
August 16 – October 15	656 feet	656 feet	1,640 feet
October 16 – March 31	164 feet	328 feet	1,640 feet

Source: *Staff Report on Burrowing Owl* (California Department of Fish and Game 2012).

If owls must be moved away from the disturbance area, passive relocation is preferable to trapping. Relocation shall be implemented only during the non-breeding season by a qualified biologist and would occur in coordination with the California Department of Fish and Wildlife. Owls shall be excluded from burrows in the immediate impact zone by installing one-way doors in burrow entrances. One-way doors shall be left in place for 48 hours to ensure owls have left the burrow before excavation.

An effort shall be made to preserve foraging habitat contiguous with occupied burrow sites for each pair of breeding burrowing owls or for every single unpaired resident bird.

Compensatory mitigation for the San Joaquin kit fox (discussed below) shall also mitigate for the loss of burrowing owl habitat. Additional compensatory mitigation for burrowing owls shall be required only if burrowing owls found within buffer distances specified above during pre-construction surveys cannot be avoided during construction. In this event, potential compensatory mitigation may include purchase of suitable habitat through the payment of fees to the Metropolitan Bakersfield Habitat Conservation Plan Trust Group for this species or construction of artificial burrows in city sumps similar to the City Sump Habitat Program for the San Joaquin kit fox.

CI-22 ***Loggerhead Shrike****:* A qualified biologist shall survey annually within the limits of project disturbance for the presence of any nesting locations. Any active nest found during survey efforts shall be mapped and provided to the construction foreman. If no active nests are found, no further mitigation would be required.

If nesting activity is present, the active site shall be protected until nesting activity has ended to ensure compliance with Section 3503.5 of the California Fish and Game Code. Nesting activity for birds in the region normally occurs from February 1 to August 31. To protect any nest site, the following restrictions on construction are required between February 1 to August 31 (or until nests are no longer active, as determined by a qualified biologist): (1) clearing limits shall be established a minimum of 300 feet in any direction from any occupied nest and (2) access and surveying shall be restricted within 200 feet of any occupied nest. Any encroachment into the 300-/200-foot buffer area around the known nest shall be allowed only if a qualified biologist determines that the proposed activity will not disturb the nest occupants.

CI-23 ***Western Mastiff Bat:*** During construction, when nightwork is required, lighting during the early evening twilight hours (i.e., two hours before sunrise and two hours after sunset) adjacent to open space areas shall be minimized or avoided to the greatest extent possible. Permanent night lighting for the project shall be directed away from natural open space areas.

CI-24 ***Swainson's Hawk****:* Tree removal within 500 feet of non-native grassland, agricultural areas, and detention basins shall occur outside the Swainson's hawk nesting season. An updated focused survey (5 visits) for Swainson's hawk nests shall be conducted during the breeding season before construction activities. A qualified biologist shall survey within the limits of the biological study area and within a 0.5-mile radius around the biological study area for the presence of an active nest in accordance with the Swainson's Hawk Technical Advisory Committee's *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California, Central Valley.* Any active nest found during survey efforts shall be mapped and provided to the construction foreman. If a Swainson's

hawk is nesting within 0.5 mile of the proposed impact area, the California Department of Fish and Wildlife shall be consulted to evaluate the potential for disturbance of the nesting birds during construction and to approve measures that would avoid impacts on the active nest; authorization to proceed shall be obtained before work starts. The active site shall be protected until nesting activity has ended to ensure compliance with Section 3503.5 of the California Fish and Game Code and the California Endangered Species Act. If no active nests are found, no further mitigation would be required. Results of the surveys shall be provided to the California Department of Fish and Wildlife.

A pre-construction survey (5 visits from March15 to April 30) shall be conducted annually before construction activities. To protect an active Swainson's hawk nest site, the following restrictions on construction are required between February 1 and August 31 (or until nests are no longer active, as determined by a qualified biologist): (1) clearing limits shall be established a minimum of 600 feet in any direction from any occupied Swainson's hawk nest; (2) access and surveying shall be restricted within 600 feet of any occupied Swainson's hawk nest; and (3) full-time biological monitoring shall be required when construction is within 600 feet of an active nest. Any encroachment into the 600-foot buffer area around the known nest shall be allowed only if the qualified biologist determines that the proposed activity will not disturb the nest occupants.

Mitigation Measure

CI-25 ***San Joaquin Kit Fox:*** The following measures shall be implemented before and during construction:

- Construction activities shall adhere to the standard construction and operational requirements, as described in the U.S. Fish and Wildlife Service's *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011b).
- No less than 30 but no more than 60 days prior to road construction, a U.S. Fish and Wildlife Service-approved biologist(s) shall conduct pre-construction surveys for San Joaquin kit fox dens both in the project footprint and within 200 feet of the footprint (project footprint plus temporary construction zone), inclusive of any utilities relocations. A letter report and map of known and potential kit fox dens shall be submitted to the U.S. Fish and Wildlife Service prior to the start of ground disturbance and/or construction activities. Repeat clearance surveys shall be conducted no more than 14 days before construction or after any delays in construction of over 2 weeks. Any new known or potential San Joaquin kit fox dens identified in the interim shall be reported to the U.S. Fish and Wildlife Service in a letter report and map. If no new known or potential San Joaquin kit fox dens are identified, an internal record shall be maintained that includes

the survey date, the designated biologist conducting the survey, and the general survey findings. The records will be submitted to the U.S. Fish and Wildlife Service upon request.

- Disturbance to all San Joaquin kit fox dens shall be avoided to the maximum extent possible. If known or potential dens are identified within the project footprint during 60-day and/or 14-day pre-construction surveys, Caltrans shall request to monitor and excavate those dens that are expected to be affected directly by the project and cannot be avoided. Active dens shall not be excavated during the natal season (January 1–June 30). The U.S. Fish and Wildlife Service-approved biologist(s) shall monitor potential dens for three consecutive nights using tracking medium and/or a remote sensor camera, shall submit monitoring results in a letter report to the U.S. Fish and Wildlife Service, and also shall oversee the hand excavation of dens that have been determined to be vacant following approval by the U.S. Fish and Wildlife Service. The U.S. Fish and Wildlife Service-approved biologist(s) also shall submit results of the den excavation and exclusion activities in a letter report to the agencies. The following measures shall be applied to dens that are not excavated:
  - Dens that are identified during pre-construction surveys of the project footprint boundary and a 200-foot area outside of the project footprint shall be monitored and protected by an exclusion zone around dens, as measured outward from the entrance or cluster of entrances of each den. Potential and atypical dens within 50 feet of the project footprint shall be protected with a 50-foot zone delineated by flagged stakes. Known dens within 100 feet of the project footprint shall be protected with a 100-foot zone. To ensure protection, the exclusion zone shall be demarcated by fencing/flagging that does not prevent access to the den by the San Joaquin kit fox. Acceptable designs shall have openings for San Joaquin kit fox ingress/egress but shall keep humans and equipment out, e.g., wooden posts connected with caution tape; orange construction cones; orange construction fencing with a mesh size less than 2 inches in diameter (to prevent the San Joaquin kit fox from becoming entangled in the fencing) with gaps every 50 feet. Fencing/flagging shall be maintained until all construction-related disturbances have been terminated. At that time, all fencing/flagging shall be removed to avoid attracting subsequent attention at the dens. .
  - If natal/pupping dens are discovered either within the project footprint or within 200 feet of the project footprint, Caltrans shall immediately notify the U.S. Fish and Wildlife Service.
- The U.S. Fish and Wildlife Service-approved biologist(s) shall conduct a worker environmental awareness program for all construction crews

prior to ground-disturbing activities, with the purpose of informing all crew members of the potential for the San Joaquin kit fox to occur on site, the effects on the species from construction activities, how to minimize effects to the species, and the penalties for non-exempted take. The training shall be repeated to all new crew members working in San Joaquin kit fox habitat. Crew members shall sign an attendance sheet and confirm that they understand the protection measures and construction restrictions. Training materials and records of attendees shall be submitted to the U.S. Fish and Wildlife Service.

- The U.S. Fish and Wildlife Service-approved biologist(s) shall monitor road construction on a daily basis and shall verify that construction complies with the measures laid out in the Biological Opinion. The U.S. Fish and Wildlife Service-approved biologist(s) shall maintain a log of daily monitoring notes that can be summarized and transmitted to the U.S. Fish and Wildlife Service by request.
- Upon completion of project construction, all areas subject to temporary ground disturbance, including storage and staging areas, shall be restored to original grade and contour. Appropriate methods and plant species used to revegetate shall be determined on a site-specific basis in consultation with revegetation experts.
- To minimize opportunistic predatory effects to the San Joaquin kit fox, the City and Caltrans shall condition contracts with contractors to require that trash be removed at least once daily from project areas and disposed of off site so as not to attract predator species like coyotes (*Canis latrans*) and bobcats (*Lynx rufus*) to the project area.
- The City and Caltrans shall condition contracts with contractors to require that contained water sources, which are inaccessible to the San Joaquin kit fox (e.g., elevated water trucks), be used for dust control and other construction water activities.

Cumulative Impacts

Mitigation Measure

CUM-1 The basic conceptual framework for the Sump Habitat Program is described in the September 2010 Draft Sump Habitat Program Plan, which addresses five core conservation goals in detail that are integral to the implementation and success of the Sump Habitat Program: 1) the selection of sumps that maintain San Joaquin kit fox accessibility and/or habitat (i.e. those of high/medium conservation priority based on the relative potential for minimizing program-level effects); 2) the installation and maintenance of San Joaquin kit fox enhancement features (i.e. fence/gate gaps, artificial dens, conservation zones, signs, and enhancement maintenance and repair); 3) the management of sump vegetation compatible with San Joaquin kit fox presence and/or use (i.e. performance of routine maintenance outside the San Joaquin kit fox natal season and the use of hand tools in conservation zones and new active dens); 4) the biological

monitoring and reporting of results (i.e. pre-maintenance surveys; den monitoring and supervised den excavation; environmental awareness training; maintenance monitoring; annual enhancement inspection; annual San Joaquin kit fox sump use monitoring; and annual reporting); and 5) the provision of long-term conservation assurances (i.e. individual conservation easements for each sump; a perpetual non-wasting endowment for management, maintenance, and monitoring costs associated with ongoing implementation; and a Service-approved Long-Term Management Plan. The proposed easement and endowment holder(s) will be Service-approved third-party organizations). Further details in regards to these five core measures can be found in the Draft Sump Habitat Program Plan.

a. The Sump Habitat Program will continue to be updated, refined, and ultimately finalized through an ongoing collaborative consultation process involving Caltrans, the City, Parsons/Thomas Roads Improvement Program, and the Service over the course of the final remaining Thomas Roads Improvement Program project.

b. The finalized Sump Habitat Program will be established and implemented within one year of the approval of the Final Environmental Document for the last of the six Thomas Roads Improvement Program projects; the City will fully fund the Sump Habitat Program within one year of this approval. Caltrans and the City will share responsibility for the Sump Habitat Program; Caltrans will adhere to the proposed avoidance and minimization measures and terms and conditions of this biological opinion and will be responsible for the overall implementation of the Sump Habitat Program, while the City will be responsible for enhancing sumps and conducting long term management of the Sump Habitat Program. A Service-approved third-party will be responsible for administering endowment funds and providing compliance oversight with the terms of the conservation easements for each sump in the Sump Habitat Program.

ATTACHMENT F-1
List of Soundwalls to be Incorporated into Project Design to Abate Traffic Noise Impacts

Alternative A

Under Alternative A, the soundwalls identified in Tables F-1 through F-3 below meet the feasibility and reasonableness criteria.

Table F-1 Summary of Noise Barrier Key Information – Alternative A

Location	Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences[1]	Total Reasonable Allowance	Masonry Estimated Construction Cost	Reasonable? (Cost Less Than Allowance?)
West of State Route 99	S474	14	Yes	9 SFR, 62 MFR, 1 REC	$3,960,000	$726,000	Yes
	S499	14	Yes	3 SFR, 51 MFR	$2,970,000	$400,000	Yes
	S526	10–16	Yes	43 SFR, 3 MFR	$2,530,000	$1,752,000	Yes
	S531	12	Yes	11 SFR	$605,000	$497,000	Yes

[1] SFR: single-family residence; MFR: multi-family residence; REC: recreational.
Source: *Noise Study Report* 2013 *and Noise Abatement Decision Report* 2013.

Table F-2 Summary of Noise Barrier Key Information – Alternative A

Location	Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences[1]	Total Reasonable Allowance	Masonry Estimated Construction Cost	Reasonable? (Cost Less Than Allowance?)
South of State Route 58	S676	10	Yes	13 SFR	$715,000	$370,000	Yes

[1] SFR: single-family residence.
Source: *Noise Study Report* 2013 *and Noise Abatement Decision Report* 2013.

Table F-3 Summary of Abatement Measures – Alternative A

Location	Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences[1]	Total Reasonable Allowance	Masonry Estimated Construction Cost	Reasonable? (Cost Less Than Allowance?)
East of State Route 99	S45	12	Yes	17 SFR, 5 MFR	$1,210,000	$978,000	Yes
	S68	8–10	Yes	11 SFR, 4 MFR	$825,000	$739,000	Yes
	S71A	8	Yes	2 SFR	$110,000	$65,000	Yes
	S88	12	Yes	12 SFR	$660,000	$435,000	Yes
	S93	16	Yes	7 SFR	$385,000	$345,000	Yes
	S106	8–12	Yes	8 SFR, 1 REC	$495,000	$471,000	Yes
	S107	10–12	Yes	18 SFR	$990,000	$421,000	Yes
	S108	12–14	Yes	34 SFR, 24 MFR	$3,190,000	$1,036,000	Yes
	S119	10–12	Yes	12 SFR	$660,000	$276,000	Yes

Table F-3 Summary of Abatement Measures – Alternative A

Location	Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences[1]	Total Reasonable Allowance	Masonry Estimated Construction Cost	Reasonable? (Cost Less Than Allowance?)
	S144	10–12	Yes	8 SFR	$440,000	$445,000	Yes (Estimated cost almost identical to reasonableness allowance)
	S147 and S165	10–12	Yes	31 SFR, 10 MFR, 22 MH	$3,465,000	$1,253,000	Yes
	S164 and S184	10–14	Yes	67 SFR, 4 MFR	$3,905,000	$1,365,000	Yes

[1] SFR: single-family residence, MFR: multi-family residence; REC: recreational.
Source: *Noise Study Report* 2013 *and Noise Abatement Decision Report* 2013.

Alternative B

Under Alternative B, the soundwalls identified in the Tables F-4 through F-6 meet the feasibility and reasonableness criteria.

Table F-4 Summary of Noise Barrier Key Information – Alternative B

Location	Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences[1]	Total Reasonable Allowance	Masonry Estimated Construction Cost	Reasonable? (Cost Less Than Allowance?)
West of State Route 99	S509 and S519	14	Yes	14 SFR, 15 MFR, 1 SCH	$1,650,000	$643,000	Yes
	S518	14–16	Yes	19 SFR	$1,045,000	$667,000	Yes
	S529	8–12	Yes	3 SFR	$165,000	$328,000	No*
	S530	10–12	Yes	8 SFR	$440,000	$379,000	Yes
	S536, S544, and S552	12–14	Yes	19 SFR	$1,045,000	$616,000	Yes
	S537 and S555	12–16	Yes	51 SFR	$2,805,000	$1,774,000	Yes

[1] SFR: single-family residence; MFR; multi-family residence; SCH: school.
*: Soundwall is recommended for gap closure.
Source: *Noise Study Report* 2013 *and Noise Abatement Decision Report* 2013.

Table F-5 Summary of Noise Barrier Key Information – Alternative B

Location	Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences[1]	Total Reasonable Allowance	Masonry Estimated Construction Cost	Reasonable? (Cost Less Than Allowance?)
South of State Route 58	S676	12–14	Yes	9 SFR	$495,000	$426,000	Yes

[1] SFR: single-family residence.
Source: *Noise Study Report* 2013 *and Noise Abatement Decision Report* 2013.

Table F-6 Summary of Noise Barrier Key Information – Alternative B

Location	Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences[1]	Total Reasonable Allowance	Masonry Estimated Construction Cost	Reasonable? (Cost Less Than Allowance?)
East of State Route 99	S45	12–14	Yes	17 SFR, 5 MFR	$1,210,000	$994,000	Yes
	S68	8–10	Yes	11 SFR, 4 MFR	$825,000	$739,000	Yes
	S71A	8	Yes	2 SFR	$110,000	$65,000	Yes
	S93	16	Yes	7 SFR	$385,000	$345,000	Yes
	S106	14	Yes	15 SFR, 1 REC	$880,000	$628,000	Yes
	S107	10–12	Yes	18 SFR	$990,000	$421,000	Yes
	S108	12–14	Yes	34 SFR, 24 MFR	$3,190,000	$1,036,000	Yes
	S119	10–12	Yes	12 SFR	$660,000	$276,000	Yes
	S144	10–12	Yes	8 SFR	$440,000	$445,000	Yes (Estimated cost almost identical to reasonableness allowance).
	S164 and S184	10–14	Yes	67 SFR, 4 MFR	$3,905,000	$1,365,000	Yes
	S147 and S165	10–12	Yes	31 SFR, 10 MFR, 22 MH	$3,465,000	$1,253,000	Yes
	S194	12	Yes	12 SFR	$660,000	$447,000	Yes

[1] SFR: single-family residence; MFR: multi-family residence; MH: mobile home; REC: recreational.
Source: *Noise Study Report* 2013 *and Noise Abatement Decision Report* 2013.

Alternative C

Under Alternative C, the soundwalls identified in the Tables F-7 through F-9 meet the feasibility and reasonableness criteria.

Table F-7 Summary of Noise Barrier Key Information – Alternative C

Location	Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences[1]	Total Reasonable Allowance	Masonry Estimated Construction Cost	Reasonable? (Cost Less Than Allowance?)
West of State Route 99	S561	10–16	Yes	21 SFR, 4 MFR, 3 REC	$1,540,000	$1,017,000	Yes

Note:
[1] SFR: single-family residence; MFR: multi-family residence; REC: recreational.
Source: *Noise Study Report* 2013 *and Noise Abatement Decision Report* 2013

Table F-8 Summary of Noise Barrier Key Information – Alternative C

Location	Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences[1]	Total Reasonable Allowance	Masonry Estimated Construction Cost	Reasonable? (Cost Less Than Allowance?)
South of State Route 58	S676	10	Yes	13 SFR	$715,000	$375,000	Yes
	S683	16	Yes	1 SFR, 7 MFR	$440,000	$366,000	Yes

[1] SFR: single-family residence; MFR: multi-family residence.
Source: *Noise Study Report* 2013 *and Noise Abatement Decision Report* 2013.

Table F-9 Summary of Noise Barrier Key Information – Alternative C

Location	Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences[1]	Total Reasonable Allowance	Masonry Estimated Construction Cost	Reasonable? (Cost Less Than Allowance?)
East of State Route 99	S90	12–14	Yes	13 SFR	$715,000	$639,000	Yes
	S103 and S109	10–14	Yes	14 SFR	$770,000	$492,000	Yes
	S624	8–10	Yes	11 SFR, 4 MFR	$825,000	$739,000	Yes
	S629A	8	Yes	2 SFR	$110,000	$65,000	Yes
	S649	16	Yes	7 SFR	$385,000	$192,000	Yes
	S663	10–12	Yes	20 SFR	$1,100,000	$592,000	Yes
	S664	10–14	Yes	34 SFR, 24 MFR	$3,190,000	$1,000,000	Yes
	S677	10–12	Yes	12 SFR	$660,000	$340,000	Yes
	S702	10–12	Yes	8 SFR	$440,000	$445,000	Yes (Estimated cost almost identical to reasonableness allowance).
	S703 and S721	10–12	Yes	31 SFR, 10 MFR, 22 MH	$3,465,000	$1,253,000	Yes
	S722 and S742	12–14	Yes	67 SFR, 4 MFR	$3,905,000	$1,390,000	Yes

[1] SFR: single-family residence; MFR: multi-family residence; MH: mobile home.
Source: *Noise Study Report* 2013 *and Noise Abatement Decision Report* 2013.

Appendix G Right-of-Way Acquisition Summary

Table G.1 List of Acquisitions for Alternative A

Impact ID	Site Address	Present Use	Type of Take
1	15 CHESTER AVE, BAKERSFIELD CA 93301	Vacant	Partial
2	13 CHESTER AVE, BAKERSFIELD CA 93301	Store	Partial
3		Parking	Partial
4	229 CHESTER AVE, BAKERSFIELD CA 93301	SFR	Full
5	136 HAYBERT CT, BAKERSFIELD CA 93304	Vacant	Full
6	233 S CHESTER AVE, BAKERSFIELD CA 93304-3648	SFR	Full
7	301 S CHESTER AVE, BAKERSFIELD CA 93304-3650	SFR	Full
8	216 HAYBERT CT, BAKERSFIELD CA 93304-1849	SFR	Full
9	206 HAYBERT CT, BAKERSFIELD CA 93304-1849	SFR	Full
10	204 HAYBERT CT, BAKERSFIELD CA 93304-1849	SFR	Full
11	318 S CHESTER AVE, BAKERSFIELD CA 93304	SFR	Perm Esmt
12	308 CHESTER AVE, BAKERSFIELD CA 93304	4-plex	Partial
13	304 S CHESTER AVE, BAKERSFIELD CA 93304	SFR	Partial
14	234 CHESTER AVE, BAKERSFIELD CA 93304	SFR	Partial
15	230 S CHESTER AVE, BAKERSFIELD CA 93304	Duplex	Partial
16		Vacant	Partial
17	4800 STOCKDALE HWY, BAKERSFIELD CA 93309-2636	Office Building	Partial
18		Farm land	Partial
19		Farm land	Partial
20		Farm land	Partial
21		Farm land	Partial
22		Vacant	Partial
23	3112 TERRACE WAY, BAKERSFIELD CA 93304	SFR	Partial
24		SFR	Perm Esmt
25		Vacant	Full
26		Vacant	Perm Esmt
27			Perm Esmt
28		Access Lane	Perm Esmt
29		Auto Repair	Perm Esmt
30	321 STEPHENS DR, BAKERSFIELD CA 93304	Vacant	Partial
31		Apartments	Perm Esmt
32	313 STEPHENS DR, BAKERSFIELD CA 93304	Vacant	Full
33	201 S MYRTLE ST, BAKERSFIELD CA 93304-3335	SFR	Perm Esmt
34	123 DIXON AVE, BAKERSFIELD CA 93304	SFR	TCE
35		RES LOT	Perm Esmt
36	300 DIXON AVE, BAKERSFIELD CA 93304-3388	SFR	TCE
37	205 JUDAN ST, BAKERSFIELD CA 93304	SFR	Perm Esmt
38	2405 ROBBIN RD, BAKERSFIELD CA 93304	SFR	Perm Esmt
39	2407 ROBBIN RD, BAKERSFIELD CA 93304	SFR	Perm Esmt
40	2401 ROBBIN RD, BAKERSFIELD CA 93304	SFR	Perm Esmt
41	2403 ROBBIN RD, BAKERSFIELD CA 93304	SFR	Perm Esmt
42	3120 TERREL CT, BAKERSFIELD CA 93304	SFR	Perm Esmt
43		Vacant lot	Perm Esmt
44	3117 TERRACE WAY, BAKERSFIELD CA 93304	SFR	Perm Esmt
45	3152 TERREL CT, BAKERSFIELD CA 93304	SFR	Perm Esmt
46	606 WIBLE RD, BAKERSFIELD CA 93304	Acapulco Tires Auto Repair	TCE
47	612 WIBLE RD, BAKERSFIELD CA 93304	Xpress Lube	TCE

Table G.1 List of Acquisitions for Alternative A

Impact ID	Site Address	Present Use	Type of Take
48	608 WIBLE RD, BAKERSFIELD CA 93304	Distinctive Coach Auto Body	TCE
49	700 WIBLE RD, BAKERSFIELD CA 93304	Fleet Auto Brokers/Estradas Car Wash	TCE
50	520 WIBLE RD, BAKERSFIELD CA 93304	Computer Smog Specialists	TCE
51	717 S OLIVE ST, BAKERSFIELD CA 93304	SFR	TCE
52	720 WIBLE RD, BAKERSFIELD CA 93304	Larson's Food & Gas	Full
53	708 WIBLE RD, BAKERSFIELD, CA 93304	Duplex	Full
54	704 WIBLE RD, BAKERSFIELD, CA 93304	Duplex	Full
55	206 HUGHES LN, BAKERSFIELD, CA 93304	SFR	Perm Esmt
56	210 HUGHES LN, BAKERSFIELD, CA 93304	SFR	Perm Esmt
57	2396 BRITE ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
58	2394 BRITE ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
59	2324 BRITE ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
60	2300 BRITE ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
61	309 HOUCHIN RD, BAKERSFIELD CA 93304-3409	Estate	Perm Esmt
62		SFR	Perm Esmt
63		SFR	Perm Esmt
64	203 H ST, BAKERSFIELD CA, 93304	Church	Perm Esmt
65	2200 ROOSEVELT ST, BAKERSFIELD CA 93304	SFR	Perm Esmt
66	2129 BRUNDAGE LN, BAKERSFIELD CA 93304	Restaurant	Perm Esmt
67		Apartments	Partial
68	800 WIBLE RD, BAKERSFIELD, CA 93304	Jolly Kone	Full
69	3109 BELLE TER, BAKERSFIELD CA 93304	SFR	TCE
70	830 WIBLE RD, BAKERSFIELD CA 93304	Motel	Partial
71	812 WIBLE RD, BAKERSFIELD CA 93304	Motel	Partial
72	806 WIBLE RD, BAKERSFIELD, CA 93304	Mr. Matress Store	Full
73	930 WIBLE RD, BAKERSFIELD CA 93304	Shopping Center	Partial
74	4545 STOCKDALE HWY D, BAKERSFIELD CA 93309-2024	Office Building	Partial
75	4709 STOCKDALE HWY, BAKERSFIELD CA 93309-2639	Retail Center	Partial
76	4528 FRAZIER AVE, BAKERSFIELD CA 93309-3108	SFR	Full
77	4524 FRAZIER AVE, BAKERSFIELD CA 93309-3108	SFR	Full
78	4520 FRAZIER AVE, BAKERSFIELD CA 93309-3108	SFR	Full
79	4516 FRAZIER AVE, BAKERSFIELD CA 93309-3108	SFR	Full
80	4512 FRAZIER AVE, BAKERSFIELD CA 93309-3108	SFR	Full
81	4508 FRAZIER AVE, BAKERSFIELD CA 93309-3108	SFR	Full
82	4502 FRAZIER AVE, BAKERSFIELD CA 93309-3108	SFR	Full
83	4418 FRAZIER AVE, BAKERSFIELD CA 93309-3106	SFR	Full
84	4519 FRAZIER AVE, BAKERSFIELD CA 93309-3107	SFR	Full
85	4509 FRAZIER AVE, BAKERSFIELD CA 93309-3107	SFR	Full
86	4503 FRAZIER AVE, BAKERSFIELD CA 93309-3107	SFR	Full
87	4502 CHARLES PL, BAKERSFIELD CA 93309-3104	SFR	Full
88	4508 CHARLES PL, BAKERSFIELD CA 93309-3104	SFR	Full
89	4514 CHARLES PL, BAKERSFIELD CA 93309-3104	SFR	Full
90	4520 CHARLES PL, BAKERSFIELD CA 93309-3104	SFR	Full
91	4411 FRAZIER AVE, BAKERSFIELD CA 93309-3105	SFR	Full
92	4407 FRAZIER AVE, BAKERSFIELD CA 93309-3105	SFR	Full

Table G.1 List of Acquisitions for Alternative A

Impact ID	Site Address	Present Use	Type of Take
93	201 MCDONALD WAY, BAKERSFIELD CA 93309-3129	SFR	Full
94	209 MCDONALD WAY, BAKERSFIELD CA 93309-3129	SFR	Full
95	215 MCDONALD WAY, BAKERSFIELD CA 93309-3129	SFR	Full
96	221 MCDONALD WAY, BAKERSFIELD CA 93309-3129	SFR	Full
97		SFR	Partial
98		SFR	Partial
99		SFR	Partial
100	220 WESTWOOD ST, BAKERSFIELD CA 93309-3134	SFR	Full
101	214 WESTWOOD ST, BAKERSFIELD CA 93309-3134	SFR	Full
102	208 WESTWOOD ST, BAKERSFIELD CA 93309-3134	SFR	Full
103	21 STINE RD, BAKERSFIELD CA 93309-2010	SFR	Full
104	101 STINE RD, BAKERSFIELD CA 93309-2012	SFR	Full
105	105 STINE RD, BAKERSFIELD CA 93309-2012	SFR	Full
106	109 STINE RD, BAKERSFIELD CA 93309-2012	SFR	Full
107	113 STINE RD, BAKERSFIELD CA 93309-2012	SFR	Full
108	117 STINE RD, BAKERSFIELD CA 93309-2012	SFR	Full
109	121 STINE RD, BAKERSFIELD CA 93309-2012	SFR	Full
110	125 STINE RD, BAKERSFIELD CA 93309-2012	SFR	Full
111	129 STINE RD, BAKERSFIELD CA 93309-2012	SFR	Full
112	128 JONES ST, BAKERSFIELD CA 93309-2009	SFR	Full
113	124 JONES ST, BAKERSFIELD CA 93309-2009	SFR	Full
114	120 JONES ST, BAKERSFIELD CA 93309-2009	SFR	Full
115	116 JONES ST, BAKERSFIELD CA 93309-2009	SFR	Full
116	112 JONES ST, BAKERSFIELD CA 93309-2009	SFR	Full
117	108 JONES ST, BAKERSFIELD CA 93309-2009	SFR	Full
118	104 JONES ST, BAKERSFIELD CA 93309-2009	SFR	Full
119	100 JONES ST, BAKERSFIELD CA 93309-2009	SFR	Full
120	20 JONES ST, BAKERSFIELD CA 93309-2032	SFR	Full
121	16 JONES ST, BAKERSFIELD CA 93309-2032	SFR	Full
122	17 JONES ST, BAKERSFIELD CA 93309-2041	SFR	Full
123	21 JONES ST, BAKERSFIELD CA 93309-2041	SFR	Full
124	101 JONES ST, BAKERSFIELD CA 93309-2008	SFR	Full
125	105 JONES ST, BAKERSFIELD CA 93309-2008	SFR	Full
126	109 JONES ST, BAKERSFIELD CA 93309-2008	SFR	Full
127	113 JONES ST, BAKERSFIELD CA 93309-2008	SFR	Full
128	117 JONES ST, BAKERSFIELD CA 93309-2008	SFR	Full
129	121 JONES ST, BAKERSFIELD CA 93309-2008	SFR	Full
130	125 JONES ST, BAKERSFIELD CA 93309-2008	SFR	Full
131	129 JONES ST, BAKERSFIELD CA 93309-2008	SFR	Full
132		SFR	Partial
133	124 GRIFFITHS ST, BAKERSFIELD CA 93309-2007	SFR	Full
134	120 GRIFFITHS ST, BAKERSFIELD CA 93309-2007	SFR	Full
135	116 GRIFFITHS ST, BAKERSFIELD CA 93309-2007	SFR	Full
136	112 GRIFFITHS ST, BAKERSFIELD CA 93309-2007	SFR	Full
137	108 GRIFFITHS ST, BAKERSFIELD CA 93309-2007	SFR	Full
138	104 GRIFFITHS ST, BAKERSFIELD CA 93309-2007	SFR	Full
139	100 GRIFFITHS ST, BAKERSFIELD CA 93309-2007	SFR	Full
140	20 GRIFFITHS ST, BAKERSFIELD CA 93309-2030	SFR	Full

Table G.1 List of Acquisitions for Alternative A

Impact ID	Site Address	Present Use	Type of Take
141	16 GRIFFITHS ST, BAKERSFIELD CA 93309-2030	SFR	Full
142	17 GRIFFITHS ST, BAKERSFIELD CA 93309-2028	SFR	Full
143	21 GRIFFITHS ST, BAKERSFIELD CA 93309-2028	SFR	Full
144	101 GRIFFITHS ST, BAKERSFIELD CA 93309-2006	SFR	Full
145	105 GRIFFITHS ST, BAKERSFIELD CA 93309-2006	SFR	Full
146	109 GRIFFITHS ST, BAKERSFIELD CA 93309-2006	SFR	Full
147	113 GRIFFITHS ST, BAKERSFIELD CA 93309-2006	SFR	Full
148	117 GRIFFITHS ST, BAKERSFIELD CA 93309-2006	SFR	Full
149	121 GRIFFITHS ST, BAKERSFIELD CA 93309-2006	SFR	Full
150	3806 PECKHAM AVE, BAKERSFIELD CA 93309-3250	SFR	Full
151	3816 PECKHAM AVE, BAKERSFIELD CA 93309-3250	SFR	Full
152	116 CURRAN ST, BAKERSFIELD CA 93309-2004	SFR	Full
153	112 CURRAN ST, BAKERSFIELD CA 93309-2004	SFR	Full
154	108 CURRAN ST, BAKERSFIELD CA 93309-2004	SFR	Full
155	104 CURRAN ST, BAKERSFIELD CA 93309-2004	SFR	Full
156	100 CURRAN ST, BAKERSFIELD CA 93309-2004	SFR	Full
157	20 CURRAN ST, BAKERSFIELD CA 93309-2002	SFR	Full
158	16 CURRAN ST, BAKERSFIELD CA 93309-2002	SFR	Full
159	12 CURRAN ST, BAKERSFIELD CA 93309-2002	SFR	Full
160	17 CURRAN ST, BAKERSFIELD CA 93309-2001	SFR	Full
161	3904 FRAZIER AVE, BAKERSFIELD CA 93309-2005	SFR	Full
162	3908 FRAZIER AVE, BAKERSFIELD CA 93309-2005	SFR	Full
163	3912 FRAZIER AVE, BAKERSFIELD CA 93309-2005	DUPLEX	Full
164	3920 FRAZIER AVE, BAKERSFIELD CA 93309-2005	SFR	Full
165	101 CURRAN ST, BAKERSFIELD CA 93309-2003	SFR	Full
166	113 CURRAN ST, BAKERSFIELD CA 93309-2003	SFR	Full
167	113 CURRAN ST, BAKERSFIELD CA 93309-2003	RES LOT	Full
168	117 CURRAN ST, BAKERSFIELD CA 93309-2003	SFR	Full
169	121 CURRAN ST, BAKERSFIELD CA 93309-2003	SFR	Full
170	3908 PECKHAM AVE, BAKERSFIELD CA 93309-3252	SFR	Full
171	3912 PECKHAM AVE, BAKERSFIELD CA 93309-3252	SFR	Full
172	3990 PECKHAM AVE, BAKERSFIELD CA 93309-3252	SFR	Full
173		RES LOT	Full
174	114 MCDONALD WAY, BAKERSFIELD CA 93309-3128	SFR	Full
175	109 CURRAN ST, BAKERSFIELD CA 93309-2003	SFR	Full
176	109 CURRAN ST, BAKERSFIELD CA 93309-2003	RES LOT	Full
177	110 MCDONALD WAY, BAKERSFIELD CA 93309-3128	SFR	Full
178		RES LOT	Full
179	3911 FRAZIER AVE, BAKERSFIELD CA 93309-2000	SFR	Full
180	40 MCDONALD WAY, BAKERSFIELD CA 93309-3109	SFR	Full
181		Flood Control	Perm Esmt
182		Flood Control	Perm Esmt
183	3333 STOCKDALE HWY, BAKERSFIELD CA 93309	Utilities	Full
184		Vacant	Full
185		Vacant	Full
186	3403 STOCKDALE HWY, BAKERSFIELD CA 93309-2143	Office building	Full
187		Park & Ride	Full
188		Park & Ride	Full

Table G.1 List of Acquisitions for Alternative A

Impact ID	Site Address	Present Use	Type of Take
189		Vacant lot	Full
190		Vacant	Full
191		Vacant	Full
192	3330 ELCIA DR, BAKERSFIELD CA 93309-3340	MFR	Full
193	3320 ELCIA DR, BAKERSFIELD CA 93309-3301	Duplex	Full
194	200 S REAL RD, BAKERSFIELD CA 93309-2140	Storage	Full
195	200 S REAL RD, BAKERSFIELD CA 93309	Vacant lot	Full
196	3324 ELCIA DR, BAKERSFIELD CA 93309	SFR	Full
197	210 S REAL RD, BAKERSFIELD CA 93309-2140	SFR	Partial
198	3501 STOCKDALE HWY, BAKERSFIELD CA 93309-2150	Hospital	Partial
199		SFR	Partial
200	3404 ELCIA DR, BAKERSFIELD CA 93309-3327	SFR	Full
201	3400 ELCIA DR, BAKERSFIELD CA 93309-3327	SFR	Full
202	26 STINE RD, BAKERSFIELD CA 93309-2011	SFR	Full
203	22 STINE RD, BAKERSFIELD CA 93309-2011	SFR	Full
204	16 STINE RD, BAKERSFIELD CA 93309-2011	SFR	Full
205	20 STINE RD, BAKERSFIELD CA 93309-2011	SFR	Full
206		Vacant	Partial
207	195 S GARNSEY AVE, BAKERSFIELD CA 93309-2144	SFR	Full
208	30 STINE RD, BAKERSFIELD CA 93309-2011	MFR	Full
209		Parking	Partial
210	100 S GARNSEY AVE, BAKERSFIELD CA 93309-2191	SFR	Full
211	20 WILLIAMSON WAY, BAKERSFIELD CA 93309-2158	Apartments	Full
212	3617 STOCKDALE HWY, BAKERSFIELD CA 93309	Shopping Center	Full
213	201 S REAL RD, BAKERSFIELD CA 93309	Office Building	Full
214	205 S REAL RD, BAKERSFIELD CA 93309	Office Building	Full
215	101 S REAL RD, BAKERSFIELD CA 93309	Parking	Full
216	115 S REAL RD, BAKERSFIELD CA 93309	Parking	Full
217	131 S REAL RD, BAKERSFIELD CA 93309	Parking	Full
218	141 S REAL RD, BAKERSFIELD CA 93309	Parking	Full
219	209 S REAL RD, BAKERSFIELD CA 93309	Parking	Full
220	96 WILLIAMSON WAY, BAKERSFIELD CA 93309-2142	SFR	Full
221	209 WILLIAMSON WAY, BAKERSFIELD CA 93309-2199	2 SFRs	Full
222	205 WILLIAMSON WAY, BAKERSFIELD CA 93309-2199	SFR	Full
223	201 WILLIAMSON WAY, BAKERSFIELD CA 93309-2199	SFR	Full
224	125 WILLIAMSON WAY, BAKERSFIELD CA 93309-2197	SFR	Full
225	25 WILLIAMSON WAY, BAKERSFIELD CA 93309-2112	Apartments	Full
226	206 WILLIAMSON WAY, BAKERSFIELD CA 93309-0900	SFR	Full
227		Res lot	Full
228	100 WILLIAMSON WAY, BAKERSFIELD CA 93309-2179	Apartments	Full
229	200 WILLIAMSON WAY, BAKERSFIELD CA 93309-2180	Apartments	Full
230	204 WILLIAMSON WAY, BAKERSFIELD CA 93309-2181	Apartments	Full
231		Office Building	Full
232	33 S REAL RD, BAKERSFIELD CA 93309-2135	Office Building	Full
233	300 S GARNSEY AVE, BAKERSFIELD CA 93309-2134	SFR	Full
234	215 WILLIAMSON WAY, BAKERSFIELD CA 93309-2199	SFR	Full
235	219 S REAL RD, BAKERSFIELD CA 93309	Parking	Full
236	3610 ELCIA DR, BAKERSFIELD CA 93309	Parking	Full

Table G.1 List of Acquisitions for Alternative A

Impact ID	Site Address	Present Use	Type of Take
237	3232 MONA WAY, BAKERSFIELD CA 93309-3395	SFR	Partial
238		Vacant	Full
239	3201 MONA WAY, BAKERSFIELD CA 93309-3395	SFR	Full
240	601 ALAMO ST, BAKERSFIELD CA 93309-3355	SFR	Full
241	627 ALAMO ST, BAKERSFIELD CA 93309	SFR	Full
242	619 ALAMO ST, BAKERSFIELD CA 93309-3355	SFR	Full
243	611 ALAMO ST, BAKERSFIELD CA 93309-3355	SFR	Full
244	3234 BELLE TER, BAKERSFIELD CA 93309	Private School	Partial
245	200 S GARNSEY AVE, BAKERSFIELD CA 93309-2196	SFR	Full
246	206 S GARNSEY AVE, BAKERSFIELD CA 93309-2196	SFR	Full
247	212 S GARNSEY AVE, BAKERSFIELD CA 93309-2196	SFR	Full
248	218 S GARNSEY AVE, BAKERSFIELD CA 93309-2196	SFR	Full
249	201 S GARNSEY AVE, BAKERSFIELD CA 93309-2133	SFR	Full
250	201 S GARNSEY AVE, BAKERSFIELD CA 93309-2133	SFR	Full
251	205 S GARNSEY AVE, BAKERSFIELD CA 93309-2133	SFR	Full
252	209 S GARNSEY AVE, BAKERSFIELD CA 93309-2133	SFR	Full
253	221 GARNSEY AVE, BAKERSFIELD CA 93309	SFR	Full
254	255 GARNSEY AVE, BAKERSFIELD CA 93309	SFR	Full
255	4400 FRAZIER AVE, BAKERSFIELD CA 93309-3106	SFR	Full
256	4404 FRAZIER AVE, BAKERSFIELD CA 93309-3106	SFR	Full
257	4414 FRAZIER AVE, BAKERSFIELD CA 93309-3106	SFR	Full
258	96 STINE RD, BAKERSFIELD CA 93309-2058	4-plex	Full
259	4701 STOCKDALE HWY, BAKERSFIELD CA 93309-2641	Office Building	Full
260	200 S MONTCLAIR ST, BAKERSFIELD CA 93309-3110	Office Building	Partial
261	140 S MONTCLAIR ST, BAKERSFIELD CA 93309-3162	Office Building	Full
262	110 S MONTCLAIR ST, BAKERSFIELD CA 93309-3118	Office Building	Full
263	110 S MONTCLAIR ST, BAKERSFIELD CA 93309-3118	Office Building	Full
264	22645 STOCKDALE HWY, BAKERSFIELD CA 93305-2432	Farm land	Partial
265		Farm land	Partial
266	3231 BELLE TER, BAKERSFIELD CA 93309	SFR	TCE
267	3229 BELLE TER, BAKERSFIELD CA 93309-4101	SFR	TCE
268	3227 BELLE TER, BAKERSFIELD CA 93309-4101	2 SFRs	Full
269	3310 WOOD LN, BAKERSFIELD CA 93309-7321	2 SFRs	Full
270	3320 WOOD LN, BAKERSFIELD CA 93309-7321	SFR	Full
271	3330 WOOD LN, BAKERSFIELD CA 93309-7321	SFR	Full
272	3308 WOOD LN, BAKERSFIELD CA 93309-7321	2 SFRs	Full
273	1117 WIBLE RD, BAKERSFIELD CA 93304	Auto Repair	Full
274	3317 LAVERNE AVE, BAKERSFIELD CA 93309	SFR	Full
275	3316 LAVERNE AVE B, BAKERSFIELD CA 93309-4122	SFR	Partial
276	201 E BRUNDAGE LN, BAKERSFIELD, CA 93304	Church	Perm Esmt
277	200 WAYCROSS ST, BAKERSFIELD, CA 93304	Church	Perm Esmt
278	340 WAYCROSS ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
279	200 S UNION AVE, BAKERSFIELD CA 93307	Auto Sales	Perm Esmt
280		Paved Access	Perm Esmt
281		Park/Preserve	Partial
282		Park/Preserve	Partial
283		Park/Preserve	Partial
284		Park/Preserve	Partial

Table G.1 List of Acquisitions for Alternative A

Impact ID	Site Address	Present Use	Type of Take
285		Flood Control	Partial
286		Flood Control	Full
287	5300 CALIFORNIA AVE 200, BAKERSFIELD CA 93309-1642	Office Building (Nursing School)	Full
288	5300 LENNOX AVE, BAKERSFIELD CA 93309-1662	Office Building	Full
289	5329 OFFICE CENTER CT, BAKERSFIELD CA 93309-7425	Office Building	Full
290		Office Building	Partial
291	5555 BUSINESS PARK S, BAKERSFIELD CA 93309-1677	Office Building	Full
292	5531 BUSINESS PARK S, BAKERSFIELD CA 93309-1668	Office Building	Partial
293	5555 CALIFORNIA AVE, BAKERSFIELD CA 93309-1648	Office Building	Full
294	5401 CALIFORNIA AVE, BAKERSFIELD CA 93309-0702	Retail Bank & Office Building	Full
295		HOA Commons	Partial
296	1001 MOHAWK ST 16, BAKERSFIELD CA 93309-1576	Condo	Full
297	1001 MOHAWK ST 14, BAKERSFIELD CA 93309-1576	Condo	Full
298	1001 MOHAWK ST 12, BAKERSFIELD CA 93309-1576	Condo	Full
299	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
300	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
301	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
302	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
303	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
304	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
305	1001 MOHAWK ST 19, BAKERSFIELD CA 93309-1576	Condo	Full
306	1001 MOHAWK ST 7, BAKERSFIELD CA 93309-1575	Condo	Full
307	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
308	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
309	1001 MOHAWK ST 1, BAKERSFIELD CA 93309-1575	Condo	Full
310	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
311	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
312	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
313	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
314	1001 MOHAWK ST 76, BAKERSFIELD CA 93309-1577	Condo	Full
315	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
316	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
317	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
318	1001 MOHAWK ST, BAKERSFIELD CA 93309-1523	Condo	Full
319	1001 MOHAWK ST 64, BAKERSFIELD CA 93309-1578	Condo	Full
320	1001 MOHAWK ST 66, BAKERSFIELD CA 93309-1578	Condo	Full
321	1001 MOHAWK ST 68, BAKERSFIELD CA 93309-1578	Condo	Full
322	5500 LENNOX AVE, BAKERSFIELD CA 93309-1569	Condo	Full
323	5500 LENNOX AVE 59, BAKERSFIELD CA 93309-1568	Condo	Full
324	5500 LENNOX AVE, BAKERSFIELD CA 93309-1569	Condo	Full
325	5500 LENNOX AVE, BAKERSFIELD CA 93309-1569	Condo	Full
326	5500 LENNOX AVE 22, BAKERSFIELD CA 93309-1571	Condo	Full
327	5500 LENNOX AVE 24, BAKERSFIELD CA 93309-1571	Condo	Full
328	5500 LENNOX AVE, BAKERSFIELD CA 93309-1569	Condo	Full
329	5500 LENNOX AVE, BAKERSFIELD CA 93309-1569	Condo	Full
330	5500 LENNOX AVE, BAKERSFIELD CA 93309-1569	Condo	Full

Table G.1 List of Acquisitions for Alternative A

Impact ID	Site Address	Present Use	Type of Take
331	5500 LENNOX AVE, BAKERSFIELD CA 93309-1569	Condo	Full
332	5500 LENNOX AVE 31, BAKERSFIELD CA 93309-1567	Condo	Full
333	5500 LENNOX AVE, BAKERSFIELD CA 93309-1569	Condo	Full
334	5500 LENNOX AVE 27, BAKERSFIELD CA 93309-1571	Condo	Full
335	5500 LENNOX AVE 25, BAKERSFIELD CA 93309-1571	Condo	Full
336	5500 LENNOX AVE 42, BAKERSFIELD CA 93309-1556	Condo	Full
337	5500 LENNOX AVE, BAKERSFIELD CA 93309-1569	Condo	Full
338	5500 LENNOX AVE, BAKERSFIELD CA 93309-1569	Condo	Full
339	5500 LENNOX AVE 48, BAKERSFIELD CA 93309-1556	Condo	Full
340	5500 LENNOX AVE, BAKERSFIELD CA 93309-1569	Condo	Full
341	5500 LENNOX AVE 52, BAKERSFIELD CA 93309-1563	Condo	Full
342	5500 LENNOX AVE 54, BAKERSFIELD CA 93309-1563	Condo	Full
343	5500 LENNOX AVE 56, BAKERSFIELD CA 93309-1568	Condo	Full
344	5500 LENNOX AVE 61, BAKERSFIELD CA 93309-1568	Condo	Full
345	5500 LENNOX AVE 63, BAKERSFIELD CA 93309-1568	Condo	Full
346	5500 LENNOX AVE 65, BAKERSFIELD CA 93309-1568	Condo	Full
347	5500 LENNOX AVE 67, BAKERSFIELD CA 93309-1568	Condo	Full
348	5500 DUNSMUIR RD 29, BAKERSFIELD CA 93309-8563	Condo	Full
349	5500 DUNSMUIR RD 30, BAKERSFIELD CA 93309-8563	Condo	Full
350	5500 DUNSMUIR RD 31, BAKERSFIELD CA 93309-8563	Condo	Full
351	5500 DUNSMUIR RD 32, BAKERSFIELD CA 93309-8576	Condo	Full
352	5400 DUNSMUIR RD, BAKERSFIELD CA 93309-8523	HOA Commons	Partial
353		Medical	Partial
354	5601 TRUXTUN AVE 190, BAKERSFIELD CA 93309-0627	Office Building	Full
355		Retail Strip	Partial
356	901 MOHAWK ST, BAKERSFIELD CA 93309-1508	Apartments	Partial
357	5180 STOCKDALE HWY, BAKERSFIELD CA 93309-2672	Retail Center	Full
358	5190 STOCKDALE HWY, BAKERSFIELD CA 93309	Retail Market	Full
359	5200 STOCKDALE HWY, BAKERSFIELD CA 93309	Retail Store	Full
360	5100 STOCKDALE HWY, BAKERSFIELD CA 93309-2671	Fast Food	Full
361	4980 STOCKDALE HWY, BAKERSFIELD CA 93309-2638	Retail Store	Full
362	5120 STOCKDALE HWY, BAKERSFIELD CA 93309-2671	Retail Center	Full
363	4950 STOCKDALE HWY, BAKERSFIELD CA 93309-2600	Restaurant	Full
364	5000 STOCKDALE HWY, BAKERSFIELD CA 93309-2650	Retail Store	Full
365	3520 ROSEDALE HWY, BAKERSFIELD CA 93308-6229	Carl's Jr	Perm Esmt
366	3540 ROSEDALE HWY, BAKERSFIELD CA 93308-6229	Hotel	Perm Esmt
367		Vacant	Partial
368		Vacant	Partial
369		Vacant	Partial
370		Vacant	Full
371		Vacant	Partial
372		Vacant	Partial
373		Vacant	Partial
374		Vacant	Partial
375		Vacant	Partial
376		Vacant	Partial
377		Vacant	Full
378		Drainage	Full

Table G.1 List of Acquisitions for Alternative A

Impact ID	Site Address	Present Use	Type of Take
379		Drainage	Full
380		Drainage	Full
381		Vacant	Full
382	CALLOWAY DR, BAKERSFIELD CA	Vacant	Full
383		Esmt	Full
384		Vacant	Full
385		Vacant	Full
386		Vacant	Full
387		vacant	Full
388		Vacant	Full
389		Vacant	Full
390		Vacant	Full
391		Vacant	Full
392	COFFEE RD, BAKERSFIELD CA	Vacant	Full
393	PRESIDIO WAY, BAKERSFIELD CA	Vacant	Full
394	COFFEE RD, BAKERSFIELD CA	Vacant	Full
395		Vacant	Full
396		Vacant	Full
397		Vacant	Full
398		Vacant	Full
399		Vacant	Partial
400		Vacant	Full
401		Vacant	Full
402		Vacant	Full
403		Vacant	Full
404		Vacant	Full

Table G.2 Business Inventory List for Alternative A

Truxtun Avenue to California Avenue	
1	Frank J. Cicone Law Corporation
2	Gregory D. Bynam and Associates. Inc. (real estate development)
3	Bonanza Creek Energy, Inc.
4	Morgan Stanley
5	Platinum Home Mortgage
6	The Trade Center
7	CTB Commercial Trade Inc.
8	Global Business Communication Solutions
9	California Retina Consultants
10	Physicians Network Billing Service, Inc.
11	Better Way Services Inc.
12	Saba Agency (Media Marketing Design)
13	Quantum Data Systems
14	New Your Life
15	Dr. Park Dentistry
16	Penolope S. Sutes, O.D., Elizabeth Torres, O.D.
17	A+ The Employment Company
18	Alliance Human Services
19	Consumer Credit Counselors
20	Comprehensive Cardiovascular
21	Thompson Family Chiropractor
22	Kern LAFCO
23	Pacific Health Education Center
24	Santa Barbara Business College
25	Taj Mahal *
26	Pho Hut *
27	Backstage Style & Barber
California Avenue to Stockdale Avenue	
28	Wells Fargo
29	Chevron Valley Credit Union
30	Mid State Development
31	Paychex
32	Trusted Pardon Services
33	Kelly Management
34	Quest Imaging
35	Move International
36	Northern Digital
37	Kern Farming Corp.
38	Carter Carter & Associates (Real Estate)
39	American Financial Network
40	The Barrentine Company
41	Advanced Network Solutions

Table G.2 Business Inventory List for Alternative A

42	Christian Counseling Services
43	White Gold Cotton LLC.
44	Turkey Cotton Compress LLC.
45	Brian Rice Construction, Inc.
46	Morgan Corporation
47	In N Out
48	Chipotle
49	Sports Chalet
50	Fresh & Easy
51	Jamba Juice
52	Star Nails Spa
53	Image Hair Supply
54	Panda Express
55	Jersey Mike's Subs
56	Bakersfield Dental Group
57	Bed Bath & Beyond
58	Smart & Final
Along Stockdale from Stockdale to Real Road	
59	Houston Jewelers
60	Jules
61	Café Med
62	H&R Block
63	David Yurman (Jewelers)
64	Cartier (Jewelers)
65	A.B.L.E. (Adult Based Life Experience)
66	Path Point
67	Spherion
68	Jay E Fisher (Clinical Psychologist)
69	Merriman Hurst & Associates (Real Estate)
70	Meyer Civil Engineering
71	One America Financial Partner
72	KAXL (radio station)
73	Gary Crabtree Affiliated Appraisers
74	A2Z Escrow, Inc.
75	Northern Mutual Financial Network
76	Mit Wolfe & Associates (Environmental Consulting)
77	Quick & Easy Income Tax Service
78	Great Hands Massage
79	Vincent Tran – Attorney at Law
80	Immigration Attorney
81	Intuitive Touch Massage Therapy
82	Practical Options Legal Document Services
83	E-Fitness Studio
84	Aflac

Table G.2 Business Inventory List for Alternative A

85	TrafficSchoolForm.com
86	TrafficSchoolExperts.com
87	TrafficSchoolpeople.com
88	WayTooEasyTrafficSchool.com
89	MyEasyTrafficSchool.com
90	PainFreeTrafficSchool.com
91	Ellis Island Pizza Company
92	Avon
93	Alliance Investments (real estate) *
94	Insurance
95	Select Staffing *
96	Massage Body & Feet
97	Southern California Medical College
98	The Book Exchange
99	Launderland
100	High Desert Medical College
101	Santa Barbara Business College
102	Advanced Internet Property Management & Real Estate
103	Canto's Industrial Alliance
104	Power House Realty
105	Exam One – A Quest Diagnostics Company
106	Marta Valdez – Real Estate Broker
107	Cal Title Loans
108	Infinity Auto Insurance
109	Willies Bookkeeping & Tax Service
Along and west of SR 99 from Stockdale to Ming	
110	Payless Mini Storage
111	Hugie Offices / Sun Trail, Inc. (Law Firm)
Along and east of SR 99 from Stockdale to Ming	
112	Jolly Cone Drive Thru
113	Mr. Mattress
114	Larsons's (Food and Gas)
Along and north of SR 58 from Oak to Union	
	None
Along and south of SR 58 from Oak to Union	
	None
* Minority Oriented Business	

Table G.3 List of Acquisitions for Alternative B

Impact ID	Site Address	Present Use	Type of Take
1	13 CHESTER AVE, BAKERSFIELD CA 93301	Store	Partial
2	15 CHESTER AVE, BAKERSFIELD CA 93301	Vacant	Partial
3		Parking	Partial
4	229 CHESTER AVE, BAKERSFIELD CA 93301	SFR	Full
5	136 HAYBERT CT, BAKERSFIELD CA 93304	Vacant	Full
6	233 S CHESTER AVE, BAKERSFIELD CA 93304-3648	SFR	Full
7	301 S CHESTER AVE, BAKERSFIELD CA 93304-3650	SFR	Full
8	216 HAYBERT CT, BAKERSFIELD CA 93304-1849	SFR	Full
9	206 HAYBERT CT, BAKERSFIELD CA 93304-1849	SFR	Full
10	204 HAYBERT CT, BAKERSFIELD CA 93304-1849	SFR	Full
11	318 S CHESTER AVE, BAKERSFIELD CA 93304	SFR	Perm Esmt
12	308 CHESTER AVE, BAKERSFIELD CA 93304	4-plex	Perm Esmt
13	304 S CHESTER AVE, BAKERSFIELD CA 93304	SFR	Perm Esmt
14	234 CHESTER AVE, BAKERSFIELD CA 93304	SFR	Partial
15	230 S CHESTER AVE, BAKERSFIELD CA 93304	Duplex	Partial
16		Vacant	Partial
17		City Park	Perm Esmt
18	4208 JOSEPH DR, BAKERSFIELD CA 93309-2042	SFR	Partial
19	4212 JOSEPH DR, BAKERSFIELD CA 93309-2042	SFR	Full
20	4300 JOSEPH DR, BAKERSFIELD CA 93309-2053	SFR	Full
21	4304 JOSEPH DR, BAKERSFIELD CA 93309-2053	SFR	Full
22	4308 JOSEPH DR, BAKERSFIELD CA 93309-2053	SFR	Full
23	4312 JOSEPH DR, BAKERSFIELD CA 93309-2053	SFR	Full
24	144 DUNLAP ST, BAKERSFIELD CA 93309-2038	SFR	Partial
25	140 DUNLAP ST, BAKERSFIELD CA 93309-2038	SFR	Full
26	136 DUNLAP ST, BAKERSFIELD CA 93309-2038	SFR	Full
27	132 DUNLAP ST, BAKERSFIELD CA 93309-2038	SFR	Full
28	128 DUNLAP ST, BAKERSFIELD CA 93309-2038	SFR	Full
29	124 DUNLAP ST, BAKERSFIELD CA 93309-2038	SFR	Full
30	120 DUNLAP ST, BAKERSFIELD CA 93309-2038	SFR	Full
31	116 DUNLAP ST, BAKERSFIELD CA 93309-2038	SFR	Full
32	112 DUNLAP ST, BAKERSFIELD CA 93309-2038	SFR	Full
33	108 DUNLAP ST, BAKERSFIELD CA 93309-2038	SFR	Full
34	104 DUNLAP ST, BAKERSFIELD CA 93309-2038	SFR	Full
35	100 DUNLAP ST, BAKERSFIELD CA 93309-2038	SFR	Full
36	22 DUNLAP ST, BAKERSFIELD CA 93309-2036	SFR	Full
37	18 DUNLAP ST, BAKERSFIELD CA 93309-2036	SFR	Full
38	14 DUNLAP ST, BAKERSFIELD CA 93309-2036	SFR	Full
39	10 DUNLAP ST, BAKERSFIELD CA 93309-2036	SFR	TCE
40	141 DUNLAP ST, BAKERSFIELD CA 93309-2037	SFR	Full
41	137 DUNLAP ST, BAKERSFIELD CA 93309-2037	SFR	Full
42	133 DUNLAP ST, BAKERSFIELD CA 93309-2037	SFR	Full
43	129 DUNLAP ST, BAKERSFIELD CA 93309-2037	SFR	Full
44	125 DUNLAP ST, BAKERSFIELD CA 93309-2037	SFR	Full
45	121 DUNLAP ST, BAKERSFIELD CA 93309-2037	SFR	Full
46	117 DUNLAP ST, BAKERSFIELD CA 93309-2037	SFR	Full
47	113 DUNLAP ST, BAKERSFIELD CA 93309-2037	SFR	Full
48	109 DUNLAP ST, BAKERSFIELD CA 93309-2037	SFR	Full

Table G.3 List of Acquisitions for Alternative B

Impact ID	Site Address	Present Use	Type of Take
49	105 DUNLAP ST, BAKERSFIELD CA 93309-2037	SFR	Full
50	101 DUNLAP ST, BAKERSFIELD CA 93309-2037	SFR	Full
51	136 CANDY ST, BAKERSFIELD CA 93309-2035	SFR	Full
52	140 CANDY ST, BAKERSFIELD CA 93309-2035	SFR	Full
53	27 N STINE RD, BAKERSFIELD CA 93309	SFR	Partial
54	23 N STINE RD, BAKERSFIELD CA 93309-2014	SFR	Full
55	19 N STINE RD, BAKERSFIELD CA 93309-2014	SFR	Full
56	15 N STINE RD, BAKERSFIELD CA 93309-2014	SFR	Full
57	11 STINE RD, BAKERSFIELD CA 93309	SFR	Full
58	7 STINE RD, BAKERSFIELD CA 93309	SFR	Full
59	1 N STINE RD, BAKERSFIELD CA 93309-2014	SFR	Full
60	2 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
61	6 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
62	10 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
63	14 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
64	18 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
65	22 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
66	26 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
67	25 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
68	19 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
69	15 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
70	11 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
71	7 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
72	1 MORRISON ST, BAKERSFIELD CA 93309-2052	SFR	Full
73	125 MORRISON ST, BAKERSFIELD CA 93309	SFR	Partial
74	121 MORRISON ST, BAKERSFIELD CA 93309-2047	SFR	Full
75	117 MORRISON ST, BAKERSFIELD CA 93309-2047	SFR	Full
76	113 MORRISON ST, BAKERSFIELD CA 93309-2047	SFR	Full
77	109 MORRISON ST, BAKERSFIELD CA 93309-2047	SFR	Full
78	105 MORRISON ST, BAKERSFIELD CA 93309-2047	SFR	Full
79	101 MORRISON ST, BAKERSFIELD CA 93309-2047	SFR	Full
80	4501 LA MIRADA DR, BAKERSFIELD CA 93309-1727	SFR	Partial
81	4505 LA MIRADA DR, BAKERSFIELD CA 93309-1727	SFR	Partial
82	4417 LA MIRADA DR, BAKERSFIELD CA 93309-1725	SFR	Full
83	4416 LA MIRADA DR, BAKERSFIELD CA 93309-1726	SFR	Full
84	4500 LA MIRADA DR, BAKERSFIELD CA 93309-1798	SFR	Partial
85	4504 LA MIRADA DR, BAKERSFIELD CA 93309-1798	SFR	Partial
86	800 DEL REY CT, BAKERSFIELD CA 93309-1138	SFR	Full
87	804 DEL REY CT, BAKERSFIELD CA 93309-1138	SFR	Full
88	808 DEL REY CT, BAKERSFIELD CA 93309-1138	SFR	Full
89	812 DEL REY CT, BAKERSFIELD CA 93309-1138	SFR	Full
90	816 DEL REY CT, BAKERSFIELD CA 93309-1138	SFR	Full
91	820 DEL REY CT, BAKERSFIELD CA 93309-1138	SFR	Full
92	809 DEL REY CT, BAKERSFIELD CA 93309-1138	SFR	Perm Esmt
93	805 DEL REY CT, BAKERSFIELD CA 93309-1138	SFR	Partial
94	801 DEL REY CT, BAKERSFIELD CA 93309-1138	SFR	Full
95	4601 CHARTER OAKS AVE, BAKERSFIELD CA 93309-1118	SFR	Full
96	4515 CHARTER OAKS AVE, BAKERSFIELD CA 93309-1115	SFR	Full

Table G.3 List of Acquisitions for Alternative B

Impact ID	Site Address	Present Use	Type of Take
97	4509 CHARTER OAKS AVE, BAKERSFIELD CA 93309-1115	SFR	Full
98	4505 CHARTER OAKS AVE, BAKERSFIELD CA 93309-1115	SFR	Full
99	713 MONTCLAIR ST, BAKERSFIELD CA 93309-1759	SFR	Full
100	709 MONTCLAIR ST, BAKERSFIELD CA 93309-1759	SFR	Full
101	705 MONTCLAIR ST, BAKERSFIELD CA 93309-1759	SFR	Full
102	701 MONTCLAIR ST, BAKERSFIELD CA 93309-1759	SFR	Full
103	708 MONTCLAIR ST, BAKERSFIELD CA 93309-1760	SFR	Full
104	704 MONTCLAIR ST, BAKERSFIELD CA 93309-1760	SFR	Full
105	700 MONTCLAIR ST, BAKERSFIELD CA 93309-1760	SFR	Full
106	608 MONTCLAIR ST, BAKERSFIELD CA 93309-8545	SFR	Full
107		Res lot	Full
108	604 MONTCLAIR ST, BAKERSFIELD CA 93309-8545	SFR	Full
109	4601 CALIFORNIA AVE, BAKERSFIELD CA 93309-1105	School	Full
110	5041 EASTON DR, BAKERSFIELD CA 93309	School parking/storage	Full
111	5071 EASTON DR, BAKERSFIELD CA 93309-1153	4-plex	Full
112	5085 EASTON DR, BAKERSFIELD CA 93309-1154	4-plex	Full
113	5091 EASTON DR, BAKERSFIELD CA 93309-7010	4-plex	Full
114	4412 LA MIRADA DR, BAKERSFIELD CA 93309-1726	SFR	Full
115	4408 LA MIRADA DR, BAKERSFIELD CA 93309-1726	SFR	Full
116	4404 LA MIRADA DR, BAKERSFIELD CA 93309-1726	SFR	Full
117	4400 LA MIRADA DR, BAKERSFIELD CA 93309-1726	SFR	Full
118	4316 LA MIRADA DR, BAKERSFIELD CA 93309-1724	SFR	Full
119	4312 LA MIRADA DR, BAKERSFIELD CA 93309-1724	SFR	Full
120	4306 LA MIRADA DR, BAKERSFIELD CA 93309-1724	SFR	Full
121	4300 LA MIRADA DR, BAKERSFIELD CA 93309-1724	SFR	Full
122	4224 LA MIRADA DR, BAKERSFIELD CA 93309-1722	SFR	Full
123	4220 LA MIRADA DR, BAKERSFIELD CA 93309-1722	SFR	Full
124	4212 LA MIRADA DR, BAKERSFIELD CA 93309-1722	SFR	Full
125	4204 LA MIRADA DR, BAKERSFIELD CA 93309-1722	SFR	Partial
126	4200 LA MIRADA DR, BAKERSFIELD CA 93309-1722	SFR	Partial
127	4112 LA MIRADA DR, BAKERSFIELD, CA 93309-1722	SFR	Perm Esmt
128	4108 LA MIRADA DR, BAKERSFIELD, CA 93309-1722	SFR	Perm Esmt
129	4104 LA MIRADA DR, BAKERSFIELD, CA 93309-1722	SFR	Perm Esmt
130	4100 LA MIRADA DR, BAKERSFIELD, CA 93309-1722	SFR	Perm Esmt
131	4201 LA MIRADA DR, BAKERSFIELD CA 93309-1721	SFR	Partial
132	4205 LA MIRADA DR, BAKERSFIELD CA 93309-1721	SFR	Partial
133	4209 LA MIRADA DR, BAKERSFIELD CA 93309-1721	SFR	Partial
134	4213 LA MIRADA DR, BAKERSFIELD CA 93309-1721	SFR	Partial
135	4217 LA MIRADA DR, BAKERSFIELD CA 93309-1721	SFR	Full
136	4221 LA MIRADA DR, BAKERSFIELD CA 93309-1721	SFR	Full
137	4225 LA MIRADA DR, BAKERSFIELD CA 93309-1721	SFR	Full
138	4229 LA MIRADA DR, BAKERSFIELD CA 93309-1721	SFR	Full
139	4233 LA MIRADA DR, BAKERSFIELD CA 93309-1721	SFR	Full
140	4301 LA MIRADA DR, BAKERSFIELD CA 93309-1723	SFR	Full
141	4305 LA MIRADA DR, BAKERSFIELD CA 93309-1723	SFR	Full
142	4309 LA MIRADA DR, BAKERSFIELD CA 93309-1723	SFR	Full
143	4313 LA MIRADA DR, BAKERSFIELD CA 93309-1723	SFR	Full
144	4317 LA MIRADA DR, BAKERSFIELD CA 93309-1723	SFR	Full

Table G.3 List of Acquisitions for Alternative B

Impact ID	Site Address	Present Use	Type of Take
145	4401 LA MIRADA DR, BAKERSFIELD CA 93309-1725	SFR	Full
146	4405 LA MIRADA DR, BAKERSFIELD CA 93309-1725	SFR	Full
147	4409 LA MIRADA DR, BAKERSFIELD CA 93309-1725	SFR	Full
148	4413 LA MIRADA DR, BAKERSFIELD CA 93309-1725	SFR	Full
149	4307 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1711	SFR	Full
150	4301 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1711	SFR	Full
151	4300 KENTFIELD DR, BAKERSFIELD CA 93309-8546	SFR	Full
152	4312 KENTFIELD DR, BAKERSFIELD CA 93309-8546	SFR	Full
153	4316 KENTFIELD DR, BAKERSFIELD CA 93309-8546	SFR	Full
154	4400 KENTFIELD DR, BAKERSFIELD CA 93309-1716	SFR	Full
155	4404 KENTFIELD DR, BAKERSFIELD CA 93309-1716	SFR	Full
156	4405 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1713	SFR	Full
157	4401 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1713	SFR	Full
158	4317 KENTFIELD DR, BAKERSFIELD CA 93309-8547	SFR	Full
159	4313 KENTFIELD DR, BAKERSFIELD CA 93309-8547	SFR	Full
160	4309 KENTFIELD DR, BAKERSFIELD CA 93309-8547	SFR	Full
161	4305 KENTFIELD DR, BAKERSFIELD CA 93309-8547	SFR	Full
162	4301 KENTFIELD DR, BAKERSFIELD CA 93309-8547	SFR	Full
163	4200 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1710	SFR	Full
164	4204 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1710	SFR	Full
165	4208 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1710	SFR	Full
166	4212 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1710	SFR	Full
167	4216 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1710	SFR	Full
168	4300 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1712	SFR	Full
169	4304 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1712	SFR	Full
170	4308 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1712	SFR	Full
171	4400 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1714	SFR	Full
172	4404 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1714	SFR	Full
173	4408 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1714	SFR	Full
174	4412 HILLSBOROUGH DR, BAKERSFIELD CA 93309-1714	SFR	Full
175	4409 MARELLA WAY, BAKERSFIELD CA 93309-1735	SFR	Full
176	4405 MARELLA WAY, BAKERSFIELD CA 93309-1735	SFR	Full
177	4401 MARELLA WAY, BAKERSFIELD CA 93309-1735	SFR	Full
178	4313 MARELLA WAY, BAKERSFIELD CA 93309-1733	SFR	Full
179	4309 MARELLA WAY, BAKERSFIELD CA 93309-1733	SFR	Full
180	4305 MARELLA WAY, BAKERSFIELD CA 93309-1733	SFR	Full
181	4301 MARELLA WAY, BAKERSFIELD CA 93309-1733	SFR	Full
182	4205 MARELLA WAY, BAKERSFIELD, CA 93309-1733	SFR	Perm Esmt
183	4413 WOODLAKE DR, BAKERSFIELD CA 93309-8551	SFR	Partial
184	4417 WOODLAKE DR, BAKERSFIELD CA 93309-8551	SFR	Full
185	4500 WOODLAKE DR, BAKERSFIELD CA 93309-8549	SFR	Full
186	4416 WOODLAKE DR, BAKERSFIELD CA 93309-8548	SFR	Full
187	4412 WOODLAKE DR, BAKERSFIELD CA 93309-8548	SFR	Partial
188	4508 WOODLAKE DR, BAKERSFIELD CA 93309-8549	SFR	Full
189	4504 WOODLAKE DR, BAKERSFIELD CA 93309-8549	SFR	Full
190	4501 WOODLAKE DR, BAKERSFIELD CA 93309-8550	SFR	Full
191	4507 WOODLAKE DR, BAKERSFIELD CA 93309-8550	SFR	Full
192	4414 KENSINGTON AVE, BAKERSFIELD CA 93309-1748	SFR	Full

Table G.3 List of Acquisitions for Alternative B

Impact ID	Site Address	Present Use	Type of Take
193	4408 KENSINGTON AVE, BAKERSFIELD CA 93309-1748	SFR	Full
194	505 MALIBU CT, BAKERSFIELD CA 93309-1752	SFR	Partial
195		SFR	Full
196	4321 KENSINGTON AVE, BAKERSFIELD CA 93309-1745	SFR	Partial
197	4401 KENSINGTON AVE, BAKERSFIELD CA 93309-1747	SFR	Full
198	4405 KENSINGTON AVE, BAKERSFIELD CA 93309-1747	SFR	Full
199	4409 KENSINGTON AVE, BAKERSFIELD CA 93309-1747	SFR	Full
200	4415 KENSINGTON AVE, BAKERSFIELD CA 93309-1747	SFR	Full
201	4419 KENSINGTON AVE, BAKERSFIELD CA 93309-1747	SFR	Full
202	4421 KENSINGTON AVE, BAKERSFIELD CA 93309-1747	SFR	Full
203	4428 MARELLA WAY, BAKERSFIELD CA 93309-1736	SFR	Partial
204	4424 MARELLA WAY, BAKERSFIELD CA 93309-1736	SFR	Full
205	4420 MARELLA WAY, BAKERSFIELD CA 93309-1736	SFR	Full
206	4416 MARELLA WAY, BAKERSFIELD CA 93309-1736	SFR	Full
207	4412 MARELLA WAY, BAKERSFIELD CA 93309-1736	SFR	Full
208	4408 MARELLA WAY, BAKERSFIELD CA 93309-1736	SFR	Full
209	4310 MARELLA WAY, BAKERSFIELD CA 93309-1734	SFR	Full
210	4308 MARELLA WAY, BAKERSFIELD CA 93309-1734	SFR	Full
211	4304 MARELLA WAY, BAKERSFIELD CA 93309-1734	SFR	Full
212	4404 MARELLA WAY, BAKERSFIELD CA 93309-1736	SFR	Full
213	4400 MARELLA WAY, BAKERSFIELD CA 93309-1736	SFR	Full
214	4606 CALIFORNIA AVE, BAKERSFIELD CA 93309-1106	Retail center	Full
215	4600 CALIFORNIA AVE, BAKERSFIELD CA 93309-1100	Com	Full
216	CALIFORNIA-PRKNG AV, BAKERSFIELD CA	Parking Lot	Full
217	4600 CALIFORNIA AVE, BAKERSFIELD CA 93309-1100	Bank	Full
218		Storm Drain	Partial
219		Hospital	Partial
220		Farm land	Partial
221		Farm land	Partial
222		Farm land	Partial
223		Farm land	Partial
224		Vacant	Partial
225	3112 TERRACE WAY, BAKERSFIELD CA 93304	SFR	Partial
226		SFR	Perm Esmt
227		Vacant	Full
228		Vacant	Perm Esmt
229			Perm Esmt
230		Access Lane	Perm Esmt
231		Auto Repair	Perm Esmt
232	321 STEPHENS DR, BAKERSFIELD CA 93304	Vacant	Partial
233		Apartments	Perm Esmt
234	313 STEPHENS DR, BAKERSFIELD CA 93304	Vacant	Full
235	201 S MYRTLE ST, BAKERSFIELD CA 93304-3335	SFR	Perm Esmt
236		RES LOT	Perm Esmt
237	300 DIXON AVE, BAKERSFIELD CA 93304-3388	SFR	Perm Esmt
238	205 JUDAN ST, BAKERSFIELD CA 93304	SFR	Perm Esmt
239	2405 ROBBIN RD, BAKERSFIELD CA 93304	SFR	Perm Esmt
240	2407 ROBBIN RD, BAKERSFIELD CA 93304	SFR	Perm Esmt

Table G.3 List of Acquisitions for Alternative B

Impact ID	Site Address	Present Use	Type of Take
241	2401 ROBBIN RD, BAKERSFIELD CA 93304	SFR	Perm Esmt
242	2403 ROBBIN RD, BAKERSFIELD CA 93304	SFR	Perm Esmt
243	3120 TERREL CT, BAKERSFIELD CA 93304	SFR	Perm Esmt
244		Vacant lot	Perm Esmt
245	3117 TERRACE WAY, BAKERSFIELD CA 93304	SFR	Perm Esmt
246	3152 TERREL CT, BAKERSFIELD CA 93304	SFR	Perm Esmt
247	606 WIBLE RD, BAKERSFIELD CA 93304	Acapulco Tires Auto Repair	TCE
248	612 WIBLE RD, BAKERSFIELD CA 93304	Xpress Lube	TCE
249	608 WIBLE RD, BAKERSFIELD CA 93304	Distinctive Coach Auto Body	TCE
250	700 WIBLE RD, BAKERSFIELD CA 93304	Fleet Auto Brokers/Estradas Car Wash	TCE
251	520 WIBLE RD, BAKERSFIELD CA 93304	Computer Smog Specialists	TCE
252	717 S OLIVE ST, BAKERSFIELD CA 93304	SFR	TCE
253	720 WIBLE RD, BAKERSFIELD CA 93304	Larson's Food & Gas	Full
254	708 WIBLE RD, BAKERSFIELD, CA 93304	Duplex	Full
255	704 WIBLE RD, BAKERSFIELD, CA 93304	Duplex	Full
256	206 HUGHES LN, BAKERSFIELD, CA 93304	SFR	Perm Esmt
257	210 HUGHES LN, BAKERSFIELD, CA 93304	SFR	Perm Esmt
258	2396 BRITE ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
259	2394 BRITE ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
260	2324 BRITE ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
261	2300 BRITE ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
262	309 HOUCHIN RD, BAKERSFIELD CA 93304-3409	Estate	Perm Esmt
263		SFR	Perm Esmt
264		SFR	Perm Esmt
265	203 H ST, BAKERSFIELD, CA 93304	Church	Perm Esmt
266	2200 ROOSEVELT ST, BAKERSFIELD CA 93304	SFR	Perm Esmt
267	2129 BRUNDAGE LN, BAKERSFIELD CA 93304	Restaurant	Perm Esmt
268		Apartments	Partial
269	800 WIBLE RD, BAKERSFIELD, CA 93304	Jolly Kone	Full
270	3109 BELLE TER, BAKERSFIELD CA 93304	SFR	TCE
271	830 WIBLE RD, BAKERSFIELD CA 93304	Motel	Partial
272	812 WIBLE RD, BAKERSFIELD CA 93304	Motel	Partial
273	806 WIBLE RD, BAKERSFIELD, CA 93304	Mr. Matress Store	Full
274	930 WIBLE RD, BAKERSFIELD CA 93304	Shopping Center	Partial
275	3857 STOCKDALE HWY, BAKERSFIELD CA 93309-2187	Medical	Full
276		Flood Control	Perm Esmt
277	3847 STOCKDALE HWY, BAKERSFIELD CA 93309-2156	Barber Shop	Full
278	3333 STOCKDALE HWY, BAKERSFIELD CA 93309	Utilities	Full
279		Vacant	Full
280		Vacant	Full
281	3403 STOCKDALE HWY, BAKERSFIELD CA 93309-2143	Office building	Full
282		Park & Ride	Full
283		Park & Ride	Full
284		Vacant lot	Full

Table G.3 List of Acquisitions for Alternative B

Impact ID	Site Address	Present Use	Type of Take
285		Vacant	Full
286		Vacant	Full
287	3330 ELCIA DR, BAKERSFIELD CA 93309-3340	MFR	Full
288	3320 ELCIA DR, BAKERSFIELD CA 93309-3301	Duplex	Full
289		Storage	Full
290	200 S REAL RD, BAKERSFIELD CA 93309	Vacant lot	Full
291	3324 ELCIA DR, BAKERSFIELD CA 93309	SFR	Full
292	210 S REAL RD, BAKERSFIELD CA 93309-2140	SFR	Partial
293	3501 STOCKDALE HWY, BAKERSFIELD CA 93309-2150	Hospital	Partial
294		SFR	Partial
295	240 REAL RD, BAKERSFIELD CA 93309	SFR	Partial
296	3412 ELCIA DR, BAKERSFIELD CA 93309-3327	SFR	Partial
297	3408 ELCIA DR, BAKERSFIELD CA 93309-3327	SFR	Full
298	3404 ELCIA DR, BAKERSFIELD CA 93309-3327	SFR	Full
299	3400 ELCIA DR, BAKERSFIELD CA 93309-3327	SFR	Full
300	3405 ELCIA DR, BAKERSFIELD CA 93309	SFR	Perm Esmt
301	3401 ELCIA DR, BAKERSFIELD CA 93309	SFR	Perm Esmt
302	3845 STOCKDALE HWY, BAKERSFIELD CA 93309-3192	Office Building	Full
303		Vacant	Full
304	3815 STOCKDALE HWY, BAKERSFIELD CA 93309-2156	Office building	Partial
305	3737 STOCKDALE HWY, BAKERSFIELD CA 93309-2100	Office building	Partial
306		Parking Lot	Full
307	201 S GARNSEY AVE, BAKERSFIELD CA 93309-2133	SFR	Full
308	201 S GARNSEY AVE, BAKERSFIELD CA 93309-2133	SFR	Full
309		Triplex	Full
310	3839 STOCKDALE HWY, BAKERSFIELD CA 93309-2156	Retail Building	Partial
311	195 S GARNSEY AVE, BAKERSFIELD CA 93309-2144	SFR	Full
312	100 S GARNSEY AVE, BAKERSFIELD CA 93309-2191	SFR	Full
313	20 WILLIAMSON WAY, BAKERSFIELD CA 93309-2158	MFR	Full
314	3617 STOCKDALE HWY, BAKERSFIELD CA 93309	Shopping Center	Full
315	201 S REAL RD, BAKERSFIELD CA 93309	Office building	Full
316	205 S REAL RD, BAKERSFIELD CA 93309	Office building	Full
317	101 S REAL RD, BAKERSFIELD CA 93309	Parking	Full
318	115 S REAL RD, BAKERSFIELD CA 93309	Parking	Full
319	131 S REAL RD, BAKERSFIELD CA 93309	Parking	Full
320	141 S REAL RD, BAKERSFIELD CA 93309	Parking	Full
321	209 S REAL RD, BAKERSFIELD CA 93309	Parking	Full
322	96 WILLIAMSON WAY, BAKERSFIELD CA 93309-2142	SFR	Full
323	209 WILLIAMSON WAY, BAKERSFIELD CA 93309-2199	2 SFRs	Full
324	205 WILLIAMSON WAY, BAKERSFIELD CA 93309-2199	SFR	Full
325	201 WILLIAMSON WAY, BAKERSFIELD CA 93309-2199	SFR	Full
326	125 WILLIAMSON WAY, BAKERSFIELD CA 93309-2197	SFR	Full
327	25 WILLIAMSON WAY, BAKERSFIELD CA 93309-2112	Apartments	Full
328	3601 STOCKDALE HWY, BAKERSFIELD CA 93309-2152	Gas Station	TCE
329	206 WILLIAMSON WAY, BAKERSFIELD CA 93309-0900	SFR	Full
330		Res lot	Full
331	100 WILLIAMSON WAY, BAKERSFIELD CA 93309-2179	Apartments	Full
332	200 WILLIAMSON WAY, BAKERSFIELD CA 93309-2180	Apartments	Full

Table G.3 List of Acquisitions for Alternative B

Impact ID	Site Address	Present Use	Type of Take
333	204 WILLIAMSON WAY, BAKERSFIELD CA 93309-2181	Apartments	Full
334	31 S REAL RD, BAKERSFIELD CA 93309-2110	Office building	Full
335	33 S REAL RD, BAKERSFIELD CA 93309-2135	Office building	Full
336	300 S GARNSEY AVE, BAKERSFIELD CA 93309-2134	SFR	Partial
337	215 WILLIAMSON WAY, BAKERSFIELD CA 93309-2199	SFR	Full
338	219 S REAL RD, BAKERSFIELD CA 93309	Parking	Full
339	3610 ELCIA DR, BAKERSFIELD CA 93309	Parking	Full
340	3618 ELCIA DR, BAKERSFIELD CA 93309-3329	SFR	Full
341	218 WILLIAMSON WAY, BAKERSFIELD CA 93309-0900	SFR	Full
342	3232 MONA WAY, BAKERSFIELD CA 93309-3395	SFR	Partial
343		Vacant	Full
344	3201 MONA WAY, BAKERSFIELD CA 93309-3395	SFR	Full
345	601 ALAMO ST, BAKERSFIELD CA 93309-3355	SFR	Full
346	627 ALAMO ST, BAKERSFIELD CA 93309	SFR	Full
347	619 ALAMO ST, BAKERSFIELD CA 93309-3355	SFR	Full
348	611 ALAMO ST, BAKERSFIELD CA 93309-3355	SFR	Full
349	3234 BELLE TER, BAKERSFIELD CA 93309	Private School	Partial
350	200 S GARNSEY AVE, BAKERSFIELD CA 93309-2196	SFR	Full
351	206 S GARNSEY AVE, BAKERSFIELD CA 93309-2196	SFR	Full
352	212 S GARNSEY AVE, BAKERSFIELD CA 93309-2196	SFR	Full
353	218 S GARNSEY AVE, BAKERSFIELD CA 93309-2196	SFR	Full
354	205 S GARNSEY AVE, BAKERSFIELD CA 93309-2133	SFR	Full
355	209 S GARNSEY AVE, BAKERSFIELD CA 93309-2133	SFR	Full
356	221 GARNSEY AVE, BAKERSFIELD CA 93309	SFR	Partial
357	255 GARNSEY AVE, BAKERSFIELD CA 93309	SFR	Partial
358	22645 STOCKDALE HWY, BAKERSFIELD CA 93305-2432	Farm land	Partial
359		Farm land	Partial
360	3231 BELLE TER, BAKERSFIELD CA 93309	SFR	TCE
361	3229 BELLE TER, BAKERSFIELD CA 93309-4101	SFR	TCE
362	3227 BELLE TER, BAKERSFIELD CA 93309-4101	2 SFRs	Full
363	3310 WOOD LN, BAKERSFIELD CA 93309-7321	2 SFRs	Full
364	3320 WOOD LN, BAKERSFIELD CA 93309-7321	SFR	Full
365	3330 WOOD LN, BAKERSFIELD CA 93309-7321	SFR	Full
366	3308 WOOD LN, BAKERSFIELD CA 93309-7321	2 SFRs	Full
367	1117 WIBLE RD, BAKERSFIELD CA 93304	Auto Repair	Full
368	3317 LAVERNE AVE, BAKERSFIELD CA 93309	SFR	Full
369	3316 LAVERNE AVE B, BAKERSFIELD CA 93309-4122	SFR	Perm Esmt
370	201 E BRUNDAGE LN, BAKERSFIELD, CA 93304	Church	Perm Esmt
371	200 WAYCROSS ST, BAKERSFIELD, CA 93304	Church	Perm Esmt
372	340 WAYCROSS ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
373		Auto Sales	Perm Esmt
374		Paved Access	Perm Esmt
375	5001 COMMERCE DR, BAKERSFIELD CA 93309-0648	Hospital	Partial
376	5000 COMMERCE DR, BAKERSFIELD CA 93309	Medical	Partial
377	3520 ROSEDALE HWY, BAKERSFIELD CA 93308-6229	Carl's Jr	Perm Esmt
378	3540 ROSEDALE HWY, BAKERSFIELD CA 93308-6229	Hotel	Perm Esmt
379		Oil Extraction	Partial
380	4950 COMMERCE DR, BAKERSFIELD CA 93309	Basin	Full

Table G.3 List of Acquisitions for Alternative B

Impact ID	Site Address	Present Use	Type of Take
381		Vacant	Partial
382		Vacant	Partial
383	4700 EASTON DR, BAKERSFIELD CA 93309-9426	Offices	Partial
384	4800 EASTON DR, BAKERSFIELD CA 93309-9423	Offices	Full
385	4800 EASTON DR, BAKERSFIELD CA 93309-9423	Offices	Full
386	4800 EASTON DR, BAKERSFIELD CA 93309-9427	Offices	Full
387	4800 EASTON DR, BAKERSFIELD CA 93309-9427	Offices	Full
388	4800 EASTON DR 114, BAKERSFIELD CA 93309-9424	Offices	Full
389	4800 EASTON DR, BAKERSFIELD CA 93309-9427	Offices	Full
390		Parking Lot	Full
391		Vacant	Partial
392		Vacant	Partial
393		Vacant	Partial
394		Vacant	Partial
395		Drainage	Full
396		Drainage	Partial
397		Drainage	Partial
398		Park/Preserve	Full
399		Vacant	Full
400	CALLOWAY DR, BAKERSFIELD CA	Vacant	Full
401		Esmt	Full
402		Vacant	Full
403		Vacant	Full
404		Vacant	Full
405		vacant	Full
406		Vacant	Full
407		Vacant	Full
408		Vacant	Full
409		Vacant	Full
410	COFFEE RD, BAKERSFIELD CA	Vacant	Full
411	PRESIDIO WAY, BAKERSFIELD CA	Vacant	Full
412	COFFEE RD, BAKERSFIELD CA	Vacant	Full
413		Vacant	Full
414		Vacant	Full
415		Vacant	Full
416		Vacant	Full
417		Vacant	Partial
418		Vacant	Full
419		Vacant	Full
420		Vacant	Full
421		Vacant	Full
422		Vacant	Full

Table G.4 Business Inventory List for Alternative B

Truxtun Avenue to California Avenue	
1	ECBMC
2	NCR
3	Clean Tech Janitorial
4	01’s Racing
5	Jim Warren, X-Ray Solution Service
6	Cravens Performance
7	Cal-Air
8	Rutherford Vision, Inc.
9	GNM Computer Repair
10	ClearATicket.com
11	EasyToFinishTrafficSchool.com
12	Less Time Traffic School
13	OneGoodDriver.com
14	Green Light Traffic School
15	One Day Traffic School
16	SimpleToFinishTrafficSchool.com
17	InADayTrafficSchool.com
18	Self Paced Traffic School
19	Crystal Glass Window Repair
20	Pensinger Properties – Property Management
21	Farmers Insurance Agency
22	Brian L Ward – Structural Engineer
23	KBS – Property Management & Real Estate
24	Arrache & Potter – Attorneys at Law
25	Walls Hearing Aid Center
26	Century 21 Hometown Reality
27	Christopher J. Aasness, CPA
28	Number Crunchers (Bookkeeping and tax services)
29	Ironwood (Retirement Plan Consultants)
30	ProCare hospice
31	John B Linford Attorney at Law
32	Law office of Phillip H. Darling
33	Pacific Geotechnical Assoc., Inc.
34	Simply Scrapbooks
35	A Total Health (Salon, Nutritionist, Refloxology)
36	Pinnacle Civil Engineering
37	Kumon – Math & Reading Center
38	Affordable Dentures
39	Family Dentistry
40	Affordable Dentures
41	Citizens Business Bank

Table G.4 Business Inventory List for Alternative B

California Avenue to Stockdale Avenue	
42	Little Red School House
Along Stockdale from Stockdale to Real Road	
43	Quick & Easy Income Tax Service
44	Great Hands Massage
45	Vincent Tran – Attorney at Law
46	Immigration Attorney
447	Intuitive Touch Massage Therapy
48	Practical Options Legal Document Services
49	E-Fitness Studio
50	Aflac
51	TrafficSchoolForm.com
52	TrafficSchoolExperts.com
53	TrafficSchoolpeople.com
54	WayTooEasyTrafficSchool.com
55	MyEasyTrafficSchool.com
56	PainFreeTrafficSchool.com
57	Ellis Island Pizza Company
58	Avon
59	Alliance Investments (real estate) *
60	Insurance
61	Select Staffing *
62	Massage Body & Feet
63	Southern California Medical College
64	The Book Exchange
65	Launderland
66	High Desert Medical College
67	Santa Barbara Business College
68	Advanced Internet Property Management & Real Estate
69	Canto's Industrial Alliance
70	Power House Realty
71	Exam One – A Quest Diagnostics Company
72	Marta Valdez – Real Estate Broker *
73	Cal Title Loans
74	Infinity Auto Insurance
75	Willies Bookkeeping & Tax Service
Significant Parking Loss – 3737 Stockdale Hwy (76-79)	
76	Daniel Purdy – Pediatric Dentistry
77	San Joaquin Chiropractic Clinic
78	JVE Multi Services (Income Tax & Bookkeeping)
79	Unknown Business *

Table G.4 Business Inventory List for Alternative B

Along and west of SR 99 from Stockdale to Ming	
80	Payless Mini Storage
81	Hugie Offices / Sun Trail, Inc. (Law Firm)
Along and east of SR 99 from Stockdale to Ming	
82	Jolly Cone Drive Thru
83	Mr. Mattress
84	Larsons's (Food and Gas)
Along and north of SR 58 from Oak to Union	
	None
Along and south of SR 58 from Oak to Union	
	None

* Minority Oriented Business

Table G.5 List of Residential and Non-Residential Acquisitions for Alternative C

Impact ID	Site Address	Present Use	Type of Take
1	350 OAK ST, BAKERSFIELD CA 93304	Motel	TCE
2	3030 BRUNDAGE LN, BAKERSFIELD CA 93304	Youngs Market	Partial
3	3040 BRUNDAGE LN, BAKERSFIELD CA 93304	Commercial Showroom	Full
4	3050 BRUNDAGE LN, BAKERSFIELD CA 93304	Commercial	Full
5	2 OAK ST, BAKERSFIELD CA 93304	Service Station	Full
6	90 OAK ST, BAKERSFIELD CA 93304		Full
7	92 OAK ST, BAKERSFIELD CA 93304	Auto Repair	Full
8	100 OAK ST, BAKERSFIELD CA 93304	Retail	Partial
9	15 CHESTER AVE, BAKERSFIELD CA 93301	Store	Partial
10	13 CHESTER AVE, BAKERSFIELD CA 93301	Vacant	Partial
11		Parking	Partial
12	229 CHESTER AVE, BAKERSFIELD CA 93301	SFR	Full
13	136 HAYBERT CT, BAKERSFIELD CA 93304	Vacant	Full
14	233 S CHESTER AVE, BAKERSFIELD CA 93304-3648	SFR	Full
15	301 S CHESTER AVE, BAKERSFIELD CA 93304-3650	SFR	Full
16		Mixed Residential & Commercial	Full
17		SFR	Full
18		SFR	Full
19	216 HAYBERT CT, BAKERSFIELD CA 93304-1849	SFR	Full
20	206 HAYBERT CT, BAKERSFIELD CA 93304-1849	SFR	Full
21	204 HAYBERT CT, BAKERSFIELD CA 93304-1849	SFR	Full
22	318 S CHESTER AVE, BAKERSFIELD CA 93304	SFR	Partial
23	308 CHESTER AVE, BAKERSFIELD CA 93304	4-plex	Partial
24	304 S CHESTER AVE, BAKERSFIELD CA 93304	SFR	Partial
25	234 CHESTER AVE, BAKERSFIELD CA 93304	SFR	Partial
26	230 S CHESTER AVE, BAKERSFIELD CA 93304	Duplex	Partial
27		Vacant	Partial
28	140 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
29	132 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
30	139 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
31	135 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
32	131 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
33	127 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
34	3231 PALM ST, BAKERSFIELD CA 93309	SFR	Full
35	356 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
36	352 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
37	348 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
38	344 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
39	340 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
40	336 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
41	332 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
42	328 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
43	324 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
44	320 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
45	316 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
46	312 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full

Table G.5 List of Residential and Non-Residential Acquisitions for Alternative C

Impact ID	Site Address	Present Use	Type of Take
47	308 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
48	304 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
49	300 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
50	240 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
51	236 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
52	232 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
53	228 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
54	224 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
55	3230 BANK ST, BAKERSFIELD CA 93309	SFR	Full
56	220 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
57	200 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
58	3301 BANK ST, BAKERSFIELD CA 93309	SFR	Full
59	213 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
60	209 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
61	205 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
62	201 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
63	3301 PALM ST, BAKERSFIELD CA 93309	SFR	Full
64	357 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
65	353 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
66	349 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
67	345 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
68	341 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
69	337 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
70	333 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
71	329 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
72	325 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
73	321 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
74	317 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
75	313 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
76	309 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
77	305 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
78	301 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
79	241 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
80	237 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
81	233 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
82	229 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
83	225 OAKDALE DR, BAKERSFIELD CA 93309	SFR	Full
84	3300 BANK ST, BAKERSFIELD CA 93309	SFR	Full
85	316 WETHERLEY DR, BAKERSFIELD CA 93309	SFR	Full
86	320 WETHERLEY DR, BAKERSFIELD CA 93309	SFR	Full
87	324 WETHERLEY DR, BAKERSFIELD CA 93309	SFR	Full
88	328 WETHERLEY DR, BAKERSFIELD CA 93309	SFR	Full
89	332 WETHERLEY DR, BAKERSFIELD CA 93309	SFR	Full
90	336 WETHERLEY DR, BAKERSFIELD CA 93309	SFR	Full
91	340 WETHERLEY DR, BAKERSFIELD CA 93309	SFR	Full
92	344 WETHERLEY DR, BAKERSFIELD CA 93309	SFR	Full

Table G.5 List of Residential and Non-Residential Acquisitions for Alternative C

Impact ID	Site Address	Present Use	Type of Take
93	348 WETHERLEY DR, BAKERSFIELD CA 93309	SFR	Full
94	352 WETHERLEY DR, BAKERSFIELD CA 93309	SFR	Full
95	356 WETHERLEY DR, BAKERSFIELD CA 93309	SFR	Full
96	3331 PALM ST, BAKERSFIELD CA 93309	SFR	Full
97	1017 OAK ST, BAKERSFIELD CA 93304	Hotel	Partial
98		Parking lot	Partial
99	1011 OAK ST, BAKERSFIELD CA 93304	Commercial	Partial
100	963 OAK ST, BAKERSFIELD CA 93304		Partial
101	1131 OAK ST, BAKERSFIELD CA 93304	Chevron Gas	Partial
102	3621 CALIFORNIA AVE, BAKERSFIELD CA 93309	Commercial	Full
103	3501 CALIFORNIA AVE, BAKERSFIELD CA 93309	Commercial	Full
104	1000 REAL RD, BAKERSFIELD CA 93309	McDonalds	Partial
105	1000 REAL RD, BAKERSFIELD CA 93309	Parking Lot	Full
106	900 REAL RD, BAKERSFIELD CA 93309	Restaurant	Partial
107	828 REAL RD, BAKERSFIELD CA 93309	Hotel	Full
108	818 REAL RD, BAKERSFIELD CA 93309	Hotel & Restaurant	Full
109	820 REAL RD, BAKERSFIELD CA 93309	Commercial	Full
110	911 OAK ST, BAKERSFIELD CA 93304	Auto Dealership	Full
111	911 OAK ST, BAKERSFIELD CA 93304	Auto Village Sales	Full
112			Full
113		Car Lot	Full
114	3212 CHESTER LN, BAKERSFIELD CA 93304	MFR	Full
115		Industrial	Full
116	3232 CHESTER LN, BAKERSFIELD CA 93304	Industrial	Full
117	3311 CHESTER LN, BAKERSFIELD CA 93309	SFR	TCE
118	3289 CHESTER LN, BAKERSFIELD CA 93309	MFR	Full
119	3279 CHESTER LN, BAKERSFIELD CA 93309	Vacant	Full
120	727 OAK ST, BAKERSFIELD CA 93304	First Car Loans	Full
121	601 OAK ST, BAKERSFIELD CA 93304	Vacant Auto Sales	Full
122	601 OAK ST, BAKERSFIELD CA 93304	Vacant Auto Sales	Full
123	3231 CHESTER LN, BAKERSFIELD CA 93304	BK Transmissions	Full
124	601 OAK ST, BAKERSFIELD CA 93304	Vacant Auto Sales	Full
125	711 OAK ST, BAKERSFIELD CA 93304	Auto Planet Super Store	Full
126		City Park	Partial
127	555 OAK ST, BAKERSFIELD CA 93304	Auto Repair	Full
128	555 OAK ST, BAKERSFIELD CA 93304	Parking Lot	Full
129	525 OAK ST, BAKERSFIELD CA 93304	Commercial	Full
130		Barts Parts	Full
131		Auto Sales	Full
132		Farm land	Partial
133		Farm land	Partial
134		Farm land	Partial
135		Farm land	Partial
136	2911 BRUNDAGE LN, BAKERSFIELD CA 93304	Commercial	Full
137	16 OLIVE ST, BAKERSFIELD CA 93304	Commercial	Full
138		Auto Related Commercial	Full

Table G.5 List of Residential and Non-Residential Acquisitions for Alternative C

Impact ID	Site Address	Present Use	Type of Take
139	3001 BRUNDAGE LN, BAKERSFIELD CA 93304	Auto Related Commercial	Full
140	3011 BRUNDAGE LN, BAKERSFIELD CA 93304	KFC	Full
141	2907 BRUNDAGE LN, BAKERSFIELD CA 93304	Auto Repair	Full
142		Vacant	Partial
143	3112 TERRACE WAY, BAKERSFIELD CA 93304	SFR	Partial
144	24 STEPHENS DR, BAKERSFIELD CA 93304	4-plex	Full
145	28 STEPHENS DR, BAKERSFIELD CA 93304	SFR	Full
146		Commercial	Perm Esmt
147	2819 BRUNDAGE LN 1/2, BAKERSFIELD CA 93304	Warehouse	Perm Esmt
148		Access Lane	Perm Esmt
149	2821 BRUNDAGE LN, BAKERSFIELD CA 93304		TCE
150		Parking lot	Full
151	117 STEPHENS DR, BAKERSFIELD CA 93304	Apartments	Full
152	2905 BRUNDAGE LN, BAKERSFIELD CA 93304	Animal Hospital	Full
153		RES LOT	Perm Esmt
154	300 DIXON AVE, BAKERSFIELD CA 93304	SFR	TCE
155	3120 TERREL CT, BAKERSFIELD CA 93304	SFR	Perm Esmt
156		Vacant lot	Perm Esmt
157	3117 TERRACE WAY, BAKERSFIELD CA 93304	SFR	Perm Esmt
158	3152 TERREL CT, BAKERSFIELD CA 93304	SFR	Perm Esmt
159	612 WIBLE RD, BAKERSFIELD CA 93304	Xpress Lube	TCE
160	700 WIBLE RD, BAKERSFIELD CA 93304	Fleet Auto Brokers/Estradas Car Wash	TCE
161	717 S OLIVE ST, BAKERSFIELD CA 93304	SFR	TCE
162	720 WIBLE RD, BAKERSFIELD CA 93304	Larson's Food & Gas	Full
163	708 WIBLE RD, BAKERSFIELD, CA 93304	Duplex	Full
164	704 WIBLE RD, BAKERSFIELD, CA 93304	Duplex	Full
165	206 HUGHES LN, BAKERSFIELD, CA 93304	SFR	Perm Esmt
166	210 HUGHES LN, BAKERSFIELD, CA 93304	SFR	Perm Esmt
167	2396 BRITE ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
168	2394 BRITE ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
169	2324 BRITE ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
170	2300 BRITE ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
171	309 HOUCHIN RD, BAKERSFIELD CA 93304-3409	Estate	Perm Esmt
172	203 H ST, BAKERSFIELD CA 93304	Church	Perm Esmt
173		Apartments	TCE
174	800 WIBLE RD, BAKERSFIELD, CA 93304	Jolly Kone	Full
175	3109 BELLE TER, BAKERSFIELD CA 93304	SFR	TCE
176	830 WIBLE RD, BAKERSFIELD CA 93304	Motel	Partial
177	812 WIBLE RD, BAKERSFIELD CA 93304	Motel	Partial
178	806 WIBLE RD, BAKERSFIELD, CA 93304	Mr. Matress Store	Full
179	3333 STOCKDALE HWY, BAKERSFIELD CA 93309	Utilities	Full
180		Water Service Site	Full
181		Vacant	Full
182	3403 STOCKDALE HWY, BAKERSFIELD CA 93309	Office Building	Full

Table G.5 List of Residential and Non-Residential Acquisitions for Alternative C

Impact ID	Site Address	Present Use	Type of Take
183		Park & Ride	Full
184		Park & Ride	Full
185		Vacant lot	Full
186		Vacant	Full
187		Vacant	Full
188		MFR	Partial
189		Storage	Partial
190	200 S REAL RD, BAKERSFIELD CA 93309	Vacant lot	Partial
191	3501 STOCKDALE HWY, BAKERSFIELD CA 93309	Hospital	Partial
192	3232 MONA WAY, BAKERSFIELD CA 93309	SFR	Partial
193		Vacant	Full
194	3209 MONA WAY, BAKERSFIELD CA 93309	SFR	Full
195	3201 MONA WAY, BAKERSFIELD CA 93309	SFR	Full
196	601 ALAMO ST, BAKERSFIELD CA 93309	SFR	Full
197	627 ALAMO ST, BAKERSFIELD CA 93309	SFR	Full
198	619 ALAMO ST, BAKERSFIELD CA 93309	SFR	Full
199	611 ALAMO ST, BAKERSFIELD CA 93309	SFR	Full
200	3234 BELLE TER, BAKERSFIELD CA 93309	Private School	Full
201	22645 STOCKDALE HWY, BAKERSFIELD CA 93305-2432	Farm land	Partial
202		Farm land	Partial
203	3229 BELLE TER, BAKERSFIELD CA 93309	SFR	Full
204	3227 BELLE TER, BAKERSFIELD CA 93309	2 SFRs	Full
205	3310 WOOD LN, BAKERSFIELD CA 93309	2 SFRs	Full
206	3320 WOOD LN, BAKERSFIELD CA 93309	SFR	Full
207	3330 WOOD LN, BAKERSFIELD CA 93309	SFR	Full
208	3308 WOOD LN, BAKERSFIELD CA 93309	2 SFRs	Full
209	1117 WIBLE RD, BAKERSFIELD CA 93304	Auto Repair	Full
210	3317 LAVERNE AVE, BAKERSFIELD CA 93309	SFR	Full
211	3316 LAVERNE AVE B, BAKERSFIELD CA 93309	SFR	Perm Esmt
212	201 E BRUNDAGE LN, BAKERSFIELD, CA 93304	Church	Perm Esmt
213	200 WAYCROSS ST, BAKERSFIELD, CA 93304	Church	Perm Esmt
214	340 WAYCROSS ST, BAKERSFIELD, CA 93304	SFR	Perm Esmt
215	200 S UNION AVE, BAKERSFIELD CA 93307	Auto Sales	Perm Esmt
216		Paved Access	Perm Esmt
217		Medical	Partial
218	3520 ROSEDALE HWY, BAKERSFIELD CA 93308-6229	Carl's Jr	Perm Esmt
219	3540 ROSEDALE HWY, BAKERSFIELD CA 93308-6229	Hotel	Perm Esmt
220	1901 WESTWIND DR, BAKERSFIELD CA 93301	Communications Building	Partial
221	2001 WESTWIND DR, BAKERSFIELD CA 93301	Office Building	Partial
222	2015 WESTWIND DR, BAKERSFIELD CA 93301	Office Building	Partial
223	4901 COMMERCE DR, BAKERSFIELD CA 93309	Kern County Department of Human Services	Full
224		Vacant	Partial
225		RR	Perm Esmt
226		RR	Perm Esmt

Table G.5 List of Residential and Non-Residential Acquisitions for Alternative C

Impact ID	Site Address	Present Use	Type of Take
227		Flood Control	Partial
228	4440 EASTON DR, BAKERSFIELD CA 93309	IndustrialOffice	Full
229	4430 EASTON DR, BAKERSFIELD CA 93309	Industrial office	Full
230	4420 EASTON DR 102A, BAKERSFIELD CA 93309	Professional Office	Full
231	4400 EASTON DR, BAKERSFIELD CA 93309	Print Shop	Full
232	4300 EASTON DR 2, BAKERSFIELD CA 93309	Multi-tenant Industrial Office Warehouse	Full
233	4200 EASTON DR, BAKERSFIELD CA 93309	Multi-tenant Industrial Office Warehouse	Full
234	4100 EASTON DR, BAKERSFIELD CA 93309	Multi-tenant Industrial Office Warehouse	Full
235	4040 EASTON DR, BAKERSFIELD CA 93309	Multi-tenant Industrial Office Warehouse	Full
236	4000 EASTON DR, BAKERSFIELD CA 93309	Multi-tenant Individual Office Warehouse	Full
237	4950 COMMERCE DR, BAKERSFIELD CA 93309	Basin	Full
238	4850 COMMERCE DR, BAKERSFIELD CA 93309	Beautologie	Full
239	4801 TRUXTUN AVE, BAKERSFIELD CA 93309	Interim Healthcare	Full
240	4865 TRUXTUN AVE, BAKERSFIELD CA 93309	Paragon Salon Spa	Full
241	4885 TRUXTUN AVE, BAKERSFIELD CA 93309	Commercial Businesses	Full
242		Vacant	Partial
243	1350 EASTON DR, BAKERSFIELD CA 93309	Motel 6	Full
244	4040 EASTON DR, BAKERSFIELD CA 93309	Industrial Manufacture	Full
245		parking lot	Full
246		parking lot	Full
247		parking lot	Full
248		Vacant	Full
249		Vacant	Full
250	3700 EASTON DR, BAKERSFIELD CA 93309	Multi-tenant Industrial Office Warehouse	Full
251		Industrial Office Warehouse	Full
252	3800 CALIFORNIA AVE, BAKERSFIELD CA 93309	Vacant	Partial
253	4540 EASTON DR, BAKERSFIELD CA 93309	Industrial Warehouse Manufacture	Full
254	4510 EASTON DR, BAKERSFIELD CA 93309	Industrial Warehouse Manufacture	Full
255	1400 EASTON DR 101, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
256	1400 EASTON DR 102, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
257	1400 EASTON DR 103, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
258	1400 EASTON DR 104, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
259	1400 EASTON DR 105, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
260	1400 EASTON DR 106, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
261	1400 EASTON DR 107, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full

Table G.5 List of Residential and Non-Residential Acquisitions for Alternative C

Impact ID	Site Address	Present Use	Type of Take
262	1400 EASTON DR 108, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
263	1400 EASTON DR 109, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
264	1400 EASTON DR 110, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
265	1400 EASTON DR 111, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
266	1400 EASTON DR 112, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
267	1400 EASTON DR 113, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
268	1400 EASTON DR 114, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
269	1400 EASTON DR 115, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
270	1400 EASTON DR 116, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
271	1400 EASTON DR 117, BAKERSFIELD CA 93309	Vacant	Full
272	1400 EASTON DR 118, BAKERSFIELD CA 93309	Office	Full
273	1400 EASTON DR 119, BAKERSFIELD CA 93309	Vacant	Full
274	1400 EASTON DR 120, BAKERSFIELD CA 93309	Shop	Full
275	1400 EASTON DR 121, BAKERSFIELD CA 93309	Office	Full
276	1400 EASTON DR 122, BAKERSFIELD CA 93309	Office	Full
277	1400 EASTON DR 123, BAKERSFIELD CA 93309	Medical Office	Full
278	1400 EASTON DR 124, BAKERSFIELD CA 93309	Auto Glass & Tint Service	Full
279	1400 EASTON DR 125, BAKERSFIELD CA 93309	Office	Full
280	1400 EASTON DR 126, BAKERSFIELD CA 93309	Office	Full
281	1400 EASTON DR 129, BAKERSFIELD CA 93309	Office	Full
282	1400 EASTON DR 130, BAKERSFIELD CA 93309	Office	Full
283	1400 EASTON DR 134, BAKERSFIELD CA 93309	DJ Booth & Office	Full
284	1400 EASTON DR 144, BAKERSFIELD CA 93309	Office	Full
285	1400 EASTON DR 127, BAKERSFIELD CA 93309	Vacant	Full
286	1400 EASTON DR 128, BAKERSFIELD CA 93309	Office	Full
287	1400 EASTON DR 131, BAKERSFIELD CA 93309	Vacant	Full
288	1400 EASTON DR 132, BAKERSFIELD CA 93309	Industrial Office/ Warehouse	Full
289	1400 EASTON DR 133, BAKERSFIELD CA 93309	Office	Full
290	1400 EASTON DR 135, BAKERSFIELD CA 93309	Professional Office	Full
291	1400 EASTON DR 136, BAKERSFIELD CA 93309	Professional Office	Full
292	1400 EASTON DR 137, BAKERSFIELD CA 93309	Professional Office	Full
293	1400 EASTON DR 138, BAKERSFIELD CA 93309	Professional Office	Full
294	1400 EASTON DR 139, BAKERSFIELD CA 93309	Office	Full
295	1400 EASTON DR 140, BAKERSFIELD CA 93309	Office	Full
296	1400 EASTON DR 141, BAKERSFIELD CA 93309	Office	Full
297	1400 EASTON DR 142, BAKERSFIELD CA 93309	Office	Full
298	1400 EASTON DR 143, BAKERSFIELD CA 93309	Office	Full
299	1400 EASTON DR 145, BAKERSFIELD CA 93309	Office	Full

Table G.5 List of Residential and Non-Residential Acquisitions for Alternative C

Impact ID	Site Address	Present Use	Type of Take
300	1400 EASTON DR 146, BAKERSFIELD CA 93309	Office	Full
301	1400 EASTON DR 147, BAKERSFIELD CA 93309	Office	Full
302	1400 EASTON DR 148, BAKERSFIELD CA 93309	Office	Full
303	1400 EASTON DR 149, BAKERSFIELD CA 93309	Office/ Warehouse	Full
304	1400 EASTON DR 150, BAKERSFIELD CA 93309	Office	Full
305	1400 EASTON DR 151, BAKERSFIELD CA 93309	Office	Full
306	1400 EASTON DR 152, BAKERSFIELD CA 93309	Office	Full
307	2025 WESTWIND DR 5, BAKERSFIELD CA 93301	Parking lot	Partial
308	1801 WESTWIND DR, BAKERSFIELD CA 93301	Office Building	Partial
309	1701 WESTWIND DR, BAKERSFIELD CA 93301	Office Building	Partial
310		Vacant	Partial
311		Vacant	Partial
312		Vacant	Partial
313		Vacant	Partial
314		Drainage	Partial
315		Park/Preserve	Full
316		Vacant	Full
317	CALLOWAY DR, BAKERSFIELD CA	Vacant	Full
318		Esmt	Full
319		Vacant	Full
320		Vacant	Full
321		Vacant	Full
322		Vacant	Full
323		Vacant	Full
324		Vacant	Full
325		Vacant	Full
326		Vacant	Full
327	COFFEE RD, BAKERSFIELD CA	Vacant	Full
328	PRESIDIO WAY, BAKERSFIELD CA	Vacant	Full
329	COFFEE RD, BAKERSFIELD CA	Vacant	Full
330		Vacant	Full
331		Vacant	Full
332		Vacant	Full
333		Vacant	Full
334		Vacant	Partial
335		Vacant	Full
336		Vacant	Full
337	COFFEE RD, BAKERSFIELD CA 93309	Vacant	Full
338		Vacant	Full
339		Vacant	Full
340		Vacant	Full

Table G.6 Business Inventory List for Alternative C

North of California along SR 99	
1	Extended Stay America
Along Easton Drive	
2	Motel 6
3	American General Media
4	E&B Natural Resources
5	Western Continental Operating Company
6	NCR (calculating & accounting machines, except electronic computers)
7	San Joaquin Energy Consultants
8	Ultrex Business Solutions – Ultimate Digital Copier Company
9	KC Thomas Cattle Company
10	Scott McHone, CPA
11	CRC Consulting Group
12	Mendez Petty – CPA & Consultants
13	ADT Alarm Company
14	Sunshine Interiors
15	Canines & Kids, Inc. (Licensed Clinical Social Worker)
16	Heise Media Group
17	ABM Janitorial Services
18	Ferguson Resources - Energy Investments
19	Auto Tint West
20	American General Media
21	Dale Bender CPA
22	SLM Staffing & Associates
23	The Auction Group
24	San Joaquin Art Glass
25	First Choice Medical Supply
26	Allure Salon
27	La Bonita Mexican Food Products *
28	Urban Land Advisors
29	Weybridge Asset Management Inc
30	Kern County Family Magazine
31	RAP Services (Emission Measurement Consultants)
32	Phan T. Huynh Chiropractor
33	HCS Real Estate Loans
34	Four Corners Inc (?)
35	Lloyd E. Plank – Real Estate Consultants
36	David Janes Company – Accounting Services
37	Gerald Congdon – Builder
38	Key West Real Estate
39	Potter Services (Bookkeeping)
40	California Veterans Assistance Foundation
41	Joseph Etienne (?)

Table G.6 Business Inventory List for Alternative C

42	Trek Imaging – Bakersfield Blue Print and Copy
43	Golden Valley Supportive Services
44	P&L Interior Designs
45	Brown Bag It
46	NV Catering
47	Gary Williams O.D.
48	Optical Lab
49	Matson Alarm Company
50	Angels Auto Detailing
51	Custom Works
52	Audio Visual Plus
53	Granger Industrial Supply
54	C&C Printing
55	All About You Driving School
56	Alpha Dog Graphics
57	Griffin Graphics
58	Cal Western Resources, Inc
59	Reece Homecare Services
60	Studio 9 – Dance Studio
61	www.77SunsetBooks.com
62	Kennedy's Home & Office Improvement Services
63	Coconut Joes Studios
64	Direct Distributing
65	Ammo Dump
66	Bailey Hardwood Floor Service
67	Classy Canine Cuts
68	Advanced Billing Solutions
69	Preferred Power Solutions
70	Dish Network
71	Life Journey Christian Church
72	Valadons Plumbing Service, Inc
73	V.A. Kali-Karate
74	Crystal Glass Window Repair
75	Watson Strip Shop
76	MGW Electric, Inc.
77	JJ Griswold Products & Supplies
78	Gargoyle Stained Glass Shop
79	Rehan Industrial Supply/Marcos Enterprises
80	The Andersons Rail Group
81	CBS Inc. – (Coffee Break Service)
82	Petro Resources, Inc.
83	Absher – title Services & Notary
84	San Joaquin Valley Railroad Co.
85	Personally Yours – Custom Embroidery

Table G.6 Business Inventory List for Alternative C

86	Lanpro Systems, Inc. (Computer Support, IT, Network)
87	Hillis Insurance Agency / Allstate Insurance
88	NICR – National Institute of Clinical Research
89	Northwest Petroleum, Inc.
90	Don Kinzel construction
91	Spectrum Technologies
92	Keigly Promotional Group
93	American Toner
94	Moses Master Carpet
95	Photography by Silvia
96	Bakersfield Pool Supply
97	Animal Emergency & Urgent Care
98	Great Scott Builders, Inc.
99	Great Eats, Inc.
100	Gallo Wine Company
101	Lee's Printing Center
102	Elite Real Estate Services
103	Bowen Accounting
104	Acme Maintenance
105	Portfolio Properties (Real Estate Management)
106	Traffic Schools
107	Applied Technology Group
108	ATG – Internet
109	Accu Word – Business Support Services
110	Minuteman Press
111	Roofline Supply
Along Commerce Drive	
112	Optometrists' Offices
113	California Department of Rehabilitation
114	Trovato Wealth Management
115	Beautologue Medical Group
116	Hocking, Denton, & Palmquist (HDP) CPA's
117	Moo Creamery (Restaurant)
118	Charles Schwab
119	Interim Health Care
120	Paragon Salon & Spa
Along Oak from California to Palm	
121	Nexcar USA (Car Sales lot)
122	America's Best Value in (hotel)
123	Auto Village (Car Sales lot)
124	Kern Computer Corp (office)
125	Chris Bruff Corp (Office)
126	BK Transmissions (Auto Repair)
127	Auto Planet Superstore (Auto Repair)

Table G.6 Business Inventory List for Alternative C

128	Fiat Bakersfield (Car Sales lot)
129	Quan's Auto Pro *
130	Bakersfield Auto Repair and Smog
131	Bart's Parts (Auto Repair)
132	Superior Used cars (Car Sales lot)
West of SR 99 between California and Stockdale	
133	T-Mobile
134	Quiznos Subs
135	U-NO Smoke Shop
136	Last Call Lounge
137	SBI Boardshop/Wavelengths Surf shop (Clothing, Surf, Skating)
138	McDonalds
139	Ramada Hotel
140	Days Inn
141	Millennium Events & Restaurant
142	Elevation Lounge
143	Regency Bowling Lanes
144	Pro Shop (Bowling)
145	Martinis Lounge
Along Oak from Palm to Stockdale	
146	Panda Palace (Restaurant) *
147	California Keyboards Music Center (Shopping)
148	Barnet Tire (Auto Repair)
149	Mobil Mart (Gas Station)
150	The Belvedere (Bar)
151	Ideal Cleaners
152	Brundage Lane Florist (Shopping)
Adjacent and North of SR 58	
153	Kentucky Fried Chicken (Restaurant)
154	Carroll's Tire Warehouse (Auto Repair)
155	Enterprise Rent a Car (Auto)
156	Kern Transmission (Auto)
157	Southwest Veterinary Hospital
158	SAE Auto electric (Auto Repair)
159	Havoline Express Lube (Auto Repair)
160	Brooks Brothers Interiors (Furniture)
161	Dollar Outlet Plus (Shopping) *
162	Kleenerz (Dry Cleaning)
163	Brundage Nails (Salon)
164	Studio 555
165	Oden Beauty World (Salon) *
166	J's Laundromat *
167	Society for Disabled Children

Table G.6 Business Inventory List for Alternative C

168	Eliseo's Transmission Service (Auto Repair) *
169	Unknown Business (Building and fence covered with on sale blankets and bean sacks) Was formerly known as Confetti Pinata Party. This may be what Bryan Apper referred to in his email. *
Adjacent and South of SR 58	
170	California Foot and Ankle Doctors (shown as residential)
Adjacent and East of Wible between Ming and SR 58	
171	Larsens Food & Gas
172	Jolly Cone (Burgers & shakes)
173	Mr. Mattress Furniture Depot
West of SR 99 and south of Stockdale	
174	Hugie Offices / Sun Trail, Inc. (Law Firm)
175	Payless Mini Storage
176	Addis Automotive
177	Ricks Frame & Auto Body
178	Conway's Auto and Diesel & Mobile Service
* Minority Oriented Business	

G.7 Preliminary Parking Impact Assessment for Build Alternatives

Assessor's Parcel Number	Location	Current Use	Owner	Current Number of Parking Spaces	Parking Spaces Affected or Lost	Remaining Spaces	Potential Impacts
ALTERNATIVE A							
020-010-43	4800 Stockdale Highway, Bakersfield, CA 93309-2636	Office Building	4800 Stockdale Partnership	190	14	176	Access driveway aisle must be reconfigured.
149-020-18	4709 Stockdale Highway, Bakersfield, CA 93309-2639	Retail Center	Goldman Enterprises Ltd. Partnership	162+	48	114+	Assumes removal of building space within acquisition area (13,504 sq. ft.), plus parking. Several shops to be relocated. Loss of one of two access points to rear of lot.
149-200-21	3501 Stockdale Highway, Bakersfield, CA 93309-2150	Hospital (2-story)	Kaiser Foundation Health Plan	315	69 (temporary)	315	Temporary impact to the western driveway and parking spaces.
149-221-26	--	Parking	Fillerup Inv. Company	18	12	6	Assumes partial take in order to save parking spaces for large office building.
149-330-07	5401 Business Park South, Bakersfield, CA	Office Building	Ch & M Family, L.P.	315	12	303	Take area includes loss of access around rear of first building.
149-352-04	200 S. Montclair Street, Bakersfield, CA 93309-3110	Office Building	Kaiser Prop. LLC	17	3	14	
331-032-28	--	Office Building	Moss	64	6	58	Partial acquisition includes parking, dumpster area, and concrete paving.

G.7 Preliminary Parking Impact Assessment for Build Alternatives

Assessor's Parcel Number	Location	Current Use	Owner	Current Number of Parking Spaces	Parking Spaces Affected or Lost	Remaining Spaces	Potential Impacts
331-032-33	5531 Business Park South, Bakersfield, CA 93309-1668	Office Building	DVD Properties LLC	~60	4 (temporary)	~60	Assumes building not affected and driveway access on south side of building can be maintained. Possible fire access issue. Loss of 4 parking spaces can be mitigated by using excess land from adjacent full acquisition parcel.
331-350-21	--	Retail Strip	LLC DDM	~200	27	~173	Corner building of retail strip center (8,475 sq. ft.) and other stand-alone buildings (4,785 sq. ft.) are assumed to be lost. Several tenant relocations required.
332-152-31	3520 Rosedale Highway, Bakersfield, CA 93308-6229	Carl's Jr Restaurant	Frank J. Andrews	~75	2 (temporary)	~75	Requires Carl's Jr. permanent easement and temporary construction easement impact along easterly edge of parcel.
332-152-32	3540 Rosedale Highway, Bakersfield, CA 93308-6229	Hotel	Chang Family Trust	~160	34 (temporary)	~160	Requires Clarion Hotel permanent easement and temporary construction easement impact easterly edge of parcel.
147-112-01	700 Wible Road, Bakersfield, CA 93304	Fleet Auto Brokers/ Estradas Car Wash	Eldon & Boydean Fussel	~10	5 (temporary)	~10	Parking required for temporary construction easement. Assumes access to property will be maintained during construction.
149-180-25	P.O. Box 12616, Fresno, CA 93778-2616	Public Land	State of California	49	49	49	Paved parking lot used for Park & Ride. Replacement Park & Ride facilities would be provided off Mohawk Street, between California Avenue and Truxtun Avenue using residual property acquired for the project.
Totals (the number of impacted space does not include on-street parking impact):				~1,635	~285	~1,513	---

G.7 Preliminary Parking Impact Assessment for Build Alternatives

Assessor's Parcel Number	Location	Current Use	Owner	Current Number of Parking Spaces	Parking Spaces Affected or Lost	Remaining Spaces	Potential Impacts
ALTERNATIVE B							
020-600-08	Commerce Drive, Bakersfield, CA 93309	Hospital	Bakersfield Regional Rehab. Hospital, Inc.	~230	27	205	Parking lot servicing adjacent hospital parcel. Assumes hospital parking lot (parcel 331-330-28) can be reconfigured to maintain sufficient parking.
149-200-21	3501 Stockdale Highway, Bakersfield, CA 93309-2150	Hospital (2-story)	Kaiser Foundation Health Plan	315	66 (temporary)	315	Temporary impact to the western driveway and parking spaces..
149-222-19	3703 Stockdale Highway, Bakersfield, CA 93309-2154	Carwash	Bonifas B I & Waheed B	~15	2	~13	Simple partial acquisition of southwest parcel corner.
331-330-28	5001 Commerce Drive, Bakersfield, CA 93309-0648	Hospital	HealthSouth Bakersfield Rehabilitation	(see parcel no. 020-600-08 above)			Larger parcel with 020-600-08. Assumes parking lot can be reconfigured and restriped to save parking loss from adjoining parcel.
331-330-41	5000 Commerce Drive, Bakersfield, CA 93309	Medical Office	Santosh Gupta	128	6	122	Loss of dumpster area in addition to parking spaces.
332-332-13	4700 Easton Drive, Bakersfield, CA 93309-9426	Offices	Independent Mercedes Service	~121	~100	~21	Several (37) relocations required with loss of three southernmost buildings combined.
332-152-31	3520 Rosedale Highway, Bakersfield, CA 93308-6229	Carl's Jr. Restaurant	Frank J. Andrews	~75	2 (temporary)	~75	Requires Carl's Jr. permanent easement and temporary construction easement impact along easterly edge of parcel.
332-152-32	3540 Rosedale Highway, Bakersfield, CA 93308-6229	Hotel	Chang Family Trust	~160	34 (temporary)	~160	Requires Clarion Hotel permanent easement and temporary construction easement impact easterly edge of parcel.
332-256-49	4900 Commerce Drive, Bakersfield, CA 93309-0418	Offices	Gregg A. German	~42	10	~32	Parking, and carport impacts due to both permanent and temporary construction easements.

G.7 Preliminary Parking Impact Assessment for Build Alternatives

Assessor's Parcel Number	Location	Current Use	Owner	Current Number of Parking Spaces	Parking Spaces Affected or Lost	Remaining Spaces	Potential Impacts
332-256-50	4850 Commerce Drive, Bakersfield, CA 93309-0415	Offices	Ganesh Investment Group LLC	75	4	71	Parking impacts due to both permanent and temporary construction easements.
149-180-25	P.O. Box 12616, Fresno, CA 93778-2616	Public Land	State of California	49	49	50	Paved parking lot used for Park & Ride. Replacement Park & Ride facilities would be provided north of California Avenue, adjacent to the Centennial Corridor using residual property acquired for the project.
Totals (the number of affected space does not include on-street parking impact):				~1,210	~300	~1,064	---
ALTERNATIVE C							
020-100-28	East of SR 99 off-ramp to California Avenue	Parking lot	Bailey James G	79	17	62	Loss of both parking and asphalt paving.
008-062-10	3030 Brundage Lane, Bakersfield, CA 93304	Youngs Market	C & C Acquisition Group LLC	124	4	120	Loss of one driveway and a few parking spaces on the west end of parking lot. Assume business could reconfigure warehouse, move baling machine to east end of warehouse, with truck access at east end driveway.
020-100-16	1011 Oak Street, Bakersfield, CA 93304	Commercial	Cal Oak Hospitality LLC	89	30	59	Loss of freeway sign near exit ramp, several guest parking spaces and asphalt paving.
332-440-07	1801 Westwind Drive, Bakersfield, CA 93301	Office Building	Cardinal Group LLC	242	53	189	Partial acquisition of rear parking lot and asphalt paving.
020-150-09	Saunders Park & Fire Station No 3	City Park	City of Bakersfield	67	67 (temporary)	125	Assume partial acquisition to retain fire station and keep a portion of the park open. Partial acquisition would result in loss of parking lot. Conceptual park design proposes two parking lots with 125 spaces.

G.7 Preliminary Parking Impact Assessment for Build Alternatives

Assessor's Parcel Number	Location	Current Use	Owner	Current Number of Parking Spaces	Parking Spaces Affected or Lost	Remaining Spaces	Potential Impacts
332-321-07	1300 Easton Drive, Bakersfield, CA 93309	Carrows Restaurant	Easton Investments	61	2	59	Loss of asphalt paving and parking for restaurant use.
020-110-22	900 Real Road, Bakersfield, CA 93309	Restaurant	Fay R Page	74	24	50	State right-of-way takes high percentage of parking; assume business relocation to allow different commercial use.
020-100-03	1017 Oak Street, Bakersfield, CA 93304	Hotel	James G Bailey	54	12	42	Loss of guest parking spaces, asphalt paving and parking lot lights.
149-190-16	200 S. Real Road, Bakersfield, CA 03309	Storage	John A & Terry M Thomsen	~140+	~30	~110+	Loss of one storage building (eastern most building; 46 individual units) at public storage facility.
149-200-21	3501 Stockdale Highway, Bakersfield, CA 93309	Hospital (2-story)	Kaiser Foundation Health Plan	315	31 (temporary)	315	The loss of 15 parking spaces can be mitigated by using excess land from an adjacent parcel being acquired for the project.
332-453-01	1701 Westwind Drive, Bakersfield, CA 93301	Office Building	Riverlakes Professional Plaza	~125	1	~124	Minor loss of parking and concrete paving anticipated.
332-430-09	2025 Westwind Drive #5, Bakersfield, CA 93301	Parking lot	Westwind Retail Plaza Parking	~83	~17	~66	Partial acquisition of rear parking lot required.
147-440-23	2129 Brundage Lane, Bakersfield, CA 93304	Mariscos Birrieria	Yaovaluck & Rachen Iamlaor	34	10	24	Partial acquisition of rear parking lot required.
332-152-32	3540 Rosedale Highway, Bakersfield, CA 93308-6229	Hotel	Chang Family Trust	~160	34 (temp.)	~160	Requires Clarion Hotel permanent easement and temporary construction easement impact easterly edge of parcel.
332-152-31	3520 Rosedale Highway, Bakersfield, CA 93308-6229	Carl's Jr	Frank J Andrews	~75	2 (temp.)	~75	Requires Carl's Jr. permanent easement and temporary construction easement impact along easterly edge of parcel.

G.7 Preliminary Parking Impact Assessment for Build Alternatives

Assessor's Parcel Number	Location	Current Use	Owner	Current Number of Parking Spaces	Parking Spaces Affected or Lost	Remaining Spaces	Potential Impacts
149-200-20	P.O. Box 12616, Fresno, CA 93778-2616	Public Land	State of California	49	49	49	Paved parking lot used for Park & Ride. Replacement Park & Ride facilities would be provided at Real Road and Chester Lane using residual property acquired for the project.
Totals (the number of impacted space does not include on-street parking impact):				1,771	383	1,629	---

Appendix H Hazardous Materials Ranked Parcels

Table H-1 Hazardous Materials Ranked Parcels

Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
COMMON TO ALL ALTERNATIVES					
A, B, C	Public Land	No Address/ APN 331-021-02	This is a vacant parcel adjacent to the Cross Valley Canal and north of the Kern River. No wells or underground storage tanks have been reported. A partial acquisition is needed from this parcel for Alternative A. This parcel will be a full acquisition for Alternative B and Alternative C.	1	Adjacent to Big West Refinery. Oil cake sand was found at this site. There is also potential for contamination from adjacent refinery activities.
A, B, C	Vacant	No Street Number Langley Road/ APN 332-280-28	This is a vacant parcel adjacent to a refinery. Ten wells have been reported. A partial acquisition is needed from this parcel for Alternative A. This parcel will be a full acquisition for Alternative B and Alternative C.	1	Oil cake sand was found at the eastern and southwestern portions of the parcel. California oil, gas, and geothermal resources maps indicate that there are five active oil wells, one active injector well, and one plugged well on site. There is suspected contamination from oil pumping activities.
A, B, C	Vacant	No Address/ APN 368-040-26	This is a vacant parcel adjacent to the Cross Valley Canal. No wells or underground storage tanks have been reported. The parcel will be a full acquisition.	1	Oil cake sand was found on the site.
A, B, C	Vacant	No Address/ APN 368-040-32	This is a vacant parcel with storage of containers adjacent to the Texaco/ Bakersfield Refinery. One well has been reported. A partial acquisition is needed from this parcel.	1	An encapsulated area of fill was found on site, most likely related to oil cake sand found in the vicinity of this parcel.

Table H-1 Hazardous Materials Ranked Parcels

Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
A, B, C	Public Land	No Address/ APN 502-010-12	This is an oil refinery. One well has been reported. A partial acquisition is needed from this parcel.	1	Three sheet metal barns were demolished on site in 2003. Oil cake sand was found on this site and there is potential contamination from refinery activities. California oil, gas, and geothermal resources maps indicate that there is one inactive oil well on site. There is also suspected contamination from oil pumping activities.
A, B, C	Agricultural	No Address/ APN 160-010-42	This is farmland in Segment 3. Six wells have been reported. A partial acquisition is needed from this parcel.	2	California oil, gas, and geothermal resources maps indicate that there are five active oil wells, one dry hole, and one active injector well on site. There is also suspected contamination from oil pumping activities.
A, B, C	Vacant	No Address/ APN 332-280-31	This is a vacant parcel north of the Kern River. Two wells have been reported. The parcel will be a full acquisition.	2	California oil, gas, and geothermal resources maps indicate that there are two active water disposal/ injection wells on site. There is also suspected contamination from oil pumping activities.
A, B, C	Vacant	No Street Number Truxtun Avenue/ APN 332-280-32	This is a vacant parcel with oil wells that is part of the Kern River. Nine wells have been reported. The parcel will be a full acquisition.	2	California oil, gas, and geothermal resources maps indicate that there are five active oil and gas production wells, one active water disposal/injection well, one plugged water-flood/injection well, one plugged water disposal/injection well, and one plugged oil and gas well on site. There is also suspected contamination from oil pumping activities.
A, B, C	Public Land	No Address/ APN 502-010-45	This is an oil refinery. No wells or underground storage tanks have been reported. The parcel will be a full acquisition.	2	There is suspected contamination from refinery activities.
A, B, C	Public Land	No Address/ APN 502-010-47	This is an oil refinery. One well has been reported. The parcel will be a full acquisition.	2	There is suspected contamination from refinery activities. California oil, gas, and geothermal resources maps indicate that there is one plugged oil well on site. There is also suspected contamination from oil pumping activities.

Table H-1 Hazardous Materials Ranked Parcels

Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
A, B, C	Commercial	201 Stephens Drive/ APN 147-032-25	This is an automotive-related commercial property. No wells or underground storage tanks have been reported. A permanent easement is required from this parcel.	3	Potential for contamination exists due to use as auto shop.
A, B, C	Commercial	612 Wible Road/ APN 147-111-09	This parcel is an auto repair/garage. One underground storage tank was reported. A temporary construction easement is required from this parcel.	3	The Lube & Brake Shop is listed as a Small Quantity Generator of hazardous waste and as having manifested and disposed of hazardous wastes. No violations were reported for this site. The Lube & Brake Shop is listed on the Underground Storage Tank database as having one 1,000-gallon waste oil tank. No releases were reported for the site.
A, B, C	Commercial	720 Wible Road/ APN 147-112-07	This is a commercial property (grocery store). Four underground storage tanks have been reported. Full acquisition of this parcel is required.	3	Larson's Food Store is listed on the Underground Storage Tank database as having four underground storage tanks: two 10,000-gallon gasoline tanks and two 6,000-gallon gasoline tanks. No releases were reported for the site.
A, B, C	Public Land	3333 Stockdale Highway/ APN 149-180-03	This is a commercial property (offices). One underground storage tank was reported. This parcel will be a full acquisition.	3	The site is listed in the database report as "California Water Service Co" and had one 285-gallon diesel underground storage tank installed in 1967. No releases were reported for the site.
A, B, C	Commercial	1117 Wible Road/ APN 164-040-30	This is an auto body/paint shop and auto repair garage. No wells or underground storage tanks have been reported. Partial acquisition of this parcel is needed.	3	Potential for contamination exists due to use as auto repair and paint shop.
COMMON TO ALTERNATIVE A AND ALTERNATIVE B					
A, B	Commercial	606 Wible Road/ APN 147-111-07	This is an auto repair/garage. No wells or underground storage tanks have been reported. A temporary construction easement is required of this parcel.	3	Potential for contamination exists due to use as auto shop.

Table H-1 Hazardous Materials Ranked Parcels

Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
A, B	Commercial	608 Wible Road/ APN 147-111-11	This is an auto repair/garage. No wells or underground storage tanks have been reported. A temporary construction easement of this parcel is needed.	3	Potential for contamination exists due to use as auto shop.
A, B	Commercial	520 Wible Road/ APN 147-111-13	This is a multi-use/ commercial property. No wells or underground storage tanks have been reported. A temporary construction easement of this parcel space is needed.	3	Computer Smog Specialist is listed as having manifested and disposed of hazardous wastes.
A, B	Commercial	201 South Garnsey Avenue/ APN 149-221-15	This is a commercial property. One underground storage tank has been reported. This parcel will be a full acquisition.	3	The site is listed on the Underground Storage Tank database as having one 550-gallon gasoline tank. No releases were reported for the site.
A, B	Residential	3321 Belle Terrace/ APN 164-010-08	This Is a single-family residential parcel. Two underground storage tanks have been reported. A temporary construction easement of this parcel is needed.	3	Bakersfield Fire Department records indicate the presence of two 500-gallon underground storage tanks at this site. This site also has one 1,000-gallon diesel aboveground tank, one 330-gallon oil aboveground tank, and one 55-gallon waste oil aboveground tank. No releases from the underground or aboveground tanks were reported.
ALTERNATIVE A					
A	Commercial	4709 Stockdale Highway/ APN 149-020-18	This is a commercial property. One well has been reported. A partial acquisition of this parcel is needed.	2	California oil, gas, and geothermal resources maps indicate that there is one inactive oil well on site. There is also suspected contamination from former oil pumping activities.
A	Public Land	No Address/ APN 331-021-12	This is a vacant parcel south of the Kern River (Lake Truxtun). Two wells have been reported. A partial acquisition of this parcel is needed.	2	California oil, gas, and geothermal resources maps indicate that there are two active oil wells on site. There is also suspected contamination from oil pumping activities.

Table H-1 Hazardous Materials Ranked Parcels

Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
A	Commercial	5329 Office Center Court/ APN 331-032-29	This is a commercial property (offices). One well has been reported. Full acquisition of this parcel is needed.	2	California oil, gas, and geothermal resources maps indicate that there is one active oil well on site. There is also suspected contamination from oil pumping activities.
A	Commercial	5555 Business Park Drive/ APN 331-032-32	This is a commercial property (offices). One well has been reported. Full acquisition of this parcel is needed.	2	California oil, gas, and geothermal resources maps indicate that there is one active oil well on site. There is also suspected contamination from oil pumping activities.
A	Residential	5500 Lennox Avenue/ APN 331-262-35	This is a residential (condominium) property. One well has been reported. This parcel will be a full acquisition.	2	California oil, gas, and geothermal resources maps indicate that there is one plugged, inactive oil well on site. There is also suspected contamination from former oil pumping activities.
A	Commercial	5474 California Avenue/ APN 331-350-21	This is a commercial property (retail). One well has been reported. A partial acquisition of this parcel is needed.	2	California oil, gas, and geothermal resources maps indicate that there is one active oil well on site. There is also suspected contamination from oil pumping activities. A dry cleaning facility is located on site. There is one 100-gallon perchloroethylene aboveground tank located on site. No releases of hazardous substances were reported.
A	Commercial	5200 Stockdale Highway/ APN 331-440-29	This is a commercial property (retail). One well has been reported. This parcel will be a full acquisition.	2	California oil, gas, and geothermal resources maps indicate that there is one plugged oil well on site. There is also suspected contamination from former oil pumping activities.
A	Vacant	No Address/ APN 332-280-17	This is a vacant parcel adjacent to a refinery.	2	There is suspected contamination from refinery activities. Kern County Assessor-Recorder Online indicates that a permit has been issued for this parcel for the installation of pipe supports and equipment foundations.
A	Vacant	No Address/ APN 502-010-46	This is an oil refinery. No wells or underground storage tanks have been reported. A partial acquisition of this parcel is needed.	2	There is suspected contamination from refinery activities.

Table H-1 Hazardous Materials Ranked Parcels

Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
A	Vacant	No Address/ APN 502-010-48	This is an oil refinery. One well has been reported. This parcel will be a full acquisition.	2	There is suspected contamination from refinery activities. California oil, gas, and geothermal resources maps indicate that there is one plugged oil well on site. There is also suspected contamination from oil pumping activities.
A	Commercial	4800 Stockdale Highway/ APN 020-010-43	This is a commercial property (offices). One underground storage tank has been reported. A partial acquisition of this parcel is needed.	3	Weatherford Enterra US_LP is listed as having manifested and disposed of hazardous wastes. Weatherford Enterra US_LP is listed on the Underground Storage Tank database as having one 4,200-gallon waste oil tank. No releases were reported for the site.
A	Commercial	4545 Stockdale Highway/ 149-020-10	This is a commercial property. No wells or underground storage tanks have been reported. Partial acquisition of this parcel is needed.	3	As In-Line Chiropractic, this site is known to be a generator of latex hazardous waste. A fallen utility pole also caused transformer leaks on the property in 2001.
A	Commercial	5601 Truxtun Avenue/ APN 331-340-05	This is a commercial property (offices). One well has been reported. Full acquisition of this parcel is needed.	3	California oil, gas, and geothermal resources maps indicate that there is one completed water disposal well on site. There is also potential contamination from water disposal well on site.
A	Commercial	5000 Stockdale Highway/ APN 331-440-24	This is a commercial property (retail). One underground storage tank has been reported. This parcel will be a full acquisition.	3	The site had one 10,000-gallon gasoline underground storage tank installed in 1974 and one waste oil underground storage tank installed in 1970. The 10,000-gallon gasoline tank was removed in November 1989 and received no further action approval in October 1989. No releases were reported. The site was abated for asbestos-containing materials. American Real Estate Partner is listed as having manifested and disposed of hazardous wastes.
ALTERNATIVE B					
B	Residential	4201 La Mirada Drive/ APN 020-474-04	This is a single-family residence. One well has been reported. A partial acquisition of this parcel is needed.	2	California oil, gas, and geothermal resources maps indicate that there is one inactive oil well on site. There is also suspected contamination from oil pumping activities.

Table H-1 Hazardous Materials Ranked Parcels

Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
B	Commercial	4600 California Avenue/ APN 020-600-02	This is a commercial property (retail). One well has been reported. This parcel will be a full acquisition.	2	California oil, gas, and geothermal resources maps indicate that there is one active oil well on site. There is also suspected contamination from oil pumping activities.
B	Commercial	3601 Stockdale Highway/ APN 149-222-29	This is a gasoline service station. Three underground storage tanks have been reported. A temporary construction easement of this parcel is needed.	2	7-11 Number 17721 is listed on the Underground Storage Tank database as having three 10,000-gallon gasoline tanks. 7-11 Number 17721 is listed on the Leaking Underground Storage Tank database as having a release of gasoline to soil. The site achieved regulatory case closure for the release in 2002.
B	Commercial	5001 Commerce Road/ APN 331-330-28	This is a commercial property. One underground storage tank and two wells have been reported. Partial acquisition of this parcel is needed.	2	The site is listed in the database report under the business names Bakersfield Rehabilitation System, Bakersfield Regional Rehab Hosp, and Bakersfield Rehab Hospital as generators of photochemicals/photo processing waste. One 1,000-gallon diesel underground storage tank and one 1,000-gallon diesel aboveground storage tank has been identified on site. The site is reported as having emitted hazardous air pollutants. California oil, gas, and geothermal resources maps indicate that there are two plugged and abandoned oil wells on site. There is also suspected contamination from oil pumping activities. Bakersfield Rehab Hospital is listed as having manifested and disposed of hazardous wastes.
B	Industrial	No Street Number Commerce Drive/ APN 332-256-05	This is an oil pumping station. One well has been reported. A partial acquisition of this parcel is needed.	2	California oil, gas, and geothermal resources maps indicate that there is one active oil well on site. There is also suspected contamination from oil pumping activities.

Table H-1 Hazardous Materials Ranked Parcels

Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
B	Commercial	4800 Easton Drive/ APN 332-332-20	This is a commercial property (parking lot). One well has been reported. This parcel will be a full acquisition.	2	The site reported three releases of oil and water from pipes leading to three off-site oil wells in 2007. The leaks were of oil and water. In 2000, crude oil leaked from an underground pipeline at this address. The site is listed in the database report as Titan Transportation, Inc. and was a handler of hazardous waste. California oil, gas, and geothermal resources maps indicate that there is one active oil well on site. There is also suspected contamination from oil pumping activities.
B	Commercial	4700 Easton Drive/ APN 332-332-13	This is a commercial property. No wells or underground storage tanks have been reported. A partial acquisition of this parcel is needed.	3	The site is listed on the Clandestine Drug Labs database with law enforcement agencies reporting chemicals or other items found on site indicating the presence of either a clandestine drug laboratory or dumpsite.
B	Commercial	4800 Easton Drive/ APN 332-332-14	This is a commercial property. No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	Cal Easton Association is listed as having manifested and disposed of hazardous wastes.
ALTERNATIVE C					
C	Commercial	2 Oak Street/ APN 008-062-15	This is a gasoline service station/market. Eight underground storage tanks have been reported. This parcel will be a full acquisition.	2	Mobile S/S Number 10-GAZ is listed on the Leaking Underground Storage Tank database as having a release of gasoline to soil. The site achieved regulatory case closure for the release in 2002. Mobile S/S Number 10-GAZ is also listed as having manifested and disposed of hazardous wastes. The site is also listed on the Underground Storage Tank database as having had eight underground storage tanks: one 550-gallon waste oil tank; one 6,000-gallon gasoline tank; one 8,000-gallon gasoline tank; four 10,000-gallon gasoline tanks; and one 1,000-gallon waste oil tank.

Table H-1 Hazardous Materials Ranked Parcels

Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
C	Commercial	90 Oak Street/ APN 008-062-16	This is a gasoline service station; the northern portion of the gasoline service station has an address of 2 Oak Street. The underground storage tanks are included in the count for Assessor Parcel Number 008-062-15. This parcel will be a full acquisition.	2	Mobile S/S Number 10-GAZ is listed on the Leaking Underground Storage Tank database as having a release of gasoline to soil. The site achieved regulatory case closure for the release in 2002. Mobile S/S Number 10-GAZ is also listed as having manifested and disposed of hazardous wastes. The site is also listed on the Underground Storage Tank database as having had eight underground storage tanks: one 550-gallon waste oil tank; one 6,000-gallon gasoline tank; one 8,000-gallon gasoline tank; four 10,000-gallon gasoline tanks; and one 10,000-gallon waste oil tank.
C	Commercial	92 Oak Street/ APN 008-062-17	This is a commercial property. One well has been reported. This parcel will be a full acquisition.	2	California oil, gas, and geothermal resources maps indicate that there is one inactive oil well on site. There is also suspected contamination from oil pumping activities.
C	Commercial	1131 Oak Street/ APN 020-100-26	This is a gasoline service station. Four underground storage tanks have been reported. A partial acquisition of this parcel is needed.	2	Chevron - Oak Street is listed on the Leaking Underground Storage Tank database as having a release of other solvent or non-petroleum hydrocarbon to soil. The site achieved regulatory case closure for the release in 1995. Chevron-Oak Street is listed on the Underground Storage Tank database as having three 10,000-gallon gasoline and one 10,000-gallon diesel underground storage tanks on site.

Table H-1 Hazardous Materials Ranked Parcels

Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
C	Commercial	3621 California Avenue/ APN 020-110-06	This is a commercial property. Four underground storage tanks have been reported. This parcel will be a full acquisition.	2	Texaco Service Station Number 121164 is listed as a Small Quantity Generator of hazardous waste and having manifested and disposed of hazardous wastes. No violations were reported for this site. The Shell Service Station is listed on the Underground Storage Tank database as having four underground storage tanks: two 12,000-gallon unleaded gasoline tanks; one 12,000-gallon regular gasoline tank; and one 8,000-gallon diesel tank. No releases were reported for the site.
C	Commercial	911 Oak Street/ APN 020-130-06	This is a commercial property. One underground storage tank has been reported. This parcel will be a full acquisition.	2	Bill Wright Toyota is listed on the Leaking Underground Storage Tank database as having a release of waste oil to soil. The site has one 500-gallon waste oil underground storage tank on site. The site achieved regulatory case closure for the release in 1995.
C	Industrial	1901 Westwind Drive/ APN 332-222-16	This is a commercial property. One well has been reported. A partial acquisition of this parcel is needed.	2	California oil, gas, and geothermal resources maps indicate that there is one inactive oil well on site. There is also suspected contamination from oil pumping activities.
C	Commercial	4801 Truxtun Avenue/ APN 332-256-53	This is a commercial property (offices). One well has been reported. Full acquisition of this parcel is needed.	2	California oil, gas, and geothermal resources maps indicate that there is one plugged and abandoned oil well on site. There is also suspected contamination from oil pumping activities.
C	Commercial	4865 Truxtun Avenue/ APN 332-256-54	This is a commercial property (retail). One well has been reported. Full acquisition of this parcel is needed.	2	California oil, gas, and geothermal resources maps indicate that there is one plugged oil well on site. There is also suspected contamination from oil pumping activities.
C	Commercial	100 Oak Street/ APN 008-062-18	This is a commercial property (retail). No wells or underground storage tanks have been reported. A partial acquisition of this parcel is needed.	3	The site is listed on the Underground Storage Tank database as having one 550-gallon gasoline tank. The tank was removed in May 1990. No releases were reported for the site. The site received no further action in June 1990.

Table H-1 Hazardous Materials Ranked Parcels

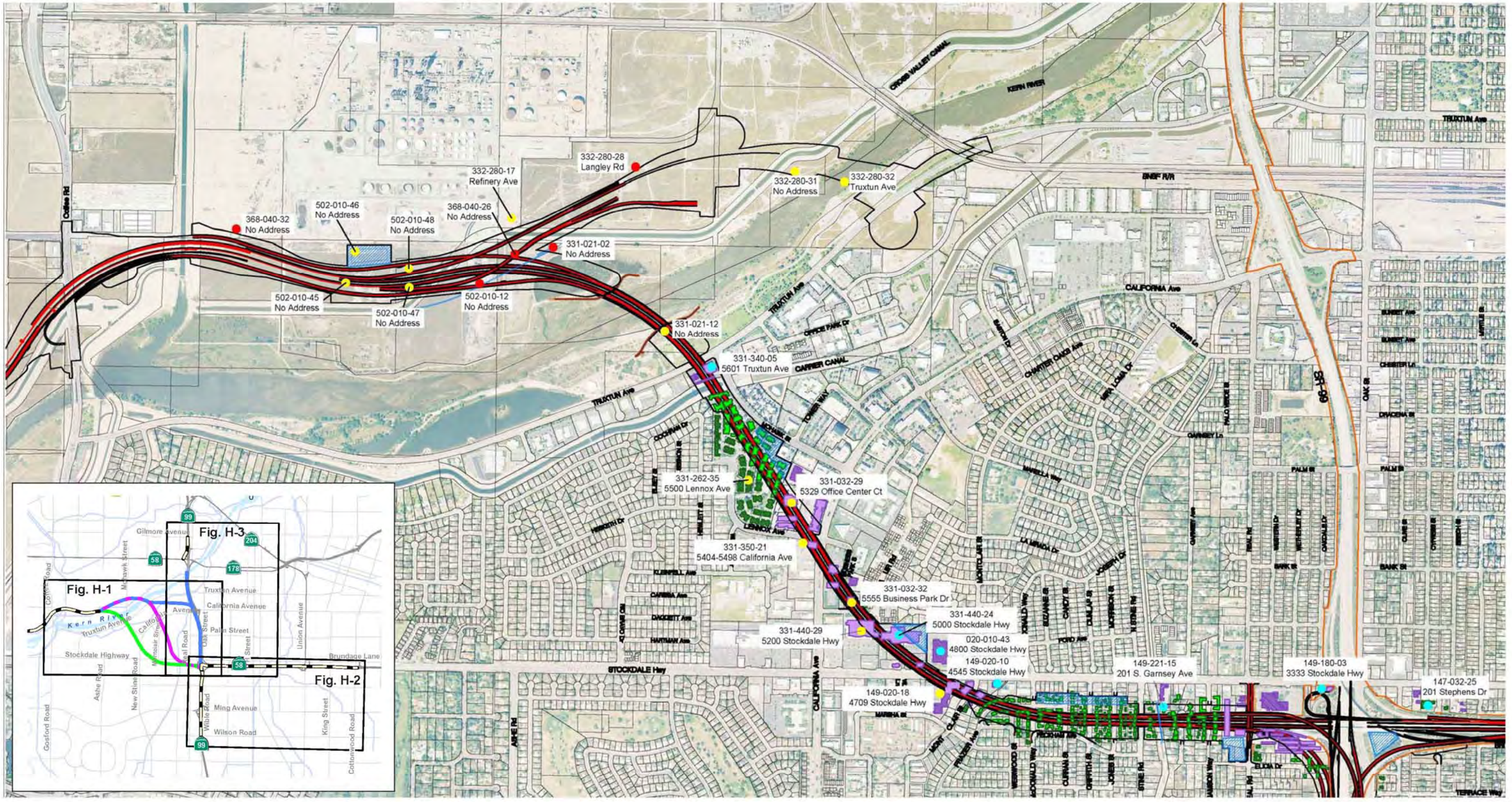
Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
C	Residential	348 Oakdale Drive/ APN 020-081-04	This is a residential property. No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	Brian Healey is listed as having manifested and disposed of hazardous wastes.
C	Residential	321 Oakdale Drive/ APN 020-084-11	This is a single-family residential property. No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	The site is listed on the Clandestine Drug Labs database with law enforcement agencies reporting chemicals or other items found on site indicating the presence of either a clandestine drug laboratory or dumpsite.
C	Commercial	711 Oak Street/ APN 020-140-42	This Is a commercial property. One underground storage tank has been reported. This parcel will be a full acquisition.	3	Van Wyks of Bakersfield is listed as a Small Quantity Generator of hazardous waste and as having manifested and disposed of hazardous wastes. No violations were reported for this site. Van Wyks of Bakersfield is listed on the Underground Storage Tank database as having one 550-gallon waste oil tank. No releases were reported for the site.
C	Commercial	2911 Brundage Lane/ APN 147-021-01	This is a commercial property (automotive related). No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	Potential for contamination exists due to use as auto shop.
C	Commercial	16 Olive Street/ APN 147-021-27	This is a commercial property (automotive related). No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	Potential for contamination exists due to use as auto shop. The site is identified as having one 550-gallon waste oil underground storage tank. The tank was removed in November 1995. No releases were reported.
C	Commercial	17 Olive Street/ APN 147-022-13	This is an automotive repair/garage. No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	The potential for contamination exists due to use as auto shop.
C	Commercial	4300 Easton Drive/ APN 332-256-15	This is a commercial property. No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	Kern Animal Emergency Clinic is listed as having manifested and disposed of hazardous wastes.

Table H-1 Hazardous Materials Ranked Parcels

Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
C	Commercial	4100 Easton Drive/ APN 332-256-17	This is a commercial property. No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	Watsons Strip Shop is listed as having manifested and disposed of hazardous wastes.
C	Railroad	No Address/ APN 332-256-26	This parcel is railroad tracks. No wells or underground storage tanks have been reported. A partial acquisition of this parcel is needed.	3	There is the potential for contamination from railroad activities.
C	Railroad	No Address/ APN 332-256-27	This parcel is railroad tracks. No wells or underground storage tanks have been reported. A partial acquisition of this parcel is needed.	3	There is the potential for contamination from railroad activities.
C	Commercial	3700 Easton Drive/ APN 332-321-15	This is a commercial property. No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	Trek Imagining is listed as having manifested and disposed of hazardous wastes.
C	Industrial	4040 Easton Drive/ APN 332-321-18	This is an industrial manufacturing property. No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	Grainger Inc is listed as having manifested and disposed of hazardous wastes.
C	Vacant	3800 California Avenue/ APN 332-322-04	This is a commercial property. No wells or underground storage tanks have been reported. A partial acquisition of this parcel will be needed.	3	Potential for contamination exists due to use as an auto shop. The site is identified as formerly having one 10,000-gallon gasoline underground storage tank on site. The tank was removed in March 2010. No releases were reported.
C	Commercial	1400 Easton Drive/ APN 332-380-01	This is Suite 101 of a commercial property with multiple occupants. No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	Tenants on site generated hazardous wastes, such as liquids with halogenated organic compounds and photochemical or photo processing waste, oil-containing wastes, and liquids with organic residues.

Table H-1 Hazardous Materials Ranked Parcels

Alternative	Property Type	Address/ Assessor's Parcel Number (APN)	Notes	Rank	Rank Rationale
C	Commercial	1400 Easton Drive/ APN 332-380-13	This is Suite 113 of a commercial property with multiple occupants. No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	Tenants on site generated hazardous wastes, such as liquids with halogenated organic compounds and photochemical or photo processing waste, oil-containing wastes, and liquids with organic residues.
C	Commercial	1400 Easton Drive/ APN 332-380-14	This is Suite 114 of a commercial property with multiple occupants. No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	Tenants on site generated hazardous wastes, such as liquids with halogenated organic compounds and photochemical or photo processing waste, oil-containing wastes, and liquids with organic residues.
C	Commercial	1400 Easton Drive/ APN 332-380-16	This is Suite 116 of a commercial property with multiple occupants. No wells or underground storage tanks have been reported. This parcel will be a full acquisition.	3	Tenants on site generated hazardous wastes, such as liquids with halogenated organic compounds and photochemical or photo processing waste, oil-containing wastes, and liquids with organic residues.
APN: Assessor's Parcel Number					



LEGEND

- Proposed Alignment
- Existing State Right of Way
- Rank 1 - Known Contamination
- Rank 2 - Suspected Contamination
- Rank 3 - Potential Contamination
- Retention Basin
- Temporary Construction Eastment
- Full Take Parcel (Residential)
- Full Take Parcel (Commercial)
- Partial Take Parcel (Residential)
- Partial Take Parcel (Commercial)

0 1200
FEET

N

Source: Initial Site Assessment 2012

Alternative A
Parcels of Potential Concern

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure H-1

149-180-03
3333 Stockdale Hwy

147-032-25
201 Stephens Dr

147-111-13
520 Wible Rd

147-111-07
606 Wible Rd

147-111-11
608 Wible Rd

147-111-09
612 Wible Rd

164-010-08
3231 Belle Terrace

147-112-07
720 Wible Rd

164-040-30
1117 Wible Rd

SR-58

Fig. H-1

Fig. H-2

Fig. H-3

LEGEND

- Proposed Alignment
- Existing State Right of Way
- Rank 1 - Known Contamination
- Rank 2 - Suspected Contamination
- Rank 3 - Potential Contamination
- Retention Basin
- Temporary Construction Eastment
- Full Take Parcel (Residential)
- Full Take Parcel (Commercial)
- Partial Take Parcel (Residential)
- Partial Take Parcel (Commercial)

0 1200
FEET

N

Source: Initial Site Assessment 2012

Alternative A
Parcels of Potential Concern

Centennial Corridor, Kern County, California

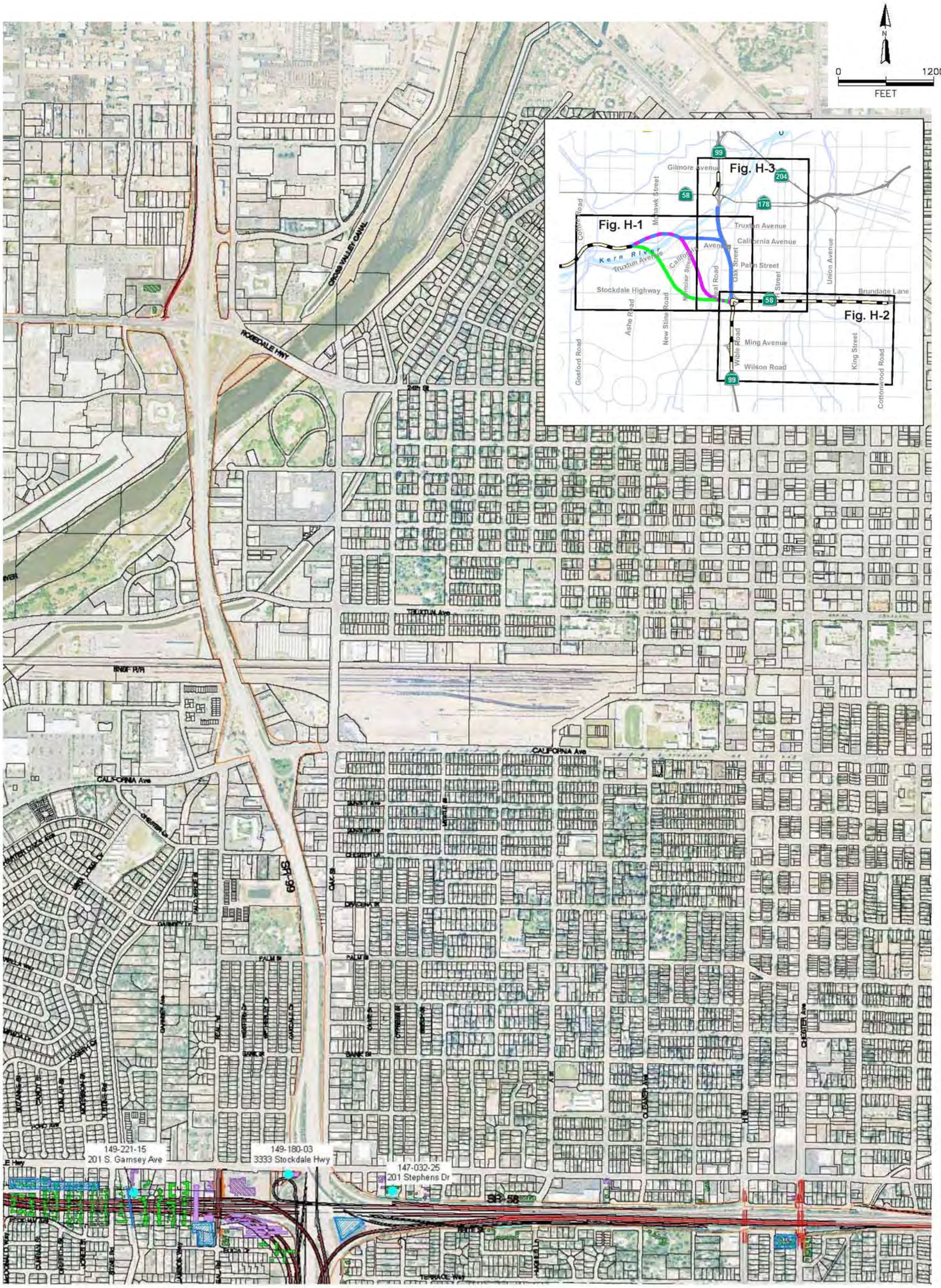
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure H-2



LEGEND

- Proposed Alignment
- Existing State Right of Way
- Rank 1 - Known Contamination
- Rank 2 - Suspected Contamination
- Rank 3 - Potential Contamination
- Retention Basin
- Temporary Construction Eastment
- Full Take Parcel (Residential)
- Full Take Parcel (Commercial)
- Partial Take Parcel (Residential)
- Partial Take Parcel (Commercial)

Alternative A
Parcels of Potential Concern

Centennial Corridor, Kern County, California

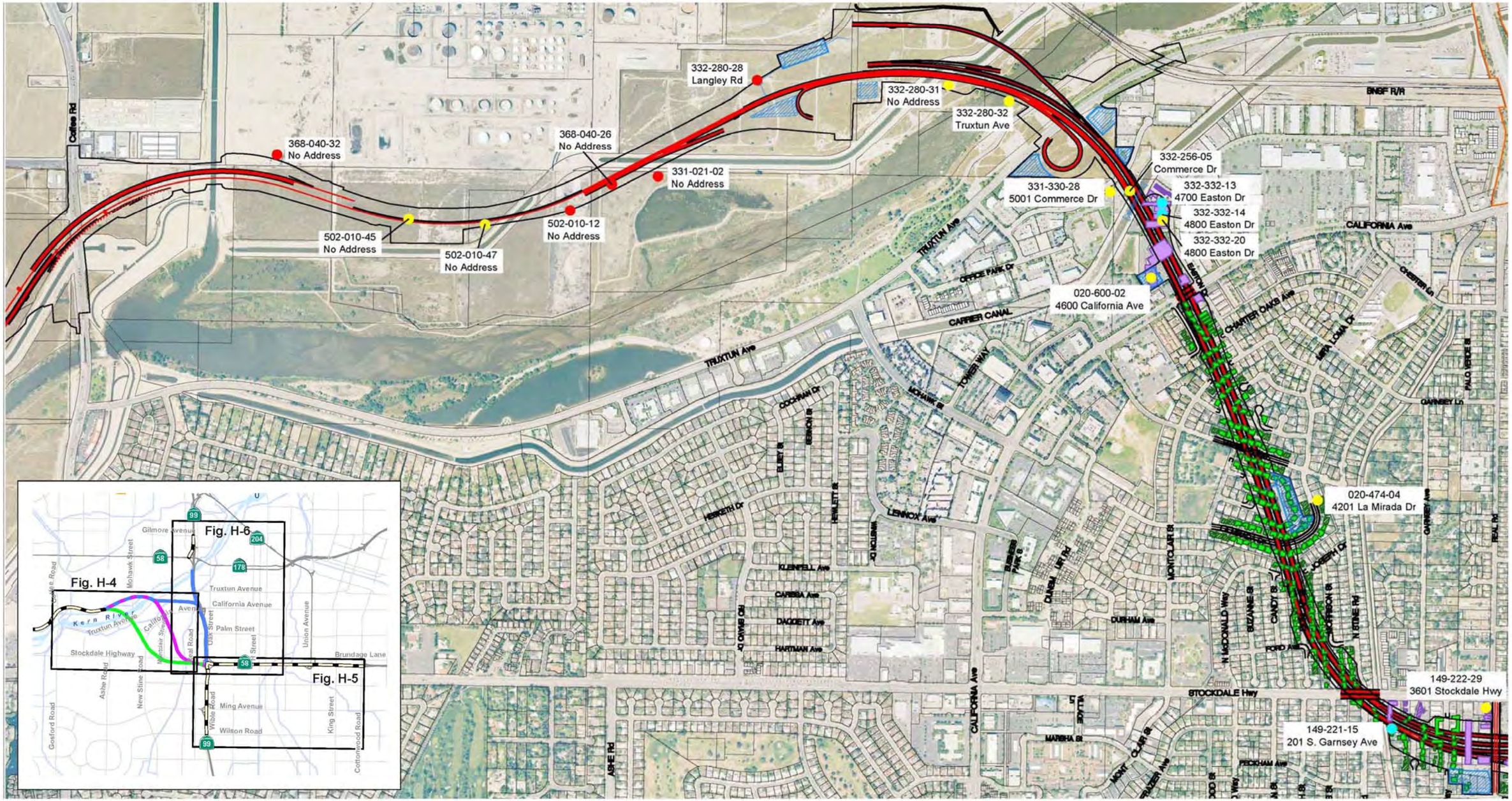
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure H-3



LEGEND

- Proposed Alignment
- Existing State Right of Way
- Rank 1 - Known Contamination
- Rank 2 - Suspected Contamination
- Rank 3 - Potential Contamination
- Retention Basin
- Temporary Construction Eastment
- Full Take Parcel (Residential)
- Full Take Parcel (Commercial)
- Partial Take Parcel (Residential)
- Partial Take Parcel (Commercial)

0 1200
FEET

N

Source: Initial Site Assessment 2012

Alternative B
Parcels of Potential Concern

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure H-4

149-222-29
3601 Stockdale Hwy

149-180-03
3333 Stockdale Hwy

147-032-25
201 Stephens Dr

147-111-13
520 Wible Rd

147-111-07
606 Wible Rd

147-111-11
608 Wible Rd

147-111-09
612 Wible Rd

164-010-08
3231 Belle Terrace

147-112-07
720 Wible Rd

164-040-30
1117 Wible Rd

SR-58

Fig. H-4

Fig. H-5

Fig. H-6

LEGEND

- Proposed Alignment
- Existing State Right of Way
- Rank 1 - Known Contamination
- Rank 2 - Suspected Contamination
- Rank 3 - Potential Contamination
- Retention Basin
- Temporary Construction Eastment
- Full Take Parcel (Residential)
- Full Take Parcel (Commercial)
- Partial Take Parcel (Residential)
- Partial Take Parcel (Commercial)

0 1200
FEET

N

Source: Initial Site Assessment 2012

Alternative B
Parcels of Potential Concern

Centennial Corridor, Kern County, California

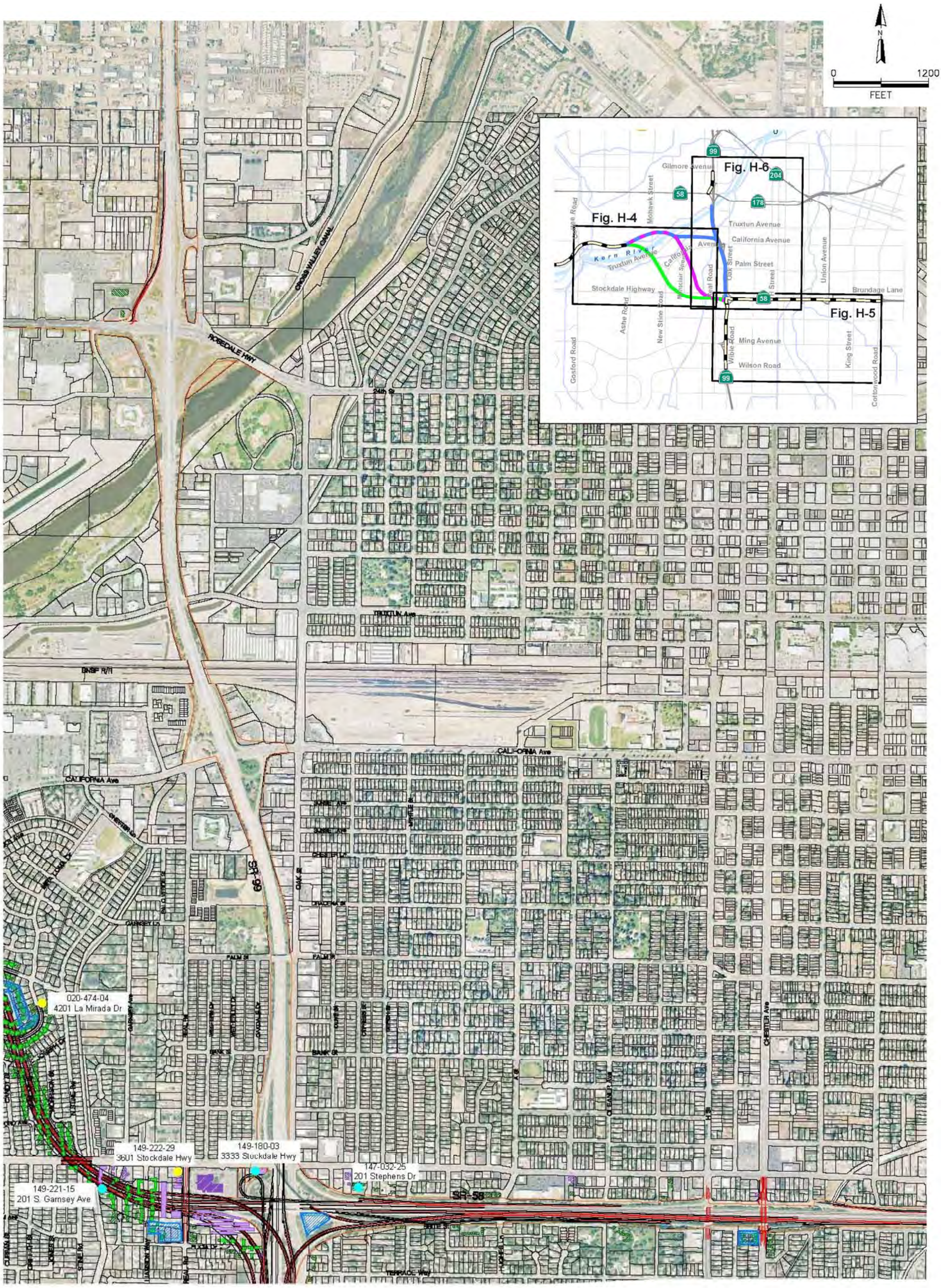
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure H-5



Alternative B
Parcels of Potential Concern

Centennial Corridor, Kern County, California

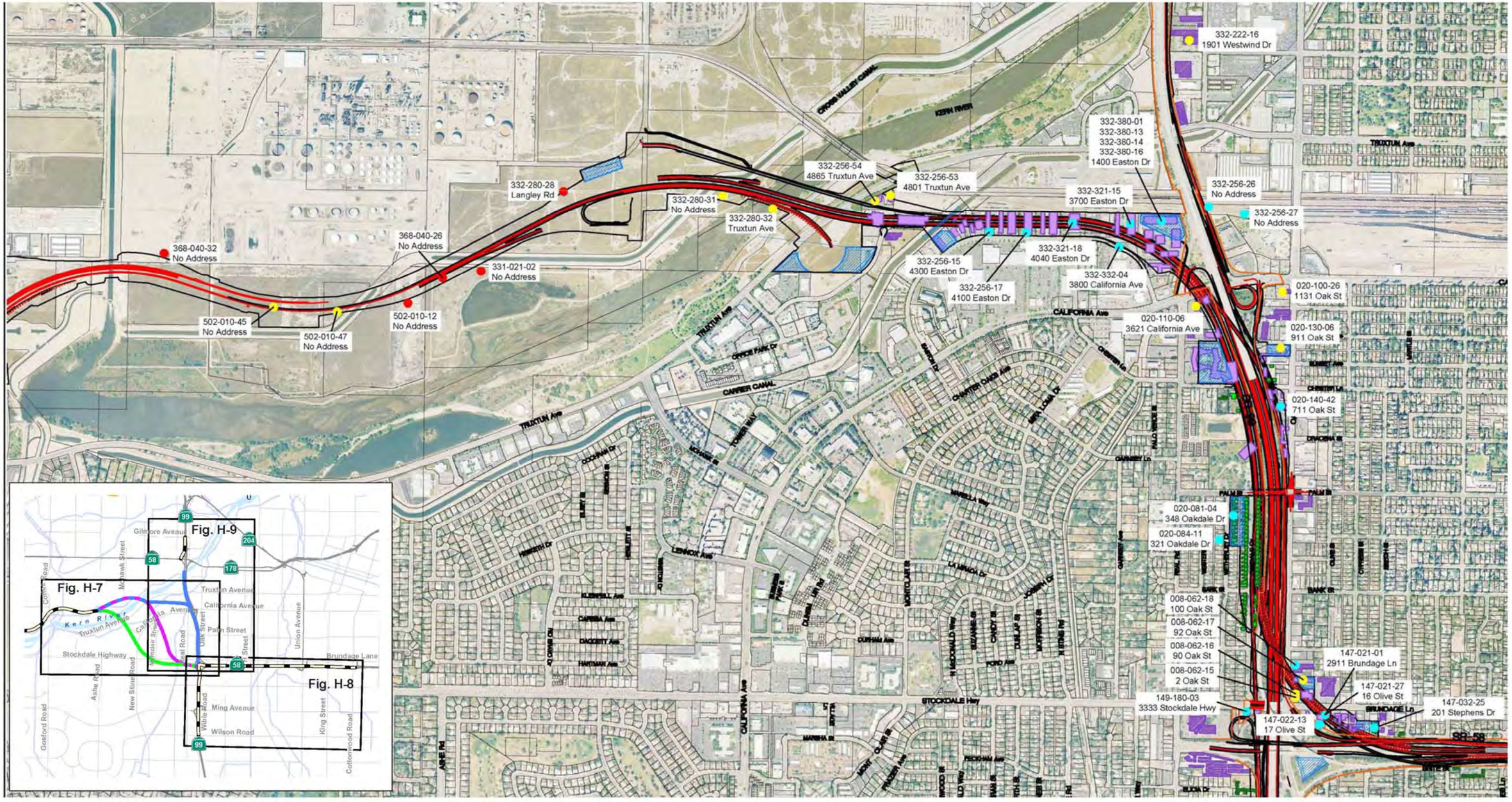
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure H-6



LEGEND

- Proposed Alignment
- Existing State Right of Way
- Rank 1 - Known Contamination
- Rank 2 - Suspected Contamination
- Rank 3 - Potential Contamination
- Retention Basin
- Temporary Construction Eastment
- Full Take Parcel (Residential)
- Full Take Parcel (Commercial)
- Partial Take Parcel (Residential)
- Partial Take Parcel (Commercial)

0 1200
FEET

N

Source: Initial Site Assessment 2012

Alternative C
Parcels of Potential Concern

Centennial Corridor, Kern County, California

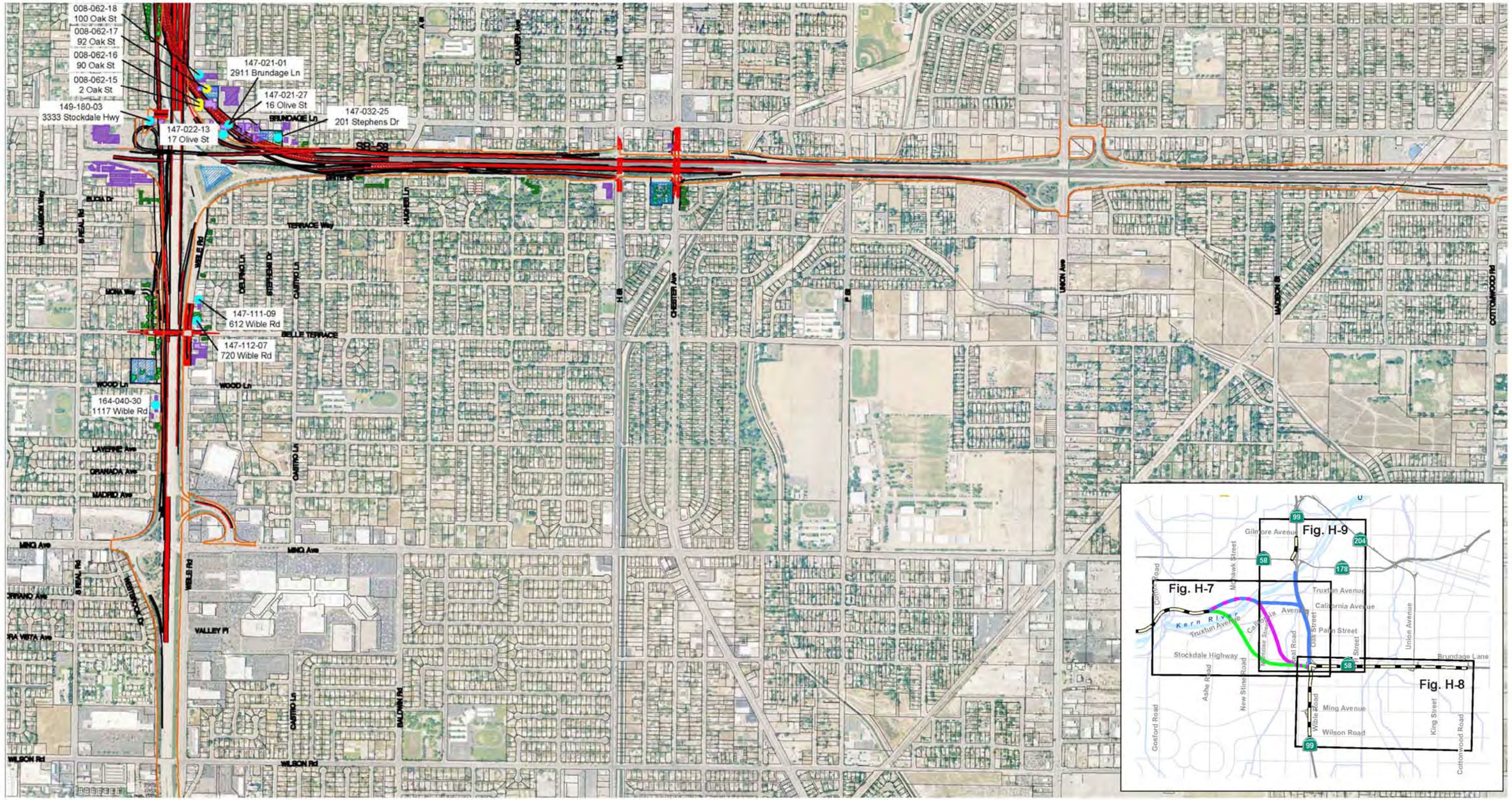
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure H-7



LEGEND

- Proposed Alignment
- Existing State Right of Way
- Rank 1 - Known Contamination
- Rank 2 - Suspected Contamination
- Rank 3 - Potential Contamination
- Retention Basin
- Temporary Construction Eastment
- Full Take Parcel (Residential)
- Full Take Parcel (Commercial)
- Partial Take Parcel (Residential)
- Partial Take Parcel (Commercial)

0 1200 FEET

N

Source: Initial Site Assessment 2012

Alternative C
Parcels of Potential Concern

Centennial Corridor, Kern County, California

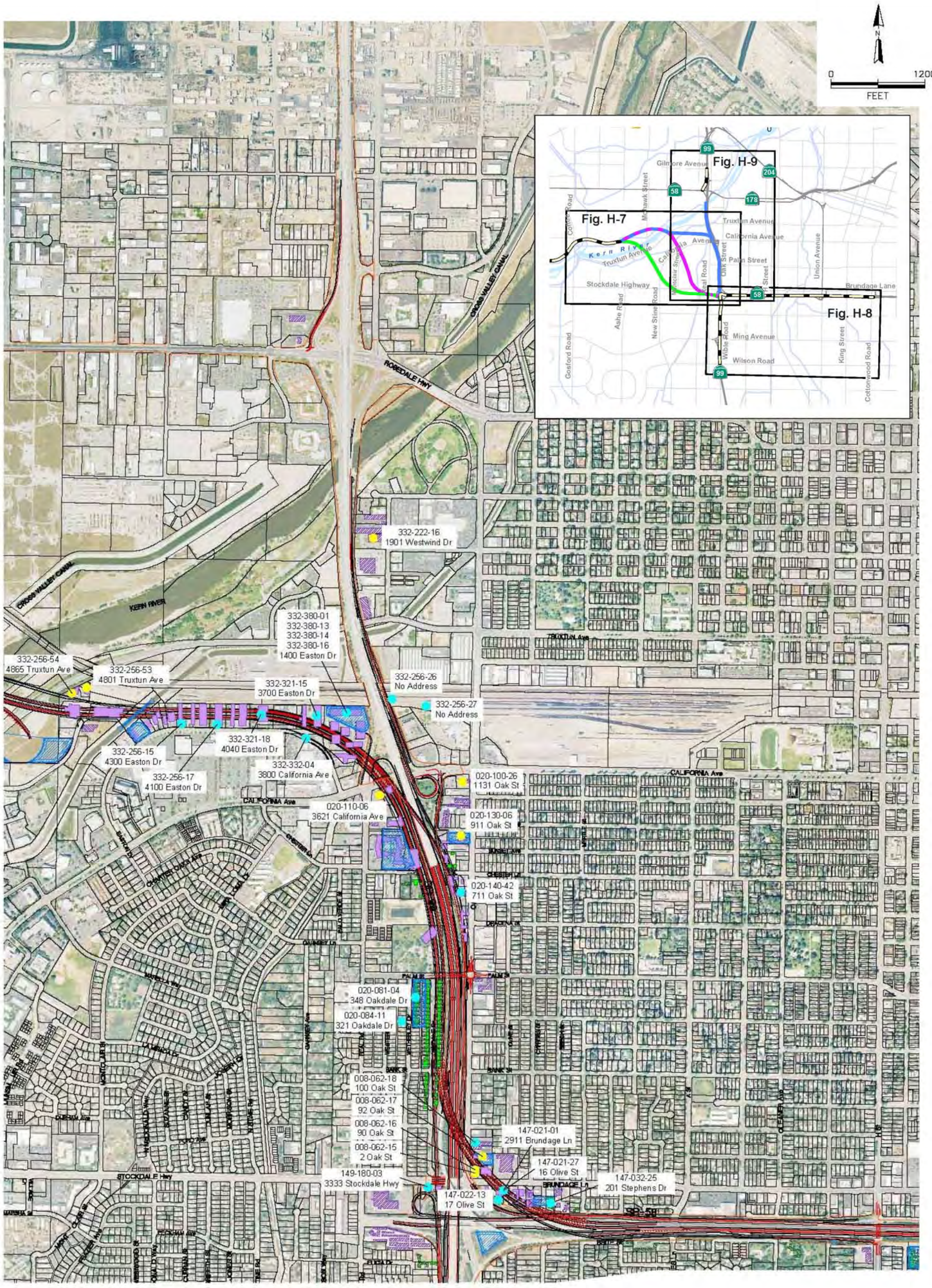
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure H-8



LEGEND

- Proposed Alignment
- Existing State Right of Way
- Rank 1 - Known Contamination
- Rank 2 - Suspected Contamination
- Rank 3 - Potential Contamination
- Retention Basin
- Temporary Construction Eastment
- Full Take Parcel (Residential)
- Full Take Parcel (Commercial)
- Partial Take Parcel (Residential)
- Partial Take Parcel (Commercial)

Alternative C
Parcels of Potential Concern

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure H-9

LEGEND

Proposed Alignment

Rank 2 – Suspected Contamination

0 1200

FEET

N

Source: Initial Site Assessment 2012

State Route 43/Stockdale Highway Intersection

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure H-10

Appendix I Special Status Species and Biological Opinion

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

September 18, 2013

Document Number: 130918032707

Subject: Species List for Centennial Corridor

Dear: Interested party

We are sending this official species list in response to your September 18, 2013 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be December 17, 2013.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found here.

Endangered Species Division

TAKE PRIDE IN AMERICA

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested
Document Number: 130918032707
Database Last Updated: September 18, 2011

Quad Lists

Listed Species

Invertebrates
- *Branchinecta lynchi*
  vernal pool fairy shrimp (T)
- *Desmocerus californicus dimorphus*
  valley elderberry longhorn beetle (T)

Fish
- *Hypomesus transpacificus*
  delta smelt (T)

Amphibians
- *Rana draytonii*
  California red-legged frog (T)

Reptiles
- *Gambelia (=Crotaphytus) sila*
  blunt-nosed leopard lizard (E)
- *Thamnophis gigas*
  giant garter snake (T)

Birds
- *Charadrius alexandrinus nivosus*
  western snowy plover (T)
- *Empidonax traillii extimus*
  southwestern willow flycatcher (E)
- *Gymnogyps californianus*
  California condor (E)

Mammals
- *Dipodomys ingens*
  giant kangaroo rat (E)
- *Dipodomys nitratoides nitratoides*
  Tipton kangaroo rat (E)
- *Sorex ornatus relictus*
  Buena Vista Lake shrew (E)
  Critical habitat, Buena Vista Lake shrew (X)
- *Vulpes macrotis mutica*
  San Joaquin kit fox (E)

Plants
- *Caulanthus californicus*
  California jewelflower (E)
- *Eremalche kernensis*
  Kern mallow (E)
- *Monolopia congdonii (=Lembertia congdonii)*

San Joaquin woolly-threads (E)

Opuntia treleasei
Bakersfield cactus (E)

Quads Containing Listed, Proposed or Candidate Species:

WEED PATCH (214B)
CONNER (215A)
MILLUX (215B)
MOUTH OF KERN (216A)
TAFT (216B)
OIL CENTER (239B)
LAMONT (239C)
EDISON (239D)
OILDALE (240A)
ROSEDALE (240B)
STEVENS (240C)
GOSFORD (240D)
RIO BRAVO (241A)
BUTTONWILLOW (241B)
EAST ELK HILLS (241C)
TUPMAN (241D)
NORTH OF OILDALE (263D)

Key:

(E) Endangered - Listed as being in danger of extinction.
(T) Threatened - Listed as likely to become endangered within the foreseeable future.
(P) Proposed - Officially proposed in the Federal Register for listing as endangered or threatened.
(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service.
Consult with them directly about these species.
Critical Habitat - Area essential to the conservation of a species.
(PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
(C) Candidate - Candidate to become a proposed species.
(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
(X) Critical Habitat designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.

- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.
- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be December 17, 2013.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In Reply Refer To:
08ESMF00-2013-F-0373

DEC 20 2013

Mr. Javier Almaguer
Chief, Central Region Biology South Branch
California Department of Transportation, District 6
855 M Street, Suite 200
Fresno, California 93721

Subject: Formal Consultation for the Centennial Corridor Project (part of the Thomas Roads Improvement Program [TRIP]), City of Bakersfield, Kern County, California (California Department of Transportation EA 06-48460; 06-KERN-58-PM T31.7 to PM 55.6; 06-KERN-99-PM 21.2 to PM 26.2)

Dear Mr. Almaguer:

This is the U.S. Fish and Wildlife Service's (Service) response to the California Department of Transportation's (Caltrans) request for initiation of formal consultation on the proposed Centennial Corridor Project (project) in Kern County, California.

The Moving Ahead for Progress in the 21st Century Act (MAP-21) was signed into law on July 16, 2012. Caltrans was approved to participate in the MAP-21 Surface Transportation Project Delivery Program through the National Environmental Policy Act (NEPA) assignment Memorandum of Understanding (MOU) between the Federal Highway Administration (FHWA) and Caltrans (effective October 1, 2012), as codified in 23 U.S.C. 327. The MOU allows Caltrans to assume the FHWA's responsibilities under NEPA as well as FHWA's consultation and coordination responsibilities under Federal environmental laws for the majority of transportation projects in California.

This project is part of the larger Thomas Roads Improvement Program (TRIP), a collection of six road improvement projects designed to meet the long-term transportation needs of the greater City of Bakersfield (City) area; four projects have already completed consultation and one other is beginning consultation. TRIP is a cooperative effort between the City, County of Kern, Caltrans, and the Kern Council of Governments. Your letter, dated July 16, 2013, providing additional information and requesting the initiation of formal consultation, was received in this office on July 22, 2013. At issue are potential effects to the federally-listed as endangered San Joaquin kit fox (*Vulpes macrotis mutica*). This document represents the Service's biological opinion on the effects of the proposed project on the listed species. This document has been

prepared in accordance with section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 *et seq.*) (Act).

The findings and recommendations of this biological opinion are based on: (1) the consultation between Caltrans and the Service; (2) the biological opinions for the first four TRIP projects for which consultation has been completed: the *Morning Drive/State Route 178 Interchange Project*, issued to Caltrans on August 18, 2011, the *State Route 58 Rosedale Highway Widening Project*, issued to Caltrans on April 24, 2012, the *SR 178 Widening Project*, issued to Caltrans on August 10, 2012, and the *24th Street Improvement Project*, issued to Caltrans on September 21, 2012; and (3) other information available to the Service.

Caltrans has determined that the project is likely to adversely affect the San Joaquin kit fox. The Service has reviewed the proposed project and concurs with Caltrans' determination.

Caltrans has determined that the proposed project will have no effect on the California jewelflower (*Caulanthus californicus*), the Kern mallow (*Eremalche kernensis*), the San Joaquin woolly-threads (*Monolopia congdonii*), and the Bakersfield cactus (*Opuntiabasilaris* var. *treleasei*) based on the results of botanical surveys and the distance of recorded occurrences from the project footprint. Focused botanical surveys were conducted for the corridor portion of the project first in 2008 on March 24, 27, and 28, and on May 15, 21, and 22; and then in 2009 from March 24-27 and from May 5-7. Additional, more recent focused botanical surveys were conducted at the Stockdale Highway/State Route 43 (Enos Lane) intersection portion of the project on March 27 and June 4, 2012. No detections of the species were made at either location. Surveys were conducted in the appropriate blooming periods and followed standard methods in accordance with the California Department of Fish and Wildlife's (CDFW; formerly the California Department of Fish and Game [CDFG]) revised 2009 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*, and the California Native Plant Society's 2001 *Botanical Survey Guidelines*.

According to the California Natural Diversity Database (CNDDB; CDFW, 2013), the closest recorded historic occurrence of the California jewelflower to the project footprint is approximately 4.5 miles (mi) away. Additionally, the closest two recorded occurrences of the Kern mallow (dating from 1994 and 2008) are approximately 1.4 mi and 1.6 mi from the project footprint, respectively; the closest recorded occurrence of the San Joaquin woolly-threads (dating from 2009) is approximately 1.4 mi from the footprint; and the closest recorded occurrence of the Bakersfield cactus (dating from 1989) is approximately 4.2 mi from the project footprint.

Because habitat in the project area is still considered to be marginally suitable and provides the potential for these species to establish in the future, Caltrans has incorporated an additional minimization measure specifically addressing these plants. The measure is further described under the *Proposed Avoidance and Minimization Measures* section.

If changes are made to the proposed project or if new information becomes available such that adverse effects to the California jewelflower, the Kern mallow, the San Joaquin woolly-threads, and the Bakersfield cactus have occurred, or are likely to occur, then Caltrans must initiate

formal consultation for these listed plant species. The remainder of this biological opinion will address the effects of the proposed project on the San Joaquin kit fox.

Consultation History

TRIP background and coordination

November 20, 2007. The Service, Caltrans, AECOM, Parsons/TRIP, the CDFW, and the City (participating agencies) met. Parsons/TRIP requested that AECOM develop a strategy memo addressing compliance with the Act; Caltrans and the Service agreed that TRIP should take a project-specific approach. All participants agreed that a San Joaquin kit fox technical study for all TRIP projects should be conducted by AECOM, in conjunction with support from the Endangered Species Recovery Program (ESRP); such a study would be useful for supporting conclusions in future TRIP project BAs.

August 26, 2008. AECOM presented preliminary results of the San Joaquin kit fox surveys to the participating agencies. This included a presentation of the methodologies, data, and effects analysis strategy and mitigation options. The Service identified habitat connectivity and the maintenance of corridors connecting San Joaquin kit fox populations as a major issue facing the species in Bakersfield. Participants discussed potential compensatory mitigation options, including culverts, refugia, and artificial kit fox dens.

September 10, 2009. The participating agencies met. Discussion focused on the early July 2009, *Draft Thomas Roads Improvement Program San Joaquin Kit Fox Life History, Effects Analysis, and Conceptual Mitigation Strategy* (2009 Draft Strategy Plan).

October 7, 2009. The Service issued a concurrence letter approving the conceptual framework for the San Joaquin kit fox compensation strategy plan outlined in the 2009 Draft Strategy Plan.

February 26, 2010. The Service received two hard copies of the comprehensive February 2010 *Draft Thomas Roads Improvement Program San Joaquin Kit Fox Effects Analysis, Mitigation Strategy, and Implementation Plan* (2010 Draft Implementation Plan).

March 11, 2010. The participating agencies met at the CDFW office in Fresno to discuss the 2010 Draft Implementation Plan; topics included an overview of the 2010 Draft Implementation Plan, potential issues with the Metro-Bakersfield Habitat Conservation Plan (MBHCP) expiration date, and funding for the proposed Sump Habitat Program (SHP).

April 12-13, 2010. AECOM sent an electronic-mail (e-mail) to the Service and the CDFW to request guidance on what AECOM could use as a template for developing a long term management plan for the SHP. AECOM suggested using the U.S. Army Corps of Engineers' (Corps) template. The Service replied on April 13 to confirm that this was acceptable, and provided a management plan outline illustrating what the Service would expect to see in a potential management plan.

May 5, 2010. An informal conference call was held between AECOM and the Service to discuss recent developments that would be covered in the upcoming meeting that the Service would be unable to attend: Parsons/TRIP had successfully presented the six projects to the MBHCP Trust Group; the real estate meeting between AECOM and the City resulted in the discovery that easements on four of the 19 sumps were owned outright by the City, four were owned by the City but had deed restrictions; and 11 were not owned by the City. AECOM also had specific questions regarding what the Service would look for in the upcoming BA.

May 11, 2010. The participating agencies met at the CDFW office in Fresno to discuss the SHP.

July 14, 2010. A meeting was held at the SFWO amongst all the participating agencies. Parties agreed on the content of the project BA regarding avoidance and minimization measures and a general description of the SHP, compensation, eventual inclusion of a third chapter in the 2010 Draft Implementation Plan describing the finalized SHP in detail, endowment/easement updates, and schedules.

August 18, 2010. The participating agencies met at the CDFW's Fresno office to discuss the latest developments in compliance, BA preparation, and the SHP. Major topics included TRIP eligibility for participation in the MBHCP, BA content, and further details concerning the SHP (e.g. easement and program management, endowments, and sump selection).

September 15, 2010. The CDFW contacted the Service with information concerning language in accordance with the California Endangered Species Act (CESA) that the CDFW would like to see included in the project biological opinion so that it would be able to issue a Consistency Determination (CD) and avoid undertaking a lengthier 2081 Incidental Take Permit process. The Service responded to discuss this information with the CDFW.

September 30, 2010. The Service, AECOM, Parsons/TRIP, and Caltrans held a conference call to discuss paying MBHCP compensation fees for the six TRIP projects in advance of the 2014 MBHCP expiration. Although the construction schedule for at least one project is not anticipated to begin until after 2014, it still could be compensated for prior to the expiration date. In a revised September 1, 2010, letter which included details of all six projects and compensation ratios, a blanket concurrence from the MBHCP Trust Group to use the MBHCP was given to the City and Caltrans. The Service suggested that an MOU with all parties involved could be implemented for paying fees in advance and provided an MOU template to AECOM.

October 22, 2010. The Service met internally to discuss the need for an MOU/memorandum of agreement (MOA) between the Service, Caltrans and the City regarding MBHCP compensation. It decided that it would be more appropriate to have an agreement between the City and Caltrans and the MBHCP Trust Group to avoid pre-decisional commitments by the Service.

December 8, 2010. The Service e-mailed Caltrans to request a copy of the *Draft Thomas Roads Improvement Program Mitigation for Cumulative Effects to the San Joaquin Kit Fox* (Draft SHP Plan), dated September 2, 2010, which outlines the basic conceptual framework for the proposed SHP. Caltrans e-mailed a copy and stated this would later be incorporated into a third chapter in the 2010 Draft Implementation Plan.

January 20, 2011. The Service e-mailed Caltrans and AECOM to provide them with an update on what the SFWO had concluded regarding the concerns with CDs, CESA language, and BOs: the Service stated it would not include the CDFW's conditions in the Terms and Conditions of its biological opinions; however, the CDFW's conditions could be included in the project description and conservation measures. The Service does not have the authority to use the type of language the CDFW is looking for (e.g. financial assurances, letters of credit) as terms and conditions to minimize incidental take.

January 25, 2011. E-mails were exchanged between AECOM, the CDFW, and the ESRP concerning fence design for the SHP. The CDFW was concerned that the proposed 8x8 inch gaps were too big and would allow predator species in the sump locations. The CDFW suggested that 4x6 inch or 5x5 inch gaps would be more appropriate. The ESRP responded that 4x6 inch openings would be fine, but 6x6 inch openings would be better for the San Joaquin kit fox and would still exclude predators. AECOM noted that the gap design objective for the sumps was different from that for the road design modifications (keeping predators out versus maintaining movement and permeability).

March 21, 2011. Caltrans informed the Service that following a meeting with the CDFW to discuss the project, Caltrans had decided not to pursue a 2081 Incidental Take Permit or a CD under CESA with the CDFW, as it had determined that take of the San Joaquin kit fox, as defined under CESA, could be avoided.

June 22, 2011. A meeting was held at the SFWO and attended by the Service, AECOM, Parsons/TRIP, the City, and Caltrans. Participants discussed updates regarding the status of the TRIP projects, the SHP, conservation easements and endowments, future work products, and possible additional funding support for the TRIP projects.

July 1, 2011. AECOM e-mailed draft notes from the June 22 meeting for circulation and comment.

January 30, 2012. A meeting was held at the SFWO and attended by the Service, AECOM, Parsons/TRIP, the City, and Caltrans. Participants discussed updates regarding the status of all the TRIP projects, the resolution of encumbrances, options for providing long-term conservation assurances, potential funding mechanisms, the proposed schedule for continued development and eventual implementation of the SHP, and preparation of the Long-Term Management Plan.

February 20, 2012. AECOM e-mailed draft notes and action items from the January 30 meeting for circulation and comment.

Project-specific coordination

April 16, 2013. The Service received a letter from Caltrans requesting initiation of formal consultation for the current project. The request included a biological assessment (BA) titled *Centennial Corridor Project, State Route 99 to Interstate 5 Biological Assessment,* dated March 2013, and prepared by the consultant, BonTerra Consulting.

May 16, 2013. The Service emailed Caltrans to inquire why three different alternatives were presented in the BA. The Service emphasized that it could not consult on multiple alternatives and therefore consultation could not proceed until an alternative was selected and a specific project defined.

May 20 - June 3, 2013. The Service and Caltrans continued to discuss the issue of the alternatives.

June 5, 2013. Caltrans informed the Service that it had selected Alternative B.

June 18, 2013. The Service emailed Caltrans with a request for additional information and clarifications regarding the BA.

July 22, 2013. The Service received a letter from Caltrans responding to the Service's June 18 request for additional information and inquiring if the project was now deemed complete such that Caltrans could initiate formal consultation. Included with the letter were a comment resolution form and a revised copy of the BA.

July 24, 2013. The Service confirmed with Caltrans that the project initiation package was considered complete and that formal consultation was initiated on July 22.

November 21, 2013. The Service emailed Caltrans to follow-up with several project clarification questions.

December 6, 2013. Caltrans emailed the Service the consultant's responses to the Service's November 21 request.

BIOLOGICAL OPINION

Proposed Project

The City, in coordination with Caltrans, proposes to construct a new freeway corridor connecting the eastern end of a local freeway, known as the Westside Parkway, to the existing State Route (SR) 58 (East) freeway. In conjunction with this, the project also proposes to improve the intersection at Stockdale Highway and SR 43 (known locally as Enos Lane) in order to accommodate additional traffic. The purpose of the project is to improve route continuity along SR 58 between SR 99 and Interstate (I)-5 within Metropolitan Bakersfield and wider Kern County. SR 58 is a critical highway in the State transportation network used by interstate travelers, commuters, and truckers, but it currently lacks continuity in central Bakersfield, which results in severe traffic congestion and reduced levels of service on adjoining highways and local streets.

Centennial Corridor (Segment 1)

Caltrans has selected the approximately 8.6 mi long Alternative B as the build alternative for the corridor construction. This will involve building a six-lane freeway heading west from the

Centennial Corridor (Segment 1)

Caltrans has selected the approximately 8.6 mi long Alternative B as the build alternative for the corridor construction. This will involve building a six-lane freeway heading west from the existing SR 58/SR 99 interchange for approximately 1,000 feet (ft.) along an alignment situated south of Stockdale Highway, then heading northwest and spanning Stockdale Highway/Stine Road, California Avenue, Commerce Drive, Truxtun Avenue, and the Kern River, and finally joining the east end of the Westside Parkway between the Mohawk Street and Coffee Road interchanges. The segment of SR 58 between California Avenue and Ford Avenue will be depressed (the roadway will be below grade) in order to minimize the visual effects of the corridor on the surrounding neighborhood. Overcrossings are proposed at Marella Way and La Mirada Drive to facilitate improved traffic circulation.

Alternative B also includes adding connections to SR 99 and improvements to SR 99 and the existing segment of SR 58. Linkages will be provided from northbound SR 99 to westbound SR 58 and from eastbound SR 58 to southbound SR 99 via high-speed connectors. Southbound SR 99 will be widened to accommodate additional traffic heading from eastbound SR 58 to the southbound SR 99 connector. The limits of widening on SR 99 will extend to the Wilson Road overcrossing. Ramps will need to be realigned to accommodate the additional constructed lanes. Several on- and off-ramps (e.g. Wible Road, south of the SR 58/SR 99 interchange; Stockdale Highway, on southbound SR 99 to eastbound SR 58 connector) are presently in conflict with Caltrans' standards of interchange spacing, and so will be removed.

Excavation associated with Alternative B will reach a maximum depth of 25 ft. near SR 58 between Stephens Drive and H Street in order to accommodate the widened ramps, as well as between California Avenue and Ford Avenue where the freeway will be constructed below the existing grade. On SR 99, the maximum depth of excavation will be approximately 18.5 ft. between Belle Terrace and Ming Avenue.

Stockdale Highway/SR 43(Enos Lane) Interchange

Improvements will include widening the intersection and adding signals to control traffic. This intersection currently operates at a deficient level of service due to its existing configuration. When the corridor segment of the project connects to the Westside Parkway, traffic volumes will increase on Stockdale Highway, so the improvements at this intersection are needed to accommodate the anticipated additional traffic demand. SR 43 will be expanded to add a dedicated left-turn lane in both directions, while Stockdale Highway will be widened to add a dedicated left-turn lane and a shared through/right-turn lane in both directions.

Other Project Elements

Detours, utilities, and drainage: Traffic detours will be implemented on existing streets; further details regarding these routes will be developed during later project design phases. The relocation and reconstruction of utilities and drainage facilities within the project right-of-way (ROW) will include power poles, underground utilities, and storm drains. Utility relocations are expected to be done without interruption to services and drainage improvements will involve

operational Best Management Practices (BMPs). Eight new drainage basins will be installed throughout the project area to retain stormwater while six existing basins will be modified.

Borrow, Staging and Access: All borrow, disposal, vehicle access, staging, storage, utility relocations, and other construction activities will occur within the defined limits of disturbance, i.e. the project footprint.

Scheduling: According to Caltrans' anticipated project schedule, design was expected to begin in mid-2013 and be completed by mid-2015. Construction is then anticipated to start in 2016 and continue year-round through 2018.

Proposed Avoidance and Minimization Measures

According to the BA, the Draft SHP Plan, the 2010 Draft Implementation Plan, and measures previously established in the Morning Drive/SR 178 Interchange Project, SR 58 Rosedale Highway Widening Project, SR 178 Widening Project, and 24th Street Improvement Project biological opinions, in addition to further discussion with Caltrans, the City and Caltrans propose to implement protection provisions in order to minimize adverse effects to the San Joaquin kit fox. Several of these are developed, in part, from the Service's most recent guidelines; currently, this is the January 2011 *U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (Recommendations). Additional measures are developed to be project- or program-specific:

1. Caltrans will include Special Provisions that include the avoidance and minimization measures of this biological opinion when soliciting contractor bid packages.

2. Prior to project groundbreaking, a Service-approved biologist(s) will conduct updated protocol-level botanical surveys within the project footprint during the appropriate blooming periods for the following four species: the California jewelflower, the Kern mallow, the San Joaquin woolly-threads, and the Bakersfield cactus. Surveys will be conducted in accordance with the most current protocols accepted by the Service. The intention will be to discover any changes in, or new additions to, the floristic composition of federally-listed plant species at the project site.

3. Caltrans and the City will follow the construction and on-going operational requirements described in the Service's Recommendations.

4. No less than 30 days but no more than 60 days prior to road construction, a Service-approved biologist(s) will conduct preconstruction surveys for San Joaquin kit fox dens both in the project footprint and within 200 ft. of the footprint, inclusive of any utilities relocations. A letter report and map of known and potential San Joaquin kit fox dens will be submitted to the Service prior to the start of ground disturbance and/or construction activities. Repeat clearance surveys will be conducted no more than 14 days before construction or after any delays in construction of over two weeks. Any new known or potential San Joaquin kit fox dens identified in the interim will be reported to the Service in a letter report and map. If no new known or potential San Joaquin kit fox dens are

approved biologist(s), and general survey findings. Records will be submitted to the Service upon request.

5. Disturbance to all San Joaquin kit fox dens will be avoided to the maximum extent possible. If known or potential dens are identified within the footprint during the 60-day and/or 14-day preconstruction surveys, Caltrans will request to monitor and excavate those dens that are expected to be affected directly by the project and cannot be avoided. Active dens will not be excavated during the natal season (approximately January 1 - June 30). The Service-approved biologist(s) will monitor potential dens for three consecutive nights using tracking medium and/or a remote sensor camera, will submit monitoring results in a letter report to the Service, and also will oversee the hand excavation of dens that have been determined vacant following approval by the Service. The Service-approved biologist(s) also will submit results of den excavation and exclusion activities in a letter report to the agencies. The following measures will be applied to dens that are not excavated:

    a. Dens that are identified during preconstruction surveys of the project footprint boundary and a 200 ft. area outside of the project footprint will be monitored and protected by an exclusion zone around dens, as measured outward from the entrance or cluster of entrances of each den.

        i. Potential and atypical dens within 50 ft. of the project footprint will be protected with a 50 ft. zone delineated by flagged stakes;

        ii. Known dens within 100 ft. of the project footprint will be protected with a 100 ft. zone. To ensure protection, the exclusion zone will be demarcated by fencing/flagging that does not prevent access to the den by the San Joaquin kit fox. Acceptable designs will have openings for San Joaquin kit fox ingress/egress but will keep humans and equipment out, e.g. wooden posts connected with caution tape; orange construction cones; orange construction fencing with a mesh size less than 2 inches in diameter (to prevent the San Joaquin kit fox from becoming entangled in the fencing) with gaps every 50 ft. Fencing/flagging will be maintained until all construction-related disturbances have been terminated. At that time, all fencing/flagging will be removed to avoid attracting subsequent attention to the dens.

    b. If natal/pupping dens are discovered either within the project footprint or within 200 ft. of the project footprint, Caltrans will immediately notify the Service.

6. The Service-approved biologist(s) will conduct a worker environmental awareness program for all construction crews prior to ground-disturbing activities, with the purpose of informing all crew members of the potential for the San Joaquin kit fox to occur on-site, the effects on the species from construction activities, how to minimize effects to the species, and the penalties for non-exempted take. The training will be repeated to all new

crew members and annually to all crew members working in San Joaquin kit fox habitat. Crew members will sign an attendance sheet and confirm that they understand the protection measures and construction restrictions. Training materials and records of attendees will be submitted to the Service.

7. The Service-approved biologist(s) will monitor road construction on a daily basis and will verify that construction complies with the measures laid out in this biological opinion. The Service-approved biologist(s) will maintain a log of daily monitoring notes that can be summarized and transmitted to the Service by request.

8. Permeable fencing will be installed along the proposed ROW in all areas where there is known San Joaquin kit fox activity and lower traffic speeds/volumes. Permanent exclusionary fencing will be installed along the proposed ROW in high-density residential areas and/or in areas with higher traffic speeds/volumes. In all areas in need of new permeable fencing, at least one design option featured below will be adopted to provide the San Joaquin kit fox with passage and movement opportunities, and to minimize the potential to disrupt species movement and habitat fragmentation of the project area:

    a. Elevate the bottom of the fence 5 inches above ground to allow unobstructed movement by the San Joaquin kit fox under the fence.

    b. Install ground-level 8 x 8 inch wide gaps no more than 100 ft. apart along the length of the fence to allow for San Joaquin kit fox movement at regular intervals along the ROW.

    c. Install fencing with a minimum mesh size of 3.5 x 7 inches, preferably 5 x 12 inches, to allow unlimited movement through the fence.

9. Curbed medians will be used as part of the project design and their height will be no greater than 10 inches. Either 6-inch high curbed medians with low vegetation or 10-inch high un-vegetated curbed medians will be constructed so as not to obstruct the visual field of the San Joaquin kit fox near the roadway. Curbed medians less than 10 inches in height and which require landscaping will be planted with low-level vegetation (i.e. less than 6 inches tall at maturity), or be mowed frequently to prevent overgrowth and provide an unobstructed line of sight for the species, or will have gaps installed measuring no less than 4 ft. wide every 12 ft. in areas landscaped with trees and shrubs.

    a. If required, landscaping will be designed in conjunction with the curbed median design in order to allow unobstructed visibility to the San Joaquin kit fox and to maintain and/or enhance opportunities for movement across the roadway.

10. Median barriers will be required in some areas of the project for the purpose of public safety. The Caltrans-designed modified median barrier type 60/S will be used. Caltrans' type 60/S design previously has been utilized in other projects (e.g. reinitiated Biological

Opinion for the State Route 99 Goshen to Kingsburg 6-Lane Project, in Tulare and Fresno Counties; Service File number 81420-2009-F-0752) and includes 9-inch radius openings (semicircular openings 9 inches high x 18 inches wide) spaced every 150 ft. to allow passage by the San Joaquin kit fox. Maintaining permeability in this manner will also reduce the potential to disrupt species movement and connectivity in the project area.

11. In areas of known San Joaquin kit fox activity and high traffic volumes and/or speeds, existing San Joaquin kit fox movement corridors like the canal channels and the Kern River, as well as railroad ROWs (e.g. BNSF), will be preserved through the use of bridges and/or culverts to facilitate crossings. Some segments of the canals under the new roadways will be converted from trapezoidal channels to box culverts; other segments of the canals with existing box culverts will be extended. Toe-of-road fill and bridge support walls will be maintained and new walls will be designed no less than 20 ft. from the centerlines of canal access roads and railroads.

    a. An elevated bridge currently exists at the location where the Westside Parkway crosses the trapezoidal channel of the Friant-Kern Canal. Species access will continue to be provided along an elevated access road located parallel to the canal.

    b. An above-grade bridge will be constructed over the trapezoidal channel of the Stine Canal. This will allow the species to move freely below the roadway.

    c. An above-grade bridge (westbound Mohawk St. off-ramp) will be constructed over the Cross Valley Canal, which exists as a double box culvert. The Kern River corridor is located proximate to the canal and so it provides existing access for the species in the area; no additional crossing features are proposed at this canal site.

    d. Two design options are proposed for the location where the new roadway will cross the Carrier Canal: 1) box culvert → if this design is chosen, a crossing structure (with proposed 5 x 5 inch mesh size and 10 inch diameter escape pipes within a 60 inch diameter crossing culvert) will be installed to connect the access roads on the north side of the canal; 2) bridge → if this design is chosen, no additional crossing features will be necessary since the elevated bridge above the trapezoidal canal will allow the species to move freely below the roadway.

The MBHCP Trust Group provided a letter to the City, dated December 3, 2010, in which it approved the ongoing use of the MBHCP for proposed compensation obligations for all TRIP projects; it also permitted payment to occur on an individual project basis after the approval of the final environmental document (FED) for each project. The City will pay the appropriate fee amount to the Trust Group and the Trust Group will acquire the required acreage amounts to be protected in perpetuity.

12. Caltrans will verify that the City compensates for the permanent loss of 11.28 ac and temporary disturbance to 65.55 ac of habitat consisting of non-native grassland, riparian woodland/Great Valley cottonwood riparian forest, ruderal/disturbed areas, desiccated waterways, detention basins, and agricultural land suitable for the San Joaquin kit fox by purchasing 105.95 ac (using a 3:1 compensation ratio for permanent effects and 1.1:1 compensation ratio for temporary effects) through the MBHCP.

    a. Prior to construction, the limits of affected habitat acreage by vegetation type will be verified and delineated on a map, and submitted for approval to the Service. This will be done prior to its submittal to the City Planning Department for fee payment.

13. Upon completion of project construction, all areas subject to temporary ground disturbance, including storage and staging areas, will be restored to original grade and contour. Appropriate methods and plant species used to re-vegetate will be determined on a site-specific basis in consultation with re-vegetation experts.

14. To minimize opportunistic predatory effects to the San Joaquin kit fox, the City and Caltrans will condition contracts with contractors to require that trash be removed at least once daily from project areas and disposed of off-site so as not to attract predator species like coyotes (*Canis latrans*) and bobcats (*Lynx rufus*) to the project area.

15. The City and Caltrans will condition contracts with contractors to require that contained water sources, which are inaccessible to the San Joaquin kit fox (e.g. elevated water trucks), be used for dust control and other construction water activities.

The SHP will provide long-term habitat conservation for the urban San Joaquin kit fox population in the metro-Bakersfield area by focusing on sumps (i.e. stormwater drainage basins); sumps in Bakersfield are a functional habitat type for the species and many sumps are either currently known to support San Joaquin kit fox dens or offer potential denning opportunities. The City, in coordination with Caltrans, proposes to utilize the SHP to minimize collective effects to the San Joaquin kit fox engendered by all six TRIP road improvement projects. Conservation measures of the SHP include the installation of artificial dens in selected sumps, the enhancement of San Joaquin kit fox habitat by controlling vegetation in and around dens, the increase of San Joaquin kit fox accessibility to sumps through installation of fence/gate openings (with proposed dimensions of 6 x 6 inches to exclude predators like coyotes and medium- to large-sized dogs), and the reduction in the potential for effects to the species associated with regular maintenance activities and predation. The City provided a letter of commitment to the Service, dated August 10, 2010, fully supporting and providing assurance of the implementation and management of the SHP and its conservation efforts.

16. The basic conceptual framework for the SHP is described in the September 2010 Draft SHP Plan, which addresses five core conservation goals in detail that are integral to the implementation and success of the SHP: 1) the selection of sumps that maintain San Joaquin kit fox accessibility and/or habitat (i.e. those of high/medium conservation

priority based on the relative potential for minimizing program-level effects); 2) the installation and maintenance of San Joaquin kit fox enhancement features (i.e. fence/gate gaps, artificial dens, conservation zones, signs, and enhancement maintenance and repair); 3) the management of sump vegetation compatible with San Joaquin kit fox presence and/or use (i.e. performance of routine maintenance outside the San Joaquin kit fox natal season and the use of hand tools in conservation zones and new active dens); 4) the biological monitoring and reporting of results (i.e. pre-maintenance surveys; den monitoring and supervised den excavation; environmental awareness training; maintenance monitoring; annual enhancement inspection; annual San Joaquin kit fox sump use monitoring; and annual reporting); and 5) the provision of long-term conservation assurances (i.e. individual conservation easements for each sump; a perpetual non-wasting endowment for management, maintenance, and monitoring costs associated with ongoing implementation; and a Service-approved Long-Term Management Plan. The proposed easement and endowment holder(s) will be Service-approved third-party organizations). Further details in regards to these five core measures can be found in the Draft SHP Plan.

a. The SHP will continue to be updated, refined, and ultimately finalized through an ongoing collaborative consultation process involving Caltrans, the City, Parsons/TRIP, and the Service over the course of the final remaining TRIP project.

b. The finalized SHP will be established and implemented within one year of the approval of the FED for the last of the six TRIP projects; the City will fully fund the SHP within one year of this approval. Caltrans and the City will share responsibility for the SHP; Caltrans will adhere to the proposed avoidance and minimization measures and terms and conditions of this biological opinion and will be responsible for the overall implementation of the SHP, while the City will be responsible for enhancing sumps and conducting long term management of the SHP. A Service-approved third-party will be responsible for administering endowment funds and providing compliance oversight with the terms of the conservation easements for each sump in the SHP.

Action Area

The action area is defined in 50 CFR § 402.02, as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." The action area for this project is composed of the project footprint, which includes the limits of construction for the proposed freeway corridor (alternative B) and the Stockdale Highway/SR 43 intersection within the existing and proposed Caltrans ROW, plus a temporary construction area extending 25 ft. out from the edge of the construction boundaries to allow for equipment maneuvering. Habitat types within the footprint include non-native grassland, riparian woodland/Great Valley Cottonwood riparian forest, disturbed/ruderal land, agricultural areas, developed/ornamental areas, waterways (e.g. segments of the Kern River and canals), and detention basins. The action area also includes portions of these lands that extend approximately 200 ft. from the project

footprint which will experience further-reaching effects of new road construction and intersection improvements such as noise and visual disturbance.

Analytical Framework for the Jeopardy/No Jeopardy Determination

In accordance with policy and regulation, the following analysis relies on four components to support the jeopardy/no jeopardy determination for the San Joaquin kit fox: (1) the *Status of the Species*, which evaluates the species' range-wide conditions, the factors responsible for those conditions, and its survival and recovery needs; (2) the *Environmental Baseline*, which evaluates the condition of the species in the action area, the factors responsible for that condition, and the role of the action area in the species' survival and recovery; (3) the *Effects of the Action*, which determines the direct and indirect effects of the proposed Federal action and the effects of any interrelated or interdependent activities on the species; and (4) *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the species.

In accordance with policy and regulation, the jeopardy/no jeopardy determination is made by evaluating the effects of the proposed Federal action in the context of the species' current status, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of the San Joaquin kit fox in the wild.

The following analysis places an emphasis on consideration of the range-wide survival and recovery needs of the species and the role of the action area in meeting those needs as the context for evaluating the significance of the effects of the proposed Federal action, combined with cumulative effects, for purposes of making the jeopardy/no jeopardy determination. In short, a non-jeopardy determination is warranted if the proposed action is consistent with maintaining the role of habitat for the species' populations in the action area for the survival and recovery of the species.

Status of the Species

Refer to the *San Joaquin Kit Fox (Vulpes macrotis mutica) 5-Year Review: Summary and Evaluation* (Service, 2010) for the current Status of the Species. The 5-Year Review provides a description of the species, including its distribution, habitat requirements and other life history information, current threats, an analysis of progress made in recovering the species, and recommendations for recovery actions over a future five year period.

The urban Bakersfield San Joaquin kit fox population is the only substantial population of the species known to occur outside the core areas of western Kern, Carrizo Plain Natural Area, and Ciervo-Panoche (Cypher and Warrick, 1993; Cypher *et al.*, 2000), which contain significantly greater areas of less disturbed natural habitat. The Bakersfield population therefore comprises a important satellite population also identified as significant for recovery of the species.

According to the CNDDB (2013) there are 48 recorded occurrences of the San Joaquin kit fox within the Gosford, Lamont, Tupman. and Stevens United States Geological Survey (USGS) 7.5 minute quadrangles, in which the action area is located; these numerous species observations are

located all around the project site. The closest record is from 2006 and is located approximately 0.7 mi from the project footprint. Within the vicinity of the action area, one potential den, four presumed active dens, and six incidences of San Joaquin kit fox sign were identified during a survey conducted in September 2008 by AECOM; these were all found in open spaces along the Kern River between approximately Mohawk Street and 24th Street. Data adapted from Bjurlin *et al.* (2005) in the 2010 Draft Implementation Plan also identified three nearby instances of San Joaquin kit fox vehicle-related mortalities on the south side of the Kern River near Mohawk Street and Truxtun Avenue.

As an area where the San Joaquin kit fox has adapted to the urban environment, traffic-related incidents have been and will continue to be the primary source of mortality in Bakersfield (Cypher, 2000; Bjurlin *et al.*, 2005). Other dangers posed by the urban environment of the metro-Bakersfield area include predation from domestic dogs and entanglement in playing field and schoolyard equipment like soccer nets. We are aware of eight separate Federal actions concerning effects to the San Joaquin kit fox, located in the immediate vicinity of the action area, that have previously completed consultation with the Service: the Westside Parkway Project (Service file number 1-1-98-F-0139; as reinitiated and amended 1-1-00-F-0185, 1-1-04-F-0194, 81420-2008-F-0368-27, 81420-2008-F-0368-28); the reinitiation of Phase 4 of the Westside Parkway Project (Service file number 81420-2008-F-0368-R001-1); the California Avenue On-Ramp Project (Service file number 81420-2011-I-0527-1); the SR 58 Rosedale Highway Widening Project (Service file number 08ESMF00-2012-F-0049); the 24th Street Improvement Project (Service file number 08ESMF00-2012-F-0290); the Cawelo Water District Calloway Canal Lining Project (Service file number 08ESMF00-2013-I-0135); the Big West-Flying J Clean Fuels Refinery Upgrade Project (Service file number 81420-2008-F-0616); and the Bakersfield Emergency Bridge and Utility Repair Project (Service file number 08ESMF00-2012-IE-0601).

Environmental Baseline

Contiguous tracts of undisturbed habitat suitable for the San Joaquin kit fox existed in the action area to a greater extent prior to the origination and expansion of urban development in central Bakersfield. It is reasonably likely that the conversion of natural lands to residential, industrial, commercial, and agricultural areas and the introduction of transportation infrastructure such as the initial construction of SR 99 and SR 58, in addition to networks of arterial roads, have affected the species. Ongoing urbanization has continued to result in habitat loss and fragmentation while roadway- and vehicle-related risks pose threats of injury and mortality to the species. Of the habitat types that will be affected directly by the project, non-native grassland comprises approximately 66 percent of the total action area acreage still considered to be suitable for use by the San Joaquin kit fox; ruderal/disturbed areas comprise approximately 23 percent of the total acreage; and segments of waterways (e.g. the Kern River channel and canal beds), riparian woodland/Great Valley Cottonwood riparian forest, three detention basins, and agricultural lands make up the remaining total habitat.

Despite the continuation of these effects, the action area nevertheless provides suitable denning and foraging habitat for the San Joaquin kit fox; furthermore, San Joaquin kit fox sign has been

identified in the action area. Although the CNDDB (2013) has no records of the species or its sign within the action area, information from the MBHCP database, as illustrated in the 2010 Draft Implementation Plan, shows that there are multiple San Joaquin kit fox records documented within the proposed corridor footprint. The corridor portion of the project was surveyed on September 17, 2008, and the Stockdale Highway/SR 43 intersection portion was surveyed more recently on April 4, 2012 since this additional component of the project was added after the initial surveys were conducted. Surveys followed a methodology established for all of the TRIP projects and approved by the Service and the CDFW as described in the 2010 Draft Implementation Plan. These surveys identified three potential dens in the corridor portion of the project along the Kern River near Mohawk Street and adjacent grasslands and in City Basin 143, as well as two incidences of San Joaquin kit fox sign.

San Joaquin kit foxes in Bakersfield have been found to move along linear habitat features. The Kern River corridor is an established natural movement corridor that the San Joaquin kit fox utilizes in the action area. The river channel consists of an open, sandy wash, with segments either sparsely vegetated or else devoid of vegetation. Segments of five constructed, unlined canals and one concrete-lined canal run through the action area; according to the 2010 Draft Implementation Plan, these canals (Cross Valley, Carrier, Stine, Kern Island, Central Branch Kern Island, and Friant-Kern) also serve as recognized movement corridors for the San Joaquin kit fox. At the time of vegetation mapping surveys in the spring of 2008 and 2009, four of these canals, with the exceptions of the Cross Valley and Friant-Kern Canals, did not contain water, but signs indicated that they do so intermittently. They also appeared to be regularly maintained by disking or mowing.

The Service anticipates that the San Joaquin kit fox is reasonably certain to occur in the action area based on the biology and ecology of the species; the presence of suitable habitat for denning and foraging, and known corridors for movement; and the documentation of San Joaquin kit fox sign in the action area.

Effects of the Proposed Action

Habitat Loss and Disturbance

The proposed project is likely to result in a number of adverse effects to the San Joaquin kit fox. Construction work, such as the excavation, filling, and paving activities associated with constructing the new freeway corridor, adding connections to SR 99, improving existing segments of SR 99 and SR 58, and improving the Stockdale Highway/SR 43 intersection will result in the permanent loss of 11.28 ac of suitable habitat for the San Joaquin kit fox; there also will be temporary disturbance to 65.55 ac of suitable habitat due to activities such as grading, staging, and access. Temporary disturbance is defined here as a short-term event in which effects do not degrade the habitat beyond its ability to recover after completion of project construction. Because the project is anticipated to last for significantly longer than one year, the disturbance to habitat areas will be ongoing and therefore the habitat will likely take longer to recover. Therefore, it is reasonable to expect this disturbance to result in harm to the San Joaquin kit fox.

Based on currently available information, there are three potential dens within the project footprint that are likely to be permanently eliminated during construction. If a large number of known or potential dens are identified in the project footprint during preconstruction surveys and require excavation (following appropriate monitoring), their destruction would remove shelter and cover for the species. This would be reasonably likely to adversely affect local San Joaquin kit fox survival by reducing the number and distribution of escape refuges from predators.

To offset the loss of habitat, the City, through participation in the MBHCP, will purchase conservation land that is of commensurate or higher quality to the habitat lost due to project construction, ensuring that the species can continue to breed, feed, shelter, and meet all its life cycle functions. The MBHCP's goal is to acquire, preserve, and enhance large, contiguous native habitats that support listed and sensitive species like the San Joaquin kit fox. The City, in coordination with Caltrans, is also developing the SHP, a comprehensive and extensive conservation plan specifically designed to address habitat loss and effects to the San Joaquin kit fox. The SHP will reduce and minimize the collective construction effects deriving from the six TRIP projects in the metro-Bakersfield area by protecting and enhancing sumps (identified as a crucial habitat type for the urban Bakersfield San Joaquin kit fox population) located throughout the City through easement holdings. Participation in the MBHCP and implementation of the SHP will preserve and enhance suitable San Joaquin kit fox habitat and will contribute to protecting and managing the habitat for the conservation of the species in perpetuity. These lands also will help maintain the geographic distribution of the species and will contribute to the recovery of the species.

Entombment and Strikes

Since suitable denning habitat and potential San Joaquin kit fox dens exist in the action area, it is important that effects are reduced to the greatest extent possible. With the implementation of proposed conservation measures such as preconstruction surveys, den monitoring, exclusion zones, and hand excavation of vacant dens, the risk of crushing or entombing the San Joaquin kit fox in dens (natural and man-made) during groundbreaking activities and construction is not reasonably likely to occur.

The proposed conservation measures are designed to minimize the risk of construction vehicle strikes. Therefore, it is not reasonably likely that the species will be hit by project equipment or vehicles while occupying or moving through the action area.

Road Mortality

Injury and mortality are likely to occur to the San Joaquin kit fox when individuals attempt to cross roads. Each highway and roadway associated with the construction of the new corridor and the accompanying improvements (e.g. SR 99, SR 58, Westside Parkway) is already an existing hazard for this widely ranging, dispersing species, and each highway/roadway will continue to be a hazard for the San Joaquin kit fox. With the creation of the Centennial Corridor, this too will introduce hazards to the species and it is reasonably likely that the species will be struck by vehicles on the new roadway.

However, to reduce the risk of injury and mortality to the San Joaquin kit fox that will stem specifically from vehicle strikes on the new roadway, Caltrans has developed the best available information to incorporate into the project through discussions with the ESRP, the Service, the CDFW, the City, and a previous consultant, AECOM. Using various methods of on-site project design modifications relating to permeability and connectivity, Caltrans has integrated measures believed to present the greatest value to the species in the context of the project. Because the action area is known to be used by the San Joaquin kit fox, and a portion of the new corridor alignment is within a known San Joaquin kit fox concentration area (Cypher, pers. comm., 2009a), the primary objectives of these modifications are to provide opportunities for the San Joaquin kit fox to cross the roadway in spite of construction effects; to minimize the potential for an increase in vehicular injury and mortality (although it is not possible to quantify the extent to which these will be minimized); and to maintain San Joaquin kit fox movement through preserving existing physical corridors such as the Kern River and canals that the species can safely continue to utilize.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

The Service is not aware of any future non-Federal actions currently planned specifically in the action area that will further directly affect the San Joaquin kit fox or remove or disturb its habitat.

Conclusion

Conservation measures set forth for implementation before, during, and following project work; project design modifications; and the SHP, which is intended to address the collective effects resulting from this and five other TRIP projects in the metro-Bakersfield area, will all serve to minimize both program- and project-level effects and the extent of take associated with the San Joaquin kit fox. After reviewing the current status of the San Joaquin kit fox, the environmental baseline for the action area for the species, the effects of the proposed project on the species, and the cumulative effects, it is the Service's biological opinion that the project, as proposed, is not likely to jeopardize the continued existence of the San Joaquin kit fox.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by FWS regulations at 50 CFR 17.3 as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the same regulations

as an act which actually kills or injures wildlife. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described are nondiscretionary, and must be undertaken by Caltrans for the exemption in section 7(o)(2) to apply. Caltrans has a continuing duty to regulate the activity covered by this incidental take statement. If Caltrans (1) fails to assume and implement the terms and conditions, or (2) fails to require any of its contractors to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, Caltrans must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement. [50 CFR §402.14(i)(3)].

Amount or Extent of Take

It is infeasible for the Service to quantify the exact number of San Joaquin kit foxes that will be taken as a result of the proposed action because the number of individuals in the action area is unknown and estimates of population density in the action area are unavailable. In instances in which the number of individuals that may be taken cannot be determined, the Service may quantify take in the amount of lost or disturbed habitat as a result of the project action; since take is expected to result from these effects to habitat, the quantification of habitat becomes a direct surrogate for the species that will be taken. Therefore, the Service anticipates take incidental to the project as the 76.83 ac of suitable San Joaquin kit fox habitat that will be lost and disturbed. Dens may be destroyed as a result of project construction and a small number of dens could also be disturbed by activities associated with the SHP. Upon implementation of the *Reasonable and Prudent Measures*, *Terms and Conditions*, and the *Proposed Avoidance and Minimization Measures* considered herein, incidental take within this acreage in the form of harm due to new freeway construction, freeway and intersection improvements, sump activities, and other associated construction work leading to habitat loss and disturbance, as well as den excavation and destruction; and in the form of injury and mortality due to vehicle strikes on the new freeway, will become exempt from the prohibitions described under section 9 of the Act.

Effect of the Take

The Service has determined that the level of anticipated take is not likely to jeopardize the continued existence of the San Joaquin kit fox.

Reasonable and Prudent Measures

The following reasonable and prudent measure is necessary and appropriate to minimize the effects of the proposed action on the San Joaquin kit fox.

1. All of the conservation measures proposed in the BA, the Draft SHP Plan, the *Project Description*, and as supplemented and modified in the Terms and Conditions below, must be fully implemented.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, Caltrans, the City, as well as any contractor acting on the City's behalf, must comply with the following Terms and Conditions, which implement the reasonable and prudent measure described above. These Terms and Conditions are nondiscretionary.

The following Terms and Conditions implement Reasonable and Prudent Measure one:

1. Caltrans shall be responsible for implementing all measures described in this biological opinion. Term and Condition 3.b., which applies to contractor activities, shall be conditioned in contracts for the work.

2. In order to promote both effective communication and implementation of the terms and conditions, the lead Service-approved biologist shall meet weekly with the Resident Engineer and contractor to review the week's upcoming ground-disturbing activities - including any possible changes from the project as analyzed in this biological opinion - as well as the measures that will be implemented to minimize effects to listed species. These meetings shall be documented and reported every two weeks to Caltrans; Caltrans in turn will report this information to the Service, as described in Term and Condition 3a.

3. In order to monitor whether the amount or extent of incidental take anticipated from implementation of the project is approached or exceeded, Caltrans shall adhere to the following reporting requirements. Should this anticipated amount or extent of incidental take be exceeded, Caltrans must immediately reinitiate formal consultation as per 50 CFR 402.16.

    a. For those components of the action that will result in habitat loss or degradation whereby incidental take in the form of harm is anticipated, Caltrans shall provide updates every two weeks to the Service with a precise accounting of the total acreage of habitat affected and the number of dens lost. Updates also shall include any information about changes in project implementation that result in habitat disturbance or other effects to the species not described in the *Project Description* and not analyzed in this biological opinion.

    b. For those components of the action that result in direct encounters between listed species and project workers and their equipment whereby incidental take in the

form of harassment, harm, injury, or death is likely, Caltrans shall immediately contact the Service's SFWO at (916) 414-6600 to report the encounter. If an encounter occurs after normal working hours, Caltrans shall contact the SFWO at the earliest possible opportunity the next working day. When injured or killed individuals of the listed species are found, Caltrans shall follow the steps outlined in the *Salvage and Disposition of Individuals* section.

c. Before construction starts on this project, the Service shall be provided with the final documents related to protection of conservation acres, including MBHCP fee payment of habitat conservation acreage. Easement and endowment documentation for each sump included in the SHP will be established following the approval of the FED for the last of the six TRIP projects. The City will fully fund the SHP within one year of that approval.

d. A post-construction report detailing compliance with the project design criteria and proposed conservation measures described under the *Project Description* section of this biological opinion shall be provided to the Service within 60 calendar days of completion of the project. The report shall include: (1) dates of project groundbreaking and completion; (2) pertinent information concerning the success of the project in meeting the conservation measures; (3) an explanation of failure to meet such measures, if any; (4) known project effects on the San Joaquin kit fox, if any; (5) observed incidences of injury to or mortality of the San Joaquin kit fox, if any; (6) the number of dens lost, if any; and, (7) any other pertinent information.

Salvage and Disposition of Individuals

In the case of an injured and/or dead San Joaquin kit fox, the Service shall be notified of events within one day and the animal shall be handled only by a Service-approved biologist. Injured animals shall be cared for by a licensed veterinarian or other Service-approved person. In the case of a dead San Joaquin kit fox, the animal shall be preserved, as appropriate, and shall be bagged and labeled (i.e. species type; who found or reported the incident; when the report was made; when and where the incident occurred; and if possible, cause of death). Carcasses shall be held in a secure location, such as a freezer or cooler, until instructions are received from the Service regarding the disposition of the specimen or until the Service, or another appropriate agency or Service-approved person, takes custody of the specimen. Caltrans must report to the Service within one calendar day any information about take or suspected take of federally-listed species not exempted in this opinion. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal. The Service contacts are Daniel Russell, Deputy Assistant Field Supervisor, Endangered Species Program, Sacramento, at (916) 414-6600 and the Service's Law Enforcement Division at (916) 569-8444.

Any contractor or employee who, during routine operations and maintenance activities inadvertently kills or injures a listed wildlife species must immediately report the incident to his

representative at his contracting/employment firm and to Caltrans. This representative must contact the Service within one calendar day.

CONSERVATION RECOMMENDATIONS

Conservation recommendations are suggestions of the Service regarding discretionary measures to minimize or avoid further adverse effects of a proposed action on listed, proposed, or candidate species or on designated critical habitat, or regarding the development of new information. They may also serve as suggestions on how action agencies can assist species conservation in furtherance of their responsibilities under section 7(a)(1) of the Act, or recommend studies improving an understanding of a species' biology or ecology. Wherever possible, conservation recommendations should be tied to tasks identified in recovery plans. The Service is providing you with the following conservation recommendations:

1. Caltrans should continue to include culverts, tunnels, or other structures along roads and highways, particularly in core and satellite population areas to allow for the safe passage of the San Joaquin kit fox. Crossing structures contribute to creating safe dispersal corridors for multiple wildlife species, and will help reduce wildlife road mortalities and enhance public safety. Caltrans is encouraged to explore designs and include photos, plans, and other information in its BAs concerning the incorporation of wildlife passageway designs into its projects.

2. Caltrans should report new sightings of the San Joaquin kit fox or its dens to the CNDDB. A copy of the reporting form and a topographic map clearly marked with the location in which the animals were observed also should be provided to the Service.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION—CLOSING STATEMENT

This concludes the Service's review of the proposed Centennial Corridor Project, as outlined in your letter. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained or is authorized by law and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or an extent not considered in this biological opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this biological opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action.

Please contact Jen Schofield, Fish and Wildlife Biologist, or Thomas Leeman, Chief, San Joaquin Valley Division, at the letterhead address or at (916) 414-6600 if you have any questions regarding this letter.

Sincerely,

Jennifer Norris
Field Supervisor

cc:
Annee Ferranti, California Department of Fish and Wildlife, Fresno, California

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Personal Communications

Cypher, B.L. 2009a. Research ecologist. Endangered Species Recovery Program, California State Universities, Stanislaus and Bakersfield, California. June 2, 2009 – meeting with Stephanie Coppeto of AECOM to discuss San Joaquin kit fox concentration areas, movement corridors, and potential mitigation for the conceptual strategy.

Appendix J Key Correspondence

Throughout the coordination process, Caltrans has received correspondence from several agencies regarding the project. The information in this correspondence is reflected in the environmental document. The correspondence is listed below and provided in Appendix J:

- Faxed letter from California Department of Fish and Game, Central Region (September 1, 2009). The letter is a response to Caltrans' invitation to the Centennial Corridor Project Agency Coordination Meeting held on August 26, 2009. The letter provides a written summary of California Department of Fish and Game outstanding concerns related to the project.

- Letter from Metropolitan Bakersfield Habitat Conservation Plan (December 3, 2010). The letter states that the Trust Group concurs with the use of the Metropolitan Bakersfield Habitat Conservation Plan for compensatory mitigation required by the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife.

- Letter to Office of Historic Preservation, Department of Parks and Recreation, State Historic Preservation Officer (February 15, 2013). The letter initiates consultation with the State Historic Preservation Officer.

- Email from Santa Rosa Rancheria Tachi Yokut Tribe (March 6, 2013). The email was sent to consult with Caltrans on the Project.

- Letter from Office of Historic Preservation, Department of Parks and Recreation, State Historic Preservation Officer (April 15, 2013). This is the letter of concurrence from the State Historic Preservation Officer.

- Letter to United States Fish and Wildlife Service (April 15, 2013). The letter is requesting formal project-specific Section 7 consultation for the San Joaquin kit fox.

- Letter from Office of Historic Preservation, Department of Parks and Recreation, State Historic Preservation Officer (April 10, 2014). The letter provides the following two comments to the finding of No Adverse Effect: (1) it appears that Caltrans has not completed their archaeological resources identification and is extending further archaeological studies until a preferred alternative is selected;

and (2) a proposed soundwall results in a visual intrusion to the Rancho Vista Historic District that would be out of character with the neighborhood.

- Letter from State of California, Department of Transportation, Division of Environmental Analysis (April 18, 2014). The letter is a response to the two comments provided in the letter from the Office of Historic Preservation, Department of Parks and Recreation, State Historic Preservation Officer, dated April 10, 2014.

  In response to the first comment that Caltrans has not completed their archaeology identification and is extending further archaeological studies until a preferred alternative is selected, Caltrans understands that the State Historic Preservation Officer (SHPO) could not concur with the finding of no adverse effect on archaeological resources until the identification phase of the Section 106 process has been completed. While the pedestrian survey did not identify any archaeological resources to be within the archaeological APE, Caltrans has proposed that it carry out a two-stage Extended Phase I archaeological survey. The first stage was completed and submitted to SHPO as part of the Historic Property Survey Report (HPSR) in February 2013. As presented to SHPO, the second stage would be undertaken for the Preferred Alternative and would focus on the presence of archaeological resources in sensitive soils and sediments. A Supplemental HPSR will be prepared by Caltrans and submitted to the SHPO and other consulting parties if the geoarchaeology identification efforts identify archaeological resources for the Centennial Corridor Project.

  In response to the second comment that a proposed structure results in a visual intrusion to the Rancho Vista Historic District and would result in an adverse effect to the historic district, Caltrans has concluded that the elevated structure, though located outside of the Rancho Vista Historic District boundaries, would constitute a visual intrusion and diminish the historic property's setting. This would create an adverse effect as defined by 36 CFR 800.5. As a result, Caltrans will be working with SHPO and other consulting parties to explore possible measures to resolve adverse effects by minimizing or eliminating the adverse visual effects on the historic property. A separate draft Memorandum of Agreement (MOA) will be submitted following the circulation of the Draft EIR/EIS and receipt of public comment.

09-01-09 12:31 FROM-DFG 559 2433004 T-697 P.001/007 F-627

FACSIMILIE LEADER PAGE

California Department of Fish and Game
Central Region
Region 4
1234 East Shaw Avenue
Fresno, California 93710
INFO (559) 243-4017 **FAX (559) 243-3004**

DATE: 9/1/09 **PAGE 1 OF** 7

TO: Kristen Helton
Caltrans, District 6

FAX: (559) 243-8215 **PHONE:**

FROM: Laura Peterson-Diaz

INSTRUCTIONS: Original to follow by mail.

09-01-09 12:31 FROM-DFG 559 2433004 T-697 P.002/007 F-627

DEPARTMENT OF FISH AND GAME
Central Region
1234 East Shaw Avenue
Fresno, California 93710
(559) 243-4005
http://www.dfg.ca.gov

***DONALD KOCH**, Director*

September 1, 2009

Kirsten Helton
California Department of Transportation, District 6
2015 East Shields Avenue, Suite100
Fresno, California 93726

Subject: Invitation to the Centennial Corridor Project Agency Coordination Meeting
06-KER 58 Alignment EA 06-48460

Dear Ms. Gassner:

This letter is in response to your invitation to the Centennial Corridor Project Agency Coordination Meeting on August 26, 2009, at 10:00 AM via webinar hosted by Caltrans. As discussed during that meeting, the following provides a written summary of our outstanding concerns related to this Project.

It appears that the major focus is on the segment to the east of the Westside Parkway Segment. However, the Department of Fish and Game (DFG) remains significantly concerned that the Western Segment at the junction with Interstate 5 (I5) continues to show the alignment through Kern Water Bank Authority's Kern Water Bank. The Biological Services Study Plan sent with the invitation to the webinar states that the Western Segment and the Westside Parkway portions of the Project have been addressed in previous environmental documents, pursuant to the California Environmental Quality Act (CEQA) and National Environmental Protection Act (NEPA), and that the Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) will incorporate by reference these previous two documents:

- Final Route 58 Adoption Project, a Tier 1 EIS/EIR, 2002 (SR 58 EIR)
- Westside Parkway Environmental Assessment/ Final EIR, 2006 (Westside Parkway EIR)

Further, for these two segments of the Project, the analysis in the Centennial Corridor EIR/EIS will serve as a **revalidation of the previous documents**. New information will be provided to the extent necessary to ensure the environmental record is reflective of the current conditions.

Given the information provided in our previous comment letter, it is not appropriate to simply "revalidate the previous documents"; the State Route (SR) 58 EIR failed to accurately present the conditions that were present in 2002 and as a result, the associated potential Project-related impacts were not adequately characterized nor disclosed. Impacts to the Kern Water Bank are erroneously described as Agricultural lands in Table 4-5 of the SR 58 EIR, which includes the potential impacts with "Terrestrial Vegetation" and does not include wetlands. Figure 3-7 of the SR 58 EIR is a map of "Terrestrial Vegetation Types" and despite the notation on the Map,

which says "Land cultivated prior to 1987, but converted to recharge basins; managed by Kern Water Bank Authority" the area is still given dots which the Legend identifies as "Agricultural Land (indicates land **currently** in cultivation)". (Emphasis added.) This is incorrect and does not reflect the conditions that were present in 2002 or the existing conditions.

On October 20, 2008, DFG commented on the Notice of Preparation (NOP) for the Centennial Corridor Project in a letter also addressed to Sarah Gassner, representing the City of Bakersfield. Some of DFG's comments provided in the October 2008 letter are reiterated in this comment letter. DFG has significant concerns with the single alternative identified for the western portion of the alignment, which traverses through the Kern Water Bank. The lands and wetlands within the Kern Water Bank are critically important in a regional conservation and recovery context for many threatened and endangered species and other wildlife. As a result, we feel that implementation of the western portion of this Project in the currently proposed location is ill advised and should not proceed as proposed. We recommend reconsideration of one or more alternate Project locations that would not impact the Kern Water Bank.

The Kern River alignment is no longer even shown as an alternative. The only route shown on the map at the western end of the Project is the Cross Valley Canal Option, which cuts through the Kern Water Bank. While the Kern River Alternative could result in impacts to a small isolated piece of Valley Saltbush Scrub/Valley Sink Scrub (Scrub), these impacts would be minor in comparison to the significant impacts that would occur to Kern Water Bank with the currently identified preferred alternative. In addition, the impacts to the Scrub habitat associated with the Kern River Alternative could be minimized by making slight alterations to the design shown in Figure 3-8. For example, the northbound I5 off-ramp could be moved just a bit farther east, outside the Scrub habitat. In addition, much of the disturbed Scrub identified in Figure 3-8 west of I5 has already been converted to irrigated agriculture since the Alternatives analysis was conducted. Another Alternative which does not seem to have been given full consideration is connecting to the current Stockdale Highway just west of SR 43, which would only require a single-lane overpass.

DFG has concerns regarding the potential discharge of storm water runoff from the proposed Cross Valley Canal Option. A highway through the wetlands present on Kern Water Bank could result in hazardous substances such as oil, other petroleum products, antifreeze, coolant, and heavy metals entering the wetlands from the roadway. Further, a letter from the Kern Water Bank Authority to Caltrans on July 9, 2008, indicated that not only would the proposed Project impact sensitive and threatened plant and animal species protected by the Kern Water Bank Authority Habitat Conservation Plan (HCP)/Natural Communities Conservation Plan (NCCP), but also that this alternative would also impact ground water recharge, recovery, and water quality. The permeable nature of the soils in this area, which make the area particularly suitable for ground water recharge, also means that the area would be extremely susceptible to contaminants associated with vehicles and roadways. The EIR/EIS prepared for this Project should address this potential significant threat to water quality.

Wetlands and Water Quality: On page 4-28, the Westside Parkway EIR states that the United States Army Corps of Engineers (ACOE) was informed that the preferred Alternative for SR 58, the Kern River alignment, did not cross any jurisdictional wetlands. The ACOE responded that

a Nationwide Permit 14 would likely be required and 404 coordination would not be applicable. However, Figure 3-8 of the SR 58 EIR, which is entitled "Impacts to Potential Jurisdictional Wetlands", indicates that the southbound I5 off-ramp would impact potential jurisdictional wetlands. It is unclear whether this was considered when the ACOE was told that the Kern River alignment did not cross any jurisdictional wetlands, or whether the term Kern River alignment was erroneously used when referring to the Cross Valley Canal Option. Prior to the 1997 letter saying the NEPA 404 process would not be applicable, a letter from the ACOE dated October 30, 1995, states "since the project would affect wetlands, a special aquatic site, your assessment that the NEPA/404 MOU would not apply is incorrect. The procedures described in that MOU would have to be followed."

Regardless of the conflicting wetland and associated permitting issues described above, it appears that the portion of the Project alignment west of SR 43 would cross approximately 1.5 miles of recharge ponds within the Kern Water Bank, which are functional wetlands.

Riparian Habitat and Wetlands: Riparian habitat is of extreme importance to a wide variety of plant and wildlife species. Riparian habitat and wetlands are present along the Kern River as well as throughout the Kern Water Bank. DFG considers projects that impact these resources as significant if they result in a net loss of acreage or habitat value. DFG has a no-net-loss policy regarding impacts to wetlands. Potential impacts to special status resources posed by wetland creation should also be considered. Wetlands that have been inadvertently created by leaks, dams or other structures, or failures in man-made water systems are not exempt from this policy. Wetlands should be designated on a site map and included in the final environmental documents, and the size of the buffers should be clearly delineated both on the map and in the text of the mitigation measures.

Portions of Kern Water Bank, once farmed, have been returned to seasonal wetlands and upland habitat that were present in that area historically. Water from the Kern River, the State Water Project, and other sources are used to periodically flood portions of Kern Water Bank. Prior to agricultural development in the area encompassed by the Kern Water Bank, much of the land was regularly flooded by Kern River flood flows. The area is unique in California in its ability to absorb water at an extremely high rate and to retain it in aquifers. Approximately 4,700 acres of Kern Water Bank are used for recharge basins, which are managed in a way that provides high quality wetland habitat, a rare resource in the southern San Joaquin Valley. It is these wetlands that would not only be directly impacted by the highway footprint, but would also be severed and made disjunct by the placement of the preferred alternative through Kern Water Bank. Under the HCP/NCCP, the remainder of the Kern Water Bank is managed as habitat for threatened and endangered species, and a portion of this habitat is operated as a conservation bank, which sells credits to third parties to mitigate the impacts of their projects to threatened and endangered species, such as San Joaquin kit fox and Tipton kangaroo rat. Caltrans has utilized this conservation bank to compensate for impacts to threatened and endangered species associated with other projects. Conservation Easements are recorded in favor of DFG on the Conservation Bank portion of Kern Water Bank. Implementation of the Cross Valley Canal Option, would require condemnation of parcels with State Conservation Easements on them.

Conflicts with HCPs and NCCPs: As noted above, the Kern Water Bank is covered by an HCP and NCCP. We do not believe that the proposed Project is compatible with these plans, and that the Project as proposed would result in conflicts with these plans.

In addition, the Cheng parcel (T30S, R24E, NW ¼ S4 and N ½ S5) was acquired with both Valley Floor Habitat Conservation Plan (VFHCP) implementation funding as well as with mitigation funding from the California Department of Water Resources to offset impacts to threatened and endangered species associated with construction of Coastal Aqueduct Phase II. This parcel supports good quality saltbush scrub habitat. The VFHCP is not yet finalized, but the initial habitat acquisitions associated with the VFHCP are important for finalization. It is unclear from the figure included in the NOP whether or not the Cheng parcel is within the Project footprint. If it is not within the Project footprint it is likely immediately adjacent to the new highway alignment, and this mitigation parcel, which is to be managed in perpetuity for the purposes of threatened and endangered species conservation, will be impacted.

Section 4(f) Consideration: Section 4(f) of the Department of Transportation Act of 1966, codified in Federal law at 49 U.S.C.A. Section 303, declares that "It is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites." The SR 58 EIR, by describing the Kern Water Bank lands which would potentially be impacted by this Project as agricultural lands, incorrectly dismisses the potential for these lands to be considered under Section 4(f) as wetlands and/or as a wildlife and waterfowl refuge. However, both of these designations are quite applicable to the Kern Water Bank lands which would be impacted by the only identified alternative on this portion of the alignment, the Cross Valley Canal Option.

Section 4(f) specifies that "The Secretary [of Transportation] may approve a transportation program or project...requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if: (emphasis added)

(1) There is no prudent and feasible alternative to using that land; and

(2) The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use."

Section 4(f) further requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Departments of Agriculture and Housing and Urban Development in developing transportation projects and programs which use lands protected by section 4(f).

There are prudent and feasible alternatives to going through the Kern Water Bank, so to comply with Section 4(f) of the Department of Transportation Act, the Cross Valley Canal Option should not move forward as the route adopted for the "established alignment".

cc: Tim Kuhn
United States Fish and Wildlife Service
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

Kate Dadey
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City of Bakersfield
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Bakersfield, California 93301

ec: Laura Peterson-Diaz
Department of Fish and Game

METROPOLITAN BAKERSFIELD HABITAT CONSERVATION PLAN

December 3, 2010

Mr. Raul Rojas, Director of Public Works Department
City of Bakersfield
1600 Truxtun Avenue
Bakersfield, CA 93301

Re: MBHCP as Mitigation for Thomas Roads Improvement Program (TRIP) Projects

Dear Mr. Rojas:

We understand from our discussions with you that the City of Bakersfield (City) in cooperation with Caltrans is consulting with the US Fish and Wildlife Service (USWS) and the California Department of Fish and Game (CDFG) for potential impacts to the San Joaquin kit fox and other sensitive species by TRIP projects and improvements to the circulation system, which occur within the boundaries of the MBHCP. We also understand from our conversation that City desires to continue to use the MBHCP for the TRIP projects that includes: 24th Street Improvements, Rosedale Highway Widening, Hageman Road Flyover, SR 178 Widening, Centennial Corridor/SR 58 Connector, and SR 178/Morning Drive Interchange.

We agree that the City will continue to use the MBHCP for compensatory mitigation required by USWS and CDFG for the TRIP projects and payment could occur after approval of the final environmental document for each project. The City will pay the appropriate fee amount to the Trust Group for the acreage disturbed and the Trust Group will acquire the required acreage amounts.

We welcome the opportunity to assist the City and Caltrans in completing TRIP projects and fulfilling your mitigation requirements. Please feel free to contact me if you have further questions.

Sincerely,

Martin Ortiz, MBHCP Trust Administrator

CC: Ted Wright, Civil Engineer IV – TRIP Manager
David Clark, Environmental Coordinator

\letter to PW Dir re.TRIP - Dec 2010.doc

1715 Chester Avenue, Bakersfield CA 93301

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
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Flex your power!
Be energy efficient!

February 15, 2013

Dr. Carol Roland-Nawi
State Historic Preservation Officer
Office of Historic Preservation
P.O. Box 942896
Sacramento, CA 94296-0001

06-KER-58-PM T31.7/R55.6;
06-KER-99-PM 21.2/26.2
EA 05-48460

RE: Determinations of Eligibility for the Centennial Corridor Project, City of Bakersfield and Kern County, California

Dear Dr. Roland-Nawi:

The California Department of Transportation (Caltrans) is initiating consultation with you regarding the Centennial Corridor Project. This consultation is being undertaken in accordance with the January 1, 2004 Section 106 Programmatic Agreement and as part of federal responsibilities delegated to Caltrans by the Federal Highway Administration (FHWA), pursuant to 23 USC 327 and effective October 1, 2012.

Enclosed you will find an Historic Property Survey Report (HPSR) for the proposed undertaking. The HPSR fulfills three responsibilities under Section 106 of the National Historic Preservation Act: (1) determination of the Area of Potential Effects (APE); (2) documentation of the identification efforts for cultural resources located within the APE completed to date; and (3) evaluation of historic-period resources to determine their eligibility to the National Register of Historic Places (NRHP). Under the PA, Caltrans is responsible for ensuring the appropriateness of the APE (Stipulation VIII.A) and the adequacy of historic property identification efforts (Stipulation VIII.B). At this time, under PA Stipulation VIII.C.5, we seek your concurrence on Caltrans' determinations of eligibility for potential historic properties.

Project Description
Caltrans proposes to establish a new alignment for State Route 58, which would provide a continuous route along State Route 58 from Cottonwood Road on existing State Route 58, east of State Route 99, to Interstate 5. Improvements to State Route 99 and Westside Parkway would also be made to accommodate the connection with State Route 58. A complete project description can be found on page 4 of the enclosed HPSR.

Resources Identified
To date, identification efforts for the Centennial Corridor Project have resulted in the identification and documentation of 639 buildings or groups of buildings within the

APE of the undertaking. The resources were documented on 169 DPR 523 forms (see HPSR Exhibit 3, sheets A-O).

- Twenty-seven of these resources were **previously determined not eligible** for the National Register.

Properties Previously Determined Not Eligible for the National Register

APN	Address / Name	Community	Year Built	OHP Status Code	Map Reference No.	Exhibit
N/A	Kern Island Canal	Bakersfield	1874	6Z, 7N1	04-01	3C
149-101-03	17 Stine Rd	Bakersfield	1951	6Y	09-21	3J
149-120-13	3816 Peckham Ave	Bakersfield	1951	6Y	09-21	3J
020-091-07	337 Wetherley Dr	Bakersfield	1952	6Y	10-01	3F
147-031-08	28 Stephens Dr	Bakersfield	1945, 1948	6Y	N/A	3E
147-031-12	314 Stephens Dr	Bakersfield	1941	6Y	N/A	3E
147-031-37	2821 Brundage Ln	Bakersfield	1924–1972	6Y	N/A	3E
147-060-03	311 Dixon Ave	Bakersfield	1947	6Z	N/A	3E
147-071-02	116 Dixon Ave	Bakersfield	1941	6Y	N/A	3E
147-071-03	118 Dixon Ave	Bakersfield	1941	6Y	N/A	3E
147-071-04	120 Dixon Ave	Bakersfield	1941	6Z	N/A	3E
147-072-03	221-223 Hughes Ln	Bakersfield	1912–1952	6Y	N/A	3E
147-072-14	304 Dixon Ave	Bakersfield	1941	6Y	N/A	3E
147-072-15	300 Dixon Ave	Bakersfield	1940	6Y	N/A	3E
147-210-10	2329 Brite St	Bakersfield	1949	6Y	N/A	3E
149-222-12	96 Williamson Way	Bakersfield	1915–1989	6Y	N/A	3E
149-233-05	3618 Elcia Dr	Bakersfield	1941	6Y	N/A	3E
149-233-07	3624 Elcia Dr	Bakersfield	1924	6Y	N/A	3E
149-233-08	218 Williamson Way	Bakersfield	1918	6Y	N/A	3E
N/A	Arvin-Edison Canal	Bakersfield	1960s	6Y	N/A	3L
N/A	Calloway Canal	Bakersfield	1870s	6Z, 6Y	N/A	NA
N/A	Carrier (Gates) Canal	Bakersfield	1872–1873, 1960s	6Y	N/A	3L
N/A	Stine Canal	Bakersfield	1873, 1879, 1884	6Y	N/A	3F
N/A	Red Ribbon Lease 1, No. 3	Bakersfield	1949	6Z	N/A	N/A
N/A	Red Ribbon Ranch No. 14	Bakersfield	1942	6Z	N/A	N/A
N/A	Red Ribbon Ranch No. 17	Bakersfield	1944	6Z	N/A	N/A
N/A	Red Ribbon Ranch No. 23	Bakersfield	1944	6Z	N/A	N/A

- Three of these were **determined to be eligible** for the National Register: 307 S. Oleander Ave., Rancho Vista (Tract 1522) and 3904 Marsha Street.
- One was **previously determined eligible** for the National Register (The Friant-Kern Canal).

All other resources identified within the APE are **exempt from formal evaluation** pursuant to Programmatic Agreement Stipulation VIII.C.1 and Attachment 4 ("Properties Exempt from Evaluation").

Geoarchaeological Study
The pedestrian archaeological survey did not identify any archaeological resources within the APE. However, because the vast majority of the surface of the archaeological APE is covered by modern development, it is possible that buried sites are still present. For this reason, a two-staged Extended Phase I was initiated. The first stage was a Geoarchaeological Study (See Attachment 3 of the HPSR). This paper study addressed the vertical APE by conducting a geomorphic evaluation. Specific areas along the planned and alternate routes were evaluated. Stage II will test the sensitivity model and identify resources in any of the sensitive area. This stage of the Extended Phase I will be completed after the selection of the preferred alternative.

Findings
Caltrans is requesting your concurrence on the following determinations of eligibility pursuant to Stipulation VIII.C.5 of the Programmatic Agreement.

1. As assigned by the Federal Highway Administration pursuant to 23 USC 327, Caltrans has determined that the following three built-environment resources are eligible for listing in the NRHP.

Properties Appearing Eligible for the NRHP as a Result of the Current Study

APN	Address / Name	Community	Year Built	OHP Status Code	Map Reference No.	HPSR Exhibit
147-240-14	307 S Oleander Ave	Bakersfield	1939	3S	05-04	3E
Various (See HRER)	Rancho Vista (Tract 1522)	Bakersfield	1950–1957	3S	09-21	3J
149-131-03	3904 Marsha Street	Bakersfield	1956	3B	09-21A	3J

OHP Status Code: Office of Historic Preservation historical resources classification code for resources identified through a regulatory process or local government survey; HRER: Historic Resources Evaluation Report.

2. As assigned by the Federal Highway Administration pursuant to 23 USC 327, Caltrans has determined that the following 165 built-environment resources are not eligible for listing in the NRHP (see table on next five pages).

Properties Determined not Eligible for the National Register as a Result of the Current Study

APN	Address / Name	Community	Year Built	OHP Status Code	Map Reference No.	HPSR Exhibit
168-141-06	929- 931 E Brundage Ln	Bakersfield	ca. 1940–1951	6Z	02-01	3B
Various; See HPSR Appendix E	Tract 1492	Bakersfield	1950–1951	6Z	02-02	3B
169-031-06	122 Madison St	Bakersfield	1953	6Z	02-03	3B
169-031-25	121 S Milham Dr	Bakersfield	1946	6Z	02-04	3B

Properties Determined not Eligible for the National Register as a Result of the Current Study

APN	Address / Name	Community	Year Built	OHP Status Code	Map Reference No.	HPSR Exhibit
169-050-10	107 S Milham Dr	Bakersfield	1948	6Z	02-05	3B
169-032-22	122 S Milham Dr	Bakersfield	1952	6Z	02-06	3B
169-032-26	108 S Milham Dr	Bakersfield	1946	6Z	02-07	3B
169-062-06	132 Ohio Dr	Bakersfield	1929, 1959, 1984	6Z	03-01	3B
Various; See HPSR Appendix E	Tract 1503	Bakersfield	1949–1951	6Z	03-02	3B
011-043-05	501 Orchard St	Bakersfield	1940	6Z	03-03	3C
011-041-08	506 Fig St	Bakersfield	1920	6Z	03-04	3C
011-041-09	510 Fig St	Bakersfield	1924	6Z	03-05	3C
011-048-10	616 Fig St	Bakersfield	ca. 1920s	6Z	03-06	3C
011-046-02	621 Orchard St	Bakersfield	1963	6Z	03-07	3C
169-092-01	201 E Brundage Ln	Bakersfield	1954	6Z	03-08	3C
N/A	Kern Island Canal	Bakersfield	1874	6Z	04-01	3C
011-084-04	901 Snyder Ln	Bakersfield	1955	6Z	04-02	3C
011-060-17	123 S P St	Bakersfield	1955	6Z	04-03	3C
011-084-03	909 Snyder Ln	Bakersfield	1955	6Z	04-04	3C
011-060-15	912 Dobrusky Dr	Bakersfield	1957	6Z	04-05	3C
011-060-08	916 Dobrusky Dr	Bakersfield	1957	6Z	04-06	3C
011-060-14	920 Dobrusky Dr	Bakersfield	1957	6Z	04-07	3C
011-060-13	1000 Dobrusky Dr	Bakersfield	1948	6Z	04-08	3C
011-083-12	1001 Snyder Ln	Bakersfield	1955	6Z	04-09	3C
011-083-02	1005 Snyder Ln	Bakersfield	1943	6Z	04-10	3C
Various; See HPSR Appendix E	Tract 1061	Bakersfield	1938–1941	6Z	04-11	3C
011-083-01	1011 Snyder Ln	Bakersfield	1950	6Z	04-12	3C
011-082-05	301 S N St	Bakersfield	1946, 1947	6Z	04-13	3C
011-082-03	1119 Snyder Ln	Bakersfield	1954	6Z	04-14	3C
011-082-01	1129 Snyder Ln	Bakersfield	1950, 1960	6Z	04-15	3C
011-081-01	1200 Dobrusky Dr	Bakersfield	1951	6Z	04-16	3C
011-130-07	212 Vernal Pl	Bakersfield	1948	6Z	04-17	3C
011-102-11	1304 Richland St	Bakersfield	1926	6Z	04-18	3C
011-121-31	208-214 Brink Dr	Bakersfield	1946	6Z	04-19	3C
011-102-12	1324 Richland St	Bakersfield	1925	6Z	04-20	3C
011-102-13	1330 Richland St	Bakersfield	1924	6Z	04-21	3C
011-102-14	1416 Richland St	Bakersfield	1930	6Z	04-22	3C
011-122-09	209 Brink Dr	Bakersfield	1939	6Z	04-23	3C
011-122-14	308-314 S Chester Ave	Bakersfield	1939	6Z	04-24	3C
011-122-15	304 S Chester Ave	Bakersfield	1926	6Z	04-25	3C
011-122-16	234 S Chester Ave	Bakersfield	1925	6Z	04-26	3C
011-111-13	313-317 S Chester Ave	Bakersfield	1927	6Z	04-27	3C
011-111-12	305-309 S Chester Ave	Bakersfield	1935–1936, 1969	6Z	04-28	3C
011-111-11	301 S Chester Ave	Bakersfield	1932	6Z	04-29	3C
011-111-10	233 S Chester Ave	Bakersfield	1932	6Z	04-30	3C

Properties Determined not Eligible for the National Register as a Result of the Current Study

APN	Address / Name	Community	Year Built	OHP Status Code	Map Reference No.	HPSR Exhibit
011-111-09	229 S Chester Ave	Bakersfield	1936	6Z	04-31	3C
011-111-24	230 Haybert Ct	Bakersfield	1926	6Z	04-32	3C
011-111-25	228 Haybert Ct	Bakersfield	1926	6Z	04-33	3C
011-111-27	206 Haybert Ct	Bakersfield	1925	6Z	04-34	3C
011-111-28	204 Haybert Ct	Bakersfield	1927	6Z	04-35	3C
011-112-14	301 Haybert Ct	Bakersfield	1947	6Z	04-36	3C
011-112-13	231 Haybert Ct	Bakersfield	1945	6Z	04-37	3C
011-112-12	225 Haybert Ct	Bakersfield	1945	6Z	04-38	3C
011-112-11	219 Haybert Ct	Bakersfield	1927	6Z	04-39	3C
011-112-10	215 Haybert Ct	Bakersfield	1926	6Z	04-40	3C
011-112-09	207 Haybert Ct	Bakersfield	1939	6Z	04-41	3C
147-310-18	310 Houchin Rd	Bakersfield	1937	6Z	04-42	3C
147-290-03	1819 Brundage Ln	Bakersfield	1953	6Z	04-43	3C
147-290-02	1825 Brundage Ln	Bakersfield	1926	6Z	04-44	3C
147-290-11	124 Houchin Rd	Bakersfield	1937	6Z	04-45	3C
147-290-12	120 Houchin Rd	Bakersfield	1938	6Z	04-46	3C and 3E
147-280-01	309 Houchin Rd	Bakersfield	1939	6Z	05-01	3C and 3E
Various; See HPSR Appendix E	Tract 1010	Bakersfield	1936–1952	6Z	05-02	3C and 3E
Various; See HPSR Appendix E	Tract 1235	Bakersfield	1946–1950	6Z	05-03	3E
147-440-05	2200 Roosevelt St	Bakersfield	1956	6Z	05-05	3E
147-240-03	2293 Brite St	Bakersfield	1951	6Z	05-06	3E
147-240-02	2207 Brite St	Bakersfield	1956	6Z	05-07	3E
147-240-01	2291 Brite St	Bakersfield	1953, 1965	6Z	05-08	3E
147-210-06	2300 Brite St	Bakersfield	1951	6Z	05-09	3E
147-210-05	2324 Brite St	Bakersfield	1951	6Z	05-10	3E
147-210-04	2394 Brite St	Bakersfield	1950	6Z	05-11	3E
147-210-11	2331 Brite St	Bakersfield	1949	6Z	05-12	3E
147-210-03	2396 Brite St	Bakersfield	1949	6Z	05-13	3E
147-210-12	300 Hughes Ln	Bakersfield	1945, 1979	6Z	05-14	3E
147-091-03	2402 Robbin Rd	Bakersfield	1951	6Z	05-15	3E
147-091-04	2404 Robbin Rd	Bakersfield	1951	6Z	05-16	3E
147-091-05	2406 Robbin Rd	Bakersfield	1948	6Z	05-17	3E
147-080-03	2408 Robbin Rd	Bakersfield	1951	6Z	05-18	3E
147-080-04	203 Judan St	Bakersfield	1950	6Z	05-19	3E
147-080-14	205 Judan St	Bakersfield	1953	6Z	05-20	3E
147-072-13	2530 Colton St	Bakersfield	1941	6Z	05-21	3E
Various; See HPSR Appendix E	Tract 1402	Bakersfield	1949–1954	6Z	05-22	3E
147-060-04	313 Dixon Ave	Bakersfield	1940	6Z	05-23	3E
147-060-02	305 Dixon Ave	Bakersfield	1957	6Z	05-24	3E
147-053-03	209 Myrtle	Bakersfield	1949	6Z	05-25	3E
147-053-02	205 S Myrtle St	Bakersfield	1949	6Z	05-26	3E
147-031-07	24 Stephens Dr	Bakersfield	1963	6Z	05-27	3E

Properties Determined not Eligible for the National Register as a Result of the Current Study

APN	Address / Name	Community	Year Built	OHP Status Code	Map Reference No.	HPSR Exhibit
Various; See HPSR Appendix E	Tract 1527	Bakersfield	1950	6Z	05-28	3E
Various; See HPSR Appendix E	Olive Street Tract	Bakersfield	1950	6Z	05-29	3E
Various; See HPSR Appendix E	Tract 1549	Bakersfield	1950	6Z	05-30	3E
164-101-13	3400 Madrid Ave	Bakersfield	1961	6Z	07-01	3D
Various; See HPSR Appendix E	Tract 1915	Bakersfield	1957–1959	6Z	07-02	3D and 3E
164-040-30	1117 Wible Rd	Bakersfield	1961, 1967	6Z	07-03	3E
164-040-20	3309 Wood Ln	Bakersfield	ca. 1950s	6Z	07-04	3E
164-040-01	3311 Wood Ln	Bakersfield	1959	6Z	07-05	3E
164-091-08	3407 Wood Ln	Bakersfield	1959	6Z	07-06	3E
164-010-38	3308 Wood Ln	Bakersfield	1957	6Z	08-01	3E
164-010-18	3310 Wood Ln	Bakersfield	1946	6Z	08-02	3E
164-010-19	3320 Wood Ln	Bakersfield	1948	6Z	08-03	3E
164-010-09	3229 Belle Terrace	Bakersfield	1948	6Z	08-04	3E
Various; See HPSR Appendix E	Tract 1562	Bakersfield	1951–1955	6Z	08-05	3E
149-250-50	3234 Belle Terrace	Bakersfield	1952	6Z	08-06	3E
149-250-15	3209 Mona Way	Bakersfield	1959	6Z	08-07	3E
149-250-16	3213 Mona Way	Bakersfield	1959	6Z	08-08	3E
149-250-09	3232 Mona Wy	Bakersfield	1947	6Z	08-09	3E
149-250-08	3326 Mona Way	Bakersfield	1952	6Z	08-10	3E
Various; See HPSR Appendix E	Tract 1579	Bakersfield	1951	6Z	08-11	3E
149-190-08 149-190-11	3330 Elcia Dr 3320 Elcia Dr	Bakersfield Bakersfield	1956, 1963 1963	6Z	08-12	3E
149-190-17	3324 Elcia Dr	Bakersfield	1961	6Z	08-13	3E
149-211-10	3400 Elcia Dr	Bakersfield	1953	6Z	08-14	3E
149-212-10	3401 Elcia Dr	Bakersfield	1953	6Z	08-15	3E
149-211-09	3404 Elcia Dr	Bakersfield	1953	6Z	08-16	3E
149-212-09	3405 Elcia Dr	Bakersfield	1953	6Z	08-17	3E
149-211-08	3408 Elcia Dr	Bakersfield	1953	6Z	08-18	3E
149-212-08	3409 Elcia Dr	Bakersfield	1953	6Z	08-19	3E
149-211-07	3412 Elcia Dr	Bakersfield	1953	6Z	08-20	3E
149-212-07	3413 Elcia Dr	Bakersfield	1953	6Z	08-21	3E
149-211-06	3416 Elcia Dr	Bakersfield	1953	6Z	08-22	3E
149-211-05	3500 Elcia Dr	Bakersfield	1949	6Z	08-23	3E
149-200-05	210 S Real Rd	Bakersfield	1929	6Z	08-24	3E
149-211-04	3502 Elcia Dr	Bakersfield	1953	6Z	08-25	3E
149-211-01	236 S Real Rd	Bakersfield	1953, 1968	6Z	08-26	3E
149-231-18	301 S Real Rd	Bakersfield	1940	6Z	08-27	3E
149-232-04	225 Williamson Way	Bakersfield	1954	6Z	08-28	3E
149-232-03	217 Williamson Way	Bakersfield	1954	6Z	08-29	3E
149-232-02	215 Williamson Way	Bakersfield	1955	6Z	08-30	3E

Properties Determined not Eligible for the National Register as a Result of the Current Study

APN	Address / Name	Community	Year Built	OHP Status Code	Map Reference No.	HPSR Exhibit
149-232-14	320 S Garnsey Ave	Bakersfield	1943	6Z	08-31	3E
149-232-08	306 S Garnsey Ave	Bakersfield	1959	6Z	08-32	3E
149-232-01	300 S Garnsey Ave	Bakersfield	1959	6Z	08-33	3E
149-340-10	100 Stine Rd	Bakersfield	1950, 1965	6Z	08-34	3E
149-211-03	3504 Elcia Dr	Bakersfield	1949	6Z	08-35	3E
008-062-17	92 Oak St	Bakersfield	1962–1963	6Z	09-01	3E
008-062-13	3050-3090 Brundage Ln	Bakersfield	1956	6Z	09-02	3E
008-061-22	3116-3118 Verde St	Bakersfield	1954	6Z	09-03	3E
Various; See HPSR Appendix E	Tract 1397	Bakersfield	1948–1950	6Z	09-04	3E
149-222-01	20 Williamson Way	Bakersfield	1964	6Z	09-05	3E
149-222-21	3621 Stockdale Hwy	Bakersfield	1962	6Z	09-06	3E
149-222-14	209 Williamson Way	Bakersfield	1957	6Z	09-07	3E
149-222-15	205 Williamson Way	Bakersfield	1957	6Z	09-08	3E
149-222-16	201 Williamson Way	Bakersfield	1957	6Z	09-09	3E
149-222-17	125 Williamson Way	Bakersfield	1957	6Z	09-10	3E
Various; See HPSR Appendix E	Tract 1938	Bakersfield	1957–1960	6Z	09-11	3J
149-221-21	195 S Garnsey Ave	Bakersfield	ca. 1930, 1950	6Z	09-12	3J
149-221-03	3847-3849 Stockdale Hwy	Bakersfield	1961	6Z	09-13	3J
020-200-12	3808 Stockdale Hwy	Bakersfield	1960	6Z	09-14	3J
149-221-24	30 Stine Rd	Bakersfield	1935	6Z	09-15	3J
149-221-11	22 Stine Rd	Bakersfield	1940	6Z	09-16	3J
149-221-12	16 Stine Rd	Bakersfield	1935	6Z	09-17	3J
149-221-13	20 Stine Rd	Bakersfield	1956	6Z	09-18	3J
149-221-17	3899 Stockdale Hwy	Bakersfield	1932, 1977	6Z	09-19	3J
Various; See HPSR Appendix E	Stockdale Manor (Tracts 1750, 1753)	Bakersfield	1955	6Z	09-20	3J
Various; See HPSR Appendix E	Tract 1530	Bakersfield	1950–1954	6Z	10-01	3F
020-150-09	3300 Palm St	Bakersfield	1956-58c	6Z	10-02	3F
020-140-25 020-140-35 020-140-42	3231 Chester Ln	Bakersfield	1962, 1964, ca. 1968–1975, 1993	6Z	10-03	3F
020-140-06	3311 Chester Ln	Bakersfield	1950	6Z	10-04	3F
020-130-23	3232 Chester Ln	Bakersfield	1963–1964	6Z	10-05	3F
Various; See HPSR Appendix E	Tract 1005	Bakersfield	1957–1959	6Z	15-01	3J

Properties Determined not Eligible for the National Register as a Result of the Current Study

APN	Address / Name	Community	Year Built	OHP Status Code	Map Reference No.	HPSR Exhibit
149-142-08	3990 Peckham Ave	Bakersfield	1935	6Z	15-02	3J
149-142-19	40 McDonald Way	Bakersfield	1938	6Z	15-03	3J
Various; See HPSR Appendix E	Tract 1610	Bakersfield	1952–1954	6Z	15-04	3J
149-330-03	4400 Frazier Ave	Bakersfield	1955	6Z	15-05	3J
149-330-04	4404 Frazier Ave	Bakersfield	1955	6Z	15-06	3J
N/A	K.C.L._Wells No. A53, D65, D66, D67, D77	Bakersfield	ca. 1950–1953	6Z	16-01	3J and 3K
N/A	Kernland Wells No 5 & 10	Bakersfield	1949, 1953, ca. 1965	6Z	17-01	3J and 3K
N/A	Red Ribbon Ranch Wells No. 22, 31, 42	Bakersfield	1945, 1948, 1952	6Z	19-01	3K
OHP Status Code: Office of Historic Preservation historical resources classification code for resources identified through a regulatory process or local government survey						

Summary
We look forward to receiving your response within 30 days of your receipt of this HPSR submittal, in accordance with Programmatic Agreement Stipulation VIII.C.5a. A Supplemental HPSR will be submitted after an alternative is selected and further identification efforts for archaeological resources have been completed.

This letter and the enclosed HPSR are concurrently being distributed to the Caltrans Cultural Communities Studies Office and three Native American tribes.

Thank you for your assistance with this undertaking. If you need any additional information, please feel free to contact Caltrans architectural historian Philip Vallejo at (559) 445-5997; Fax (559) 445-6236; or e-mail: philip_vallejo@dot.ca.gov.

Sincerely,

Jeanne Day Binning, Ph.D.
Branch Chief, Central California Cultural Resource Branch

Enc: Historic Property Survey Report, Centennial Corridor Project

cc: Todd Jaffke, Caltrans Section 106 Coordinator, Cultural and Community Studies Office
Clarence Atwell, Chairperson, Santa Rosa Rancheria (attention Lalo Franco)
Neil Peyron, Chairperson, Tule River Indian Tribe
Kathryn Montes Morgan, Chairwoman, Tejon Indian Tribe

Shana Brum <SBrum@tachi-yokut-nsn.gov> 03/06/2013 09:48 AM
To: "philip_vallejo@dot.ca.gov" <philip_vallejo@dot.ca.gov>
CC: "mandy.marine@dot.ca.gov" <mandy.marine@dot.ca.gov>
Subject: Centennial Corridor Project

Dear Philip Vallejo,

I am writing to you on behalf of Santa Rosa Rancheria Tachi Yokut Tribe's Cultural Department to consult on the Centennial Corridor Project. Due to the likelihood of buried archaeological deposits, we are recommending the creation of a Native American Monitoring Program for segment 2 and the river crossing of the preferred route during the construction phase of this project. If alternative C is the preferred route, we recommend monitoring the entire construction phase of this segment. Santa Rosa Rancheria's Cultural Department, is willing to assist you in this process. Also, we would like to request a site visit to survey the project area of Segment 2. We look forward to working with you. Thank you for your time.

Sincerely,

Shana Brum
Santa Rosa Rancheria Tachi Yokut Tribe
Cultural and Historic Preservation Department
Cultural Specialist/Archaeological Technician
Office: (559)924-1278 Ext 4013
Wk. Cell: (559)997-9919
Email: SBrum@tachi-yokut-nsn.gov

STATE OF CALIFORNIA – THE NATURAL RESOURCES AGENCY EDMUND G. BROWN, JR., *Governor*

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
1725 23rd Street, Suite 100
SACRAMENTO, CA 95816-7100
(916) 445-7000 Fax: (916) 445-7053
calshpo@parks.ca.gov
www.ohp.parks.ca.gov

April 15, 2013 Reply To: FHWA_2013_0319_002

Jeanne Day Binning, Ph.D.
Branch Chief, Central California Cultural Resource Branch
Caltrans
50 Higuera Street
San Luis Obispo, CA 93401-5415

Re: Determinations of Eligibility for the Proposed Centennial Corridor Project, City of Bakersfield and Kern County, CA

Dear Ms. Binning:

Thank you for consulting with me about the subject undertaking in accordance with the *Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (PA).

Caltrans has determined that the 165 properties listed under Findings number 2 from your letter of February 15, 2013 (attached) are not eligible for the National Register of Historic Places (NRHP).

Caltrans has also found that the following properties are eligible for the NRHP for the following reasons:

- 307 S Oleander Avenue – Caltrans found this property eligible under Criterion C at the local level of significance as a finely executed local example of Colonial Revival architecture. The period of significance is 1939, the year the house and garage were built.

- Rancho Vista (Tract 22) – Caltrans found this district eligible under Criteria A and C at the local level of significance. Under Criterion A the tract is eligible for its incorporation of innovative mass-production techniques during the postwar period. It is also eligible under Criterion C as a local example of a postwar subdivision comprised entirely of houses that were built using a whole-house prefabrication method. The period of significance for the Rancho Vista tract extends from 1950 through 1957. These reflect the years that the houses were delivered to the tract.

- 3904 Marsha Street – Caltrans found this property eligible as both a contributor to the Rancho Vista tract as well as individually eligible. On an individual basis the property is eligible under Criterion A at the local level of significance for its association with Cold War tension between the United States and the Soviet Union, and the fear of nuclear war between the two countries. The fallout shelter conveys the mindset of the time and the lengths people were willing to go to survive a nuclear holocaust.

Based on review of the submitted documentation, I concur with the foregoing determinations.

Thank you for considering historic properties during project planning. If you have any questions, please contact Natalie Lindquist of my staff at (916) 445-7014 or email at natalie.lindquist@parks.ca.gov .

Sincerely,

Susan K Stratton for

Carol Roland-Nawi, Ph.D.
State Historic Preservation Officer

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
50 HIGUERA STREET
SAN LUIS OBISPO, CA 93401-5415
PHONE (805) 549-3101
FAX (805) 549-3329
TTY 711
http://www.dot.ca.gov/dist05/

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April 15, 2013

Mr. Thomas Leeman
Division Chief, San Joaquin Valley
Sacramento Field Office
U.S. Fish and Wildlife Service
2800 Cottage Way, Room W-2605
Sacramento , CA 95825

Dear Mr. Leeman::

Caltrans is initiating consultation as part of its NEPA assignment of federal responsibilities by the Federal Highway Administration (FHWA), effective October 1, 2012 and pursuant to 23 USC 327. The enclosed biological assessment details the anticipated effects upon federally listed species resulting from the proposed realignment and widening of Highway 58 through Bakersfield, in Kern County. The "Centennial Corridor" project is a part of the Thomas Roads Improvement Program (TRIP).

Our assessment concludes that the proposed project may affect, and is likely to adversely affect the San Joaquin kit fox population in the City of Bakersfield but would is not likely to affect any other species listed under the Federal Endangered Species Act.

If you have questions or wish to discuss the project, please contact me at (805) 549-3622 or at chuck.cesena@dot.ca.gov.

Sincerely,

Chuck Cesena
Senior Environmental Planner

Enclosure: Centennial Corridor Biological Assessment

STATE OF CALIFORNIA – THE NATURAL RESOURCES AGENCY EDMUND G. BROWN, JR., *Governor*

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
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calshpo@parks.ca.gov
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April 10, 2014 Reply To: FHWA_2013_0319_002

Anmarie Medin
Chief, Cultural Studies Office
Caltrans Division of Environmental Analysis, MS 27
PO Box 942874
Sacramento, CA 94274-0001

Re: Finding of Effect for the Proposed Centennial Corridor Project, Bakersfield, Kern County, CA

Dear Ms. Medin:

Thank you for consulting with me about the subject undertaking in accordance with the *Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (PA).

Caltrans has found that the proposed project will have no adverse effect to the following properties that have been previously determined eligible for the National Register of Historic Places (NRHP):

- Friant-Kern Canal
- Lester H. Houchin residence
- 3904 Marsha Street
- Rancho Vista Historic District

It is Caltrans' opinion that a finding of No Adverse Effect without Standard Conditions is appropriate because the effects to the Rancho Vista Historic District property will not result in the loss or impairment of character-defining features, essential physical features, or aspects of integrity that make the Tract eligible for inclusion in the NRHP.

Based on my review of the submitted documentation I object to the finding of No Adverse Effect for the following reasons:

1. At this point in time it does not appear that Caltrans has completed their identification effort with regards to archeology. It appears as though Caltrans is planning to defer extended archeological studies until a preferred alternative has been selected.

2. The sound wall proposed for the project results in a visual intrusion to the Rancho Vista Historic District that is out of scale with the neighborhood and greatly affects the residential feel of the neighborhood. While incompatible changes may have

affected the setting of the neighborhood in the past the elevated nature of the sound wall being proposed is very imposing and in my opinion would result in an adverse effect to the historic district.

Thank you for considering historic properties during project planning. If you have any questions, please contact Natalie Lindquist of my staff at (916) 445-7014 or email at natalie.lindquist@parks.ca.gov.

Sincerely,

Carol Roland-Nawi, Ph.D.

Carol Roland-Nawi, Ph.D.
State Historic Preservation Officer

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr. Governor

DEPARTMENT OF TRANSPORTATION
DIVISION OF ENVIRONMENTAL ANALYSIS
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April 18, 2014

Dr. Carol Roland-Nawi
California State Historic Preservation Officer
Office of Historic Preservation
California Department of Parks and Recreation
1725 23rd Street, Suite 100
Sacramento, CA 95816

OHP File: FHWA 2013 0319 002

Centennial Corridor Project

Subject: Section 106 Consultation on Finding of Effect for the Proposed Centennial Corridor Project, Bakersfield, Kern County, CA.

Attention: Ms. Natalie Lindquist

Dear Dr. Roland-Nawi:

The California Department of Transportation (Caltrans), *in coordination with the City of Bakersfield*, is continuing consultation with the California State Historic Preservation Officer (SHPO) for the undertaking titled Centennial Corridor Project. This consultation is undertaken in accordance with the 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act as it Pertains to the Administration of the Federal-Aid Highway Program in California* (Section 106 PA).

Thank you for your letter of April 10, 2014 providing your comments concerning the Finding of Effect documentation submitted to your office by Caltrans. You objected to a finding of No Adverse Effect without Standard Conditions based on the following reasons:

1. At the point in time it does not appear that Caltrans has completed their identification effort with regards to archaeology. It appears as though Caltrans is planning to defer extended archaeological studies until a preferred alternative has been selected.

2. The sound wall proposed for the project results in a visual intrusion to the Rancho Vista Historic District that is out of scale with the neighborhood and greatly affects the residential feel of the neighborhood. While incompatible changes may have affected the setting of the neighborhood in the past the elevated nature of the sound wall being proposed is very imposing and in my opinion would result in an adverse effect to the historic district.

Accordingly, as a result of the preceding SHPO comments, Caltrans has reassessed the undertaking and its anticipated effects on historic properties under Section 106 PA Section X, and 36 CFR 800.5. Caltrans has revised the finding to be a finding of Adverse Effect for the Centennial Corridor Project based on the consideration of your two comments, addressed further below in reverse order.

Regarding the second comment, Caltrans has concluded that the elevated sound wall, though located outside of the Rancho Vista Historic District boundaries, would constitute a visual intrusion and diminish the historic property's setting. Thus, this would create an adverse effect as defined at 36 CFR 800.5. As a result, Caltrans will be working with SHPO and other consulting parties to explore possible measures to resolve adverse effects by minimizing or eliminating the adverse visual effects on the historic property. A separate draft Memorandum of Agreement (MOA) will be submitted to you following circulation of the Draft Environmental Impact Statement and receipt of public comment.

Regarding the first comment, we understand the SHPO could not concur with the Caltrans finding of no adverse effect on archaeological resources until the identification phase of the Section 106 process had been completed.

As Caltrans detailed in the Historic Property Survey Report (HPSR), the records search indicated four archaeological resources were recorded within 0.5-mile of the archaeological APE (CA-KER-167, CA-KER-3072, CA-KER-7232, and CA-KER-7233). None of the sites are within the archaeological Area of Potential Effects (APE) itself; therefore, they would not be impacted by the undertaking. While the pedestrian survey did not identify any archaeological resources to be within the archaeological APE, due to the archaeological sensitivity of the area, the dearth of previous archaeological surveys, and the extent of urban development, Caltrans recognizes that archaeological resources may lie buried within the area of direct impact for the project and further identification efforts would be needed.

Caltrans has proposed that it carry out a two-stage Extended Phase I. The first stage (already completed and submitted to SHPO as part of the HPSR in February 2013) consisted primarily of a background paper study assessing the vertical APE and evaluating the potential for buried archaeological deposits. The focus of the second stage is to test for the presence of archaeological resources in sensitive soils and sediments. As presented to the SHPO, the Stage II portion of the Extended Phase I Geoarchaeological Report would be undertaken for the preferred alternative. A Supplemental HPSR will be prepared by Caltrans and will be submitted to the SHPO and other consulting parties if the geoarchaeology identification efforts identify any archaeological resources for the Centennial Corridor Project.

If archaeological deposits or sites are discovered as a result of the Stage II fieldwork, and such sites or deposits are not otherwise included in the list of archaeological property types and features exempt from evaluation as provided in the Section 106 PA Attachment 4, then a Phase II investigation (Archaeological Evaluation Report) would be prepared to determine site boundaries and the potential National Register of Historic Places (NRHP) eligibility of any newly identified

site(s). Should archaeological resources be determined to be historic properties and they will be adversely affected by the project, mitigation of these properties will be addressed in the MOA to be developed for this undertaking (Phase III excavations, public outreach, etc.). Moreover, the MOA will outline a protocol to address the inadvertent discovery of previously undocumented archaeological resources in accordance with 36 CFR 800. 6(c) (6). It will include the communication protocol between your office and Caltrans. The MOA will also stipulate that destructive mitigation of archaeological historic properties will take place only after design plans are sufficiently developed and it has been determined that the historic property could not be avoided.

Upon reevaluation of your concerns and the project, we have determined that the Centennial Corridor project will have an adverse effect on historic properties, and request your expedited concurrence with this finding by providing your signature on the concurrence line below. Caltrans will continue consulting with you on the two concerns as we develop the MOA. If you have any questions or concerns, please do not hesitate to contact me at (916) 653-6187.

Sincerely,

ANMARIE MEDIN
Chief
Cultural Studies Office

Concur: Carol Roland-Nawi, Ph.D.

Carol Roland-Nawi
State Historic Preservation Officer

April 24, 2014
Date

c: Natalie Lindquist –OHP

cc: Kelly Hobbs, Section 106 Coordinator (via electronic transmission)
Jennifer Taylor, D6 Office Chief (via electronic transmission)

Jeanne Binning, D6 Branch Chief (via electronic transmission)
Phillip Vallejo, D6 Architectural Historian (via electronic transmission)
Bob Pavlik, Central Region Environmental Coordinator (via electronic transmission)

Appendix K Notice of Preparation

NOTICE OF PREPARATION

To: (Recipient)

From: California Dept. of Transportation
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726
Attention: Sarah Gassner
Senior Environmental Planner

Subject: **Notice of Preparation of a Draft Environmental Impact Report**
Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

Project Title: Centennial Corridor

Project Location: City of Bakersfield and the County of Kern

Project Description: The proposed project is a route adoption study to establish an alignment for the extension of Route 58 as a limited access facility from its current terminus at Route 99 in the City of Bakersfield westerly to Interstate 5 (I-5) in unincorporated Kern County. In addition, this Environmental Impact Report/Environmental Impact Statement (EIR/EIS) would provide environmental compliance documentation for construction of the project from State Route 58 to Heath Road. The project would incorporate the Westside Parkway, a proposed limited access facility approved by the City of Bakersfield and the Federal Highway Administration in 2006 as a component of the project. Construction of the Westside Parkway is projected to be initiated in 2009 and will extend from Mohawk Street to Heath Road.

This is to inform you that the California Department of Transportation will be the lead agency and will prepare an environmental impact report for the project described below. Your participation as a responsible agency is requested in the preparation and review of this document.

We need to know the views of your agency as to the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

A more detailed project description, location map, and the potential environmental effects are contained in the attached materials.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please direct your response to Sarah Gassner, Senior Environmental Planner, Southern Sierra Environmental Analysis Branch at the address shown above. Please provide us with the name of a contact person in your agency.

Date 9/16/08

Signature Carrie L. Bowen
CARRIE L. BOWEN,
Chief, Central Region
Environmental

Notice of Preparation of a Draft Environmental Impact Report for the Centennial Corridor Project

The California Department of Transportation (the Department), the Lead Agency, is preparing environmental documentation to address impacts associated with a route adoption study for State Route 58 as a limited access facility from its current terminus at State Route 99 to Interstate 5. In addition, this Environmental Impact Report/Environmental Impact Statement (EIR/EIS) would provide environmental compliance documentation for construction of the project from State Route 58 to Heath Road. The document will be prepared as a joint document pursuant to the California Environmental Quality Act and the National Environmental Policy Act. The Department will be preparing an Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the project, which is known as the Centennial Corridor Project. As required by CEQA, the Department is distributing this Notice of Preparation requesting comments from responsible and trustee agencies regarding the significant environmental issues, reasonable alternatives, and reasonable mitigation measures that need to be discussed in the Draft EIR/EIS to address each agency's concern. An Initial Study has not been prepared for this project and is therefore, not attached to this Notice of Preparation.

Project Location
The project would traverse the Metropolitan Bakersfield area and is located between existing State Route 58 – East in the vicinity of Union Avenue (State Route 204) (about 2.0 miles east of State Route 99), and Interstate 5 in Kern County, California. The project would be located in both the City of Bakersfield and unincorporated portions of Kern County. Figure 1 provides a Regional Location Map and Figure 2 is the Local Vicinity Map.

Project Description
The project would establish an alignment for a new limited access facility that would connect State Route 58 to Interstate 5. In addition, construction level analysis would be provided for the portion of the project east of Heath Road. The portion of the project from Heath Road to Interstate 5 would remain at the route location level of detail.

For purposes of this EIR/EIS, the project has been divided into three segments:
(1) Eastern Connection, which would connect the Westside Parkway to the existing Route 58 Freeway;
(2) Westside Parkway, which extends from Heath Road to Mohawk Street; and,
(3) Western Segment, which extends from I-5 to Heath Road.

The Western Segment and the Westside Parkway portions of the project have been addressed in previous environmental documents prepared pursuant to CEQA and NEPA. This EIR/ EIS will incorporate by reference these previous two documents:

- *Final Route 58 Route Adoption Project, A Tier 1 Environmental Impact Statement/Environmental Impact Report* (Tier 1 EIS/EIR) (2002), which addresses the Western Segment of the project, and
- *Westside Parkway Environmental Assessment/Final Environmental Impact Report* (EA/FEIR) (2006), which addresses the Westside Parkway segment of the project.

For these two segments of the project, the analysis in the Centennial Corridor EIR/EIS will serve as a revalidation of the previous documents. New information will be provided to the extent necessary to ensure the environmental record is reflective of the current conditions.

Construction of the facility would be phased. The timeframe for construction of the Western Segment is unknown and is not anticipated in the near future. Therefore, the level of analysis for this segment will remain at the route location level of detail, not construction level. The focus of the analysis for the Westside Parkway segment will be on improvements necessary to upgrade

the facility to state highway standards for adoption into the State Highway System. Consistent with the *Westside Parkway EA/FEIR*, the updated analysis for the Westside Parkway segment will be at a construction level of detail. Construction of the Westside Parkway is anticipated to start in 2009 utilizing the previous EA/FEIR.

The Eastern Connection has not been subject to previous environmental studies. Various alternatives to connect State Route 58 to the Westside Parkway are under consideration, including options west of State Route 99, east of State Route 99, and parallel to State Route 99 as well as a "No Build" alternative, a transit alternative, and a transportation systems management alternative. The Department will continue to screen the alternatives identified through the scoping process and only carry forward those alternatives that are considered viable for evaluation in the EIR/EIS. The following alternatives are currently under consideration:

- Alternative A proposes to construct a new freeway west of the State Route 58/99 interchange. The alignment would travel in a westerly direction for approximately one mile on the south side of Stockdale Highway, at which point it would turn in a northwesterly direction and span the Carrier Canal, Truxtun Avenue, and the Kern River. The proposed route would then connect to the Westside Parkway alignment between Mohawk Street and Coffee Road. The total length of the project from the existing State Route 99/State Route 58 interchange to Interstate 5 utilizing Alternative A would be approximately 16.31 miles.

- Alternative B proposes to construct a new freeway west of the State Route 58/99 interchange. The alignment would travel in a westerly direction for approximately one-half mile on the south side of Stockdale Highway, at which point it would turn to the northwest, span the Carrier Canal, Truxtun Avenue, and the Kern River. Alternative B would connect to the Westside Parkway alignment at the Mohawk Street interchange. The total length of the project from the existing State Route 99/State Route 58 interchange to Interstate 5 utilizing Alternative B is approximately 16.61 miles.

- Alternative C proposes to connect existing State Route 58 to the Westside Parkway by means of routing new lanes adjacent and parallel to existing State Route 99. These additional lanes would run parallel to and independent of State Route 99. Movements between State Route 58, State Route 99 and the Westside Parkway would likely be facilitated by braided ramps and freeway-to-freeway connector ramps. The total length of the project from State Route 99 to Interstate 5 utilizing Alternative C is approximately 18.51 miles.

- Alternative D proposes to construct a new freeway in the vicinity of Union Avenue (State Route 204). The roadway would extend north from State Route 58 for approximately one mile, where it would turn to the west and run parallel to the Burlington Northern Santa Fe railroad tracks. Alternative D would connect to the Westside Parkway alignment at the new interchange at Mohawk Street. The total length of the project from State Route 58 at Union Avenue to Interstate 5 is approximately 18.98 miles.

- The "No Build" alternative, would not construct any improvements. State Route 58 - East would continue to end at State Route 99 where it would jog to the north to tie into State Route 58 – West (Rosedale Highway). The Westside Parkway would be constructed as a local facility, but would not connect to State Route 58, State Route 99, or Interstate 5.

- Alternative M would evaluate Transit and Transportation Systems Management (TSM) improvements. TSM focuses on low capital, environmentally-responsive improvements that maximize efficiency of existing facilities. An example of TSM improvements would be providing signal interconnects to facilitate the flow of traffic or providing bus turn-out bays to minimize the interruption of buses along a specific route. Specific transit and TSM

measures have not been developed at this point. Preliminary traffic data is required to determine the most effective transit and TSM measures. Once the traffic data is available it would be determined if transit and TSM improvements would be separate alternatives or if it is more effective to evaluate a single alternative that includes both transit and TSM improvements.

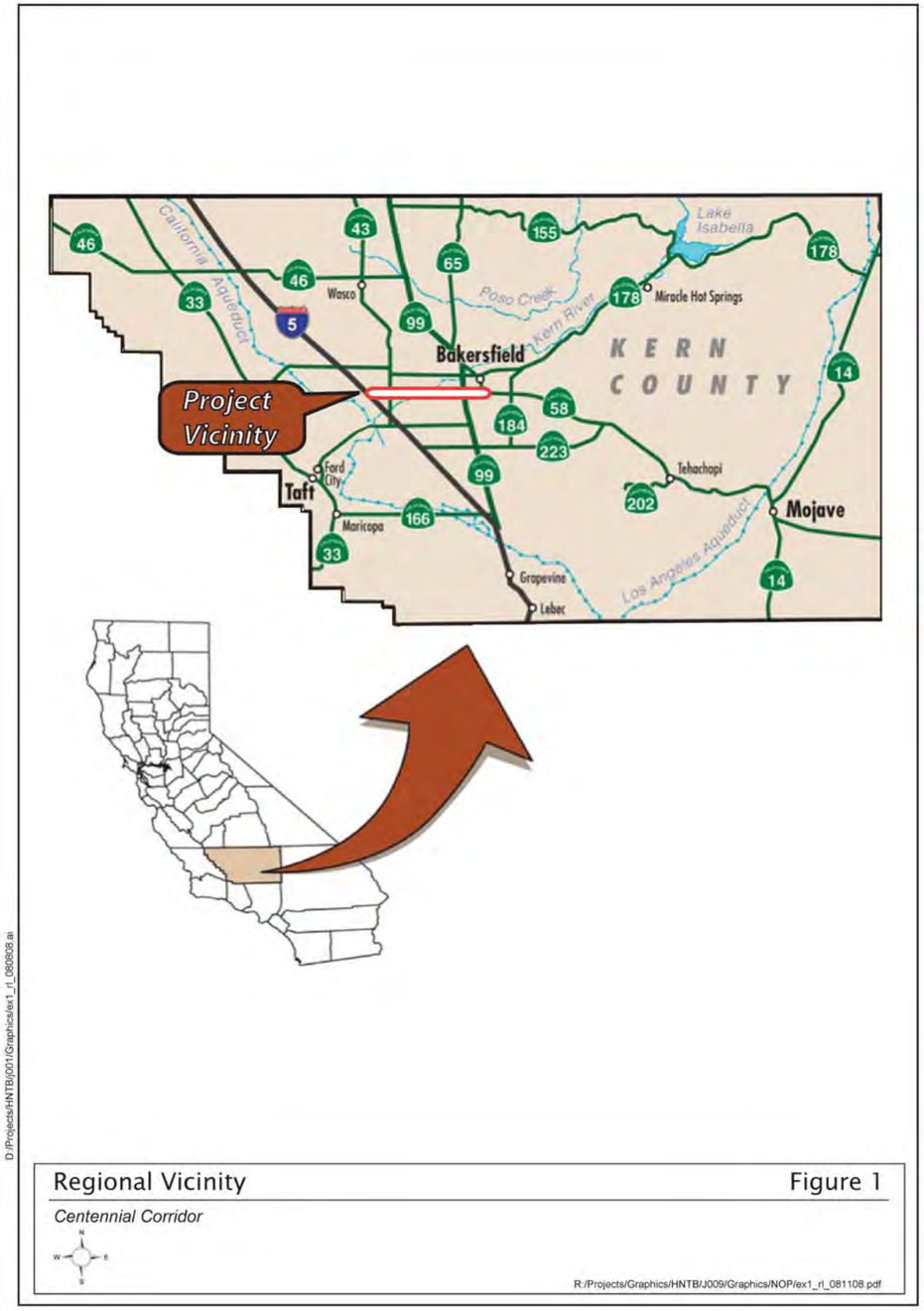
Environmental Effects

Probable effects of the project include impacts to farmland, residences, businesses and industrial uses; visual resources; cultural resources; water quality; air quality; noise standards; and biological resources. The following technical studies will be prepared as part of the EIR/EIS:

- Community Impact Assessment
- Relocation Impact Studies
- Natural Environment Study
- Visual Impact Assessment
- Air Quality Study
- Noise Report and Noise Abatement Decision Report
- Historic Property Survey Report (historical architecture, historic resources, and archaeological resources)
- Initial Site Assessment (hazardous materials)
- Floodplain Study
- Water Quality Report
- Paleontological Studies

Scoping Process

In addition to this Notice of Preparation, the Department will conduct a public scoping meeting. The meeting will be held on October 2, 2008 from 4:30 PM to 7:30 PM at the Kern County Administrative Offices, in the Building Rotunda located at 1115 Truxtun Avenue, in Bakersfield, California. Information on the project will be available at the meeting. There will also be opportunities for agencies and members of the public to provide input on the proposed project.


California Aqueduct
46
43
155
Lake Isabella
178
46
Wasco
65
Poso Creek
Kern River
33
5
99
178
Miracle Hot Springs
Bakersfield
KERN COUNTY
14
Project Vicinity
58
184
223
Ford City
Taft
99
Tehachapi
202
Mojave
Maricopa
166
33
Grapevine
Los Angeles Aqueduct
14
Lebec
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E
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D:/Projects/HNTB/j001/Graphics/ex1_rl_080808.ai
Regional Vicinity
Figure 1
Centennial Corridor
R:/Projects/Graphics/HNTB/J009/Graphics/NOP/ex1_rl_081108.pdf

List of Technical Studies that are Bound Separately

Draft Relocation Impact Report ..... November 2012
Air Quality Study Report ..... November 2013
Noise Study Report ..... January 2013
Noise Abatement Decision Report ..... May 2013
Water Quality Assessment Report ..... November 2012
Natural Environment Study ..... March 2013
Biological Assessment ..... March 2013
Location Hydraulic Study ..... November 2012
Historical Property Survey Report ..... January 2013

- Historic Resource Evaluation Report ..... January 2013
- California Historic Bridge Inventory Sheet ..... October 2011
- Archaeological Survey Report ..... January 2013
- Extended Phase I (Geoarchaeological Study) ..... November 2012

Finding of Effect ..... April 2014
Initial Site Assessment ..... November 2012
Focused Initial Site Assessment ..... October 2013
Visual Impact Assessment ..... September 2013
Paleontological Evaluation Report ..... November 2012
Community Impact Assessment ..... September 2013
Traffic Study Report for the Centennial Corridor Project ..... November 2012
Preliminary Geotechnical Report ..... Revised May 2012

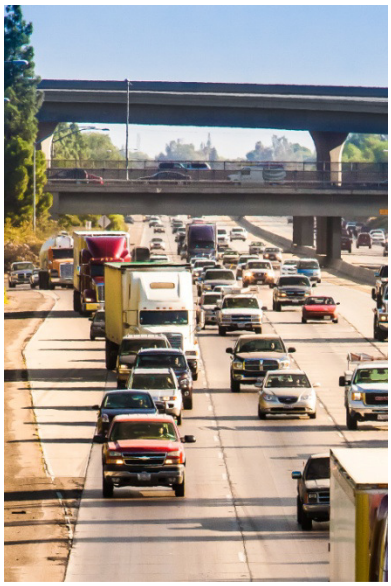
Centennial Corridor Project

City of Bakersfield and Kern County, CA
District 6 - KER - 58 - PM T31.7 to PM R55.6
District 6 - KER - 99 - PM 21.2 to PM 26.2

Project ID # 0600000484

SCH #2008091102

Final Environmental Impact Report/ Environmental Impact Statement and Section 4(f) Evaluation



Volume 1 of 3

Prepared by the

State of California Department of Transportation

The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by the California Department of Transportation under its assumption of responsibility pursuant to 23 U.S. Code 327.

December 2015

Caltrans

General Information About This Document

For individuals with sensory disabilities, this document is available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to: Department of Transportation, Attn: Jennifer H. Taylor, Office Chief, Central Region, Environmental Southern San Joaquin Valley, 855 M Street, Suite 200, Fresno, CA 93721; (888) 404-6375. Telecommunication Devices for the Deaf (TDD) users or individuals with a hearing or speech disability may contact the California Relay Services (TRS) to use a telephone system through a text phone (TTY) by dialing 1 (800) 735-2929, 1 (800) 735-2929 (Voice) or 711 from any telephone.

What is in this document:

This document contains a Final Environmental Impact Report/Environmental Impact Statement that examines the environmental effects of a proposed project in the city of Bakersfield and Kern County.

The document tells you why the project is being proposed, what alternatives have been considered for the project, how the existing environment would be affected by the project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

The draft environmental document was circulated to the public for 61 days between May 9 and July 8, 2014. Comments received during this period are included in the Comments and Responses section of this document (Volume 3), which was added after the first draft circulation.

Throughout this document, a vertical line in the margin indicates a content change or update made since the draft document circulation. Minor editorial changes and clarifications have not been so indicated.

Additional copies of the document and the related technical studies are available at the Caltrans District Office at 855 M Street, Suite 200, Fresno, California 93721 on weekdays from 8 AM to 5 PM. It is also available at the Thomas Roads Improvement Program office, 1600 Truxtun Avenue, 3rd Floor; Bakersfield Community Development Department—Planning Division, 1715 Chester Avenue; County of Kern Planning Department, 2700 M Street, Suite 100; Kern Council of Governments, 1401 19th Street, Suite 300; Beale Memorial Library, 701 Truxtun Avenue; Eleanor Wilson Branch Library,1901 Wilson Road; Bryce C. Rathbun Branch Library, 200 West China Grade Loop; Baker Branch Library, 1400 Baker Street; and the Southwest Branch Library, 8301 Ming Avenue. This document may be downloaded at the following website: http://dot.ca.gov/dist6/environmental/projects/centennial/EnvironmentalDocuments.html.

FHWA Highway ID No. NCIIP 5109(106)

SCH #2008091102
06 - KERN – 58 - PM T31.7 to PM R55.6
06 - KERN – 99 - PM 21.2 to PM 26.2
Project ID# 0600000484

Construct a new alignment for State Route 58 to provide a continuous route along State Route 58 from Cottonwood Road (post mile R55.6) on existing State Route 58 (East), east of State Route 99 to Interstate 5 (post mile T31.7). Improve State Route 99 from Wilson Road (post mile 21.2) to Gilmore Avenue (post mile 26.2).

FINAL ENVIRONMENTAL IMPACT REPORT /ENVIRONMENTAL IMPACT STATEMENT and Section 4(f) Evaluation

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 U.S. Code 4332(2)(C), 23 U.S. Code 327, and 49 U.S. Code 303

THE STATE OF CALIFORNIA
Department of Transportation

Cooperating Agency: City of Bakersfield

12/4/2015
Date of Approval

Sharri Bender Ehlert
District Director
California Department of Transportation
National Environmental Policy Act Lead Agency
California Environmental Quality Act Lead Agency

The following person may be contacted for additional information about this document:

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Office Chief, Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation, District 6
855 M Street, Suite 200
Fresno, CA 93721
(888) 404-6375

Abstract: The purpose of the project is to provide continuity for traffic using State Route 58 in Kern County. The project would construct a freeway on a new alignment for State Route 58 and make improvements to State Route 99. Substantial environmental effects anticipated from the project include: biological resources; displacement of residences/businesses; potential impacts to archaeological and paleontological resources; historic resources/4(f) for Alternative A; parkland/4(f) for Alternatives A and C; hazardous waste/materials, potential to uncover/encounter significant fossils. Unavoidable adverse impacts anticipated, regardless of alternatives selected, include: aesthetics, community disruption, and noise. With the consideration of environmental impacts and public input during the circulation of the draft environmental document, Caltrans has selected Alternative B as the Preferred Alternative.

Summary

The California Department of Transportation (Caltrans), in cooperation with the city of Bakersfield, proposes to construct a new alignment for State Route 58 to provide a continuous route along State Route 58 from Cottonwood Road (post mile R55.6) on existing State Route 58 (East), east of State Route 99 to Interstate 5 (post mile T31.7). Improvements to State Route 99 from Wilson Road (post mile 21.2) to Gilmore Avenue (post mile 26.2) would also be required for the connection with State Route 58. The project is known as the Centennial Corridor. Caltrans is the lead agency for the project pursuant to both the California Environmental Quality Act and the National Environmental Policy Act.

Overview of Project Area

The project sits at the southern end of the San Joaquin Valley in the city of Bakersfield in Kern County, California. The project area is bound on the east by Cottonwood Road, on the west by Interstate 5, on the north by Gilmore Avenue, and on the south by Wilson Road.

Land uses in the project vicinity include residential, commercial, industrial, recreation, resource/utility, agriculture, undeveloped/vacant, and government. The eastern and central portions of the project area are more urban; the western portion is generally undeveloped or in agricultural production.

Purpose and Need

The purpose of the Centennial Corridor Project is to provide route continuity and associated traffic congestion relief along State Route 58 within metropolitan Bakersfield and Kern County from the existing State Route 58 (East) (at Cottonwood Road) to Interstate 5.

State Route 58 is a critical link in the state transportation network and is used by interstate travelers, commuters, and a large number of trucks. State Route 58 lacks continuity in central Bakersfield, resulting in severe traffic congestion and reduced levels of service on adjoining highways and local streets. (The effectiveness of traffic operations on a transportation facility is measured in terms of “level of service,” an A through F scale with A being best and F being worst. This is further explained in Chapter 1.) This route is offset by about 2 miles at State Route 99 and by about 1 mile at State Route 43. The merging of two major state routes (58 and 99) into one alignment between the eastern and western legs of State Route 58 makes traffic worse on this segment of freeway. Also, State Route 99’s close spacing for its two interchanges with State Route 58 (east and west), in addition to an interchange at California Avenue, results in motorist lane changes that add to congestion.

Proposed Action

The proposed Centennial Corridor has been divided into three segments (see Figure S-1). The actions for the proposed project would be (1) route adoption for a continuous route from the existing freeway portion of Route 58 east of State Route 99 to Interstate 5 with the western portion on existing Stockdale Highway from Heath Road to Interstate 5; and (2) approval for construction of Segment 1, improvements within Segment 2, and intersection improvements at the Stockdale Highway and State Route 43 (known locally as Enos Lane) intersection. The alternatives for Segment 1 are discussed below.

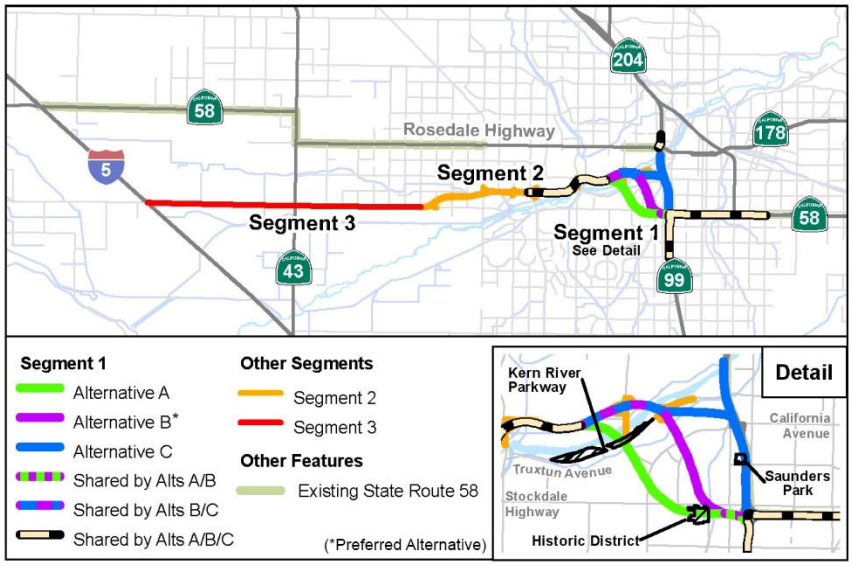

Figure S-1: Project Alternatives

Segment 1 is the easternmost segment that would connect a local roadway known as the Westside Parkway to the existing State Route 58 (East) freeway. This segment would construct a new section of freeway (which would be part of State Route 58) to provide the direct connection to Segment 2 (the Westside Parkway). In addition, the project would involve changes to the existing State Route 58 (East) and State Route 99 to accommodate the new connection ramps. Three build alternatives and a No-Build Alternative are being evaluated for this segment. The three build alternatives are each proposed to be built as a four- to six-lane freeway; they are identified as Alternatives A through C. The alternatives are briefly described below:

- Alternative A runs westerly from the existing State Route 58 (East)/State Route 99 interchange for about 0.5 mile south of Stockdale Highway. Then it turns northwesterly and spans Stockdale Highway/Montclair Street, California Avenue/Lennox Avenue, Truxtun Avenue, and the Kern River before joining the east end of the Westside Parkway near the Mohawk Street interchange. Alternative A is about 8.2 miles long.
- Alternative B, which has been selected as the Preferred Alternative, runs westerly from the existing State Route 58 (East)/State Route 99 interchange for about

1,200 feet, south of Stockdale Highway. Then it turns northwesterly and spans Stockdale Highway/Stine Road, California Avenue, Commerce Drive, Truxtun Avenue, and the Kern River before joining the east end of the Westside Parkway near the Mohawk Street interchange. This alignment depresses the Centennial Corridor (the roadway would be lower than the existing ground level) between California Avenue and Ford Avenue. Overcrossings are proposed at Marella Way and La Mirada Drive, and an undercrossing at Ford Avenue would help local traffic circulation within the general area. After circulating the draft environmental document and receiving public comments, Caltrans has decided to construct all proposed crossings. In addition, a bridge with a multi-use pathway spanning over the Carrier Canal and multi-use pathway would be constructed to enhance bicycle and pedestrian connectivity. Alternative B is about 8.6 miles long.

- Alternative C turns north near the existing State Route 58 (East)/State Route 99 interchange, and runs parallel to the west of State Route 99 for about 1 mile. The freeway then turns west and spans the BNSF Railway rail yard, Truxtun Avenue, and the Kern River. This alternative proposes undercrossings at Brundage Lane, Oak Street, State Route 99, Palm Avenue, and California Avenue. Alternative C is about 8.7 miles long.
- The No-Build Alternative would not provide the connection from State Route 58 (East) to the Westside Parkway. None of the improvements in the State Route 58 corridor would be provided. Additionally, the minor intersection improvements in Segment 3 at Stockdale Highway and State Route 43 would not be constructed.

Segment 2 of the Centennial Corridor is composed of the Westside Parkway, which extends from about Truxtun Avenue to Stockdale Highway near Heath Road. The Westside Parkway would be incorporated into the State Highway System with each of the alternatives. Additionally, the current portion of State Route 58 (West) (Rosedale Highway) from Allen Road to Interstate 5 would be relinquished (made a local road, no longer a State highway) to the local jurisdictions (the city of Bakersfield and the County of Kern).

Each of the build alternatives in Segment 1 would require improvements to the Westside Parkway. Changes would be made to several ramps and the medians to allow for auxiliary lanes. This would mostly be done within the existing city of Bakersfield right-of-way. Though technically these improvements are within Segment 2, they are required to accommodate Segment 1 to facilitate traffic operations between the Westside Parkway and the Centennial Corridor. The impacts associated with these improvements in Segment 2 are very minor since the area has already been disturbed for the construction of the Westside Parkway. Rather than split the impact analysis and have a separate impact discussion for Segment 2, any impacts associated with Segment 2 have been included in the impact discussion for Segment 1. However, because the connection with Segment 1 of the Centennial Corridor Project would substantially increase traffic on the Westside Parkway (Segment 2), the traffic study prepared for this project analyzed the impacts across the proposed Centennial Corridor from Interstate 5 to Cottonwood Road. Similarly, the

noise and air quality analyses were performed using the projected traffic volume for the Centennial Corridor and the analysis extended to cover the Westside Parkway (Segment 2).

Segment 3 traffic would use Stockdale Highway, a two-lane roadway, to link to Interstate 5. To accommodate the additional traffic, improvements to the Stockdale Highway/State Route 43 intersection, such as a new signal and turn lanes, would be made. (State Route 43 is known locally as Enos Lane.) These improvements would be constructed at the same time as the Segment 1 improvements.

Freeway agreements approved by the County of Kern and the city of Bakersfield would also be required since the proposed Centennial Corridor Project is a new highway.

Preferred Alternative. Caltrans has identified Alternative B as the Preferred Alternative. Alternative B is a feasible and prudent alternative that avoids impacts to Section 4(f) properties, such as parkland and historic properties. After the impacts of all of the feasible alternatives (Alternatives A through C) were compared and weighed, Alternative B was selected as the Preferred Alternative. This is discussed in more detail in Sections 2.1.3 and 2.1.4.

Joint California Environmental Quality Act/National Environmental Policy Act Document

The project is a joint project by Caltrans and the Federal Highway Administration, and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act and the National Environmental Policy Act. Caltrans is the lead agency for the project pursuant to both the California Environmental Quality Act and the National Environmental Policy Act. In addition, the Federal Highway Administration's responsibility for environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S. Code 327.

Some impacts determined to be significant under the California Environmental Quality Act may not lead to a determination of significance under the National Environmental Policy Act because the National Environmental Policy Act is concerned with the significance of the project as a whole.

Following receipt of comments from the public and reviewing agencies, a Final Environmental Impact Report/Environmental Impact Statement was prepared. Caltrans completed the following additional environmental and/or engineering studies:

- Extended Phase I, Stage II Geoarchaeological Investigations for Alternative B of the Centennial Corridor Project (February 2015)

- Asbestos and Lead-Based Paint Survey (January 2015)
- Preliminary Site Investigation at Private Parcels (February 2015)
- Aerially Deposited Lead Investigation Centennial/Beltway Operational Improvement Project (July 2014)

Responses to comments received after the circulation of the draft environmental document during the 61-day review period from May 9 to July 8, 2014, are included in Volume 3.

Caltrans has certified that this Environmental Impact Report complies with the California Environmental Quality Act, prepared findings for all significant impacts identified, prepared a Statement of Overriding Considerations for impacts that will not be mitigated below a level of significance, and certified that the findings and Statement of Overriding Considerations have been considered. The publication of this final environmental document will follow the signing of the Project Report, signifying project approval. Within five days of project approval, Caltrans will file a Notice of Determination with the State Clearinghouse that will state that the project will have significant impacts, whether mitigation measures were included as conditions of project approval, that findings were made, and that a Statement of Overriding Considerations was adopted. At least thirty days after the Environmental Impact Statement is made available, a Record of Decision will be published in compliance with the National Environmental Policy Act.

Project Impacts

For Segment 1, Alternatives A and C impact properties protected by Section 4(f) of the Department of Transportation Act of 1966 (49 U.S. Code 303). The full *Section 4(f) Evaluation* is contained in Volume 2, Appendix B. This requires the selection of a prudent and feasible alternative that avoids Section 4(f) properties, which is Alternative B. In addition Alternative C has Environmental Justice impacts (discussed later in this document).

Table S.1 provides a brief comparison of the impacts of the three build alternatives and the No-Build (also called No-Action) Alternative.

Table S.1 Summary of Major Potential Impacts from Alternatives

Environmental Resource	Potential Impact			
	Segment 1 Alternative A	**Segment 1 Alternative B (Preferred Alternative)**	**Segment 1 Alternative C**	**No-Build Alternative**
Parks and Recreation	Displacement of 6.28 acres of the Kern River Parkway. This resource is protected by Section 4(f) of the Department of Transportation Act of 1966.	No impacts.	Displacement of 1.95 acres of developed and 1.32 acres of undeveloped portions of Saunders Park, totaling 3.27 acres. Replacement parkland and facilities would be provided. This resource is protected by Section 4(f) of the Department of Transportation Act of 1966.	No impacts.
Farmland	Permanent impacts to 3.16 acres of Prime Farmland and 0.84 acre of Statewide and locally important farmland for a total of 4 acres of farmland to be directly converted. There will also be temporary construction impacts to about 4 additional acres.	Permanent impacts to 3.16 acres of Prime Farmland and 0.84 acre of Statewide and locally important farmland for a total of 4 acres of farmland to be directly converted. There will also be temporary construction impacts to about 4 additional acres.	Permanent impacts to 3.16 acres of Prime Farmland and 0.84 acre of Statewide and locally important farmland for a total of 4 acres of farmland to be directly converted. There will also be temporary construction impacts to about 4 additional acres.	No Impacts

Table S.1 Summary of Major Potential Impacts from Alternatives

Environmental Resource	Potential Impact			
	Segment 1 Alternative A	**Segment 1 Alternative B (Preferred Alternative)**	**Segment 1 Alternative C**	**No-Build Alternative**
Cultural Resources	Rancho Vista Historic District would be bisected requiring full take of 46 out of 81 of district contributing properties and would cause a direct adverse effect. This property is protected by Section 4(f) of the Department of Transportation Act of 1966. Possible uncover of archaeological materials during the construction period.	Rancho Vista Historic District would have an elevated structure and sound walls to the north and east, and would cause an indirect adverse effect (under Section 106 of the National Historic Preservation Act of 1966) due to its impact on the historic setting. This property is also protected by Section 4(f) of the Department of Transportation Act of 1966, and implementation of this alternative would not result in a constructive use.	No impacts to known historic properties. Possible uncover of archaeological materials during the construction period.	No impacts to architectural or archaeological resources.
Community Character and Cohesion	Substantial neighborhood disruption, including business and residential displacements; permanent street closures; and higher exposure to vehicle noise.	Substantial neighborhood disruption, including business and residential displacements; permanent street closures; and higher exposure to vehicle noise. Would divide an existing neighborhood.	Neighborhood disruption, including business and residential displacements; permanent street closures; and higher exposure to vehicle noise. Most residential displacements would be in low income and minority neighborhoods (environmental justice communities).	No impacts.

Table S.1 Summary of Major Potential Impacts from Alternatives

Environmental Resource		Potential Impact			
		Segment 1 Alternative A	**Segment 1 Alternative B (Preferred Alternative)**	**Segment 1 Alternative C**	**No-Build Alternative**
Relocation	Business displacements	127 businesses.	121 businesses.	198 businesses; including, 1 non-profit organization.	No impacts.
	Housing displacements	356 units	310 units	133 units	No impacts.
Traffic and Transportation/ Pedestrian and Bicycle Facilities		Would provide route continuity. **Deficient freeway segments** 0 in 2018 4 in 2038 **Deficient intersections** 26 in 2018 32 in 2038 122 parking spaces removed. **Pedestrian and Bicycle Facilities** Local roadways would be closed, but no Master Plan bike routes would be affected.	Would provide route continuity. **Deficient freeway segments** 0 in 2018 4 in 2038 **Deficient intersections** 26 in 2018 33 in 2038 146 parking spaces removed. **Pedestrian and Bicycle Facilities** This will require a realignment of a planned Class 3 bike route. Alternative routing would be available.	Would provide route continuity. **Deficient freeway segments** 0 in 2018 5 in 2038 **Deficient intersections** 24 in 2018 30 in 2038 142 parking spaces removed. **Pedestrian and Bicycle Facilities** Local roadways would be closed, but no Master Plan bike routes would be affected.	Discontinuity of east-west freeway in Bakersfield continued. **Deficient freeway segments** 4 in 2018 16 in 2038 **Deficient intersections** 25 in 2018 34 in 2038 No parking removed. **Pedestrian and Bicycle Facilities** No Master Plan bike routes would be affected.
Visual/Aesthetics		Long-term visual impacts on key viewpoints range from moderately low to moderately high. The presence of the elevated structure and sound walls would, for some, result in obstructed views that would adversely affect the visual character of the suburban neighborhoods. The freeway that	Long-term visual impacts on key viewpoints range from moderately low to moderately high. The presence of the elevated structure and sound walls would, for some, result in obstructed views that would adversely affect the visual character of the suburban neighborhoods. The freeway that	Long-term visual impacts on key viewpoints range from average to moderately high. The presence of the elevated structure and sound walls would, for some, result in obstructed views that would adversely affect the visual character of the suburban neighborhoods.	No impacts.

Table S.1 Summary of Major Potential Impacts from Alternatives

Environmental Resource	Potential Impact			
	Segment 1 Alternative A	Segment 1 Alternative B (Preferred Alternative)	Segment 1 Alternative C	No-Build Alternative
	runs through the neighborhood would change the visual character of the area.	runs through the neighborhood would change the visual character of the area.		
Air Quality	The project would not cause a new violation or contribute to a violation of standards, and project-level carbon monoxide conformity would be satisfied. Predicted concentrations of carbon monoxide are estimated to be less than 50 percent of the applicable standards. Predicted concentrations of total particulate matter (PM_{10} and $PM_{2.5}$) would be within applicable federal standards and conformity would be satisfied. There would be a decrease in 2018 and 2038 Mobile Source Air Toxics emissions compared to 2008 levels. The decrease is primarily due to the improved pollutant emission performance resulting from federal and state rules for cleaner fuel and cleaner engines and fleet turnover.	The project would not cause a new violation or contribute to a violation of standards, and project-level carbon monoxide conformity would be satisfied. Predicted concentrations of carbon monoxide are estimated to be less than 50 percent of the applicable standards. Predicted concentrations of total particulate matter (PM_{10} and $PM_{2.5}$) would be within applicable federal standards and conformity would be satisfied. There would be a decrease in 2018 and 2038 Mobile Source Air Toxics emissions compared to 2008 levels. The decrease is primarily due to the improved pollutant emission performance resulting from federal and state rules for cleaner fuel and cleaner engines and fleet turnover.	The project would not cause a new violation or contribute to a violation of standards, and project-level carbon monoxide conformity would be satisfied. Predicted concentrations of carbon monoxide are estimated to be less than 50 percent of the applicable standards. Predicted concentrations of total particulate matter (PM_{10} and $PM_{2.5}$) would be within applicable federal standards and conformity would be satisfied. There would be a decrease in 2018 and 2038 Mobile Source Air Toxics emissions compared to 2008 levels. The decrease is primarily due to the improved pollutant emission performance resulting from federal and state rules for cleaner fuel and cleaner engines and fleet turnover.	No Build would not be consistent with the Regional Transportation Plan that was used in Air Quality Conformity analysis. Overall emissions along the corridor would increase whereas emissions analyzed under Alternatives A, B and C would decrease. No construction impacts. With the No-Build Alternative, the Mobile Source Air Toxics emissions in 2018 and 2038 would be lower for the study area as a whole, when compared to the build alternatives.

Table S.1 Summary of Major Potential Impacts from Alternatives

Environmental Resource	Potential Impact			
	Segment 1 Alternative A	**Segment 1 Alternative B (Preferred Alternative)**	**Segment 1 Alternative C**	**No-Build Alternative**
	For the study area as a whole, the Mobile Source Air Toxics emissions in 2018 and 2038 would be higher than with the No-Build Alternative, except for diesel particulate matter in 2018, which would be less than with the No-Build Alternative.	For the study area as a whole, the Mobile Source Air Toxics emissions in 2018 and 2038 would be higher than with the No-Build Alternative.	For the study area as a whole, the Mobile Source Air Toxics emissions in 2018 and 2038 would be higher than with the No-Build Alternative.	
Noise	There are 532 frequent outdoor use areas affected; 19 recommended feasible and reasonable sound walls would provide feasible abatement for 461 frequent outdoor use areas.	There are 484 frequent outdoor use areas affected; 24 feasible and reasonable recommended sound walls as well as one feasible but not reasonable recommended sound wall would provide feasible abatement for 408 frequent outdoor use areas. One sound wall is feasible but not reasonable; however, since this sound wall would close a gap in sound walls, it is recommended to minimize noise impacts to 4 frequent outdoor use areas.	There are 401 frequent outdoor use areas affected; 17 recommended feasible and reasonable sound walls would provide feasible abatement for 325 frequent outdoor use areas.	There would be 336 frequent outdoor use areas that would approach the Noise Abatement Criteria with no abatement provided in 2038.
Natural Communities	Removal of 95.38 acres (24.44 permanent; 70.94 temporary) of vegetation.	Removal of 78.12 acres (10.26 permanent; 67.86 temporary) of vegetation.	Removal of 72.49 acres (10.24 permanent; 62.25 temporary) of vegetation.	No impacts.

Table S.1 Summary of Major Potential Impacts from Alternatives

Environmental Resource	Potential Impact			
	Segment 1 Alternative A	**Segment 1 Alternative B (Preferred Alternative)**	**Segment 1 Alternative C**	**No-Build Alternative**
Threatened and Endangered Species	Affects 95.38 acres of foraging habitat for the Swainson's hawk. Affects 95.38 acres of foraging habitat for the Tricolored blackbird. Affects 95.38 acres of habitat and 1 active den for the San Joaquin kit fox.	Affects 78.12 acres of foraging habitat for the Swainson's hawk. Affects 78.12 acres of foraging habitat for the Tricolored blackbird. Affects 78.12 acres of habitat and 3 potential dens for the San Joaquin kit fox.	Affects 72.49 acres of foraging habitat for the Swainson's hawk. Affects 72.49 acres of foraging habitat for the Tricolored blackbird. Affects 72.49 acres of habitat and 1 potential den for the San Joaquin kit fox.	No Impacts.
Wetlands and Other Waters	3.54 acres (0.35 acre permanent, 3.19 acres temporary) of riparian habitat affected. 5.725 acres (0.913 acre permanent, 4.812 acres temporary) of U.S. Army Corps of Engineers jurisdiction affected. 15.174 acres (4.182 acres permanent, 10.992 acres temporary) of California Department of Fish and Wildlife jurisdiction affected.	1.84 acres of temporary riparian habitat affected. 4.432 acres (0.009 acre permanent, 4.423 acres temporary) of U.S. Army Corps of Engineers jurisdiction affected. 6.049 acres (0.189 acre permanent, 5.860 acres temporary) of California Department of Fish and Wildlife jurisdiction affected.	1.42 acres of temporary riparian habitat affected. 7.475 acres (0.538 acre permanent, 6.937 acres temporary) of U.S. Army Corps of Engineers jurisdiction affected. 11.417 acres (0.630 acre permanent, 10.787 acres temporary) of California Department of Fish and Wildlife jurisdiction affected.	No impacts.

Coordination with the Public and Other Agencies

Caltrans, in cooperation with the city of Bakersfield, has coordinated with numerous public agencies throughout the environmental process. A Notice of Intent/Notice of Preparation was prepared to announce the start of the Environmental Impact Report/Environmental Impact Statement.

On September 11, 2008, a Notice of Intent/Notice of Preparation was sent to federal, state, regional, and local government agencies, Native American groups, business groups, and other interested parties. These groups were also invited to the scoping meeting on October 2, 2008. A separate agency scoping meeting was held the afternoon of October 2, 2008, prior to the public scoping meeting held that evening. The documentation for these coordination efforts is in Appendix G, Volume 2 of this environmental document.

Caltrans prepared a coordination plan that identifies the various efforts for public and agency involvement during the environmental review process.

The Draft Environmental Impact Report/Environmental Impact Statement was circulated for a 61-day review by agencies and members of the public between May 9 and July 8, 2014. Additionally, Caltrans, in cooperation with the city of Bakersfield, held a public hearing for the project at the Kern County Administrative Center-Rotunda at 1115 Truxtun Avenue in Bakersfield, California, on June 11, 2014, from 4:00 to 7:00 p.m. A total of 191 people attended the public hearing. During the public comment period, a total of 83 comments were received on the draft environmental document. These comments were received via mail, email and at the public hearing. All comments from the public hearings and those received during the public review period have been considered and addressed in Volume 3.

Permits Required for the Project

A number of permits and approvals would be required for project construction. Table S.2 provides a list of the agencies for which permits or approvals may be required depending on the Segment 1 alternative ultimately identified to move forward.

Table S.2 Project Permits and Approvals

Agency	Permit/Approval	Status
U.S. Fish and Wildlife Service	Section 7 Consultation, as required by the Endangered Species Act for the San Joaquin kit fox	The Biological Assessment was submitted to the U.S. Fish and Wildlife Service (Service) on April 16, 2013 and formal consultation was initiated on July 22, 2013. A Biological Opinion (Service file number 08ESMF00-2013-F-0373) on the effects to the San Joaquin kit fox was issued on December 20, 2013. Consultation was reinitiated and a Biological Opinion (Service file number 08ESMF00-2013-F-0373-R001) was received on February 24, 2015 to address the impacts on San Joaquin kit fox from construction activities associated with sound walls and the use of temporary k-rail barriers. Additionally, another Biological Opinion (Service file number 08ESMF00-2013-F-0373-R001) was issued by the Fish & Wildlife Service on July 30, 2015, which removes the requirement to install modified k-rail barrier on State Route 58 from post mile R52.3 to post mile R55.4 and on State Route 99 from post mile 22.1 to post mile 22.7. Biological Opinion and subsequent amendments are provided in Volume 2, Appendix I.

Table S.2 Project Permits and Approvals

Agency	Permit/Approval	Status
Federal Emergency Management Agency	Conditional Letter of Map Revision and Letter of Map Revision	During the design phase of the project, coordination with the Federal Emergency Management Agency would be required to ensure there are no improvements that are incompatible with the floodplain.
U.S. Army Corps of Engineers	Section 404 Permit pursuant to the Clean Water Act for filling or dredging "Waters of the United States"	Based on changes to existing conditions of jurisdictional waters and revised preliminary design plans, permanent impacts to Waters of the U.S. have been reduced to less than 0.10 acre. Currently, permanent impacts to Waters of the U.S. for Preferred Alternative B are 0.009 acre. If final design plans do not exceed permanent impacts greater than 0.10 acre, the project is not required to submit a Section 404 Nationwide Permit #14 Pre-Construction Notification form to the U.S. Army Corps of Engineers; however, if impacts are greater than 0.10 acre, a Section 404 Nationwide Permit #14 will be obtained prior to construction and a pre-construction notification form will be completed and submitted to U.S. Army Corps of Engineers. The project would comply with all general conditions required under Nationwide Permit authorization, in addition to any regional or case-specific conditions imposed by the U.S. Army Corps of Engineers.
Federal Highway Administration	Air Quality Conformity Determination	The Federal Highway Administration found that the project is consistent with the requirements of the Clean Air Act on August 7, 2014 (see Appendix H, Volume 2).
Federal Highway Administration and California Department of Transportation	Project Management Plan and an Initial Financial Plan	This is required by Federal Highway Administration on Mega Projects over $500 million. These plans will be completed during the Plans, Specifications and Estimate Phase.
	Oversight Agreement	This agreement identifies oversight duties between FHWA and Caltrans. The Oversight Agreement will be completed during the Plans, Specifications and Estimate Phase.
California Department of Transportation	Encroachment Permits	Caltrans would need to issue an encroachment permit to allow the contractor to construct portions of the project within State right-of-way.
California Department of Fish and Wildlife	Section 1602 Agreement for Streambed Alteration pursuant to Section 1600 of the *California Fish and Game Code*	Caltrans will need to finalize a 1602 Agreement before construction begins.
California Transportation Commission	Route Adoption/Route Transfer/Temporary Route Adoption	The route adoption/route transfer/temporary route adoption for State Route 58 would require the California Transportation Commission's approval. Coordination with the commission would occur once the project has been approved.

Table S.2 Project Permits and Approvals

Agency	Permit/Approval	Status
California Transportation Commission, Caltrans and the city of Bakersfield	Relinquishment Agreement	The city of Bakersfield and Caltrans would enter into an agreement to relinquish the current alignment from Allen Road to Interstate 5 to the local jurisdictions.
	Freeway Agreements	Superseding State Route 99 and State Route 58 freeway agreements for changes at the State Route 58 (East) interchange, closure of surface streets and record changes to existing agreements would occur after the final design phase.
Caltrans and the city of Bakersfield	Cooperative Agreement (construction phase)	A cooperative agreement between Caltrans and the city of Bakersfield outlining their respective responsibilities for project implementation would be executed before construction begins.
	Agreement for Park Use and Modification	Caltrans and the city of Bakersfield have coordinated on improvements required to the local park facilities to offset any effects from the project. An agreement would be drafted once the project has been approved.
	Maintenance Agreement	An agreement between Caltrans and the city of Bakersfield would identify responsibility for maintenance of enhanced aesthetic features, including graffiti removal.
Caltrans and the County of Kern	Maintenance Agreement	An agreement between Caltrans and the County of Kern would identify responsibility for maintenance of the intersection improvements at Stockdale Highway and State Route 43.
City of Bakersfield	Route adoption/route transfer of street right-of-way Update General Plan	For those roadways that are being realigned, closed, or made into cul-de-sacs, the city would need to route adopt/route transfer the roadway right-of-way. Once the State Highway System is changed, the updated plan should be reflected in the local General Plan and, a change to the Master Plan of Bikeways would be required for Alternative B.
County of Kern	Encroachment Permit Update General Plan	The County of Kern would need to issue encroachment permits to allow the contractor to change local streets within the County of Kern jurisdiction. Once the State Highway System is changed, the updated plan should be reflected in the local General Plan.

Table S.2 Project Permits and Approvals

Agency	Permit/Approval	Status
State Water Resources Control Board and the Central Valley Regional Water Quality Control Board, Region 5	Storm Water Discharge Permit National Pollutant Discharge Elimination System Coordination	Compliance with (1) the Statewide National Pollutant Discharge Elimination System Permit for Storm Water Discharge from the State of California, Department of Transportation Properties, Facilities, and Activities (Order Number 2012-0011-DWQ, NPDES No. CAS000003) and (2) the National Pollutant Discharge Elimination System General Permit for Storm Water Discharge Requirements for Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002, as amended by 2010-0014-DWQ and 2012-0006-DWQ).
	Section 401 Certification pursuant to the Clean Water Act	Certification of compliance would be obtained before construction.
	Discharge of Construction Water (Dewatering)	If dewatering is expected for the Preferred Alternative, the contractor must fully conform to the requirements specified in Order No. R5-00-175, General Waste Discharge Requirements for Discharges to Surface Water which Pose an Insignificant (*De Minimus*) Threat to Water Quality, from the Central Valley Regional Water Quality Control Board. Discharges of unpolluted water of less than 250,000 gallons/24 hours (less than 4 months) are regulated by Caltrans Statewide NPDES Permit.
	Municipal Separate Storm Sewer System Permit	The Central Valley Regional Water Quality Control Board has issued waste discharge requirements for the County of Kern and the city of Bakersfield for urban storm water discharges (Order No. 5-01-130, National Pollutant Discharge Elimination System No. CA00883399). During subsequent design phases, the latest version of the Storm Water Management Plan/Standard Urban Storm Water Mitigation Plan developed and implemented by the County of Kern and the city of Bakersfield must be evaluated to determine which requirements apply to a road and highway project such as the Centennial Corridor.
State Historic Preservation Officer	Memorandum of Agreement	On January 6, 2015, the State Historic Preservation Officer signed the Memorandum of Agreement, which includes measures to minimize potential effects to historic properties. This is included in Appendix J, Key Correspondence, in Volume 2 of this environmental document.

Table S.2 Project Permits and Approvals

Agency	Permit/Approval	Status
San Joaquin Valley Air Pollution Control District	Dust Control Permit and Approved Air Impact Assessment per Rule 9510, Indirect Source Review Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities), Limits to fugitive particulate matter emissions during construction activities	Coordination at a staff level has occurred as part of preparation of the Air Quality Study Report. The permit would be acquired after project approval and before construction.
	National Emission Standards for Hazardous Air Pollutants Notification	Notification to the San Joaquin Valley Air Pollution Control District will be made 10 days prior to construction activities (changes or demolitions).
	Voluntary Emission Reduction Agreement	A Voluntary Emission Reduction Agreement was executed on November 13, 2014 between Caltrans and the San Joaquin Valley Air Pollution Control District to provide improvements to local air quality within the project area. See Appendix L in Volume 2 for a copy of the Voluntary Emission Reduction Agreement.
Public Utilities Commission	Approval for the construction of new or modification of existing, highway-rail crossings (General Order 88B and 26D) (Alternative C)	Coordination has not begun with the Public Utilities Commission. This coordination would occur if Alternative C were selected as the Preferred Alternative (Alternative B has been selected as the Preferred Alternative).
California Department of Conservation, Division of Oil, Gas, and Geothermal Resources	Abandonment of oil wells would need to be done in compliance with Department of Conservation requirements	Coordination has not begun. Before construction, a Notice of Intent would be filed with the Department of Conservation, Division of Oil, Gas and Geothermal Resources, and an abandonment plan would be prepared for all oil wells that would be abandoned.
BNSF Railway, Union Pacific Railroad, and San Joaquin Valley Railroad	Acquisition of right-of-way or easement and changes to existing agreements for work in the rail corridor	Coordination with the railroad would occur prior to construction.
Central Valley Flood Protection Board	Approval of flood control improvements and floodway encroachment	Coordination would begin during the final design phase of the project.

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1.2 Summary of Public Input 1153
CHAPTER 2 **RESPONSES TO COMMENTS FROM FEDERAL AGENCIES .. 1155**
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Chapter 1 Purpose and Need for the Project

1.1 Introduction

The California Department of Transportation (Caltrans), in cooperation with the city of Bakersfield, proposes the construction of the Centennial Corridor as a new east-west transportation corridor for State Route 58. Centennial Corridor would provide route continuity for State Route 58 by building a new freeway segment linking State Route 58 (East) with Interstate 5. To accommodate the new freeway segment, improvements on State Route 99 would also be constructed.

A route adoption (formal alignment selection) by the California Transportation Commission would be needed once the alignment is identified for a continuous route for State Route 58 from east of State Route 99 to Interstate 5. This should also involve route adoption/route transfer of an existing roadway (the Westside Parkway) into the State Highway System. The current portion of State Route 58 (West) from Allen Road to Interstate 5 would be relinquished (made a local road, no longer a State highway) to the local jurisdictions (the city of Bakersfield and the County of Kern).

The project is subject to both state and federal environmental review requirements because it involves the use of federal funds from the Federal Highway Administration. Project documentation has been prepared in compliance with both the California Environmental Quality Act and the National Environmental Policy Act. Caltrans is the lead agency under both the California Environmental Quality Act and the National Environmental Policy Act.

The Draft Environmental Impact Report/Environmental Impact Statement prepared for this project was circulated for public review and comment from May 9, 2014 to July 8, 2014. Caltrans, in cooperation with the city of Bakersfield, held a public hearing at the Kern County Administrative Center Rotunda on June 11, 2014. All comments received during the public review period are included with responses in Volume 3 of this final environmental document and have been addressed in this Final Environmental document. The Final Environmental Impact Report/Environmental Impact Statement also incorporates any changes to the project design, environmental setting, and impacts that have occurred since the draft environmental document was circulated.

Project Location and Setting

The project sits at the southern end of the San Joaquin Valley in the city of Bakersfield in Kern County, California. The project area is bound on the east by Cottonwood Road, on the west by Interstate 5, on the north by Gilmore Avenue, and on the south by Wilson Road (see Figures 1-1 and 1-2).

The city of Bakersfield is a major urban area, with the ninth highest population in the state. Land uses in the project vicinity include residential, commercial, industrial, recreation, resource/utility, agriculture, undeveloped/vacant, and government. The eastern and central portions of the project area are more urbanized; the western portion is generally undeveloped or in agricultural production.

Planning Background

The need for a high-capacity transportation corridor in western Kern County has been recognized by local and regional planners for decades. The 2001 *Route 58 Route Adoption Project Tier 1 Environmental Impact Statement/Environmental Impact Report* focused on the location of a transportation corridor to replace existing State Route 58 in the future. The Tier 1 study documented previous transportation planning studies and analyzed many different alternatives from State Route 58 (East) to Interstate 5. A major result of the Tier 1 effort was the selection of the Cross Valley Canal alignment as the Preferred Alternative at that time. However, between 2001 and April 2015, an action to consider a Route Adoption by the California Transportation Commission has not yet occurred, but may occur upon completion of the final environmental document.

The 2007 *Tier 2 Westside Parkway Environmental Assessment/Final Environmental Impact Report* was prepared to evaluate the construction-level impacts of the first phase of the transportation project identified along the Tier 1 Cross Valley Canal alignment Preferred Alternative. Westside Parkway, which extends west from Truxtun Avenue near Mohawk Street to Stockdale Highway at Heath Road, builds on the previously identified Tier 1 alignment by providing a major link toward route continuity for State Route 58. Construction of Segment 1 of the Centennial Corridor would provide the next logical step in implementing the ongoing plan for improving route continuity and connectivity for State Route 58. This environmental document is not a tiered document of the 2001 *Route 58 Route Adoption Project Tier 1 Environmental Impact Statement/Environmental Impact Report.*

The Centennial Corridor Project is included in the Kern Council of Government's 2014 Regional Transportation Plan (Project Identification Number KER08RTP020) and identified as part of the Bakersfield Beltway System. The Kern Council of Governments adopted the 2014 plan on June 19, 2014. The Federal Highway Administration and Federal Transit Administration made a conformity finding for the 2014 plan on December 12, 2014. Segments 1 and 2 are in the Kern Council of Governments' 2015 Federal Transportation Improvement Program, which was federally approved on December 15, 2014 (Project Identification Numbers KER050109, KER080110, KER080107, and KER050104).

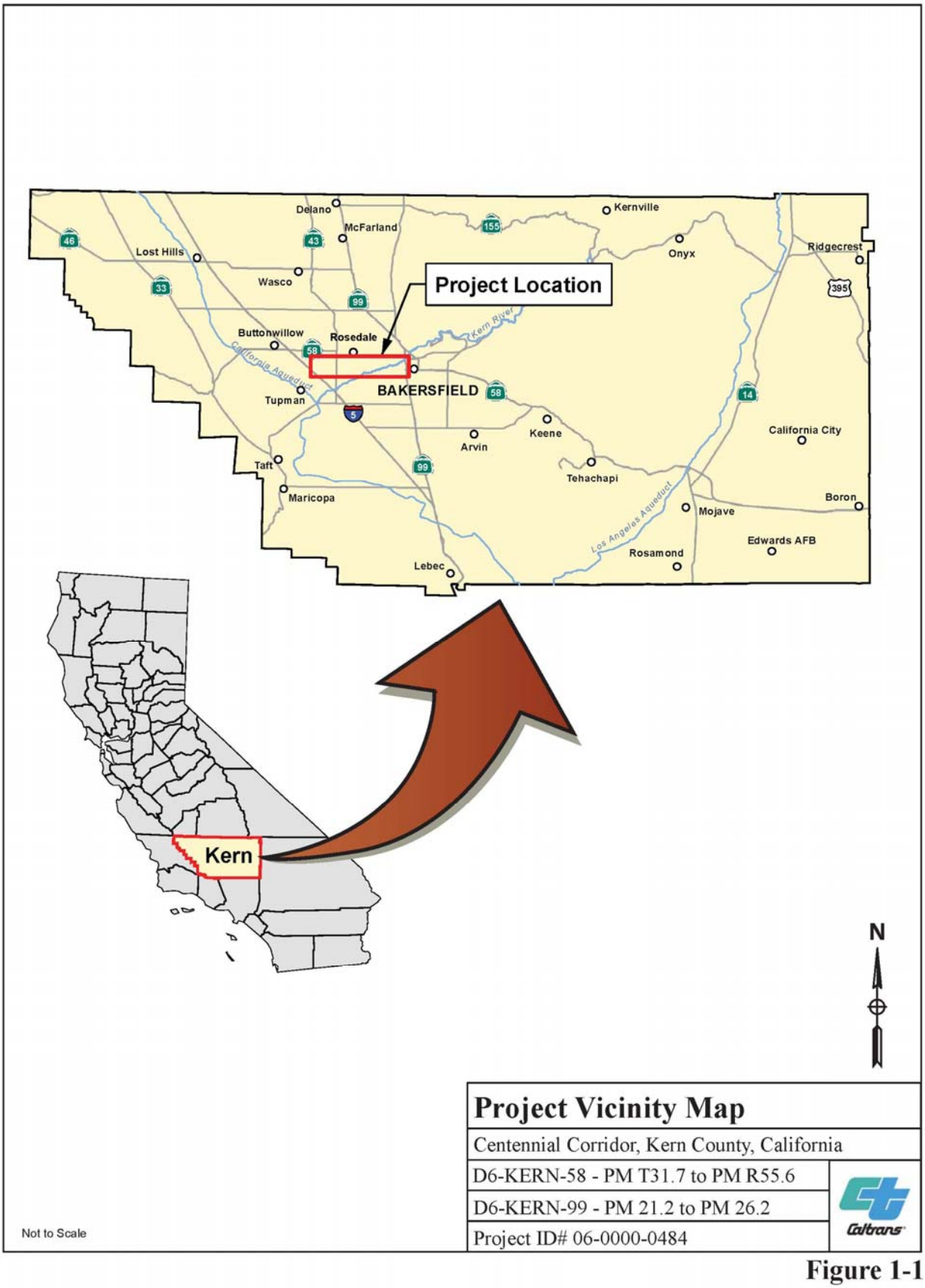

Project Location
Delano
McFarland
Kernville
Lost Hills
Wasco
Onyx
Ridgecrest
Buttonwillow
Rosedale
Kern River
California Aqueduct
BAKERSFIELD
Tupman
Keene
Arvin
California City
Taft
Tehachapi
Maricopa
Boron
Mojave
Los Angeles Aqueduct
Edwards AFB
Rosamond
Lebec
Kern
N
Not to Scale
Project Vicinity Map
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 1-1

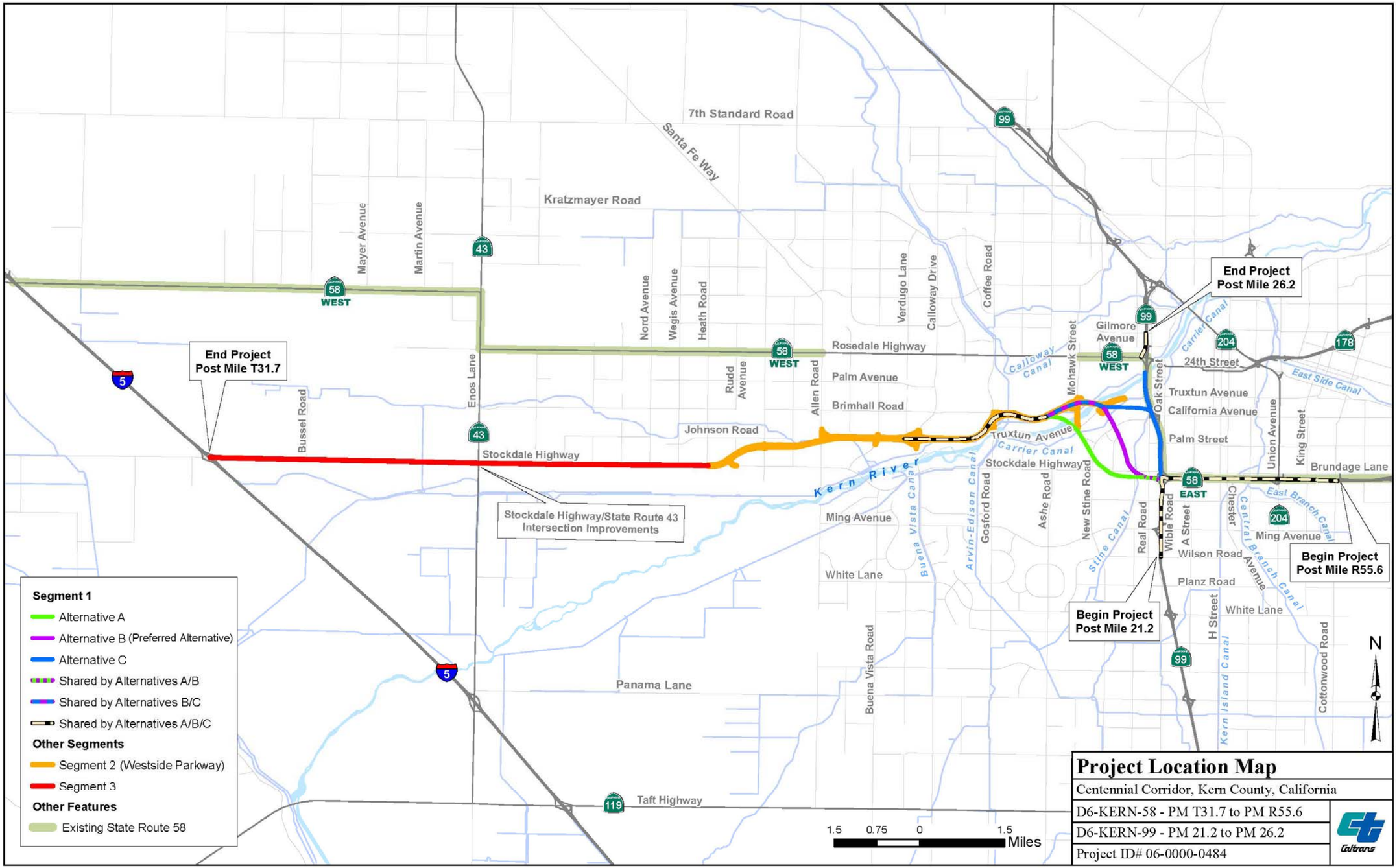

7th Standard Road
Santa Fe Way
Kratzmayer Road
Mayer Avenue
Martin Avenue
Nord Avenue
Wegis Avenue
Heath Road
Verdugo Lane
Calloway Drive
Coffee Road
Rosedale Highway
Rudd Avenue
Allen Road
Palm Avenue
Brimhall Road
Johnson Road
Bussel Road
Enos Lane
Stockdale Highway
Stockdale Highway/State Route 43 Intersection Improvements
Kern River
Ming Avenue
White Lane
Panama Lane
Buena Vista Road
Buena Vista Canal
Arvin-Edison Canal
Gosford Road
Ashe Road
New Stine Road
Stine Canal
Real Road
Wible Road
A Street
Chester
Central Branch Canal
East Branch Canal
Wilson Road
Planz Road
H Street
Kern Island Canal
Cottonwood Road
Union Avenue
King Street
Brundage Lane
Truxtun Avenue
California Avenue
Palm Street
Carrier Canal
Calloway Canal
Mohawk Street
Oak Street
Gilmore Avenue
24th Street
East Side Canal
Taft Highway
End Project Post Mile T31.7
End Project Post Mile 26.2
Begin Project Post Mile R55.6
Begin Project Post Mile 21.2
5
43
58 WEST
58 EAST
99
204
178
119
Segment 1
Alternative A
Alternative B (Preferred Alternative)
Alternative C
Shared by Alternatives A/B
Shared by Alternatives B/C
Shared by Alternatives A/B/C
Other Segments
Segment 2 (Westside Parkway)
Segment 3
Other Features
Existing State Route 58
1.5 0.75 0 1.5
Miles
N
Project Location Map
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 1-2

Funding for the project comes from multiple sources, including the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), which is federal legislation that was signed into law on August 10, 2005. The following funding sources have been identified:

- SAFETEA-LU Section 1301 = $90.44 million
- SAFETEA-LU Section 1302 = $289.2 million
- Other federal sources = $12.97 million
- State = $53 million
- Kern County bond = $57.5 million
- City of Bakersfield = $206.89 million

1.2 Purpose and Need

The purpose and need provide the reasons the project is being considered. They also form the basis for comparing the alternatives so that, when an alternative is selected for construction, not only are the environmental impacts considered but so is the alternative's ability to meet the project's intended objectives.

1.2.1 Purpose

The purpose of the Centennial Corridor Project is to provide route continuity and associated traffic congestion relief along State Route 58 within metropolitan Bakersfield and Kern County from State Route 58 (East) (at Cottonwood Road) to Interstate 5.

The American Association of State Highway and Transportation Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets* (2004) defines route continuity as a roadway throughout the length of a designated route. The goal of route continuity is to ease the driving task by reducing the need to change lanes and search for directional signing. Route continuity is evaluated in terms of consistent levels of service by providing an appropriate number of lanes to ease movement.

1.2.2 Need

State Route 58 is a critical link in the state transportation network and is used by interstate travelers, local commuters within metropolitan Bakersfield, and a great number of regional and inter-regional trucks. However, the efficient movement of traffic, goods, and materials through the metropolitan Bakersfield and incorporated areas is limited by the existing transportation network.

Route Continuity

State Route 58 is not continuous; it lacks route continuity from the State Route 58 (East)/State Route 99 interchange west to Interstate 5. From the State Route 58 (East)/99 interchange, State Route 58 is offset by about 2 miles where State Routes 58 and 99 merge and share a common north-south alignment. Along this shared portion, State Route 58/99 is an eight-lane, access-controlled (access is limited to

interchanges) freeway. This section of State Route 99 between State Route 58 (East) and Airport Drive is the third most congested segment of the highway in California. Regional and inter-regional traffic, including heavy trucks, merge with local traffic using this segment to access metropolitan Bakersfield.

Traffic continuing west from the shared portion of State Route 58/State Route 99 must exit at the State Route 178/24th Street off-ramp to access State Route 58 (West) where the route resumes as an east-west local road known as Rosedale Highway. State Route 58 (West) extends west for about 12 miles from State Route 99 to State Route 43. From State Route 99 west to Allen Road, State Route 58 (West) is a four-lane, divided local road with a posted 45 mile-per-hour speed limit and traffic signals at all major intersections. In June 2012, Caltrans relinquished the portion of State Route 58 (West) between Allen Road to Mohawk Street (post miles 45.96 to 50.61) to the city of Bakersfield and the County of Kern.

At State Route 43 (locally known as Enos Lane), State Route 58 (West) is again offset to the north for about 1 mile and shares the alignment with State Route 43. From this point, State Route 58 (West) again assumes an east-west alignment as a two-lane, rural conventional roadway for about 8 miles, to the interchange with Interstate 5.

The lack of route continuity contributes to traffic congestion and reduced levels of service on adjoining highways and local streets. As stated in the 2001 *Route 58 Route Adoption Project Tier 1 Environmental Impact Statement/Environmental Impact Report* (page 1-1), "The lack of continuity at State Route 99 contributes to traffic congestion on that freeway. State Route 99 has large volumes of traffic because it is the major Central Valley connector in California and is the only major north-south freeway in Bakersfield, and it also functions as a major commuter route for the metropolitan area. State, regional and local east-west traffic using State Route 58 contributes to the already substantial volume of traffic using State Route 99 where both state routes share a common roadway." Under existing conditions, State Route 58 does not meet the capacity needs of the area, and this is expected to get worse as the population grows. The existing capacity of State Route 58, both eastbound and westbound, is constrained by the system interchange ramps at State Route 99 and Real Road. Currently these ramps are operating at level of service E/F during peak hours. These conditions will worsen (or deteriorate) with the widening of State Route 99 from Taft Highway to Wilson Road and several future projects which include widening Rosedale Highway from four lanes to six lanes and widening 24th Street from four to six lanes (see the Traffic Study Report for the Centennial Corridor Project). The widening of State Route 58 east of State Route 99 and construction of the Centennial Corridor connection are needed to meet future population and employment growth in the Bakersfield metropolitan area and to accommodate forecasted growth in interregional traffic movements in the State Route 58, State Route 99 and Interstate 5 travel corridors.

The metropolitan Bakersfield forecast annual growth rate (2010-2035) is 1.8 percent. In the area east of State Route 99, three highways (State Route 204, State Route 178,

and State Route 58) provide a well-developed road system to handle the large volume of local traffic movement. There are no access-controlled thoroughfares in the metropolitan area west of State Route 99 to support growth. The stop- and signal-controlled local road network west of State Route 99 adds to commute times and provides lower levels of service.

Another factor limiting route continuity is the Kern River, which creates a barrier for traffic movement. The Kern River splits the metropolitan Bakersfield area and creates a barrier for traffic movement. Only a few routes—such as Olive Drive, Stockdale Highway, and Rosedale Highway/24th Street—span the river and carry traffic in an east-west direction. This results in high traffic volumes: traffic is funneled across the Kern River using those few routes that span the river. State Route 99 contributes to this because it also attracts some local north-south traffic crossing the river.

A more technical analysis of the issues identified above is provided below. The next two sections provide details on existing and future east-west traffic congestion and traffic conditions on the shared portion of State Route 58 and State Route 99.

Existing East-West Traffic Congestion and Projected Demand

The Interregional Transportation Strategic Plan was developed by Caltrans to guide development of the interregional transportation system. The Interregional Transportation Strategic Plan identifies State Route 58 as a high-capacity, high level of service, east-west facility that provides significant goods and freight movement connections between Interstate 5 and State Route 99 in the San Joaquin Valley.

Sitting at the southern end of the San Joaquin Valley, Kern County has convenient access to both the Los Angeles Basin and the San Francisco Bay area. As a result, Kern County is developing as an important regional center for distribution of goods and materials through the state. In addition, the manufacturing and employment base of the San Joaquin Valley is increasing. These factors contribute to increasing demand for freight transportation in the greater Bakersfield region.

Truck traffic accounts for 27 percent of the total traffic in Kern County. This is three times the statewide average of 9 percent. Surveys have found that that even the existing State Route 58 West (Rosedale Highway), built as a local roadway, has truck traffic percentages of up to 16 percent of total traffic. The Caltrans *State Route 58 Corridor System Management Plan* (2011) projects that goods movement is expected to continue to increase over the next several years, creating a need to develop State Route 58 as a primary east-west route. On a regional scale, the project would promote economic growth and interregional/intraregional trade by improving linkages between existing segments of the State Highway System through Bakersfield.

Users of State Route 58 (West)/Rosedale Highway currently experience travel delays from stop- and signal-controlled local streets. This is especially evident on the 12-mile segment between State Route 43 (Enos Lane) and State Route 99, which has 18 signal or four-way-stop intersections. The projected level of service indicates that delay will get worse in the future conditions. With ongoing and future access,

congestion, and continuity issues along State Route 58, there is a well-recognized need for highway improvements, as supported by information in the "Traffic Congestion on the Shared Portion of State Route 58 and State Route 99" subsection later in this Section of this chapter.

The effectiveness of traffic operations on a transportation facility is measured in terms of "level of service," in a range from A to F, with level of service A representing the best traffic conditions (free-flowing traffic) and level of service F representing the worst (congestion and stop-and-go traffic). Level of service descriptions are shown in Figures 1-3a through 1-3d. Figure 1-3a shows operating speeds for each of the level of service for freeways, which applies to State Route 99, State Route 58 (East), and the proposed new construction in Segment 1. Figure 1-3b shows operating speeds for each of the level of service for multi-lane highways, which applies to the remaining roadways (such as Rosedale Highway and Stockdale Highway) in the study area. Figure 1-3c is for intersections with signals and Figure 1-3d is for intersections without signals. For the intersections, the figures show the number of seconds of delay for each of the levels of service.

The California Department of Finance estimated that the population of Kern County increased at a rate of 2.5 percent between July 2000 and July 2009, nearly double the rate for California as a whole. By 2035, the population of Bakersfield is expected to reach 848,487 persons or about 60 percent of the expected population in all of Kern County. In 20 to 30 years, as the population continues to grow, traffic congestion will increase on many local roadways during peak commute hours unless roadway improvements are made. See Table 1.1 (Existing and Future Levels of Service for Key Intersections Without Project) for more information.

A *Traffic Study Report for the Centennial Corridor Project* (November 2012) was prepared to evaluate the operation of existing roadways, project those conditions 20 years into the future, and compare operations of both the no-build and build alternatives. The traffic projections for future years were generated from the Kern Council of Governments' 2006 Regional Travel Model (Update 1, which is based in part on regional growth forecasts).

Table 1.1 summarizes existing and forecasted average daily traffic counts predicted for selected key intersections within the project study area in 2008 (existing or baseline conditions), 2018 (opening year of the project), and 2038 (design year of the project). This comparison uses the level of service during the busiest times of the day (peak hours). The morning peak period is from 7:00 a.m. to 9:00 a.m. and the afternoon peak period is from 3:00 p.m. to 6:00 p.m. The peak 60 minutes of traffic volume varies by location.

Under baseline conditions (2008), within the project area limits, 15 key intersections with signals operated at worse than level of service D (25 to 35 seconds of delay) during one or both peak hour periods. In addition, one key intersection without a signal operated at an unacceptable level of service (worse than level of service D).

Figures 1-3a through 1-3d provide the delay time for intersection and the estimated speeds for the freeways for each level of service category.

Under 2018 No-Build Alternative conditions, 12 intersections (11 with signals and 1 without signals) in the project area are projected to operate at worse than level of service D during one or both peak hour periods. Under 2038 No-Build Alternative conditions, 22 intersections (18 with signals and 4 without signals) in the project area are projected to operate at worse than level of service D during one or both peak hours. For details, see Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities.

Traffic Congestion on the Shared Portion of State Routes 58 and 99

State Route 99, which is the major Central Valley north-south highway in California, provides a connection between the two legs of State Route 58 (Rosedale Highway and State Route 58 East) for drivers traveling in the east-west direction. The merging of two major State Routes (58 and 99) into one alignment between the eastern and western legs of State Route 58 (a distance of about two miles) has made the traffic level of service deteriorate on this segment of freeway. Conditions are projected to worsen in the coming years.

Also, State Route 99's close spacing for its two connections with State Route 58 (East and West), as well as an interchange at California Avenue, has resulted in conflicting merging conditions (cars coming onto the freeway are trying to move to the left and the cars on the freeway are trying to move to the right to use the off-ramp) that add to traffic congestion. The Caltrans standard for spacing between freeway-to-freeway connections is 2 miles, and the standard for spacing between interchanges is 1 mile. In this location, the two connectors from State Route 58 to State Route 99 and the California Avenue interchange are all located in slightly over 2 miles.

Other highway projects in the area, such as the Rosedale Highway Widening Project, which will widen Rosedale Highway to six lanes from State Route 99 to Allen Road, do not provide enough traffic capacity to satisfy the projected need. The *Traffic Study Report for the Centennial Corridor Project* assumes the implementation of street improvements that are funded by the Regional Transportation Improvement Program and the Metropolitan Bakersfield Transportation Impact Fee Program that are expected to be built between 2013 and 2038. These programs include a wide range of transportation improvements, including the Rosedale Widening Project, 24th Street Widening, and the North Beltway project. Even with these projects, given the projected population and employment growth trends, traffic congestion would occur along Rosedale Highway, 24th Street, the Truxtun Avenue extension west of Oak Street, portions of Stockdale Highway, State Route 99, portions of State Route 178, Coffee Road, Mohawk Street, and Union Avenue.

LEVELS OF SERVICE
for Freeways

Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptions
A		70	Highest quality of service. Traffic flows freely with little or no restrictions on speed or maneuverability. **No delays**
B		70	Traffic is stable and flows freely. The ability to maneuver in traffic is only slightly restricted. **No delays**
C		67	Few restrictions on speed. Freedom to maneuver is restricted. Drivers must be more careful making lane changes. **Minimal delays**
D		62	Speeds decline slightly and density increases. Freedom to maneuver is noticeably limited. **Minimal delays**
E		53	Vehicles are closely spaced, with little room to maneuver. Driver comfort is poor. **Significant delays**
F		<53	Very congested traffic with traffic jams, especially in areas where vehicles have to merge. **Considerable delays**

Source: Caltrans 2012

Level of Service Descriptions for Freeways

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 1-3a

LEVELS OF SERVICE
for Multi-Lane Highways

Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptions
A		60	Highest level of service. Traffic flows freely with little or no restrictions on maneuverability. **No delays**
B		60	Traffic flows freely, but drivers have slightly less freedom to maneuver. **No delays**
C		60	Density becomes noticeable with ability to maneuver limited by other vehicles. **Minimal delays**
D		57	Speed and ability to maneuver is severely restricted by increasing density of vehicles. **Minimal delays**
E		55	Unstable traffic flow. Speeds vary greatly and are unpredictable. **Minimal delays**
F		<55	Traffic flow is unstable, with brief periods of movement followed by forced stops. **Significant delays**

Level of Service Descriptions for Multi-Lane Highways

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Source: Caltrans 2012

Figure 1-3b

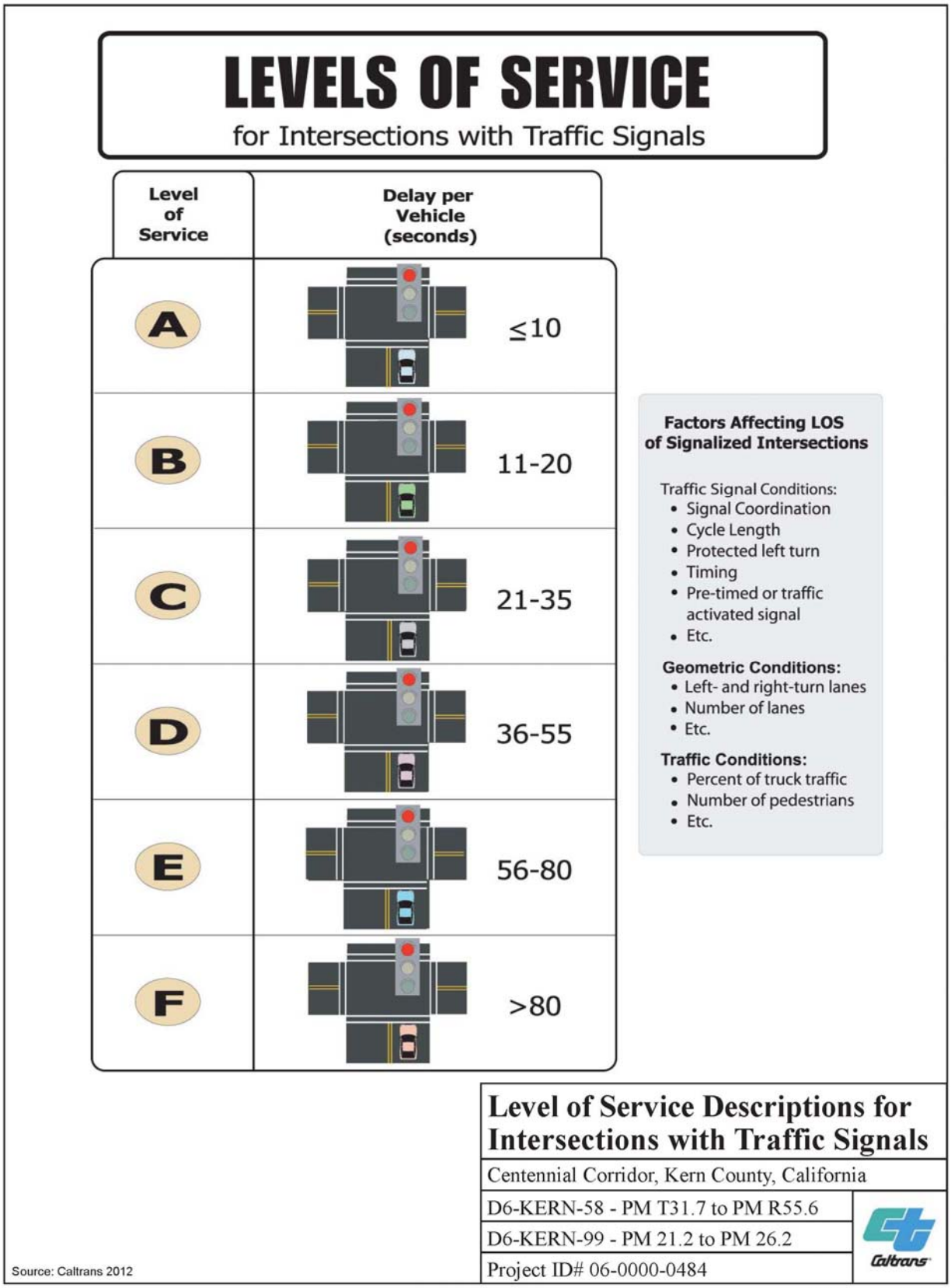

LEVELS OF SERVICE
for Intersections with Traffic Signals
Level of Service
Delay per Vehicle (seconds)
A
≤10
B
11-20
C
21-35
D
36-55
E
56-80
F
>80
Factors Affecting LOS of Signalized Intersections
Traffic Signal Conditions:
• Signal Coordination
• Cycle Length
• Protected left turn
• Timing
• Pre-timed or traffic activated signal
• Etc.
Geometric Conditions:
• Left- and right-turn lanes
• Number of lanes
• Etc.
Traffic Conditions:
• Percent of truck traffic
• Number of pedestrians
• Etc.
Source: Caltrans 2012
Level of Service Descriptions for Intersections with Traffic Signals
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 1-3c

LEVELS OF SERVICE

for Unsignalized Intersections

Level of Service	Flow Conditions	Delay per Vehicle (seconds)	Technical Descriptions
A		<10	Highest quality of service. Free traffic flow with few restrictions on maneuverability or speed. **Very short delay**
B		10-15	Stable traffic flow. Speed becoming slightly restricted. Low restriction on maneuverability. **No delays**
C		15-25	Stable traffic flow, but less freedom to select speed, change lanes or pass. **Minimal delays**
D		25-35	Traffic flow becoming unstable. Speeds subject to sudden change. Passing is difficult. **Minimal delays**
E		35-50	Unstable traffic flow. Speeds change quickly and maneuverability is low. **Significant delays**
F		>50	Heavily congested traffic. Demand exceeds capacity and speeds vary greatly. **Considerable delays**

Level of Service Descriptions for Unsignalized Intersections

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Source: Caltrans 2012

Figure 1-3d

Figure 3-11, provided in Volume 2, and Table 1.1 show future congestion at various roadway intersections, represented by levels of service without the project in 2018 and 2038. Table 1.2 shows the level of service of various freeway segments on State Routes 58 and 99 in the project area without the project for the same years. For some freeway mainline segments, heavy congestion (levels of service E and F) is predicted for both morning and afternoon peak hours by 2038 under no-build conditions. With improvements on State Route 58, traffic is expected to shift from parallel local streets to the Centennial Corridor. This would relieve congestion on the larger roadway network, which would result in systemwide benefits. Systemwide benefits extend beyond just improving traffic conditions to include time, costs, and environmental improvements. The Federal Highway Administration has developed the Surface Transportation Efficiency Analysis Model (STEAM) version 2.0 to quantify the benefits and costs of the project. Factors considered in this model include travel time savings, fuel costs, expected accident costs, and environmental benefits/costs (such as reduction in air pollution and changes to noise levels). The benefits are balanced against the costs of building the project. A 20-year life cycle is used for estimating the costs. The build alternatives all would provide benefits that exceed the cost of construction of the project. The STEAM analysis is discussed in greater detail in Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities.

1.2.3 Independent Utility and Logical Termini

Federal Highway Administration regulations (23 Code of Federal Regulations 771.111[f]) require that (1) projects have logical limits and be long enough that the environmental analysis has a broad scope; (2) projects are usable and a reasonable use of funds even if no additional transportation improvements in the area are made (this is known as independent utility); and (3) approval of a project does not restrict consideration of alternatives for other reasonably foreseeable transportation improvements. As discussed below, the Centennial Corridor Project complies with these requirements.

The Segment 1 project would close a gap by connecting State Route 58 (East) with the new Westside Parkway (Segment 2). Segments 1 and 2 and Stockdale Highway would serve the developed portion of metropolitan Bakersfield by moving traffic, goods, and freight through the area, plus provide access to Interstate 5 for improved regional access. Stockdale Highway would satisfy the travel demand through the 2038 planning horizon by providing a direct access to Interstate 5 (since 2038 is the planning design year, the needs beyond 2038 have not been evaluated as part of this study).

Table 1.1 Existing and Future Levels of Service for Key Intersections Without Project

Intersection[a]	Existing (Baseline) Conditions (2008)			Forecasted Conditions (2018)			Forecasted Conditions (2038)		
	Traffic Control	Peak Hour	LOS[b] Average Delay	Traffic Control	Peak Hour	No-Build Alternative LOS[b] Average Delay	Traffic Control	Peak Hour	No-Build Alternative LOS[b] Average Delay
Interstate 5/Stockdale Highway ramps	Unsignalized	AM	B	Unsignalized	AM	A	Unsignalized	AM	A
		PM	C		PM	A		PM	**F** (southbound)
Stockdale Highway/Enos Lane	Unsignalized	AM	B	Unsignalized	AM	**F**	Unsignalized	AM	**F**
		PM	D		PM	**F**		PM	**F**
Rosedale Highway/Enos Lane	Unsignalized	AM	B	Unsignalized	AM	B	Unsignalized	AM	D
		PM	B		PM	D		PM	**F**
Stockdale Highway/Wegis Avenue	Unsignalized	AM	unavailable	Unsignalized	AM	A	Unsignalized	AM	**F**
		PM	unavailable		PM	B		PM	**F**
Stockdale Highway/Heath Road	Unsignalized	AM	C	Signalized	AM	C	Signalized	AM	C
		PM	C		PM	C		PM	C
Allen Road/Rosedale Highway	Signalized	AM	D	Signalized	AM	C	Signalized	AM	D
		PM	**E**		PM	D		PM	D
Calloway Drive/Rosedale Highway	Signalized	AM	**E**	Signalized	AM	D	Signalized	AM	D
		PM	**F**		PM	D		PM	D
Calloway Drive/Stockdale Highway	Signalized	AM	D	Signalized	AM	D	Signalized	AM	D
		PM	D		PM	C		PM	D
Coffee Road/Rosedale Highway	Signalized	AM	**E**	Signalized	AM	**E**	Signalized	AM	**F**
		PM	**E**		PM	**F**		PM	**F**
Coffee Road/Stockdale Highway	Signalized	AM	**F**	Signalized	AM	D	Signalized	AM	**E**
		PM	**F**		PM	D		PM	**F**
Mohawk Street/Rosedale Highway	Unsignalized	AM	**F**	Signalized	AM	**E**	Signalized	AM	**F**
		PM	**F**		PM	**F**		PM	**F**
Mohawk Street/Truxtun Avenue	Signalized	AM	C	Signalized	AM	C	Signalized	AM	C
		PM	D		PM	C		PM	**E**
Mohawk Street/California Avenue	Signalized	AM	C	Signalized	AM	C	Signalized	AM	**F**
		PM	C		PM	**F**		PM	**F**

Table 1.1 Existing and Future Levels of Service for Key Intersections Without Project

Intersection[a]	Existing (Baseline) Conditions (2008)			Forecasted Conditions (2018)			Forecasted Conditions (2038)		
	Traffic Control	Peak Hour	LOS[b] Average Delay	Traffic Control	Peak Hour	No-Build Alternative LOS[b] Average Delay	Traffic Control	Peak Hour	No-Build Alternative LOS[b] Average Delay
Stockdale Highway/California Ave	Signalized	AM	**E**	Signalized	AM	**E**	Signalized	AM	**F**
		PM	**F**		PM	D		PM	**F**
Rosedale Highway/State Route 99 southbound ramps	Signalized	AM	D	Signalized	AM	B	Signalized	AM	C
		PM	D		PM	C		PM	D
Rosedale Highway/State Route 99 northbound ramps	Signalized	AM	D	Signalized	AM	C	Signalized	AM	C
		PM	**F**		PM	C		PM	C
Truxtun Avenue/Oak Street	Signalized	AM	D	Signalized	AM	D	Signalized	AM	**E**
		PM	**E**		PM	D		PM	**E**
California Avenue/State Route 99 southbound ramps	Signalized	AM	D	Signalized	AM	D	Signalized	AM	D
		PM	D		PM	**E**		PM	**E**
California Avenue/State Route 99 northbound ramps	Signalized	AM	**E**	Signalized	AM	C	Signalized	AM	C
		PM	C		PM	C		PM	D
California Avenue/Oak Street	Signalized	AM	D	Signalized	AM	C	Signalized	AM	C
		PM	**E**		PM	**E**		PM	**E**
Stockdale Highway/Stine Road	Unsignalized	AM	unavailable	Signalized	AM	D	Signalized	AM	**F**
		PM	unavailable		PM	**E**		PM	**F**
Stockdale Highway/Real Road	Signalized	AM	**F**	Signalized	AM	**E**	Signalized	AM	D
		PM	**F**		PM	**E**		PM	**F**
Stockdale Highway/State Route 99 southbound ramp	Signalized	AM	B	Signalized	AM	B	Signalized	AM	B
		PM	B		PM	B		PM	B
Real Road/State Route 58 (East)	Signalized	AM	C	Signalized	AM	C	Signalized	AM	C
		PM	C		PM	C		PM	D
Ming Avenue/New Stine Road	Signalized	AM	**E**	Signalized	AM	D	Signalized	AM	D
		PM	**E**		PM	D		PM	**E**
Ming Avenue/Real Road	Signalized	AM	C	Signalized	AM	C	Signalized	AM	C
		PM	**E**		PM	C		PM	**E**

Table 1.1 Existing and Future Levels of Service for Key Intersections Without Project

Intersection[a]	Existing (Baseline) Conditions (2008)			Forecasted Conditions (2018)			Forecasted Conditions (2038)		
	Traffic Control	Peak Hour	LOS[b] Average Delay	Traffic Control	Peak Hour	No-Build Alternative LOS[b] Average Delay	Traffic Control	Peak Hour	No-Build Alternative LOS[b] Average Delay
White Lane/Wible Road	Signalized	AM	D	Signalized	AM	**E**	Signalized	AM	**F**
		PM	**F**		PM	**E**		PM	**F**
White Lane/State Route 99 southbound ramps	Signalized	AM	C	Signalized	AM	C	Signalized	AM	C
		PM	**F**		PM	**F**		PM	**F**
White Lane/State Route 99 northbound ramps	Signalized	AM	A	Signalized	AM	A	Signalized	AM	B
		PM	A		PM	A		PM	**B**
H Street/Brundage Lane	Signalized	AM	C	Signalized	AM	C	Signalized	AM	C
		PM	D		PM	D		PM	**E**
H Street/State Route 58 (East) westbound ramp	Signalized	AM	B	Signalized	AM	B	Signalized	AM	C
		PM	**E**		PM	**E**		PM	**E**
H Street/State Route 58 (East) eastbound ramp	Signalized	AM	D	Signalized	AM	D	Signalized	AM	D
		PM	C		PM	C		PM	C
Chester Avenue/Brundage Lane	Signalized	AM	C	Signalized	AM	C	Signalized	AM	C
		PM	C		PM	C		PM	**E**

Note: **Bold** font and shading indicates intersection operations worse than Level of Service D.
LOS: level of service; AM: morning; PM: afternoon.

[a] For location of each intersection, refer to Figure 3-11.

[b] Level of service calculations completed using the CORSIM microsimulation and Synchro 6 analysis software packages.

Signalized = with traffic signals
Unsignalized = without traffic signals

Source: Developed from the *Traffic Study Report for the Centennial Corridor Project* 2012.

Table 1.2 Existing and Future Levels of Service for State Route 99 Mainline Without Project

Location	Existing (Baseline) Conditions (2008)[a]		Forecasted Conditions (2018)[b]		Forecasted Conditions (2038)	
	AM	PM	AM	PM	AM	PM
State Route 99 Northbound						
State Route 99 northbound south end of the network to White Lane off-ramp	C	B	C	C	**E**	D
White Lane off-ramp to White Lane loop on-ramp	C	B	B	B	D	C
White Lane loop on-ramp to White Lane direct on-ramp	N/A	N/A	C	C	**F**	D
White Lane direct on-ramp to Ming Avenue off-ramp	D	C	C	C	**F**	**F**
Ming Avenue off-ramp to Ming Avenue on-ramp	C	B	D	C	**F**	**F**
Ming Avenue on-ramp to State Route 58 eastbound/Wible off-ramp	N/A	N/A	**F**	**E**	**F**	**F**
State Route 58 eastbound/Wible Road off-ramp to Wible Road on-ramp	C	B	C	C	C	C
Wible on-ramp to State Route 58 westbound on-ramp	N/A	N/A	C	C	C	C
State Route 58 westbound on-ramp to California Avenue off-ramp	D	C	D	D	D	D
California Avenue off-ramp to California Avenue loop on-ramp	C	B	C	C	C	D
California Avenue loop on-ramp to California Avenue direct on-ramp	N/A	N/A	C	D	D	D
California Avenue direct on-ramp to Rosedale Highway off-ramp	D	C	C	C	C	D
Rosedale Highway off-ramp to Buck Owens Boulevard/Sillect off-ramp	N/A	N/A	B	C	C	C
Buck Owens Boulevard/Sillect Avenue off-ramp to Buck Owens Boulevard/Sillect Avenue on-ramp	B	B	B	B	B	C
Buck Owens Boulevard/Sillect Avenue on-ramp to Airport Drive Off-Ramp	N/A	N/A	B	C	C	C
Airport Drive off-ramp to Golden State Avenue	B	B	A	B	B	B
State Route 99 Southbound						
Golden State Avenue to Airport Drive on-ramp	C	C	B	B	B	C
Airport Drive on-ramp to Rosedale Highway off-ramp	C	C	C	C	C	**E**
Rosedale Highway off-ramp to Rosedale Highway loop on-ramp	B	C	B	C	B	C
Rosedale Highway loop on-ramp to Rosedale Highway direct on-ramp	N/A	N/A	B	D	C	D
Rosedale Highway direct on-ramp to California Avenue off-ramp	C	D	C	D	D	**E**
California Avenue off-ramp to California Avenue on-ramp	C	C	C	D	C	**E**
California Avenue on-ramp to State Route 58 eastbound/Stockdale Highway off-ramp	C	D	C	**E**	D	**E**
State Route 58 eastbound/Stockdale Highway off-ramp to State Route 58 westbound on-ramp	B	C	B	C	B	D
State Route 58 westbound on-ramp to Real Road on-ramp	N/A	N/A	C	**E**	D	**F**
Real Road on-ramp to Ming Avenue off-ramp	N/A	N/A	C	D	D	**F**

Table 1.2 Existing and Future Levels of Service for State Route 99 Mainline Without Project

Location	Existing (Baseline) Conditions (2008)[a]		Forecasted Conditions (2018)[b]		Forecasted Conditions (2038)	
	AM	PM	AM	PM	AM	PM
Ming Avenue off-ramp to Ming Avenue on-ramp	B	C	B	C	C	D
Ming Avenue on-ramp to White Lane off-ramp	C	D	B	C	C	D
White Lane off-ramp to White Lane loop on-ramp	B	B	B	B	C	C
White Lane loop on-ramp to White Lane direct on-ramp	N/A	N/A	B	B	C	C
White Lane direct on-ramp to Panama Lane	B	C	B	C	C	D
State Route 58 Eastbound						
State Route 58 west end of the network to State Route 99 on-ramp	N/A	N/A	B	A	B	A
State Route 99 on-ramp to H Street off-ramp	N/A	N/A	C	C	C	C
H Street off-ramp to Chester Avenue on-ramp	D	D	C	C	C	C
Chester Avenue on-ramp to Union Avenue off-ramp	D	D	C	C	C	C
Union Avenue off-ramp to Union Avenue loop on-ramp	C	D	B	C	C	C
Union Avenue loop on-ramp to Union Avenue diagonal on-ramp	N/A	N/A	C	C	C	C
Union Avenue diagonal on-ramp to Cottonwood Road off-ramp	D	D	C	C	C	D
Cottonwood Road off-ramp to Cottonwood Road on-ramp	N/A	N/A	B	C	C	C
Cottonwood Road on-ramp to State Route 58 east end of the network	N/A	N/A	C	C	C	D
State Route 58 Westbound						
State Route 58 east end of the network to Cottonwood Road off-ramp	N/A	N/A	C	C	D	C
Cottonwood Road off-ramp to Cottonwood Road on-ramp	N/A	N/A	B	B	C	C
Cottonwood Road on-ramp to Brundage Lane off-ramp	D	D	C	C	D	C
Brundage Lane off-ramp to Brundage Lane on-ramp	C	C	B	B	C	C
Brundage Lane on-ramp to Union Avenue on-ramp	N/A	N/A	B	C	C	C
Union Avenue on-ramp to Chester Avenue off-ramp	N/A	N/A	C	C	C	C
Chester Avenue off-ramp to H Street on-ramp	C	C	B	B	C	D
H Street on-ramp to State Route 99 northbound off-ramp	D	D	C	C	C	**E**
State Route 99 northbound off-ramp to State Route 99 southbound off-ramp	B	C	B	B	B	**E**

Note: **Bold** font and shading indicates intersection operations worse than Level of Service D.

AM: Morning; PM: Afternoon; N/A: Not Available.

[a] Results based on HCS Analysis

[b] Based on simulation results

Source: Developed from the *Traffic Study Report for the Centennial Corridor Project* 2012.

Another important consideration is whether the project is of sufficient length to address potential environmental impacts on a broad scope. At 17.4 to 18.5 miles long (depending on the alternative), the study corridor extends well beyond the proposed

construction limits, and allows for evaluation of environmental impacts on a sufficiently broad scope.

The project's phased implementation would provide an effective and efficient roadway even if no additional transportation improvements are made. As discussed in Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, the connection of Segment 1 with Segment 2 would provide an improved and adequate traffic level of service through 2038 (the project's design year). Finally, no other projects would be needed to meet the project's objectives or would depend on construction of the Centennial Corridor Project.

Approval of the project does not restrict consideration of alternatives for other reasonably foreseeable transportation improvements. The Regional Transportation Plan identifies a number of other transportation improvements that are expected by 2035. Each of these is being developed independently of the Centennial Corridor, and none would be made impossible by the corridor. The Centennial Corridor Project would not conflict with or constrain the design of any of these projects.

Segment 3 traffic would use Stockdale Highway to access Interstate 5 and would not constrain the design of Segment 3 in the future (year 2038 and beyond).

Chapter 2 Project Alternatives

2.1 Alternatives

The Centennial Corridor Project is divided into three segments (see Figure 1-2). Segment 1 alternatives are bound on the east by Cottonwood Road, on the west by Calloway Drive, on the north by Gilmore Avenue, and on the south by Wilson Road. Construction of Segment 1 is scheduled to begin in 2016 and be completed in 2018.

Three build alternatives—Alternatives A, B, and C—and a No-Build Alternative have been considered for Segment 1 of the project as shown in Figure 2-1. Selection of a Preferred Alternative was based on how well each project alternative is able to meet the project purpose and need (discussed in Chapter 1), address impacts to the community and environment, and be cost-effective. Alternative B was selected as the Preferred Alternative as discussed in Sections 2.1.3 and 2.1.4.

No alternative alignments are proposed for Segment 2 because the project would use the Westside Parkway. Only minor changes to Segment 2 are required, and these would be done within the existing right-of-way.

Stockdale Highway would be used as the State Route 58 connection to Interstate 5. The existing Stockdale Highway and interchange at Interstate 5 would satisfy travel demand through the planning horizon of 2038. However, to accommodate the additional traffic volumes, intersection improvements at Stockdale Highway and State Route 43 are being proposed.

2.1.1 Build Alternatives

The actions for the Centennial Corridor Project would be (1) route adoption for a continuous route for State Route 58 from the existing freeway portion of State Route 58 east of State Route 99 to Interstate 5 with the western portion on existing Stockdale Highway from Heath Road to Interstate 5; and (2) approval for construction of Segment 1, improvements within Segment 2, and intersection improvements at the Stockdale Highway and State Route 43 (known locally as Enos Lane) intersection. Common and unique design features of each build alternative are described below.

Common Design Features of the Build Alternatives

Preliminary design plans for Alternatives A, B and C, showing the right-of-way requirements are provided in Appendix E (Volume 2) of this document. The build alternatives would connect State Route 58 (East) to the east end of the Westside Parkway by means of a six-lane freeway. Though the alignment and design characteristics vary by alternative, there are common design features of the three build alternatives, as noted below.

Segment 1 (Eastern Connection)

All three build alternatives would provide the following connections between existing State Route 58 (East) and State Route 99 using high-speed connection ramps:

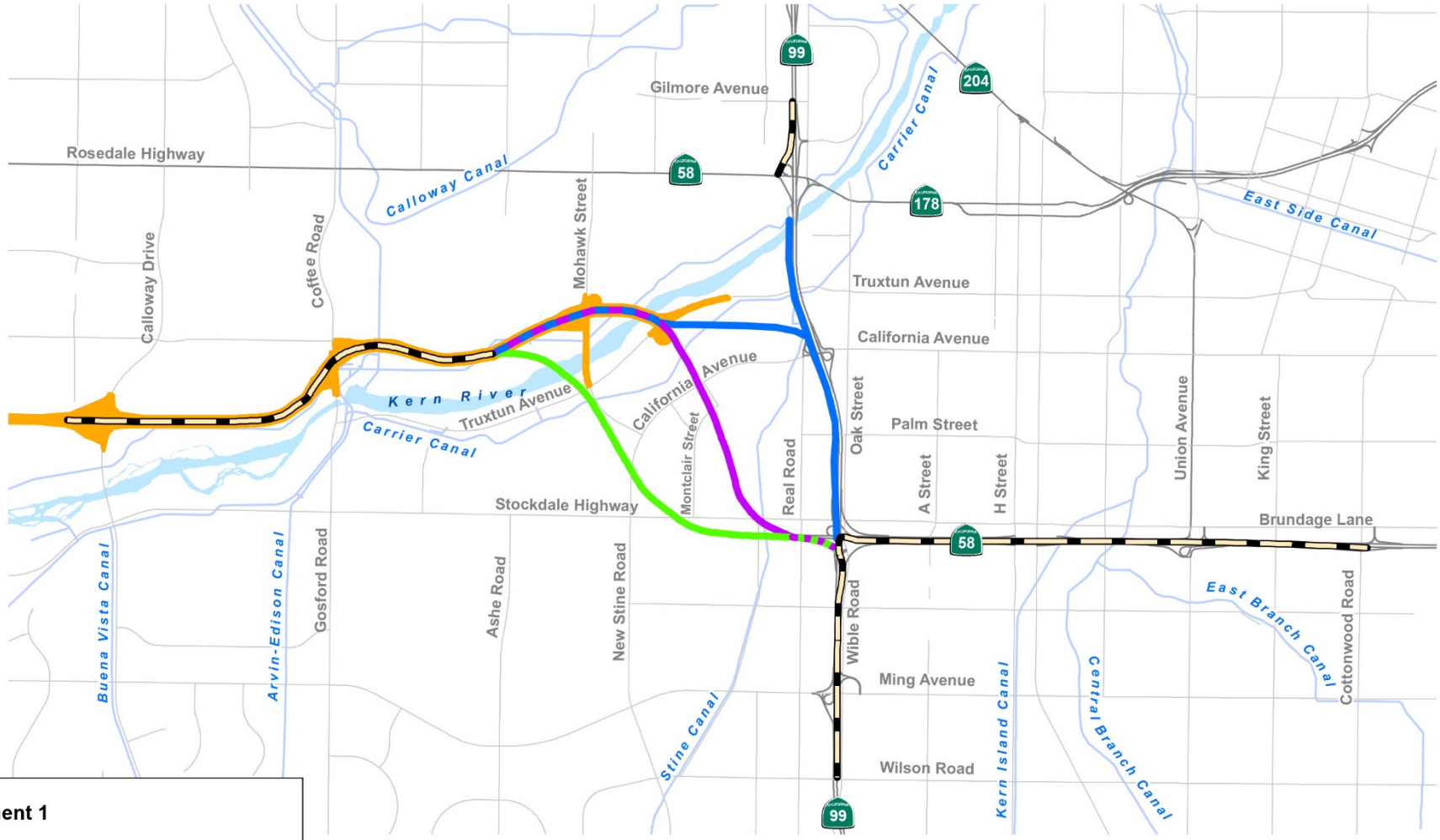
- Northbound State Route 99 to westbound Centennial Corridor
- Northbound State Route 99 to eastbound State Route 58 (East)
- Southbound State Route 99 to eastbound State Route 58 (East)
- Eastbound Centennial Corridor to southbound State Route 99
- Westbound State Route 58 (East) to southbound and northbound State Route 99

Build alternatives A, B, and C would not include direct connectors from southbound State Route 99 to westbound State Route 58 and from eastbound State Route 58 to northbound State Route 99. The traffic demand forecast for 2038 (the planning horizon year) indicated that the direct connectors would primarily service regional traffic while interregional traffic passing through the triangle area formed by State Route 99, Interstate 5 and State Route 58 would use shorter and more direct routes instead of the connectors. For example, the traffic from the south would directly access State Route 99 at the State Route 99/Interstate 5 Interchange located 24 miles south of State Route 58 East. Also, traffic going between Interstate 5 and State Route 99, north of Bakersfield, would continue to use State Route 46 (approximately 17 miles north of Stockdale Highway) due to more efficient travel times as compared to using the Westside Parkway and Centennial Corridor.

In addition, the traffic modeling for Alternatives A and B projected that traffic traveling on southbound State Route 99 to westbound State Route 58, would opt for the shorter 2-mile alternate route, by exiting at Rosedale Highway, traveling west to Mohawk Street and then going south on Mohawk Street to join Westside Parkway, versus traveling 4.5 miles on State Route 58 and State Route 99. Traffic traveling east on Westside Parkway would use the same route in the reverse direction.

The cost for the Alternative A and B future connectors is estimated at $183 million, and the cost for the Alternative C future connectors is estimated at $240 million. The project would not preclude the construction of the connectors in the future when it is demonstrated that the traffic volumes would justify the cost.

The project proposes to rebuild the southbound State Route 99 Rosedale Highway off-ramp from an existing one-lane off-ramp with two lanes at the ramp end to a two-lane off-ramp with four lanes at the end, including an auxiliary lane, which begins south of Gilmore. A separate project (the Rosedale Highway Widening Project), scheduled to open May 2016, would widen Rosedale Highway from four lanes to six lanes, provide two left-turn lanes from westbound Rosedale Highway to southbound Mohawk Street, and two right-turn lanes from northbound Mohawk Street to eastbound Rosedale Highway.



Segment 1

- Alternative A
- Alternative B(Preferred Alternative)
- Alternative C
- Shared by Alternatives A/B
- Shared by Alternatives B/C
- Shared by Alternatives A/B/C
- Westside Parkway

Not To Scale
Source: Information from Draft Project Report 2013

Alternatives for Segment 1 of the Centennial Corridor

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 2-1

Changes to existing roadways common to all three build alternatives include widening the South P Street undercrossing and the westbound State Route 58 (East)/State Route 99 grade separation, and removing from State Route 99 the southbound Stockdale Highway off-ramp and the Wible Road on- and off-ramps.

"Typical" cross-sections are used to show the number of lanes and lane width for the average section of the roadway. For a project as complex as the Centennial Corridor, the width of the roadway would vary because of ramps and the need for auxiliary lanes. A typical cross-section helps explain what an average section of roadway would look like. Figure 2-2 shows the typical cross-section for Segment 1 and the existing portion of State Route 58 (East) of State Route 99. Figure 2-3, a typical cross-section for the portion of State Route 99 where improvements are proposed, shows that little would change under Alternatives A and B. But, under Alternative C, the Centennial Corridor would lie right next to State Route 99, resulting in a wider freeway typical cross-section.

Locations of auxiliary lanes vary by alternative and are discussed later in the Unique Features of the Build Alternatives section.

All the build alternatives provide sufficient right-of-way in the median for future high occupancy vehicle lanes (not proposed as part of the Centennial Corridor Project), as demand warrants.

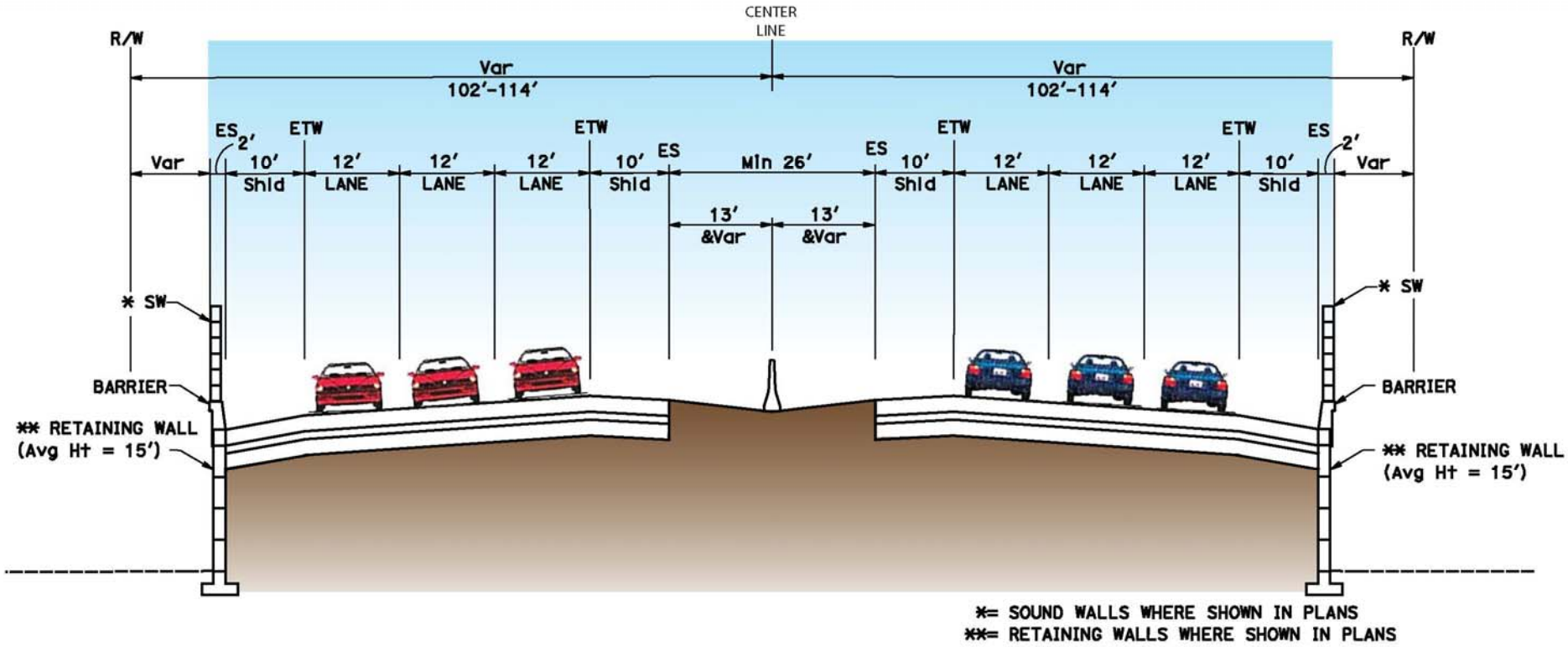
Other Common Design Features of Segment 1

Park and Ride Facilities

The Park and Ride facility west of State Route 99 and south of Stockdale Highway (at the intersection of Stockdale Highway and Nello Street) would be displaced by the proposed changes to the southbound connector to State Route 99 from westbound State Route 58. A new facility would be constructed to replace the displaced park and ride lot. The design of the new facility will be determined during the final design phase of the project. The existing lot currently provides 49 parking spaces and is generally only about half used. The location of the existing facility is shown on the preliminary design plans provided in Appendix E, Volume 2 (Sheet 11 for Alternative A, Sheet 12 for Alternatives B and C).

Alternative A

A replacement Park and Ride facility with about 50 parking spaces would be provided off Mohawk Street, between California Avenue and Truxtun Avenue using residual property acquired for the project. This location would provide easy access to both eastbound and westbound State Route 58 via Mohawk Street and to State Route 99 via California Avenue. The location of the proposed replacement park and ride lot for Alternative A is shown on Figure 2-4a in Volume 2.



Abbreviations Used:

Avg Ht = Average Height
ES = Edge of Shoulder
ETW = Edge of Traveled Way
Min = Minimum
R/W = Right-of-Way
Shld = Shoulder
Sw = Soundwall
Var = Varies

Not to Scale
Source: Developed from Draft Project Report 2013

Segment 1 Typical Cross-Section

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

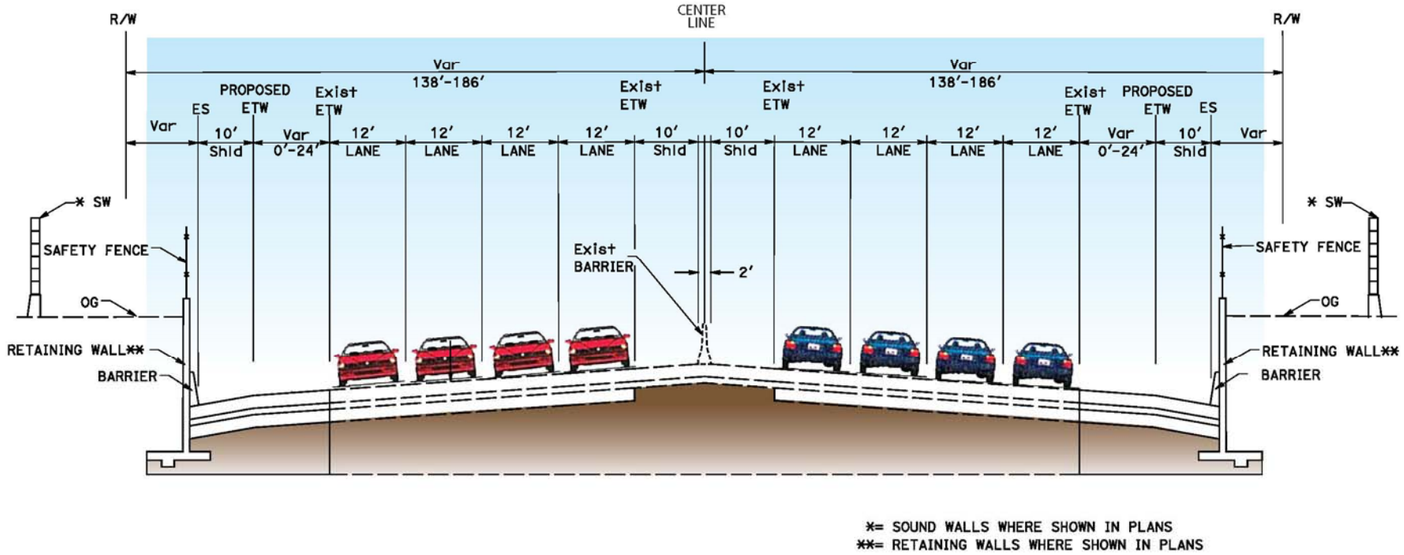
D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 2-2

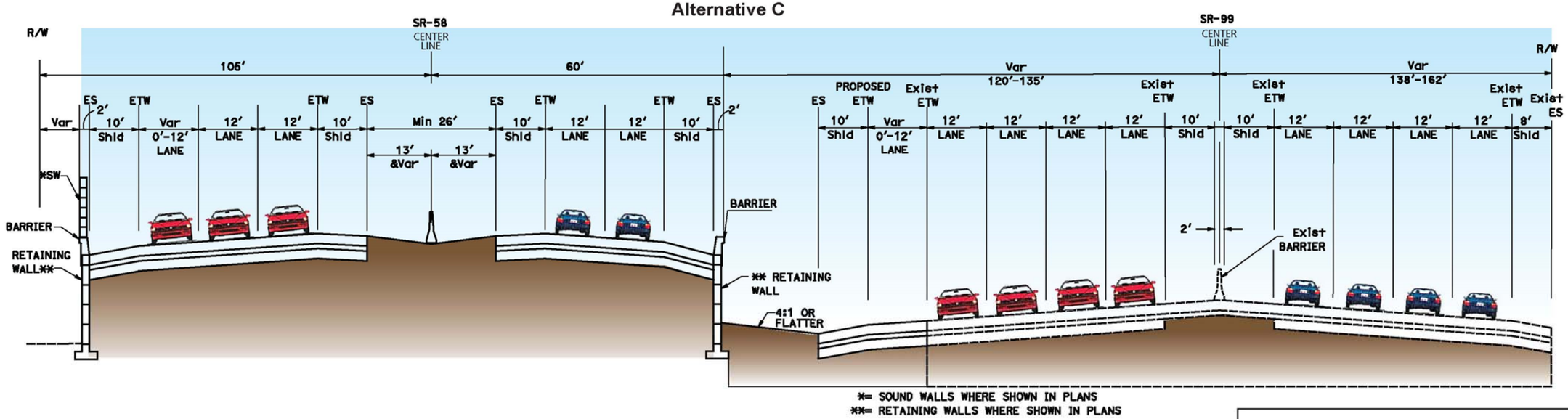
Alternatives A and B



*= SOUND WALLS WHERE SHOWN IN PLANS
**= RETAINING WALLS WHERE SHOWN IN PLANS

Abbreviations Used:
Avg Ht = Average Height
ES = Edge of Shoulder
ETW = Edge of Traveled Way
Min = Minimum
OG = Original Ground
R/W = Right-of-Way
Shld = Shoulder
Sw = Soundwall
Var = Varies

Alternative C



*= SOUND WALLS WHERE SHOWN IN PLANS
**= RETAINING WALLS WHERE SHOWN IN PLANS

Not to Scale
Source: Traffic Study Report for the Centennial Corridor Project 2012

Typical Cross-Sections for State Route 99

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 2-3

Alternative B (Preferred Alternative)

A new Park and Ride facility with about 49 parking spaces would be provided north of California Avenue, next to the Centennial Corridor, using residual property acquired for the project. This location would provide easy access to eastbound and westbound State Route 58 at the Mohawk Street/Truxtun Avenue interchange and to State Route 99 via the California Avenue interchange. The location of the proposed replacement park and ride lot for Alternative B is shown in Figure 2-5a in Volume 2.

Alternative C

A replacement Park and Ride facility with about 50 parking spaces would be provided at Real Road and Chester Lane using residual property acquired for the project. This location would provide easy access to State Route 99 at the California Avenue interchange and to the westbound State Route 58 via the Mohawk/Truxtun Avenue interchange. The location of the proposed replacement park and ride lot for Alternative C is shown in Figure 2-6a in Volume 2.

Retaining Walls, Sound Walls and Landscaping

Aesthetic treatments for retaining walls and sound walls would be consistent with the design used for the Westside Parkway (discussed in detail in Section 3.1.7, Visual/Aesthetics). Landscaping would be implemented upon completion of construction.

Alternative A

Forty-seven retaining walls, ranging from 5 feet to 35 feet high, would be built at various spots along Alternative A to reduce right-of-way impacts, as shown in Figure 2-4a (Volume 2). Based on the *Noise Abatement Decision Report* (March 2014), 19 sound walls, ranging from 8 to 16 feet high, have been identified as reasonable and feasible for Alternative A (see more discussion on sound walls in Section 3.2.7, Noise). Locations of the sound walls are shown in Figure 2-4a (Volume 2) and in Section 3.2.7, Noise.

Alternative B (Preferred Alternative)

Thirty-seven retaining walls, ranging from 3 feet to 45 feet high, would be built at various locations along Alternative B to reduce right-of-way impacts, as shown in Figure 2-5a (provided in Volume 2). Based on the *Noise Abatement Decision Report* (March 2014), 25 sound walls, ranging from 8 to 16 feet high, have been identified as reasonable and feasible for Alternative B (see more discussion on sound walls in Section 3.2.7, Noise). Locations of these sound walls are shown in Figure 2-5a (Volume 2) and in Section 3.2.7, Noise.

Alternative C

Forty-six retaining walls, ranging from 2 feet to 45 feet high, would be built at various locations along Alternative C to reduce right-of-way impacts, as shown in Figure 2-6a (Volume 2). Based on the *Noise Abatement Decision Report* (March 2014), 17 sound walls, ranging from 10 to 16 feet high, have been identified as reasonable and feasible for Alternative C (see discussion on sound walls in

Section 3.2.7, Noise). Locations of these sound walls are shown in Figure 2-6a (provided in Volume 2) and in Section 3.2.7, Noise.

Infiltration Basins

Infiltration basins are proposed along the Centennial Corridor alignment to retain storm water runoff and improve water quality. In addition, existing basins along the alignment of State Route 58 and State Route 99 would need to be improved also. Changes could include either deepening, resizing, or reshaping of the existing basins within their existing footprints.

Alternative A

Seven infiltration basins are proposed along the Alternative A alignment with two existing infiltration basins to be changed along the State Route 58 and 99 alignments. Locations of infiltration basins are shown in Figure 2-4a (Volume 2).

Alternative B (Preferred Alternative)

Eight infiltration basins are proposed along the Alternative B alignment with six existing infiltration basins to be modified along the State Route 58 and 99 alignments. Locations of infiltration basins are shown in Figure 2-5a (Volume 2).

Alternative C

Eleven infiltration basins are proposed along the Alternative C alignment with five existing infiltration basins to be changed along State Route 58 and 99. Locations of infiltration basins are shown in Figure 2-6a (Volume 2).

Right-of-Way Acquisition

Temporary construction easements would be needed from many properties sitting at the edge of the new right-of-way where retaining walls and sound walls are proposed. Also, minor amounts of right-of-way would be required for the intersection improvements at Stockdale Highway and State Route 43. Right-of-way impacts are discussed in more detail in Section 3.1.4.2, Relocation and Property Acquisition.

Alternative A

Alternative A would fully acquire 295 properties and partially acquire 109 properties. Of these properties, 211 of the full acquisitions would be residential parcels and 18 of the partial acquisitions would be residential parcels.

Alternative B (Preferred Alternative)

Alternative B would fully acquire 293 properties and partially acquire 130 properties. Of these properties, 215 of the full acquisitions would be residential parcels and 34 of the partial acquisitions would be residential parcels.

Alternative C

Alternative C would fully acquire 254 properties and partially acquire 86 properties. Of these properties, 98 of the full acquisitions would be residential parcels and 9 of the partial acquisitions would be residential parcels.

Utilities and Electrical

A number of utility lines, such as water lines, sewer lines, telecommunication lines, electrical lines/poles, including relocation of high-voltage electrical towers, natural gas lines, streetlights, fire hydrants, cable television lines, utility boxes, and oil wells would need to be abandoned, removed, relocated, or replaced as part of project construction. Lighting would be consistent with Caltrans standards and would be installed at interchanges and bridges.

Bicycles and Pedestrians

Pedestrian and bicycle crossings would be limited to the proposed undercrossings and overcrossings. The discussion of the bicycle and pedestrian crossings is provided in Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities.

Cost Estimate

The escalated 2016/17 fiscal year cost of Alternative A is estimated at $691 million, with $437.1 million for construction costs and $253.9 million for right-of-way costs. The escalated 2016/17 fiscal year cost of Alternative B is estimated at $570 million, with $390 million for construction costs and $180 million for right-of-way costs. The escalated 2016/17 fiscal year cost to build Alternative C is estimated at $665.5 million, with $452.2 million for construction costs and $213.3 million for right-of-way costs.

Unique Features of the Build Alternatives (Segment 1)

Alternative A

With Alternative A, State Route 58 (Centennial Corridor) would run parallel to Stockdale Highway for about half a mile west of the State Route 58 (East)/State Route 99 Interchange. It would then go northwesterly and follow an above-grade alignment over Montclair Street, Stockdale Highway, California Avenue/Lennox Avenue, Truxtun Avenue, and the Kern River before joining the east end of the Westside Parkway west of the Mohawk Street interchange. Figure 2-4a (provided in Volume 2) shows the general alignment of this alternative with the key features identified. Figure 2-4b (provided in Volume 2) shows the roadway alignments for both the Westside Parkway and the Centennial Corridor. As shown in this figure, Alternative A would provide a separate crossing of the Kern River. Conceptual plans for Alternative A are provided in Appendix E located in Volume 2.

Alternative A would require changes to State Route 99. State Route 58 would not intersect with Real Road, instead an undercrossing would be provided. This alternative proposes a number of structures, auxiliary lanes and permanently closed or realigned local streets. Specific street closures are discussed in more detail in Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities.

Alternative B (Preferred Alternative)

With Alternative B, State Route 58 (Centennial Corridor) would run parallel to Stockdale Highway for about 1,200 feet west of the State Route 58 (East)/State Route 99 interchange; there, it would go northwesterly and proceed as an above-grade

alignment, crossing over Stockdale Highway/Stine Road. Between Ford Avenue and California Avenue, the alignment would be depressed with overcrossings proposed at Marella Way and La Mirada Drive to help with local traffic circulation and provide access across the proposed freeway from areas formerly served by other nearby streets. In addition, Marella Way would be designated as a bikeway in order to replace an existing bikeway on Montclair Street, which would be closed by the project. An undercrossing at Ford Avenue was also considered and Caltrans has decided to implement the crossing. The Ford Avenue undercrossing would maintain the connection of Ford Avenue between Stine Road and McDonald Way. Excess right-of-way would be used to construct a sidewalk/bikeway to connect La Mirada Drive to portions of the Westpark neighborhood between Joseph Drive, McDonald Way, Stockdale Highway, and Stine Road. This proposed feature would upgrade bicyclist and pedestrian access via La Mirada Drive. The roadway would then be elevated and have above-grade crossings at California Avenue, Commerce Drive, Truxtun Avenue, and the Kern River before joining the east end of the Westside Parkway, east of the Mohawk Street interchange. Figure 2-5a (provided in Volume 2) shows the general alignment of this alternative with key features identified. Figure 2-5b (provided in Volume 2) shows the roadway alignments for both the Westside Parkway and the Centennial Corridor. As shown in this figure, Alternative B would incorporate a substantial amount of the improvements from the Westside Parkway in the area surrounding the Kern River. Conceptual plans for Alternative B are provided in Appendix E located in Volume 2.

Alternative B originally proposed to relocate six Pacific Gas and Electric towers; however, after the circulation of the draft environmental document, the Westside Parkway Project will relocate these Pacific Gas and Electric transmission towers, as a locally-sponsored project by the city of Bakersfield. The relocation of the six Pacific Gas and Electric towers was identified as a project activity in the previously approved *Final Westside Parkway Environmental Assessment/ Environmental Impact Report* (2007) to accommodate the construction of the Westside Parkway Project. These towers were initially shifted to allow the construction of the current Truxtun tie-in feature of the Westside Parkway Project. However, the Pacific Gas and Electric transmission towers were not relocated to their ultimate location per the city of Bakersfield's General Plan. The Westside Parkway project is in its final stages of construction completion and the city of Bakersfield has decided to relocate the towers to their final location to accommodate planned projects per the city of Bakersfield's General Plan.

Alternative B proposes the same connections to State Route 99 as Alternative A and would require similar improvements on State Route 99 and the existing State Route 58 (East). This alternative proposes a number of structures, changes to existing structures, auxiliary lanes and permanently closed or realigned local streets. Specific street closures are discussed in more detail in Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities.

To address concerns regarding bicycle and pedestrian connectivity, preliminary design plans for Alternative B were revised to include a multi-use pathway that will run parallel to the project alignment connecting bicyclist and pedestrians from

California Avenue to Commerce Drive. The decision to incorporate a multi-use pathway to accommodate a bicycle and pedestrian connection was made in response to public comments requesting a bicycle connection spanning over the Carrier Canal. As part of this change, an approximately 100-foot-long bridge over the Carrier Canal would be constructed to accommodate bicycles and pedestrians. The bridge would be of sufficient width to accommodate two-way pedestrian and bicycle traffic. The preliminary design layout for the Carrier Canal Crossing is included in Figure 2-5b of this final environmental document (Volume 2). The proposed change would occur within the study area analyzed in the draft environmental document and supporting technical studies. This local street and bridge structure enhancement will provide users direct connectivity to the Kern River Parkway Bike Trail.

Alternative C

With Alternative C, State Route 58 (East) would turn north from the existing State Route 58 (East)/State Route 99 interchange, running parallel to and west of State Route 99 for about 1 mile. The freeway would then turn west and cross the BNSF Railway rail yard, Truxtun Avenue, and the Kern River. Undercrossings are proposed at Brundage Lane, Oak Street, State Route 99, Palm Avenue, Truxtun Avenue, and California Avenue. Figure 2-6a (provided in Volume 2) shows the general alignment of this alternative with key features identified. Figure 2-6b (provided in Volume 2) shows the roadway alignments for both the Westside Parkway and the Centennial Corridor. As shown in this figure, Alternative C would incorporate a substantial amount of the improvements from the Westside Parkway in the area surrounding the Kern River. Conceptual plans for Alternative C are provided in Appendix E located in Volume 2.

Alternative C proposes to make changes to existing State Route 58 (East) and State Route 99. This alternative proposes a number of structures, auxiliary lanes and permanently closed or realigned local streets. The specific street closures are discussed in more detail in Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities.

Segment 2 (Westside Parkway)

The build alternatives would all connect to the Westside Parkway; the final segment of the Westside Parkway from Allen Road to Stockdale Highway near Heath Road is currently under construction. Impacts from constructing the Westside Parkway were evaluated in the *Westside Parkway Environmental Assessment/Final Environmental Impact Report* and subsequent revalidation reports prepared by Caltrans and the city of Bakersfield in July 2008 and July 2010.

In its entirety, the 7.3-mile Westside Parkway alignment begins at Truxtun Avenue, about 1 mile west of State Route 99, and goes westward, crossing the Kern River near the existing BNSF Railway Bridge. About 0.25 to 0.50 mile to the north of the Kern River, the roadway then parallels the Kern River, to Allen Road. West of Allen Road, the alignment turns southwesterly and connects to Stockdale Highway at Heath Road.

The Westside Parkway would be route adopted/route transferred by the city of Bakersfield and incorporated into the State Highway System with each of the build

alternatives. Improvements to connect Centennial Corridor to the Westside Parkway would extend from where each build alternative connects at the eastern end of Westside Parkway toward the west, ending at the Calloway Drive interchange. The proposed improvements would widen the Westside Parkway by constructing one additional lane in the median to provide auxiliary lanes. In the westbound direction, the median widening would extend from east of the Friant-Kern Canal through the Calloway Drive interchange. The limits of the added lane in the eastbound direction would differ between each alternative as described in the unique design features of the build alternative section below. With each build alternative, changes to the westbound diamond off-ramp to Calloway Drive and the eastbound loop on-ramp from Coffee Drive would be required.

Segment 3 (Western Connection)

Segment 3 traffic would use Stockdale Highway as the link to Interstate 5. Improvements would be required at the Stockdale Highway and State Route 43 (Enos Lane) intersection for each build alternative. Proposed improvements there would widen the intersection and add traffic signals to control traffic movement. State Route 43 would be widened to add a dedicated left-turn lane in both directions. Stockdale Highway would be widened to add a dedicated left-turn lane and a shared through/right-turn lane in both directions, necessitating the acquisition of a small amount of right-of-way. In addition, utilities would be relocated in this location. These improvements would be built at the same time as the Segment 1 improvements to ensure adequate traffic operations at this intersection. Stockdale Highway would be designated as State Route 58 to provide access to Interstate 5. The existing portion of State Route 58 (West) (Rosedale Highway) from Allen Road to Interstate 5 would be relinquished (become a local road, no longer a state highway) to the local jurisdictions (city of Bakersfield and the County of Kern). The portion of State Route 58 (West) (Rosedale Highway) from Allen Road to Mohawk Street was relinquished in June 2012.

2.1.2 No-Build Alternative

No construction of Segment 1 or improvements to Westside Parkway and the Stockdale Highway/State Route 43 intersection would occur under the No-Build Alternative. The portion of Mohawk Street from the Westside Parkway to Rosedale Highway would be designated as part of State Route 58, which would provide a connection to State Route 99. Even if the No-Build Alternative were selected, other roadway improvements unrelated to the Centennial Corridor Project would be implemented. These roadway improvements would be made to other local roadways and are identified in the Regional Transportation Plan and the Metropolitan Bakersfield Transportation Impact Fee Program. These improvements have been assumed in the analyses of the No-Build Alternative. Though these improvements would result in some improvement in the level of service, they would not provide the route continuity identified as part of the project's purpose.

2.1.3 Comparison of Alternatives

Each of the build alternatives requires a commitment of resources and would result in environmental impacts. This commitment is balanced with the ability to meet the

project purpose and need and the effects of not implementing the project (the No-Build Alternative). Table S.1 provides a summary of key issues where impacts have been identified, whereas Table 2.1 provides an overview of key issues that differentiate the alternatives.

Table 2.1 Comparison of Alternatives

Criteria		Alternative A	Alternative B (Preferred Alternative)	Alternative C	No-Build Alternative
Meets the project purpose and need Improve route continuity and associated traffic congestion relief along State Route 58 within Metropolitan Bakersfield and Kern County from the existing State Route 58 east (from Cottonwood Road) to Interstate 5.		Yes—Provides route continuity between Interstate 5 and State Route 58.	Yes—Provides route continuity between Interstate 5 and State Route 58.	Yes—Provides route continuity between Interstate 5 and State Route 58.	No—Does not provide route continuity. Continued use of Rosedale Highway would be required.
Traffic and Transportation		Traffic delays experienced during construction. **Deficient freeway segments** 0 in 2018 4 in 2038 **Deficient intersections** 26 in 2018 32 in 2038 Net loss of 122 parking spaces.	Traffic delays experienced during construction. **Deficient freeway segments** 0 in 2018 4 in 2038 **Deficient intersections** 26 in 2018 33 in 2038 Net loss of 146 parking spaces.	Traffic delays experienced during construction. **Deficient freeway segments** 0 in 2018 5 in 2038 **Deficient intersections** 24 in 2018 30 in 2038 Net loss of 142 parking spaces.	Gap in east-west freeway in Bakersfield continued. **Deficient freeway segments** 4 in 2018 16 in 2038 **Deficient intersections** 25 in 2018 34 in 2038 No parking removed.
Number of Displacements	**Residences**	356	310	133	0
	Businesses	127	121	198	0
Number of Parcel Acquisitions	**Full Acquisition**	295	293	254	0
	Partial Acquisition	109	130	86	0
Community Cohesion		Adverse effects to community cohesion in the Southwest Bakersfield and the Quailwood-Park Stockdale neighborhoods are anticipated.	Adverse effects to the character of the Southwest Bakersfield and Westpark neighborhoods are anticipated. Bisecting the Westpark neighborhood would result in impacts to community cohesion.	Though consequential, the overall effects on cohesiveness would be less severe than the effects of Alternatives A or B. Most residential displacements would be in environmental justice communities.	None.
Section 4(f) Properties Used		2 Section 4(f) properties used.	No Section 4(f) properties used.	1 Section 4(f) property used.	None.

Table 2.1 Comparison of Alternatives

Criteria	Alternative A	Alternative B (Preferred Alternative)	Alternative C	No-Build Alternative
Parks and Recreation	Displaces 6.28 acres of publicly owned parkland, a Section 4(f) property (Kern River Parkway).	No impacts to park and recreational resources.	Displaces 3.27 acres of publicly owned parkland, a Section 4(f) property (Saunders Park).	None.
Cultural Resources	Affects the Rancho Vista Historic District, a Section 4(f) property.	Indirect adverse effects on the Rancho Vista Historic District under the National Historic Preservation Act. No use of the property under Section 4(f).	No impacts to known historic properties.	None.
Hazards and Hazardous Wastes	Number of parcels with known or potential contamination requiring partial or full acquisition: • 5 parcels with known contamination • 15 parcels with suspected contamination • 14 parcels with potential contamination	Number of parcels with known or potential contamination requiring partial or full acquisition: • 5 parcels with known contamination • 11 parcels with suspected contamination • 12 parcels with potential contamination	Number of parcels with known or potential contamination requiring partial or full acquisition: • 5 parcels with known contamination • 14 parcels with suspected contamination • 23 parcels with potential contamination	None.
Noise	There are 532 frequent outdoor use areas affected. Nineteen recommended feasible and reasonable sound walls would provide feasible abatement for 461 frequent outdoor use areas.	There are 484 frequent outdoor use areas affected. Twenty-four feasible and reasonable recommended sound walls as well as one feasible but not reasonable recommended sound wall would provide feasible abatement for 408 frequent outdoor use areas. One sound wall is feasible but not reasonable; however, since this	There are 401 frequent outdoor use areas affected. Seventeen recommended feasible and reasonable sound walls would provide feasible abatement for 325 frequent outdoor use areas.	There would be 336 frequent outdoor use areas that would approach the Noise Abatement Criteria with no abatement provided in 2038.

Table 2.1 Comparison of Alternatives

Criteria		Alternative A	Alternative B (Preferred Alternative)	Alternative C	No-Build Alternative
			sound wall would close a gap in sound walls, it is recommended to minimize noise impacts to 4 frequent outdoor use areas. Therefore, a total of 25 sound walls are recommended.		
Biological Resources	Natural Communities	95.38 acres of habitat removed. Affects 2 populations of Ferris goldfields (about 3,500 individual plants).	78.12 acres of habitat removed.	72.49 acres of habitat removed.	None.
	Threatened and Endangered Species	Affects 95.38 acres of Swainson's hawk foraging habitat and San Joaquin kit fox habitat. One active den is affected. Affects 95.38 acres of foraging habitat for the Tricolored blackbird.	Affects 78.12 acres of Swainson's hawk foraging habitat and San Joaquin kit fox habitat. Three potential dens are affected. Affects 78.12 acres of foraging habitat for the Tricolored blackbird.	Affects 72.49 acres of Swainson's hawk foraging habitat and San Joaquin kit fox habitat. One potential den is affected. Affects 72.49 acres of foraging habitat for the Tricolored blackbird.	None.
	Wetland and Other Waters	3.54 acres of riparian habitat (0.35 acre permanent, 3.19 acres temporary).	Affects 1.84 acres of riparian habitat (temporary only).	Affects 1.42 acres of riparian habitat (temporary only).	None.
		Affects 5.725 acres of U.S. Army Corps of Engineers Jurisdiction (0.913 acres permanent, 4.812 acres temporary).	Affects 4.432 acres of U.S. Army Corps of Engineers Jurisdiction (0.009 acre permanent, 4.423 acres temporary).	Affects 7.475 acres of U.S. Army Corps of Engineers Jurisdiction (0.538 acre permanent, 6.937 acres temporary).	None.
		Affects 15.174 acres of California Department of Fish and Wildlife Jurisdiction.	Affects 6.049 acres of California Department of Fish and Wildlife Jurisdiction.	Affects 11.417 acres of California Department of Fish and Wildlife Jurisdiction.	None.

Table 2.1 Comparison of Alternatives

Criteria		Alternative A	Alternative B (Preferred Alternative)	Alternative C	No-Build Alternative
Cost of Alternative	Right-of-way costs	$253.9 million	$180 million	$213.3 million	$0
	Construction costs	$437.1 million	$390 million	$452.2 million	$0
	Total Costs	$691 million	$570 million	$665.5 million	$0

2.1.4 Identification of a Preferred Alternative

After evaluating all comments received during the public review period for the Draft Environmental Impact Report/Environmental Impact Statement, Caltrans has selected Alternative B as the Preferred Alternative. Caltrans has certified that the project complies with the California Environmental Quality Act, prepared findings for all significant impacts identified, prepared a Statement of Overriding Considerations for impacts that will not be mitigated below a level of significance, and certified that the findings and Statement of Overriding Considerations have been considered before project approval. As required by the California Environmental Quality Act, Caltrans will file a Notice of Determination with the State Clearinghouse that will state whether the project will have significant impacts, whether mitigation measures are included as conditions of project approval, that findings were made, and that a Statement of Overriding Considerations was adopted. At least 30 days after the publication of the Final Environmental Impact Statement, Caltrans, as assigned by the Federal Highway Administration, will document and explain its decision regarding the selected alternative, project impacts, and mitigation measures in a Record of Decision, in accordance with the National Environmental Policy Act.

As part of the screening process, equal levels of detail were used to identify and evaluate three build alternatives, A, B, and C, in this environmental document and associated technical studies. All three alternatives improve route continuity for State Route 58 in concurrence with the project purpose and need.

The three alternatives share many impacts that are the same or similar in magnitude. When determining a Preferred Alternative, the comparison focuses on those areas where the impacts are different or one alternative has greater impacts than the other alternatives. For the Centennial Corridor Project, Alternative B avoids Section 4(f) properties, would not have disproportionate impacts on environmental justice communities, and is less costly.

Of the three alternatives presented, Alternative A is the most expensive and has the greatest number of displacements. It would have the greatest impact on wetlands. It also affects a park and the Rancho Vista Historic District, both Section 4(f) properties.

In comparing Alternatives B and C, Alternative B has more displacements, which are mostly residential, whereas Alternative C displaces more businesses. Alternative C would displace more wetlands and would cost nearly $100 million more than Alternative B. The Alternative B alignment would bisect the Westpark neighborhood (in a diagonal manner), eliminating several east-west roadways and causing more community cohesion impacts than the Alternative C alignment. Most of the residential displacements in Alternative C are concentrated in two environmental justice communities, specifically the environmental justice community south of Saunders Park. Alternative C would be above ground level in the vicinity of Saunders Park, while Alternative B would be below ground level in the vicinity of Centennial Park. While Alternative B would have no impacts on parklands, Alternative C would also have direct impacts on Saunders Park, a Section 4(f) property in an environmental justice community.

Section 4(f), a special provision included in the Department of Transportation Act of 1966, states that federal Department of Transportation agencies cannot approve the use of land from publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public or private historic sites unless the following conditions apply:

- There is no prudent and feasible alternative to using that land, and
- The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

Appendix B in Volume 2 provides a Section 4(f) Evaluation for the Centennial Corridor Project. Three Section 4(f) properties were evaluated as being affected by the build alternatives—the Rancho Vista Historic District and the Kern River Parkway, which are affected by Alternative A, and Saunders Park, which is affected by Alternative C. Alternative B does not affect any properties subject to Section 4(f). As part of the Section 4(f) evaluation, variations of Alternatives A and C that would avoid Section 4(f) properties were evaluated; none were found to be feasible and prudent.

The legal requirements of the Department of Transportation Act of 1966 require that parkland be avoided unless there is no feasible and prudent alternative. Alternative B is a feasible and prudent alternative that avoids parkland and other Section 4(f) properties, such as historic properties. In addition, Alternative B has the least impact on wetlands. It is also the least expensive alternative, costing nearly $100 million less than the other alternatives.Therefore, after comparing and weighing the benefits and impacts of Alternatives A, B, and C, some of which are summarized in Tables S.1 and 2.1. Caltrans has identified Alternative B as the Preferred Alternative.

2.1.5 Alternatives Considered but Eliminated From Further Discussion Prior to Draft Environmental Document

As part of the initial scoping process for the Centennial Corridor Project, Caltrans considered a range of alternatives. Six build alternatives were developed by Caltrans and introduced at a public information meeting in March 2008. In addition, alternatives suggested by the public and alternatives from previous studies (the

Bakersfield Systems Study [2002] and the *Final Route 58 Route Adoption Project, A Tier I Environmental Impact Statement/Environmental Impact Report* [2001]) were also evaluated as part of the initial screening. Even though the earlier studies rejected some of these alternatives, Caltrans determined they should be subject to the initial screening criteria as potential alternatives for the Centennial Corridor Project. A total of 19 alternatives were reviewed as part of the initial screening process. Eighteen of these alternatives proposed construction of new roadway alignments (see Figure 2-7 provided in Volume 2), and one alternative proposed transportation system management and transit improvements.

To assess the viability of the 19 alternatives for further evaluation in the draft environmental document, a screening process to identify reasonable alternatives was developed per the Council of Environmental Quality's *Questions and Answers about NEPA*, which states "Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of [FHWA/Caltrans]." The screening process also considered regulations per the California Environmental Quality Act, which states, "The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making." (CEQA Guidelines, Section 15126.6).

This initial screening process is intended to eliminate from further study those alternatives that are not considered reasonable and feasible. The intention is to identify only the most viable alternatives for further detailed environmental evaluation. This was accomplished through the development of a set of criteria by a subcommittee of the Centennial Corridor Project Development Team consisting of representatives from Caltrans, city of Bakersfield, county of Kern and consultants. The screening criteria are as follows:

- Criterion 1: Does this alternative satisfy the legislative mandate for this project, as outlined in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Section 1302?

  Appendix N on page 1033 of Volume 2 provides a further explanation of this criterion discussion.

- Criterion 2: Does this alternative satisfy the purpose and need for the project? The screening process used the purpose and need that is consistent with the statement described in the environmental document. Appendix N on page 1033 of Volume 2 provides a further explanation of this criterion discussion.

- Criterion 3: Does this alternative avoid severe operational and safety problems? The criterion used for evaluation is based on Caltrans standards for access controlled facilities.

  Appendix N on page 1034 of Volume 2 provides a further explanation of this criterion discussion.

- Criterion 4: Can this alternative be completed within funding reasonably available to the project? The Project Development Team determined a threshold of $800 million as the maximum reasonable construction cost that could be made available to the project. This amount was derived by using the $650 million currently programmed for the project plus a contingency of approximately 25 percent. A contingency above the allocated budget is provided in the event additional funding becomes available or as the alternative moves forward the alignment can be engineered in a more efficient manner, which would result in cost savings.

  Appendix N on page 1034 of Volume 2 provides a further explanation of this criterion discussion.

- Criterion 5: Does this alternative avoid unacceptable adverse social, economic or environmental impacts, that would cause it to be rejected without further environmental evaluation? Under this criteria, the Project Development Team evaluated alternatives for impacts that are of such magnitude, that the viability of implementing the project would be jeopardized.

  Appendix N on page 1035 of Volume 2 provides a further explanation of this criterion discussion.

- Criterion 6: Is this the first time this alternative has been considered in a screening process? If no, did it successfully pass through the prior screening process? The purpose of this criteria is to address all previous efforts in evaluating alternatives and to acknowledge new alternatives that are being considered.

  Appendix N on page 1035 of Volume 2 provides a discussion regarding the elimination of this alternative.

- Criterion 7: If any one of the above criteria were answered with a “No”: Does this alternative warrant further studies to determine whether the criteria failure (No) results in a fatal flaw to the project? This criterion allowed for an opportunity for an alternative to be further studied even if it did not meet one of the above criteria.

  Appendix N on pages 1035-1036 of Volume 2 provides a discussion regarding the elimination of this alternative.

- Criterion 8: If two or more criteria were answered with a "No": Does this alternative warrant further studies to determine whether the combination of criteria failures (No's) result in a fatal flaw to the project? This criterion allowed for an opportunity for an alternative to be further studied even if it did not meet all the above criteria.

  Appendix N on page 1036 of Volume 2 provides a discussion regarding the elimination of this alternative.

Similarly, the screening criteria developed by the Centennial Corridor Project Development Team, satisfies the requirements on determining the range of alternatives subject to environmental review as described by Section 15126.6 of the California Environmental Quality Act guidelines. Table 2.2 summarizes how the initial screening criteria meet California Environmental Quality Act requirements for determining a reasonable range of alternatives.

Table 2.2 Summary of Criterion that meet CEQA Requirements for Determining Range of Alternatives

CEQA Requirements for Determining Range of Alternatives		Applicable Project Development Team Criterion
1	Can the alternative significantly reduce environmental impacts?	**Criterion 5:** Does this alternative avoid unacceptable adverse social, economic or environmental impacts, that would cause it to be rejected without further environmental evaluation? Under this criteria, the Project Development Team evaluated alternatives for impacts that are of such magnitude, that the viability of implementing the project would be jeopardized.
2	Can the alternative attain most of the basic project objectives?	**Criterion 1:** Does this alternative satisfy the legislative mandate for this project (SAFETEA-LU), Section 1302? **Criterion 2:** Does this alternative satisfy the purpose and need for the project?
3	Is the alternative potentially feasible?	**Criterion 3:** Does this alternative avoid severe operational and safety problems?
4	Is the alternative reasonable and realistic?	**Criterion 4:** Can this alternative be completed within funding reasonably available to the project? **Criterion 6:** Is this the first time this alternative has been considered in a screening process? If no, did it successfully pass through the screening process? **Criterion 8:** If two or more criteria were answered with a "No", does this alternative warrant further studies to determine whether the combination of criteria failures result in a fatal flaw to the project?

If an alternative does not achieve the intended purpose established for the project, it does not make sense to continue spending resources evaluating it, so it is eliminated from further consideration. Another factor in screening alternatives was the cost. An alternative was eliminated if the cost substantially exceeded the available funding.

Most of the alternatives eliminated failed to meet more than one screening criteria. All of the alternatives eliminated from further discussion in the draft environmental document exceeded reasonable funding ($800 million) for the project, which failed to meet Criterion 4. Table 2.3 provides a summary of the preliminary screening for the alternatives not carried forward for further evaluation based on the eight criterion established by the Centennial Corridor Project Development Team. After the conclusion of the preliminary screening of the alternatives, reports were prepared summarizing the reasons for the elimination of the alternatives. The Centennial Corridor Preliminary Screening of Alternatives meetings are summarized in the following documents (Appendix N).

- Screening of Alternatives Meeting Summary – September 2, 2008 (initial screening of all alternatives). Refer to Appendix N on page 1031 of Volume 2.
- Screening of Alternatives Meeting Summary – September 9, 2008 (supplemental screening for Alternatives G, H, I, and L). Refer to Appendix N on page 1049 of Volume 2.
- Screening of Alternatives Meeting Summary – April 27, 2011 (supplemental screening of Alternative D). Refer to Appendix N on page 1073 of Volume 2.
- Screening of Alternatives Meeting Summary – November 29, 2011 (supplemental screening of Alternative M). Refer to Appendix N on page 1080 of Volume 2.
- Screening of Alternatives Meeting Summary – February 28, 2012 (Transportation Demand Management). Refer to Appendix N on page 1087 of Volume 2.
- Screening of Alternatives Meeting Summary – February 28, 2012 (Transit Alternative). Refer to Appendix N on page 1098 of Volume 2.

The initial screening process completed in 2008 determined that Alternatives A, B, C, and D, the No-Build Alternative, and the Transportation Systems Management/ Transportation Demand Management/Transit Alternative (Alternative M) warranted further study. These alternatives all received further analysis and additional screening, completed in 2012.

Since 2008, more detailed engineering design and preliminary technical studies have been done to provide more information for each alternative carried forward after the initial screening. As a result of this more-detailed evaluation, Alternatives D and M were withdrawn from further consideration (see Table 2.3). These two alternatives, which received more detailed evaluation but were not carried forward, are discussed in more detail below.

Alternative D: This alternative would have built a new freeway that would connect existing State Route 58 to the Westside Parkway along an alignment east of State Route 99. Alternative D extended north from the vicinity of the existing Union Avenue (State Route 204) interchange on State Route 58. The route would parallel Union Avenue for about 1 mile and then turn west and run parallel to the BNSF Railway railroad tracks for about 3 miles. It would connect to the Westside Parkway in the vicinity of Mohawk Street, following an alignment similar to what is shown for Alternatives B and C.

Operational problems at the State Route 58/State Route 99 interchange could not be prevented with Alternative D. Interchange spacing would not meet Caltrans' standards. There would not be enough distance for cars to change lanes between on-ramps and off-ramps. Closure of interchanges would result in longer commutes for travelers going to the nearby shopping centers, industrial facilities, neighborhoods, the Kern County Fairground, and the Bakersfield Municipal Airport because there would be no direct access to those uses. Widening Chester Avenue between Truxtun Avenue and California Avenue would also be required. This would require replacing the existing grade separation at the BNSF Railway rail line (where the road goes under the railroad tracks). Construction of Alternative D would also require permanent closure of 11th Street, Pershing Street, 10th Street, and 9th Street.

Alternative D would displace the parking lots for Mercy Hospital, Bakersfield City Hall, and some public use parking in downtown Bakersfield. New parking structures would be required to replace the eliminated parking spaces, for an estimated cost of $54 million. Alternative D would also relocate the Bakersfield Fire Department Fire Station, now at the northwestern corner of State Route 58 and Union Avenue.

Alternative D was estimated to cost $1.1 billion to build. This is more than the available funding. Also, the life cycle benefit (benefit that would result over the years of the project) was estimated to be only $658 million. Alternative D was found to be not reasonable or feasible.

Alternative M-Transportation Systems Management/Transportation Demand Management/Transit: Consistent with Caltrans policy, as part of the early screening, an alternative that considers the use of Transportation Systems Management techniques and Transportation Demand Management, combined with transit improvements to meet the travel demand was advanced for further evaluation. Transportation Systems Management attempts to increase the number of peak-hour person-trips by improving existing facilities without major construction. Examples of Transportation Systems Management measures include use of bus turnouts, signal coordination, or minor road widening. Transportation Demand Management attempts to reduce travel demand or redistribute traffic, such as by creating high occupancy vehicle lanes and using changeable signs to notify drivers of delays.

These types of improvements are already included in the 2014 Regional Transportation Plan and the Metropolitan Bakersfield Impact Fee Program—Proposed Phase IV Improvement list of projects. Improvements include traffic signal optimization, intersection widening, and bus turnouts to reduce delay and to increase the capacity along eight travel corridors in the vicinity of the Centennial Corridor Project.

Table 2.3 Alternatives Eliminated from Evaluation

Alignment	Alignment Description	Reason for Elimination from Further Evaluation*
D	This alternative would begin near the existing State Route 58 /State Route 204 (Union Avenue) interchange. The alignment would run north for about 1 mile, then turn west and parallel the BNSF Railway railroad tracks for about 3 miles, then turn west and connect with the Westside Parkway near Mohawk Street.	Caltrans standards for interchange spacing could not be met; therefore existing interchanges on State Route 58 would need to be closed. This alternative would also require the permanent closure of 11th Street, Pershing Street, 10th Street, and 9th Street. It would displace parking for Mercy Hospital, City Hall, and downtown Bakersfield, which would require construction of parking structures. The fire station at State Route 58 and Union Avenue would need to be replaced. The preliminary cost estimate was about $1.1 billion, which is $300 million more than the defined screening threshold of $800 million. Appendix N on page 1073 of Volume 2 provides a discussion regarding the elimination of this alternative.
E	The alignment would begin near the existing State Route 58/Washington Avenue interchange. The alignment would run north for about 1 mile, then turn west and parallel the BNSF Railway railroad tracks. It would connect with the Westside Parkway near Mohawk Street.	The preliminary cost estimate for this alternative was about $1.08 billion, partly due to more right-of-way acquisition required, which is $280 million more than the defined screening threshold of $800 million. From an operational perspective, this alternative is similar in nature to Alternative D. Appendix N on page 1062 of Volume 2 provides a discussion regarding the elimination of this alternative.
F	Also known as the South Beltway, the freeway would begin on State Route 58 about 4 miles east of State Route 184. The alignment would travel south, cross State Route 184, State Route 119, and State Route 99, before connecting to Interstate 5.	This alternative does not meet the project's purpose of providing route continuity and associated traffic congestion relief along State Route 58 within Metropolitan Bakersfield and Kern County because this alternative is not located within Metropolitan Bakersfield. State Route 58 would remain in its current discontinuous state and would not serve interregional trips. The preliminary cost estimate was about $1.29 billion, which is $490 million more than the defined screening threshold of $800 million. Appendix N on pages 1062-1063 of Volume 2 provides a discussion regarding the elimination of this alternative.
G	The roadway would begin at the existing State Route 99/State Route 204 interchange. The alignment would follow the Friant-Kern Canal, then follow Meacham Road between Rosedale Highway and Hageman Road, and then turn southwest and run parallel to Hageman Road. The alignment would connect at Interstate 5 near Hageman Road.	Alternative G would result in severe operational and safety problems because of the close spacing of the proposed connection to State Route 99 and Olive Drive. The preliminary cost estimate for this alternative was about $1.05 billion, which is $250 million more than the defined screening threshold of $800 million. Appendix N on pages 1050-1051 of Volume 2 provides a discussion regarding the elimination of this alternative.
H	Alternative H would build an elevated freeway near Rosedale Highway at the connection with State Route 99. East of State Route 43, this alternative would have the same alignment as Alternative G and connect at Interstate 5 near Hageman Road.	This alternative does not meet the project's purpose of providing route continuity and associated traffic congestion relief along State Route 58. The Alternative H alignment is a discontinuous route and would not provide direct east-west travel because it would require travel on State Route 99. The preliminary cost estimate for this alternative was about $2.85 billion, partly due to more right-of-way acquisition required, which is $2.05 billion more than the defined screening threshold of $800 million. Appendix N on page 1051 of Volume 2 provides a discussion regarding the elimination of this alternative.
I	Alternative I would build a freeway along the existing alignment of State Route 58 (West), starting at its intersection with State Route 99 and go west along existing State Route 58 to Interstate 5.	This alternative does not meet the project's purpose of providing route continuity and associated traffic congestion relief along State Route 58 and would remain in its current discontinuous state. The preliminary cost estimate for this alternative was about $1.09 billion, partly due to more right-of-way acquisition required, which is $290 million more than the defined screening threshold of $800 million. Appendix N on pages 1051-1052 of Volume 2 provides a discussion regarding the elimination of this alternative.
J	Alternative J would begin at State Route 99 and Hosking Road, about 1 mile north of State Route 119. The alignment would connect with Interstate 5 at the State Route 119 interchange.	This alternative does not meet the project's purpose of providing route continuity and associated traffic congestion relief along State Route 58 within Metropolitan Bakersfield because this alternative is not located within Metropolitan Bakersfield. State Route 58 would remain in its current discontinuous state and would not serve interregional trips. Appendix N on page 1065 of Volume 2 provides a discussion regarding the elimination of this alternative.
K	The freeway would begin near Coffee Road at the Westside Parkway. The route would run parallel to Brimhall Road; east of Heath Road, the roadway would turn northwest for about 0.5 mile, then continue west and connect with Interstate 5 about 0.5 mile north of Brimhall Road.	Alternative K does not meet the project's purpose and need of providing route continuity and associated traffic congestion relief along State Route 58. In addition, this alternative would not meet the legislative mandate because it does not connect two existing segments of the State freeway system. State Route 58 would remain in its current discontinuous state and would not serve interregional trips. The preliminary cost estimate for this alternative was about $821 million, which is $21 million more than the defined screening threshold of $800 million. Appendix N on page 1066 of Volume 2 provides a discussion regarding the elimination of this alternative.
L	The roadway would begin at State Route 99 and go west along Stockdale Highway, ending at Interstate 5.	The preliminary cost estimate for this alternative was about $1.20 billion, $400 million more than the defined screening threshold of $800 million. Appendix N on page 1052 of Volume 2 provides a discussion regarding the elimination of this alternative.
M	This alternative would add grade separations along State Route 58 (Rosedale Highway) at Mohawk Street, Calloway Drive, Coffee Road, and Allen Road.	This alternative only partially meets some of the project purpose and need of providing route continuity and providing traffic congestion relief. This alternative would not provide route continuity along State Route 58 and would keep the route in its current discontinuous state. In addition, Transportation Systems Management improvements are assumed as part of the regional network so they are part of the future conditions (2038) for all the alternatives including the No-Build Alternative; hence, reliance on only Transportation System Management improvements would not provide substantial improvements to freeway operations better than the No-Build Alternative. Appendix N on page 1080 of Volume 2 provides a discussion regarding the elimination of this alternative.
15	This alternative proposed a freeway that connects State Route 58 at State Route 204 (Union Avenue) to Interstate 5, passing through the downtown area parallel to State Route 204 and continuing west using the 7th Standard Road Corridor.	The preliminary cost estimate for this alternative was about $2.23 billion, partly due to more right-of-way acquisition required, which is $1.43 billion more than the defined screening threshold of $800 million. Appendix N on pages 1067-1068 of Volume 2 provides a discussion regarding the elimination of this alternative.

Table 2.3 Alternatives Eliminated from Evaluation

Alignment	Alignment Description	Reason for Elimination from Further Evaluation*
Public Alternative 1	Public Alternative 1 was suggested by a member of the public and proposed an alignment between Alternative B and Alternative C.	This alternative would result in severe operational and safety problems because it could not meet Caltrans' geometric standards. If Caltrans standards and proper geometrics were applied, this alternative had an alignment similar to Alternative B. Appendix N on page 1068 of Volume 2 provides a discussion regarding the elimination of this alternative.
Public Alternative 2	This alignment would begin on State Route 58 about 4 miles east of State Route 184. The freeway would cross State Route 184, continue west crossing State Route 99 about 1 mile north of State Route 119 and connect to Interstate 5 just north of the State Route 43 interchange.	This alternative does not meet the project's purpose and need of providing route continuity and traffic congestion relief. Public Alternative 2 would not provide interregional and regional connectivity for east-west traffic traveling within Metropolitan Bakersfield and Kern County. The preliminary cost estimate for this alternative was about $1.24 billion, which is $440 million more than the defined screening threshold of $800 million. Appendix N on page 1068 of Volume 2 provides a discussion regarding the elimination of this alternative.
Public Alternative 3	This alternative proposed a new freeway along the existing State Route 223, connecting State Route 58 and Interstate 5, along the current State Route 223 alignment.	This alternative does not meet the project's purpose providing route continuity and associated traffic congestion relief along State Route 58 within Metropolitan Bakersfield and Kern County because this alternative is not located within Metropolitan Bakersfield. State Route 58 would remain in its current discontinuous state and would not serve interregional trips. The preliminary cost estimate for this alternative was about $1.72 billion, which is $920 million more than the defined screening threshold of $800 million. Appendix N on page 1069 of Volume 2 provides a discussion regarding the elimination of this alternative.
Public Alternative 4	From the existing State Route 58 east of State Route 184, this alternative would parallel the Union Pacific Railroad line, then go northwest parallel to State Route 204 on the north side of the existing roadway. The alignment would cross Golden State Drive and State Route 99 south of Airport Drive, turn southwest, and connect with the Westside Parkway.	This alternative would not meet the purpose and need of the project because it does not provide route continuity and associated traffic congestion relief. It would not improve operations on the shared portion of State Route 58 and State Route 99. Instead, it would move the congestion on State Route 99 to the north in the vicinity of the Airport Drive interchange. The preliminary cost estimate to build this alternative was about $2.57 billion, which is $1.77 billion more than the defined screening threshold of $800 million. Appendix N on page 1114 of Volume 2 provides a discussion regarding the elimination of this alternative.

***** Screening of alternatives and criteria used to determine reasonability and feasibility of alternatives are discussed in various Screening of Alternatives Meeting Memorandums provided in Appendix N

Long-range transit planning also assumes more service along Rosedale Highway and Stockdale Highway to reduce the overall vehicular demand in these east-west corridors. The transit improvements would focus mostly on an increase in frequency of service that would result in reduced automobile demand. The 2014 Regional Transportation Plan provides for the purchase of 120 full-size buses. This would allow for the use of 100 buses during peak hours, which roughly doubles the service compared to existing transit levels. The highway improvements mentioned above and the improvements to transit service are also assumed for the No-Build Alternative and the build alternatives.

Finally, area-wide transportation demand management strategies being considered as part of the regional planning efforts to reduce travel demand include establishing parking fees, encouraging carpool formation, and encouraging flextime for employees. In addition, the Kern Council of Governments is currently conducting the *Kern High Occupancy Vehicle/Bus Rapid Transit Study,* which is studying the feasibility of adding high occupancy vehicle lanes to State Routes 58, 99, and 178. Early indications suggest that high occupancy vehicle lanes would not be warranted within metropolitan Bakersfield until after 2040. Though this is not proposed as part of the Centennial Corridor Project, all the build alternatives provide sufficient right-of-way in the median for future high occupancy vehicle lanes to be implemented when the demand warrants. This is discussed in detail in Section 4.10 of the *Traffic Study Report for the Centennial Corridor Project.*

The above-mentioned improvements would not adequately meet the project purpose and need of providing route continuity for State Route 58. They would keep the route in its current discontinuous state. In addition, these Transportation Systems Management improvements are assumed as part of the regional network so they are part of the future conditions (2038) for all the alternatives including the No-Build Alternative. So, reliance on only standard Transportation System Management improvements identified above would not result in functionality substantially better than the No-Build Alternative.

In light of this determination, an alternative was developed that recommends higher cost improvements that go beyond what is generally considered a Transportation System Management improvement; plus it is less costly than the other build alternatives. This alternative is discussed below.

Generally, Transportation Systems Management focuses on low capital, environmentally responsive improvements that maximize efficiency of existing facilities. However, since there is the need to carry the capacity of a six-lane freeway, the improvements assumed as part of Alternative M are substantially greater than those traditionally proposed for a Transportation Systems Management alternative.

Improvements unique to Alternative M include a proposal to expand State Route 58 (West) (Rosedale Highway) to meet the travel demand. A separate project proposes to widen Rosedale Highway from four lanes to six lanes from State Route 99 to Allen Road. Another future project would widen State Route 58 (West) from Allen Road to

State Route 43 from a two-lane to a four-lane facility. Alternative M would expand on these planned improvements by adding grade separations along State Route 58 at the intersections with the highest traffic volumes. By reducing travel delays from cross-traffic, State Route 58 would function as a higher speed, expressway-type facility. Grade separations would be constructed at the following locations:

- State Route 58/Mohawk Street intersection
- State Route 58/San Joaquin Valley Railroad crossing
- State Route 58/Calloway Drive intersection
- State Route 58/Coffee Road intersection
- State Route 58/Allen Road intersection

The capital cost of Alternative M has been estimated as $252 million. Even with these improvements, Alternative M would not adequately meet the project purpose and need of providing route continuity and associated traffic congestion relief for State Route 58. Alternative M would keep State Route 58 in its current discontinuous state. Upgrading Rosedale Highway to a super-arterial, the backbone of Alternative M, would also not result in the level of traffic relief provided by the other build alternatives.

Alternative M would allow Rosedale Highway to attract and accommodate 24,000 additional vehicles using the upgraded route just west of State Route 99, 11,000 to 34,000 additional vehicles per day between State Route 99 and Allen Road, and 1,500 vehicles per day just east of State Route 43, when compared to the No-Build Alternative. This would provide some congestion relief by reducing traffic volumes on Hageman Road, Westside Parkway, Stockdale Highway and Ming Avenue.

Planned commercial land uses along Rosedale Highway would benefit from higher drive-by levels of traffic, while residential-serving roadways would benefit from reduced traffic volumes. However, Alternatives A, B, and C would attract between 113,700 to 121,400 vehicles per day in the section west of State Route 99. These alternatives would remove through traffic from east-west local arterial streets, allowing residents to access commercial establishments along these roadways under less congested conditions. Also, compared to the No-Build Alternative, Alternative M would add more than 20,000 vehicles per day to the shared section of State Route 99 and State Route 58.

Alternative M was found to not meet the project's purpose and need and, therefore, was not carried forward for further evaluation. However, as previously stated, these types of improvements are already included in the 2014 Regional Transportation Plan and the Metropolitan Bakersfield Impact Fee Program.

2.2 Permits and Approvals Needed

Table 2.4 shows the permits, reviews, and approvals required for project construction.

Table 2.4 Project Permits and Approvals

Agency	Permit/Approval	Status
U.S. Fish and Wildlife Service	Section 7 Consultation, as required by the Endangered Species Act for the San Joaquin kit fox	The Biological Assessment was submitted to the U.S. Fish and Wildlife Service (Service) on April 16, 2013 and formal consultation was initiated on July 22, 2013. A Biological Opinion (Service file number 08ESMF00-2013-F-0373) on the effects to the San Joaquin kit fox was issued on December 20, 2013. Consultation was reinitiated and a Biological Opinion (Service file number 08ESMF00-2013-F-0373-R001) was received on February 24, 2015 to address the impacts on San Joaquin kit fox from construction activities associated with sound walls and the use of temporary k-rail barriers. Additionally, another Biological Opinion (Service file number 08ESMF00-2013-F-0373-R001) was issued by the Fish & Wildlife Service on July 30, 2015, which removes the requirement to install modified k-rail barrier on State Route 58 from post mile R52.3 to post mile R55.4 and on State Route 99 from post mile 22.1 to post mile 22.7. Biological Opinion and subsequent amendments are provided in Volume 2, Appendix I.
Federal Emergency Management Agency	Conditional Letter of Map Revision and Letter of Map Revision	During the design phase of the project, coordination with the Federal Emergency Management Agency would be required to ensure there are no improvements that are incompatible with the floodplain.
U.S. Army Corps of Engineers	Section 404 Permit pursuant to the Clean Water Act for filling or dredging “Waters of the United States”	Based on changes to existing conditions of jurisdictional waters and revised preliminary design plans, permanent impacts to Waters of the U.S. have been reduced to less than 0.10 acre. Currently, permanent impacts to Waters of the U.S. for Preferred Alternative B are 0.009 acre. If final design plans do not exceed permanent impacts greater than 0.10 acre, the project is not required to submit a Section 404 Nationwide Permit #14 Pre-Construction Notification form to the U.S. Army Corps of Engineers; however, if impacts are greater than 0.10 acre, a Section 404 Nationwide Permit #14 will be obtained prior to construction and a pre-construction notification form will be completed and submitted to U.S. Army Corps of Engineers. The project would comply with all general conditions required under Nationwide Permit authorization, in addition to any regional or case-specific conditions imposed by the U.S. Army Corps of Engineers.
Federal Highway Administration	Air Quality Conformity Determination	The Federal Highway Administration found that the project is consistent with the requirements of the Clean Air Act on August 7, 2014 (see Appendix H, Volume 2).

Table 2.4 Project Permits and Approvals

Agency	Permit/Approval	Status
Federal Highway Administration and California Department of Transportation	Project Management Plan	This is required by the Federal Highway Administration on Mega Projects over $500 million. These plans will be completed during the Plans, Specifications and Estimate phase.
	Oversight Agreement	This agreement identifies oversight duties between FHWA and Caltrans. The Oversight Agreement will be completed during the Plans, Specifications and Estimate Phase.
California Department of Transportation	Encroachment Permits	Caltrans would need to issue an encroachment permit to allow the contractor to construct portions of the project within State right-of-way.
California Department of Fish and Wildlife	Section 1602 Agreement for Streambed Alteration pursuant to Section 1600 of the *California Fish and Game Code*	Caltrans will need to finalize a 1602 Agreement before construction begins.
California Transportation Commission	Route Adoption/Route Transfer/Temporary Route Adoption	The route adoption/route transfer/temporary route adoption for State Route 58 would require the California Transportation Commission's approval. Coordination with the commission would occur once the project has been approved.
State Historic Preservation Officer	Memorandum of Agreement	On January 6, 2015, the State Historic Preservation Officer signed the Memorandum of Agreement, which includes measures to minimize potential effects to historic properties. This is included in Appendix J, Key Correspondence, in Volume 2 of this environmental document.
California Transportation Commission, Caltrans and the city of Bakersfield	Relinquishment Agreement	The city of Bakersfield and Caltrans would enter into an agreement to relinquish the current alignment from Allen Road to Interstate 5 to the local jurisdictions State Route.
	Freeway Agreements	Superseding State Route 99 and State Route 58 freeway agreements for changes at the State Route58 (East) interchange, closure of surface streets and record changes to existing agreements would occur after the final design phase.

Table 2.4 Project Permits and Approvals

Agency	Permit/Approval	Status
Caltrans and the city of Bakersfield	Cooperative Agreement (construction phase)	A cooperative agreement between Caltrans and the city of Bakersfield outlining their respective responsibilities for project implementation would be executed before construction begins.
	Agreement for Park Use and Modification	Caltrans and the city of Bakersfield have coordinated on improvements required to the local park facilities to offset any effects from the project. An agreement would be drafted once the project has been approved.
	Maintenance Agreement	An agreement between Caltrans and the city of Bakersfield would identify responsibility for maintenance of enhanced aesthetic features, including graffiti removal.
Caltrans and the County of Kern	Maintenance Agreement	An agreement between Caltrans and the County of Kern would identify responsibility for maintenance of the intersection improvements at Stockdale Highway and State Route 43.
City of Bakersfield	Route adoption/route transfer of street right-of-way Update General Plan	For those roadways that are being realigned, closed, or made into cul-de-sacs, the city would need to route adopt/route transfer the roadway right-of-way. Once the State Highway System is changed, the updated plan should be reflected in the local General Plan and, a change to the Master Plan of Bikeways would be required for Alternative B.
County of Kern	Encroachment Permit Update General Plan	The County of Kern would need to issue encroachment permits to allow the contractor to change local streets within the County of Kern jurisdiction. Once the State Highway System is changed, the updated plan should be reflected in the local General Plan.
State Historic Preservation Officer	Memorandum of Agreement	On January 6, 2015, the State Historic Preservation Officer signed the Memorandum of Agreement, which includes measures to minimize potential effects to historic properties. This is included in Appendix J, Key Correspondence, in Volume 2 of this environmental document.

Table 2.4 Project Permits and Approvals

Agency	Permit/Approval	Status
State Water Resources Control Board and the Central Valley Regional Water Quality Control Board, Region 5	Storm Water Discharge Permit National Pollutant Discharge Elimination System Coordination	Compliance with (1) the Statewide National Pollutant Discharge Elimination System Permit for Storm Water Discharge from the State of California, Department of Transportation Properties, Facilities, and Activities (Order Number 2012-0011-DWQ, NPDES No. CAS000003) and (2) the National Pollutant Discharge Elimination System General Permit for Storm Water Discharge Requirements for Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002, as amended by 2010-0014-DWQ and 2012-0006-DWQ).
	Section 401 Certification pursuant to the Clean Water Act	Certification of compliance would be obtained before construction.
	Discharge of Construction Water (Dewatering)	If dewatering is expected for the Preferred Alternative, the contractor must fully conform to the requirements specified in Order No. R5-00-175, General Waste Discharge Requirements for Discharges to Surface Water which Pose an Insignificant (*De Minimus*) Threat to Water Quality, from the Central Valley Regional Water Quality Control Board. Discharges of unpolluted water of less than 250,000 gallons/24 hours (less than 4 months) are regulated by Caltrans Statewide NPDES Permit.
	Municipal Separate Storm Sewer System Permit	The Central Valley Regional Water Quality Control Board has issued waste discharge requirements for the County of Kern and the city of Bakersfield for urban storm water discharges (Order No. 5-01-130, National Pollutant Discharge Elimination System No. CA00883399). During subsequent design phases, the latest version of the Storm Water Management Plan/Standard Urban Storm Water Mitigation Plan developed and implemented by the County of Kern and the city of Bakersfield must be evaluated to determine which requirements apply to a road and highway project such as the Centennial Corridor.

Table 2.4 Project Permits and Approvals

Agency	Permit/Approval	Status
San Joaquin Valley Air Pollution Control District	Dust Control Permit and Approved Air Impact Assessment per Rule 9510, Indirect Source Review District Rule 8021(Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities), Limits to fugitive particulate matter emissions during construction activities	Coordination at a staff level has occurred as part of preparation of the Air Quality Study Report. The permit would be acquired after project approval and before construction.
	National Emission Standards for Hazardous Air Pollutants Notification	Notification to the San Joaquin Valley Air Pollution Control District will be made 10 days prior to construction activities (changes or demolitions).
	Voluntary Emission Reduction Agreement	A Voluntary Emission Reduction Agreement was executed on November 13, 2014 between Caltrans and the San Joaquin Valley Air Pollution Control District to provide improvements to local air quality within the project area. See Appendix L in Volume 2 for more information about the Voluntary Emission Reduction Agreement.
Public Utilities Commission	Approval for the construction of new or modification of existing, highway-rail crossings (General Order 88B and 26D) (Alternative C)	Coordination has not begun with the Public Utilities Commission. This coordination would occur if Alternative C were selected as the Preferred Alternative. (Alternative B has been selected as the Preferred Alternative).
California Department of Conservation, Division of Oil, Gas, and Geothermal Resources	Abandonment of oil wells would need to be done in compliance with Department of Conservation requirements	Coordination has not begun. Before construction, a Notice of Intent would be filed with the Department of Conservation, Division of Oil, Gas and Geothermal Resources, and an abandonment plan would be prepared for all oil wells that would be abandoned.
BNSF Railway, Union Pacific Railroad, and San Joaquin Valley Railroad	Acquisition of right-of-way or easement and changes to existing agreements for work in the rail corridor	Coordination with the railroad would occur prior to construction.
Central Valley Flood Protection Board	Approval of flood control improvements and floodway encroachment	Coordination would begin during the final design phase of the project.

Chapter 3 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

This chapter discusses project impacts on human, physical, and biological environments within the study area defined for each environmental resource.

Analysis of each environmental factor includes discussion of the affected environment (existing environmental conditions), environmental consequences (such as construction impacts, permanent impacts, cumulative impacts, and indirect impacts), and avoidance, minimization, and mitigation measures for each of the three build alternatives and the No-Build Alternative. Due to the extent of impacts expected to occur during project construction, a separate section is provided to describe potential construction related impacts and recommended mitigation measures (Section 3.6, Construction Impacts).

For the California Environmental Quality Act, the environmental conditions existing in 2008, when the Notice of Preparation was issued and when the traffic counts were conducted, served as the baseline for impact analysis evaluated in this environmental document. For the National Environmental Policy Act, the No-Build Alternative served as the baseline for determining the project's impacts.

Impacts for the build alternatives were analyzed based on the assumption that construction would begin in 2016 and would last for two and a half years (as discussed in Section 3.6, Construction Impacts). To minimize repetition, when the effects of the build alternatives are the same, they are presented at the beginning of the environmental consequences section (under "Common to All Build Alternatives"). The analysis then presents an evaluation of effects that are unique to the specific alternatives. For some topical issues, the impacts are the same for all the alternatives, and specific alternative analysis is not required. In addition, to help focus the analysis, Segment 2 analysis is presented only for those topics where there is the potential for impacts. Since the improvements in Segment 2 are limited to the addition of auxiliary lanes and other minor lane changes, there would be no effects for most topical areas. The topics where these types of changes may affect the analysis are traffic, air quality, and noise.

When project effects are found to be substantial and adverse, then mitigation measures are developed to reduce the impacts to the extent possible. The Avoidance, Minimization and/or Mitigation Measures apply to all build alternatives, unless specifically identified as only being applicable to certain alternatives.

As part of the scoping and environmental analyses done for the project, the following environmental issues were considered, but no adverse impacts were identified. Consequently, there is no further discussion of these issues in this document.

- ***Timberlands (forest resources).*** The project is in an urban area. There is no timberland in the project area (field visit March 26, 2008).
- ***Coastal Zone.*** The project is not within a coastal zone and is not within the jurisdiction of the California Coastal Commission. Kern County is an inland county and is not along the coast.
- ***Wild and Scenic Rivers.*** No designated wild and scenic rivers are in the project area (National Wild and Scenic Rivers System map, last updated on August 18, 2011).
- ***Mineral Resources.*** The project site is not within an area designated as a mineral resource zone by the California Mineral Land Classification/Designation Program, the California Geological Survey, or the State Mining and Geology Board.

3.1 Human Environment

3.1.1 Land Use

3.1.1.1 Existing and Future Land Use

This section addresses potential impacts to existing and planned land uses in the project area that could result from implementation of the project alternatives. The study focuses on Segment 1 mostly because Segments 2 and 3 have been previously evaluated in their respective environmental documents and there have been no changes to the general settings of the area since the environmental documents for Segments 2 and 3 were certified.

Affected Environment

The information in this section is from the *Community Impact Assessment* (May 2015) prepared for this project (technical reports prepared for this project are available on a CD attached to the back cover of the printed copies of this final environmental document located at the local libraries listed in Chapter 7, and on the Centennial Corridor website: http://www.dot.ca.gov/dist6/environmental/projects/centennial/index.html).

Recent development trends in Bakersfield have focused mostly on residential projects. Between 2000 and 2011, the city of Bakersfield Building Division issued 28,410 residential building permits. About 98 percent of these permits were for single-family residences. It is anticipated that new development would occur mostly in the southwest, northwest, and northeast edges of Bakersfield; however, there are development constraints in the northeast due to topography, seismic zone locations, inadequate accessibility, and petroleum production. Within the surroundings of the immediate study area, development trends are limited to infill residential and commercial developments and light industrial developments on the north side of the

Kern River. Table 3.1 shows recently completed or planned commercial and larger residential developments in the general study area, as well as in the downtown Bakersfield area.

Table 3.1 Recent and Planned Local Development Projects

Name	Proposed Uses	Status
Bakersfield Commons	A 255-acre project east and west of Coffee Road between Brimhall Road and Rosedale Highway. Allows 1,400,000 square feet of retail commercial, 600,000 square feet of office commercial, 345 multi-family homes, and 80 single-family homes.	Approved in August 2010, but no current construction.
Stockdale Ranch	On the south side of Stockdale Highway near Heath Road. Allows 3,583 residential units and 941,700 square feet of commercial/business park uses on a 564-acre site.	Approved in June 2010, but no current construction. Two tentative subdivision maps have been submitted to the city.
Saco Ranch Commercial Center	Southeast and southwest of the Coffee Road/7th Standard Road intersection. Allows 1,459,500 square feet of retail commercial, 332,000 square feet of office uses, and 1,376,496 square feet of industrial uses. The center is a 327-acre project.	Approved in August 2010, but no current construction.
Crossroads Plaza Commercial Center	On the west side of Gosford Road between Panama Lane and Harris Road. Allows retail development (138,621 square feet) and a community retail center (605,008 square feet). The Crossroads Plaza project is a 69.84-acre project.	Approved December 2010. No current construction.
South Mill Creek Retail, Entertainment, and Housing Project	A commercial village of 5.5 acres proposed west of Mill Creek Linear Park in downtown Bakersfield. Creek View Villas (36 condos) and City Place (70-unit apartment), with Mill Creek Courtyard Apartments planned.	14 units of the Creekview Villas have been placed on the market for sale.
Maya Cinemas; Additional Commercial Businesses	16-screen movie theater; 25,000 square feet of retail and commercial space planned in downtown Bakersfield.	Theater complete; remaining commercial enterprises not yet developed.
San Joaquin Community Hospital Avenue	Community hospital to be located at 2620 Chester, downtown Bakersfield.	The medical office building at 2620 Chester Avenue has been built and is occupied. 60,000-square-foot medical facility at 2700 Chester Avenue is currently under construction.
Source: Developed from the *Community Impact Assessment* 2015.		

Segment 1 of the Centennial Corridor sits in the city of Bakersfield between the Kern River and downtown Bakersfield. The study area of Segment 1 generally extends to Rosedale Highway on the north, Cottonwood Avenue on the east, Ming Avenue to the south, and Coffee Road to the west. Figure 3-1 (provided in Volume 2) shows existing land uses along this segment, including residential, commercial, industrial, recreational, resource/utility, agricultural, undeveloped/vacant, and government uses. (To make the document easier to read, most of the figures that are 11 inches by 17 inches are provided in Volume 2 in the section labeled "Figures.")

Future land use designations surrounding the alternatives for Segment 1 are identified in the *Metropolitan Bakersfield General Plan* (2002, as amended) and the *Kern County General Plan* (2007) as shown in Figure 3-2 (provided in Volume 2).

The existing land uses in the Centennial Corridor study area are varied and include a combination of low-density residential, commercial, industrial, transportation and utilities, and recreational. The study area contains several well-established residential neighborhoods, with commercial lands situated mostly along Stockdale Highway and California Avenue, and next to State Route 99. Stockdale Highway hosts many of the local-serving retail shops and commercial enterprises, plus small offices providing various community services. Health-related offices, houses of worship, educational facilities, and many neighborhood-serving businesses and services also sit within or next to residential areas. Utilities and transportation land uses are located throughout the study area and include existing roads and utility rights-of-way. Industrial land uses are located mostly on the north side of the Kern River. Recreational land uses are spread throughout the study area. There is little remaining open space/vacant land in the project areas of Segments 1 and 2; most open space/vacant land is west of the Kern River. Public service land uses, mainly Kern County government facilities, are largely concentrated within the downtown Bakersfield area.

Residential neighborhoods consist mostly of detached single-family units built from the 1950s through the 1970s. Newer single-family residences are farther west, closer to California State University, Bakersfield and south of Ming Avenue.

Environmental Consequences

Common to All Build Alternatives

Implementation of Segment 1 would result in a conversion of existing land uses to a transportation use. This conversion is consistent with established plans and policies and is examined in the following section. Indirect impacts to land use patterns (changes in regional development and growth-related changes) are not expected with implementation of the build alternatives. This is discussed further in Section 3.1.2, Growth.

The area subject to right-of-way acquisition is urbanized, containing few vacant parcels. It is possible that the presence of a new major transportation corridor could result in localized changes in adjacent land parcels. However, the right-of-way acquisition process would take into account this potential, and the post-project land use pattern is expected to foster continuing stability to those land uses through such

methods as acquisition of unusable small remnant parcels and providing adequate buffer space for sensitive land uses. Given these considerations, implementation of any build alternative would not result in indirect adverse effects on land use.

Alternative A

Right-of-way and construction easements required to build the project would necessitate partial and full acquisitions of a large number of parcels. According to the *Community Impact Assessment* (May 2015) prepared for this project, 404 parcels (about 288 acres of land) would be affected under this alternative.

Alternative B (Preferred Alternative)

Initially, according to Appendix B of the *Community Impact Assessment* (May 2015) prepared for this project, Alternative B would potentially affect 422 parcels (about 292 acres of land). After the circulation of the draft environmental document, design changes were made in response to public comments, resulting in a total of 423 parcels (about 292 acres of land) being potentially affected.

Alternative C

According to Appendix B of the *Community Impact Assessment* (May 2015) prepared for this project, Alternative C would potentially affect 340 parcels (about 324 acres of land).

No-Build Alternative

The No-Build Alternative would not lead to physical improvements that would convert existing land uses to transportation uses. The effects of other transportation improvement projects that are being planned within the project area would be analyzed in separate environmental documents.

Avoidance, Minimization, and Mitigation Measures

There are no available reasonable mitigation measures that would reduce impacts on land use. The project design would, however, be carried out to minimize the right-of-way impact to the extent feasible.

3.1.1.2 Consistency with State, Regional, and Local Plans

The information in this section is from the *Community Impact Assessment* (May 2015) prepared for this project.

Affected Environment

Adopted plans that guide development in the project study area include the Kern Council of Governments Regional Transportation Plan, the Kern County General Plan, the Metropolitan Bakersfield General Plan, the Metropolitan Bakersfield Habitat Conservation Plan, the Kern County Bicycle Facilities Plan, and the city of Bakersfield Consolidated Plan. The following discussion briefly describes the goals, policies, and/or objectives of these plans that are applicable to the Centennial Corridor Project.

State Route 58 Corridor System Management Plan (2011)

The *State Route 58 Corridor System Managemen*t *Plan* is the long-range planning document that identifies recommended strategies to guide transportation decisions and investments for the State Route 58 Corridor. The plan identifies the Centennial Corridor as an integral part of the Bakersfield Beltway System. The three build alternatives evaluated in this environmental document are shown as alignment options for the Centennial Corridor.

Kern Council of Governments Regional Transportation Plan (2014)

The Kern Council of Governments is an association of city and county governments created to address primarily regional transportation issues. It is the designated Metropolitan Planning Organization and Regional Transportation Planning Agency for Kern County. The Regional Transportation Plan is a long-term (26-year) plan that focuses on all travel modes and contains a list of projects intended to carry out the objectives of the plan. On June 19, 2014, the Kern Council of Governments adopted the 2014 Regional Transportation Plan, which contains programs and projects for congestion management, transit, airports, bicycles and pedestrians, roadways, and freight movement. A state law (Senate Bill 375) requires the Regional Transportation Plan to include a Sustainable Communities Strategy, which must identify how the region will meet greenhouse gas emissions reductions targets. The new law also provides for closer integration of the Regional Transportation Plan and Sustainable Communities Strategy with efforts to link affordable housing with transportation planning.

At the core of the 2014 Regional Transportation Plan are seven goals: mobility (most important), accessibility, reliability, efficiency, livability, sustainability, and equity.

The Regional Transportation Plan identifies the Centennial Corridor Project as part of the Bakersfield Beltway System, which is included in the list of financially constrained major highway improvements for the period 2014-2020. See the *Community Impact Assessment* (May 2015) for additional information on the goals and policies of the plan.

Kern County General Plan (2004, update 2009)

The Kern County General Plan was prepared to guide future development in Kern County. The plan was originally adopted on June 15, 2004. The plan has since been updated several times with the most recent update being adopted on September 22, 2009. The plan includes seven required elements, including land use, circulation, housing, conservation, open space, noise, and safety. The land use, conservation, open space, and circulation elements of the plan include issues affecting the Centennial Corridor Project. The study area of the land use, conservation, and open space elements includes unincorporated areas of Kern County. The circulation element of the plan includes locally desired transportation improvements. According to the circulation element of the plan, Kern County and the city of Bakersfield have jointly adopted the circulation element of the 2002 *Metropolitan Bakersfield General Plan.* The Kern River Plan Element is an integral part of the city of Bakersfield

General Plan and the Kern County General Plan, and is addressed in the Metropolitan Bakersfield General Plan subsection (below).

Metropolitan Bakersfield Habitat Conservation Plan (1994)

The city of Bakersfield and Kern County, in cooperation with the resource agencies, developed the Metropolitan Bakersfield Habitat Conservation Plan to mitigate the cumulative loss of native vegetation that has occurred or could occur in the planning area. The purpose of the Metropolitan Bakersfield Habitat Conservation Plan is to provide long-term protection of natural vegetation communities and wildlife diversity while allowing compatible land uses and appropriate development and growth. Under the plan, proposed projects within the planning area pay mitigation fees to fund the purchase and maintenance of habitat land to compensate for the effects of urban development on endangered species habitat. The plan addresses 11 plant species and 7 wildlife species.

Metropolitan Bakersfield 2010 General Plan (2002, update 2007)

Adopted in 2002 and last updated in 2007 (with no change to the Land Use Element), the *Metropolitan Bakersfield General Plan* was developed as a joint effort between the city of Bakersfield and the County of Kern. The planning document is used as the main tool through which the city makes decisions affecting growth and allocation of resources, with the goal of ensuring that individual decisions conform to long-range land use plans for the city. Between 2007 and 2010, a series of Town Hall meetings and Joint city/County Planning Commission workshops were held to discuss issues related to updating the Metropolitan General Plan. But as of January 2015, no local governmental approval action had occurred. The plan consists of 10 elements, which include land use, circulation, housing, conservation, open space, parks, noise, safety, public services and facilities, and a tenth focusing specifically on the Kern River. The land use, conservation, open space, circulation and the Kern River Plan elements of the plan discuss issues affecting the plan consistency analysis. The study area of the plan's Land Use Element included the incorporated areas of the city of Bakersfield.

The plan's Circulation Element includes local transportation improvements; it states that areas surrounding State Route 58, State Route 99, California Avenue, and Stockdale Highway are operating nearly at capacity for traffic and are causing congestion issues and delays. In the years since adoption of the plan, Bakersfield has continued to grow, which has put more vehicles on the local roads. To reduce the amount of congestion in the city, both an east-west expressway and north-south expressway are recommended, but the plan discusses these recommendations at only a conceptual level.

The plan references three planned freeways to reduce the amount of congestion in the city, including the Crosstown Freeway that extends from State Route 178 to State Route 99 south of Bakersfield; the Westside Parkway, which extends from the Crosstown Freeway across the Kern River; and the West Beltway, which would link State Route 119 with 7th Standard Road.

Both the Metropolitan Bakersfield 2010 General Plan and the Kern County General Plan were jointly adopted in 1985 and updated in 2007. They provide overall planning guidance for the Kern River, which functions primarily as a floodway and secondarily for other purposes (including recreation). The Kern River Plan Element formed the basis for the later development of the Kern River Parkway (June 1988). The plan extended from the mouth of the Kern River, about 5.5 miles east of Ming Lake, to the crossing of Interstate 5 and the Kern River, for a length of roughly 35 miles, covering an area of 41,250 acres.

Environmental Consequences

This section describes the consistency of the project alternatives with applicable state, regional, and local plans that have been adopted for the study area. Specific policies are noted in Tables 3.2 and 3.3.

State Route 58 Corridor System Management Plan (2011)

The build alternatives are consistent with the *State Route 58 Corridor System Management Plan*. The Centennial Corridor is identified as a component of the Bakersfield Beltway System, which is the foundation for improving the transportation network in metropolitan Bakersfield. All three build alternatives are shown as the potential options for the "new alignment" portion of State Route 58. The plan also assumes the use of Westside Parkway for the extension to Heath Road. The No-Build Alternative would not provide this required connection and would therefore not be consistent with the long-term planning strategies for State Route 58.

Kern Council of Governments Regional Transportation Plan

According to the 2014 Regional Transportation Plan (Kern Council of Governments 2014), which includes updates from the Thomas Roads Improvement Program, the Centennial Corridor is consistent with the plan. The project is designated as a major highway improvement in the constrained program of projects and is slated for environmental review and design and construction through 2020; however, the exhibit map showing Metropolitan Bakersfield projects depicts Segment 1 of the Centennial Corridor Project with each of the possible three Build Alternatives: A, B, and C. The plan should be updated to reflect the Build Alternative selected after the California Environmental Quality Act process for the project is completed.

The Kern Council of Government's 2014 Regional Transportation Plan also identifies for the period 2021-2040 the long-term benefits to air quality with addition of the Centennial Corridor to the regional roadway network by providing free-flow traffic and reducing stop-and-go truck travel on local arterials, and further air quality benefits with the consideration of the Centennial Corridor accommodating High Occupancy Vehicle lane additions, as well as ramps and metering improvements.

Kern County General Plan (2004, update 2009)

The Centennial Corridor is not shown on the Circulation Element's Major Roads and Highways Map. However, if a build alternative is selected, the route would be added to the State Highway System. If a build alternative is not selected, Segment 2 and

Mohawk Avenue north to the existing State Route 58 would still be added to the State Highway System. Since the Circulation Element map reflects the State Highway System, this inconsistency would be corrected. From a policy perspective, the project is consistent with the goals of the Circulation and Land Use elements of the *Kern County General Plan.* The Circulation element acknowledges that "[t]he County is uniquely dependent on State Highway construction and retrofits to satisfy inter-city road travel." Consistency with applicable policies of the *Kern County General Plan* is shown in Table 3.2. Consistency with applicable policies for the Kern River Plan Element is discussed in the Metropolitan Bakersfield General Plan subsection below.

Table 3.2 Consistency of the Centennial Corridor with the Kern County General Plan

Policy/Objective/Goal	Project Consistent with Plan, Goal, Objective, or Policy				Consistency Analysis
	A	B	C	No-Build	
Circulation Element					
Goal: To make certain that transportation facilities needed to support development are available. To ensure that these facilities occur in a timely manner so as to avoid traffic degradation.	Yes	Yes	Yes	No	The build alternatives would provide increased accessibility through Bakersfield and would also support planned development as allowed by the city. The project would also occur in a timely manner because funding is already secured. The No-Build Alternative would not produce needed facilities.
Goal: Kern County intends to provide plans for circulation infrastructure in support of the Land Use, Open Space, and Conservation Element.	Yes	Yes	Yes	No	The build alternatives would improve east-west connectivity and circulation on local streets and also would support other elements of the plan to improve infrastructure throughout the project area. The project alternatives would not conflict with other elements of the plan and would minimize impacts or conflicts. The No-Build Alternative would not improve circulation infrastructure beyond minor local improvements.
Goal: To plan for transportation modes available to all segments of the population, including people with restricted mobility.	Yes	Yes	Yes	No	The build alternatives would improve connectivity and accessibility through new highway facilities and would be designed to not preclude the future introduction of other transportation modes. The No-Build Alternative would not improve connectivity and would only be able to address other modes operating on the local street system.

Table 3.2 Consistency of the Centennial Corridor with the Kern County General Plan

Policy/Objective/Goal	Project Consistent with Plan, Goal, Objective, or Policy				Consistency Analysis
	A	B	C	No-Build	
Goal: Maintain a minimum Level of Service D for all roads throughout the County.	Yes	Yes	Yes	No	The build alternatives would improve local east-west circulation and improve the level of service on major roads in the city of Bakersfield. The No-Build Alternative would result in continuing deteriorating levels of service on local roads in the area. Some roads would have future service above level D. The project is considered generally consistent with the goal, as it provides for major improvements overall.
Goal: Coordinate with Caltrans regarding various transportation developments within the County.	Yes	Yes	Yes	Yes	The project is being developed in partnership between Caltrans and the city of Bakersfield. The No-Build Alternative is one option being considered.
Land Use Element					
Policy: Coordination and cooperation would be promoted among the County, the incorporated cities, military bases, and the various special districts where their planning decisions and actions affect more than a single jurisdiction.	Yes	Yes	Yes	Yes	The project's decision-making process would follow procedures that require coordination with all affected agencies including the County, the city of Bakersfield, and other agencies. The No-Build Alternative is a possible choice in that process.
Goal: Conserve prime agriculture lands from premature conversion.	Yes	Yes	Yes	Yes	Segment 1 of the Centennial Corridor would sit in an urbanized area and would not convert agriculture uses to developed uses.
Source: Developed from the *Community Impact Assessment* 2015.					

Kern County Bicycle Facilities Plan (2001)

The Kern County Bicycle Facilities Plan supports planning aimed to encourage increased levels of biking and provides for an easily accessible bicycle system within the region. As identified in the *Community Impact Assessment* (May 2015), the project therefore is not entirely consistent with the 2001 Kern County Bicycle Facilities Plan. After the circulation of the draft environmental document prepared for this project, preliminary design plans for Alternative B were updated to include a multi-use pathway that will run parallel to the project alignment connecting California Avenue to Commerce Drive. The decision to incorporate a multi-use

pathway was made in response to concerns about bicycle and pedestrian connectivity. As part of this change, an approximately 100-foot-long bridge over the Carrier Canal would be constructed to accommodate bicycles and pedestrians. The bridge would be of sufficient width to accommodate two-way pedestrian and bicycle traffic.

Metropolitan Bakersfield Habitat Conservation Plan (1994)

Because Caltrans is not a signatory to the Metropolitan Bakersfield Habitat Conservation Plan, a Section 7 Consultation pursuant to the Federal Endangered Species Act is being carried out between Caltrans and the U.S. Fish and Wildlife Service to obtain concurrence on special-status species impact determinations and avoidance, minimization, and mitigation measures proposed to offset impacts. A Biological Assessment was submitted to the U.S. Fish and Wildlife Service on April 16, 2013, and formal consultation began on July 22, 2013. A Biological Opinion (Service file number 08ESMF00-2013-0373) from the U.S. Fish and Wildlife Service on the effects on the San Joaquin kit fox was issued on December 20, 2013. After the circulation of the Draft Environmental Impact Report/Environmental Impact Statement, Caltrans contacted the U.S. Fish and Wildlife Service to reinitiate the Biological Opinion (Service file number 08ESMF00-2013-0373) for minor changes to the project description. The reinitiated Biological Opinion (Service file number 08ESMF00-2013-F-0373-R001) was approved by the U.S. Fish and Wildlife Service on February 24, 2015 and amended on July 30, 2015, and is provided in Appendix I, Volume 2.

Metropolitan Bakersfield 2010 General Plan (2002, update 2007)

The Crosstown Freeway, which would extend the Westside Parkway into downtown, is shown on the *Metropolitan Bakersfield General Plan.* As identified in Table 3.3, each of the three build alternatives has components that are consistent and inconsistent with goals and policies. From the standpoint of safety and efficiency, Alternatives A, B, and C would each be consistent; however, because these alternatives would also encroach on residential neighborhoods, they would be inconsistent, before mitigation, with several goals and policies, mainly as they relate to noise impacts to sensitive land uses (for example, residential areas), quality of life, and compatibility with existing land uses. The project has also been designed to be consistent with the relevant policies and goals of the Kern River Plan Element.

Table 3.3 Consistency of the Centennial Corridor with the Metropolitan Bakersfield General Plan

Policy/Objective/Goal	Project Consistent with Plan, Goal, Objective, or Policy				Consistency Analysis
	A	B	C	No-Build	
Circulation Element					
Goal: Provide a safe and efficient street system that links all parts of the area for movement of people and goods.	Yes	Yes	Yes	No	The build alternatives would improve local east-west circulation and increase interregional trade. The project would provide interregional and regional connectivity for east-west traffic traveling within metropolitan Bakersfield and Kern County and would reduce regional commute time through a major corridor. The No-Build Alternative would not provide such improvements.
Goal: Provide for safe and efficient motorized, non-motorized, and pedestrian traffic movement.	Yes	Yes	Yes	No	The build alternatives would improve operations and safety for all modes of traffic. Sidewalks and crosswalks would be provided at all intersections to facilitate the movement of non-motorized and pedestrian traffic. Existing non-motorized routes would be maintained. In some locations, pedestrian circulation could become more circuitous, but safe routes would be provided by each alternative. The No-Build Alternative would not provide improvements for motorized traffic other than on local streets.
Goal: Minimize the impact of truck traffic on circulation and on noise-sensitive land uses.	No	No	No	No	The build alternatives would provide additional capacity and a continuous route along State Route 58 to Interstate 5 to accommodate truck traffic passing through the city, which would channelize truck traffic to a new route. Noise increases would occur, requiring abatement. The No-Build Alternative would not provide an opportunity for addressing truck movement.

Table 3.3 Consistency of the Centennial Corridor with the Metropolitan Bakersfield General Plan

Policy/Objective/Goal	Project Consistent with Plan, Goal, Objective, or Policy				Consistency Analysis
	A	B	C	No-Build	
Goal: Provide a street system that creates a positive image of Bakersfield and contributes to residents' quality of life.	Yes	Yes	Yes	No	The build alternatives would improve connectivity and provide additional capacity to roadways in Bakersfield. Some existing east-west streets and roads that are now overburdened would become less so with the project. The No-Build Alternative would not provide these benefits.
Goal: Provide a system of freeways which maintains adequate travel times in and around the metropolitan area.	Yes	Yes	Yes	No	The build alternatives would improve local east-west circulation and reduce regional and commercial commute time by helping to separate local and regional traffic; the No-Build Alternative would not.
Goal: Provide a local street network that contributes to the quality and safety of residential neighborhoods and commercial districts.	Yes	Yes	Yes	No	Segment 1 of the Centennial Corridor Project would increase regional mobility and reduce traffic on the local street system, which would improve operations and safety in residential neighborhoods and commercial districts. Depending on the alternative, some road closures would be required; however, the local street network would benefit through increased connectivity throughout the region. The No-Build Alternative would continue to degrade the local street system.
Goal: Develop and maintain a circulation system that supports the land use plan shown in the general plan.	Yes	Yes	Yes	No	The project would improve local east-west circulation for the overall Bakersfield area, but would require conversion of existing land uses to transportation use. Overall, the project would accommodate goals and policies of the plan by creating a circulation system that allows for orderly development over time with acceptable circulation patterns and travel times. The No-Build Alternative would not provide support to the general plan.

Table 3.3 Consistency of the Centennial Corridor with the Metropolitan Bakersfield General Plan

Policy/Objective/Goal	Project Consistent with Plan, Goal, Objective, or Policy				Consistency Analysis
	A	B	C	No-Build	
Goal: Provide a continuous easily-accessible bikeway system within the metro areas	Yes	Yes	Yes	Yes	Alternative A would result in closures of streets that would eliminate existing local access used by bicyclists and would result in the increase of neighborhood travel distances. Alternative B would affect a planned Class 3 bike route designated on the Bikeway Master Plan. The route would need to be modified on the city of Bakersfield Bikeway Master Plan. Alternative C and the No-Build Alternative would not directly affect the pedestrian and bicycle networks.
Land Use Element					
Goal: Accommodate new development which captures the economic demands generated by the marketplace and establishes Bakersfield's role as the capital of the southern San Joaquin Valley.	Yes	Yes	Yes	No	The project would improve local east-west circulation and reduce congestion to accommodate existing and planned land uses in accordance with adopted growth projections and land use plans. The No-Build Alternative would not address economic conditions.
Goal: Accommodate new development which is compatible with and complements existing land uses.	Yes	Yes	Yes	Yes	The Centennial Corridor study area is fairly built out; new developments and infill projects are directed by the adopted General Plan. Availability of the continuing east-west Centennial Corridor would not be a main factor leading to new development, but would provide support to the planned developments that are directed by the General Plan. Without the project, the planned developments would still occur, but would be constrained by the lack of continuing east-west freeway.
Policy: Retain existing residential neighborhoods as designated on the Land Use Plan and allow for the in-fill of residential land uses which are compatible with the scale and character of the surrounding neighborhood.	No	No	No	Yes	Alternatives A, B, and C would each require new right-of-way that would affect the character of residential neighborhoods by displacing residents. Alternatives A and B would bisect the Westpark neighborhood. Alternative C

Table 3.3 Consistency of the Centennial Corridor with the Metropolitan Bakersfield General Plan

Policy/Objective/Goal	Project Consistent with Plan, Goal, Objective, or Policy				Consistency Analysis
	A	B	C	No-Build	
					would not bisect that neighborhood, but would require periphery displacements. Alternative A would have a higher number of displacements when compared to Alternatives B and C. The No-Build Alternative would have no effect on neighborhoods.
Kern River Plan Element					
Goal: To provide present and future generations of residents in the Bakersfield metropolitan area and surrounding regions means of access to the Kern River for public use and enjoyment and provide for preservation of native plants, wildlife, and cultural resources of the river area while, at the same time, providing for protection of private property rights.	No	Yes	Yes	Yes	The build alternative would require a crossing over the Kern River. Alternative A would require the removal of the Kern River Park. Alternatives B and C would use former private industrial property purchased by the city for the Westside Parkway.
Source: Developed from the *Community Impact Assessment* 2015.					

Avoidance, Minimization, and Mitigation Measures

The project has been designed to minimize inconsistencies with state, regional, and local plans and programs to the extent feasible. During final design, effort would be made to further minimize construction and operational impacts to existing and planned land uses. Since Alternative B has been selected as the Preferred Alternative, the Class 3 bike route map will be altered to reflect changes to the bicycle route (see Mitigation T-3 in Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, Volume 1). If the project would result in noise impacts on adjacent land uses, the impacts would be abated through sound walls, when feasible and reasonable. Property acquisitions would be provided fair and just compensation under the Uniform Relocation Act of 1987, as amended. Remaining land parcels would be reconfigured to restore functional areas and neighborhoods in accordance with the planning procedures set forth by the city of Bakersfield Planning Department. No other avoidance, minimization, and mitigation measures related to land use and planning are proposed.

3.1.1.3 Parks and Recreation

Affected Environment

The information in this section is from the *Community Impact Assessment* (May 2015) and the *Section 4(f) Evaluation* (February 2015; provided in Appendix B of Volume 2) prepared for this project.

The project area for parks and recreational facilities includes those resources within a one-half-mile radius of the project. Figure 3-3 (provided in Volume 2) shows the facilities within the project area. Based on the preliminary engineering design, the effects on park use from Segment 1 alternatives are listed in Table 3.4.

Table 3.4 Effects on Parks by Alternatives

Site	Alternative A	Alternative B (Preferred Alternative)	Alternative C
Beach Park	No impact	No impact	No impact
Belle Terrace Park	No impact	No impact	No impact
Centennial Park	No impact	No impact	No impact
Kern River Parkway	Permanent impact up to 6.28 acres	No impact	No impact
Jastro Park	No impact	No impact	No impact
Saunders Park	No impact	No impact	Permanent impact up to 1.95 acres of developed park and 1.32 acres of undeveloped area
Wayside Park	No impact	No impact	No impact
Yokuts Park	No impact	No impact	No impact
Source: Developed from the *Section 4(f) Evaluation* 2015 (provided in Appendix B, Volume 2).			

Beach Park

The 31.5-acre Beach Park sits at 3400 21st Street in the area bound by the Kern River on the west, 24th Street on the north, Oak Street on the east, and 21st Street on the south. Beach Park is owned by the city of Bakersfield and is administered by the Recreation and Parks Department.

Belle Terrace Park

The 19.8-acre park sits between Madison Street and Cottonwood Road at 1000 East Belle Terrace. The park is bordered by residential property to the north and agricultural land to the east, south, and west. Belle Terrace Park is in the city of Bakersfield, but is owned and administered by Kern County Department of Parks and Recreation.

Centennial Park

Centennial Park is in Bakersfield just north of Stockdale Highway at 400 Montclair Street. This 9.76-acre park is bordered by residential land uses on all sides. The park

is owned by the city of Bakersfield and administered by the Recreation and Parks Department.

Kern River Parkway

The Kern River Parkway is within the city of Bakersfield and Kern County. Within Bakersfield, the Kern River Parkway consists of about 1,400 acres and extends along the Kern River from Manor Street on the east and the Stockdale Highway Bridge on the west. Existing and proposed recreation areas account for 220 acres. The main river channel, habitat areas (including areas for educational studies), and recharge basins account for 1,105 acres. Parking areas use 8 acres; rest areas, 2 acres; and landscaped areas, 65 acres. About 255 acres are privately owned. About 950 acres are owned by the city of Bakersfield. And, 195 acres are owned by other public agencies or utility companies. The width of the parkway varies, but it generally ranges from 300 to 2,200 feet, with most of it contained within the primary and secondary floodway (areas reserved for flood control and water conservation) of the Kern River.

Flood control is the main priority of the parkway because the river runs through a large metropolitan area where protection from flooding is critical. Within Bakersfield, the Kern River Parkway is a multi-use area and contains various park facilities and several trails, including a paved bike trail, a jogging trail, and an equestrian trail (see Figure 3-4, provided later in this section), the latter of which is undeveloped and designed to be similar to the trails Native Americans once used. The 24-acre Par Course Park area sits along the river.

The Kern River Parkway within the city is a community parkway that serves users within a 5-mile radius. It can be accessed by vehicles, pedestrians, and bicycles. The area includes three sand volleyball courts, a Frisbee golf course, a multi-use trail used by bicyclists, pedestrians, joggers, and skaters, the Hoey Trail, and three off-site surface parking areas (96 spaces). The undeveloped equestrian trail is on the north side of the river about 1,000 feet from the parkway. No motorized vehicles are allowed on the trails. More detail on the Kern River Parkway is provided in the *Section 4(f) Evaluation* in Appendix B, Attachment A, Volume 2.

Jastro Park

Jastro Park is about 9.24 acres and sits between Truxtun Avenue and 18th Street, just east of Oak Street at 2900 Truxtun Avenue. The park is bordered by residential homes on all sides. Jastro Park is owned by the city of Bakersfield and is administered by the Recreation and Parks Department.

Saunders Park

The 11.3-acre Saunders Park is just west of Oak Street at 3300 Palm Street. The park is bordered by a retention basin to the north, State Route 99 to the east, and residential homes to the south and west. Saunders Park is owned by the city of Bakersfield and is administered by the Recreation and Parks Department.

Saunders Park is a neighborhood park, used mostly by nearby residents. The park can be accessed by vehicles, pedestrians, and bicyclists. Park facilities include two lighted full basketball courts, one equipment building/room, one picnic shelter for families, one restroom building, a roller hockey facility, four horseshoe pits, a splash/water play area, and an undeveloped area along the northern portion of the park.

Wayside Park

Wayside Park is about 14.3 acres and sits at 1200 Ming Avenue at the corner of Ming Avenue and El Toro Drive. The park is bordered by residential homes to the north and west, the Kern County Fairgrounds to the east, and undeveloped land to the south. The park is owned by the city of Bakersfield and administered by the Recreation and Parks Department.

Yokuts Park

The 18.3-acre Yokuts Park sits just off Empire Drive, north of the Truxtun Avenue extension at 4200 Empire Drive. The park is bordered by the Kern River to the north and west, an industrial park to the south, and State Route 99 to the east. Yokuts Park is a neighborhood park, used mostly by nearby residents. Yokuts Park is owned by the city of Bakersfield and administered by the Recreation and Parks Department.

Section 6(f)(3) of the Land and Water Conservation Fund Act (16 U.S. Code §4601-4) contains provisions to protect federal investments in park and recreation properties and the quality of those assisted properties. The Land and Water Conservation Fund Act includes a clear mandate to protect grant-assisted areas from conversion:

SEC. 6(f)(3) – No property acquired or developed with assistance under this section shall, without the approval of the Secretary, be converted to other than public outdoor recreation use. The Secretary shall approve such conversion only if he finds it to be in accord with the then existing comprehensive statewide outdoor recreation plan and only upon such conditions as he deems necessary to assure the substitution of other recreation properties of at least equal fair market value and of reasonably equivalent usefulness and location.

This “anti-conversion” requirement applies to all parks and other sites that have been the subject of Land and Water Conservation Fund grants of any type, whether for acquisition of parkland, development, or rehabilitation of facilities.

A review of the Land and Water Conservation Fund grants database indicated that the city of Bakersfield received one grant for $157,050, which was provided in the 1988/1989 time frame, and a second grant for $87,832, which was provided in the 1989/1990 time frame for the Kern River Parkway. Upon consultation with city of Bakersfield officials, it has been determined that these grants were used to develop group picnic areas, open turf areas with irrigation and landscaping, and support facilities. City of Bakersfield Resolutions 43-89 and 32-90 contain Section 6(f)(3) project boundary maps indicating the area subject to Section 6(f) anti-conversion requirements; that area is now known as Yokuts Park.

Environmental Consequences

This section presents the permanent impacts to parkland within the study area as a result of project implementation. Effects from construction activities are addressed in Section 3.6 of this environmental document. The information in this section is based on the *Section 4(f) Evaluation* (February 2015), which is provided in Appendix B, Volume 2.

Common to All Build Alternatives

Some parkland would be needed for project construction and/or to provide right-of-way for Segment 1 of the freeway for Alternatives A and C. Alternative B would not result in the permanent use of parkland. Project design has avoided impacts to parkland as much as possible. Based on the preliminary engineering design, the effects on park use from Segment 1 alternatives are summarized in Table 3.4 and graphically shown in Figures 3-4 through 3-6. No parkland or recreational impacts would occur in Segments 2 and 3 of the project. A discussion of the parks where there are no impacts is provided in Section 10.1 of the *Section 4(f) Evaluation*, in Appendix B, Volume 2.

Alternative A

Alternative A crosses the equestrian trail on the north side of the Kern River. Alternative A would acquire an estimated 6.28 permanent acres of the Kern River Parkway corridor (see Figure 3-4). On the south side, the land subject to permanent acquisition is in use for park purposes and would have the following impacts: removal of three sand volleyball courts, removal of most of a Frisbee golf course, realignment of the Kern River Multi-Use Trail and the Hoey Trail on the south side of the Kern River. On the north side of the Kern River, a portion of the equestrian trail would be relocated at the Kern River Parkway. Mature trees and other vegetation would also be removed within the project footprint.

Parklands are protected under Section 4(f) of the Department of Transportation Act of 1966, and a Section 4(f) evaluation has been prepared to document the disposition of the impacts (see Appendix B in Volume 2).

State and local governments often obtain grants through the Land and Water Conservation Fund Act to acquire or make improvements to parks and recreational areas. Section 6(f) of Land and Water Conservation Fund Act prohibits the conversion of property acquired or developed with these grants to a non-recreational purpose without the approval of the Department of Interior's National Park Service. A review of the Land and Water Conservation Fund grants database indicates that two grants were used for the Kern River Parkway (Yokuts Park), but outside the project footprint. Therefore, the project is not in violation of Section 6(f) of the Land and Water Conservation Fund Act.

Alternative B (Preferred Alternative)

With implementation of Alternative B, no permanent use of parkland would occur. Construction of Alternative B would require the acquisition of right-of-way, which

would eliminate several of the east-west roadway access points to Centennial Park. However, area residents would continue to have many access options to the park via the remaining roadways (such as Marella Way, Ford Avenue, and Montclair Street).

Alternative B would result in a new freeway alignment that would cross Marella Way just east of Fallbrook Street near Centennial Park. The roadway would run diagonally in a depressed cross-section. Marella Way would cross over the freeway. Because of its proximity, Alternative B would increase the noise level at Centennial Park. Figure 3-5 shows the proximity of the Alternative B alignment to the park. Noise was measured in the northeast corner of Centennial Park. The ambient noise level was 53 A-weighted decibels (dBA). Results of the hourly traffic noise level analysis show that the noise levels at Centennial Park would fluctuate between 55 and 64 dBA throughout the day, with noise level increases of 2 to 11 decibels (dB) over the pre-project conditions. The analysis also shows that the noise increase of 11 dB would only occur within three hours of any given day (see detailed discussion in Section 4.2.3). Given the noise level increase is below the impact criteria of 12 dB and the urban nature of the park (surrounded by residential housing and local arterial roadways), serenity and solitude are not key attributes of Centennial Park, implementation of Alternative B would not substantially impair the activities and features at Centennial Park. No adverse impacts are anticipated.

With Alternative B, no permanent use of parkland at the Kern River Parkway would occur because the freeway would be built within the right-of-way acquired for the Westside Parkway. In addition, bridges would span the existing trails (the Hoey Trail, equestrian trail, and the Kern River Multi-Use Trail).

To address concerns regarding bicycle and pedestrian connectivity, preliminary design plans for Alternative B were revised to include a multi-use pathway that will run parallel to the project alignment connecting California Avenue to Commerce Drive. The decision to incorporate a multi-use pathway to accommodate bicycle and pedestrian connectivity, was made in response to public comments requesting a bicycle connection spanning over the Carrier Canal. As part of this change, an approximately 100-foot-long bridge over the Carrier Canal would be constructed to accommodate two-way bicycle and pedestrian traffic. The bridge would be of sufficient width to accommodate two-way traffic. The preliminary design layout for the Carrier Canal Crossing is included in Figure 2-5b and in Appendix E, Alternative B, sheets 8 and 9 of the final environmental document (Volume 2). The proposed change is located within the study area analyzed in the draft environmental document and supporting technical studies. This multi-use pathway and bridge structure enhancement will provide direct connectivity to the Kern River Parkway Bike Trail for its users.

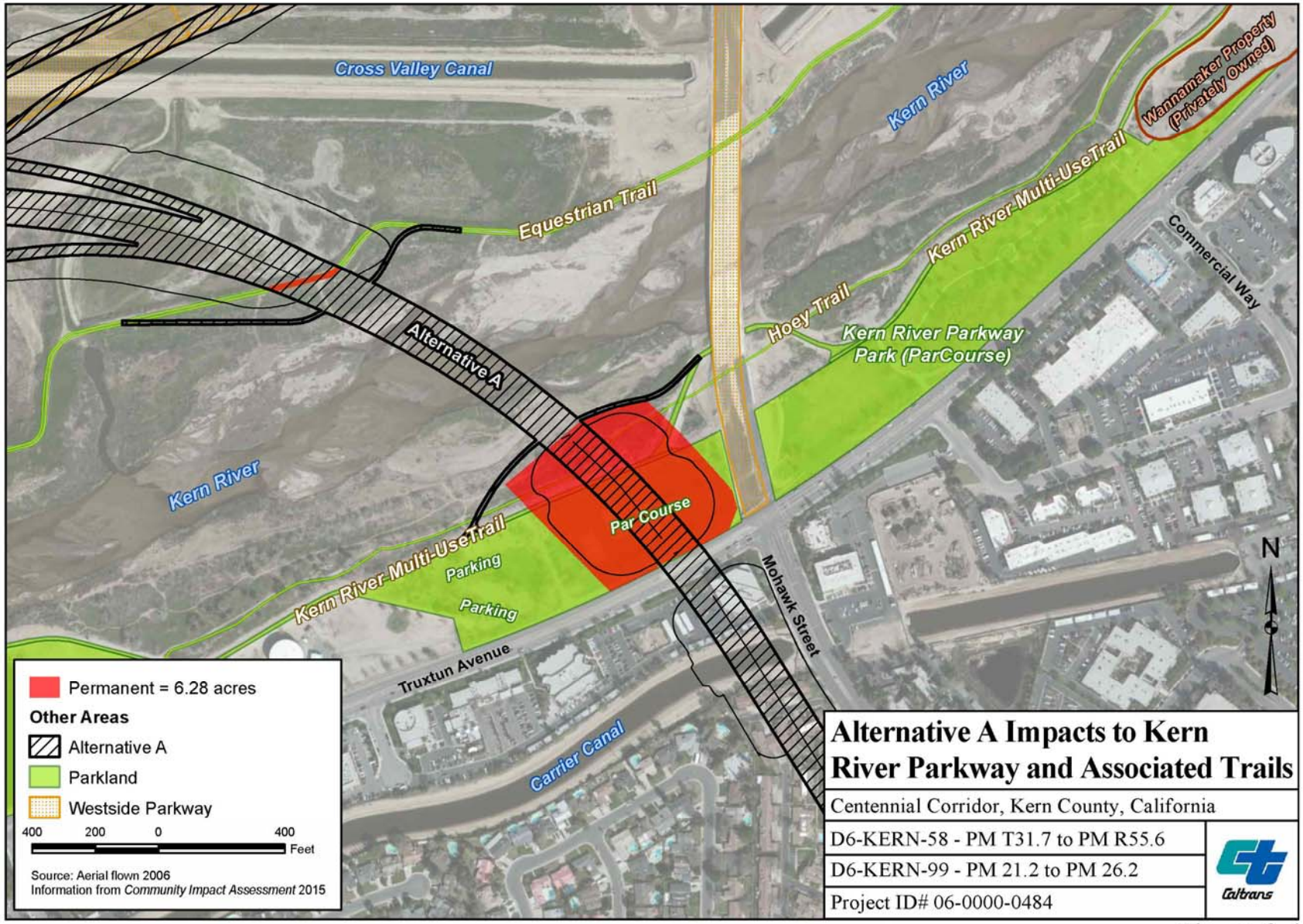

Cross Valley Canal
Kern River
Wannamaker Property (Privately Owned)
Equestrian Trail
Kern River Multi-Use Trail
Commercial Way
Hoey Trail
Kern River Parkway Park (ParCourse)
Alternative A
Kern River
Par Course
Kern River Multi-Use Trail
Parking
Parking
Mohawk Street
Truxtun Avenue
Carrier Canal
N
Permanent = 6.28 acres
Other Areas
Alternative A
Parkland
Westside Parkway
400 200 0 400
Feet
Source: Aerial flown 2006
Information from Community Impact Assessment 2015
Alternative A Impacts to Kern River Parkway and Associated Trails
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-4

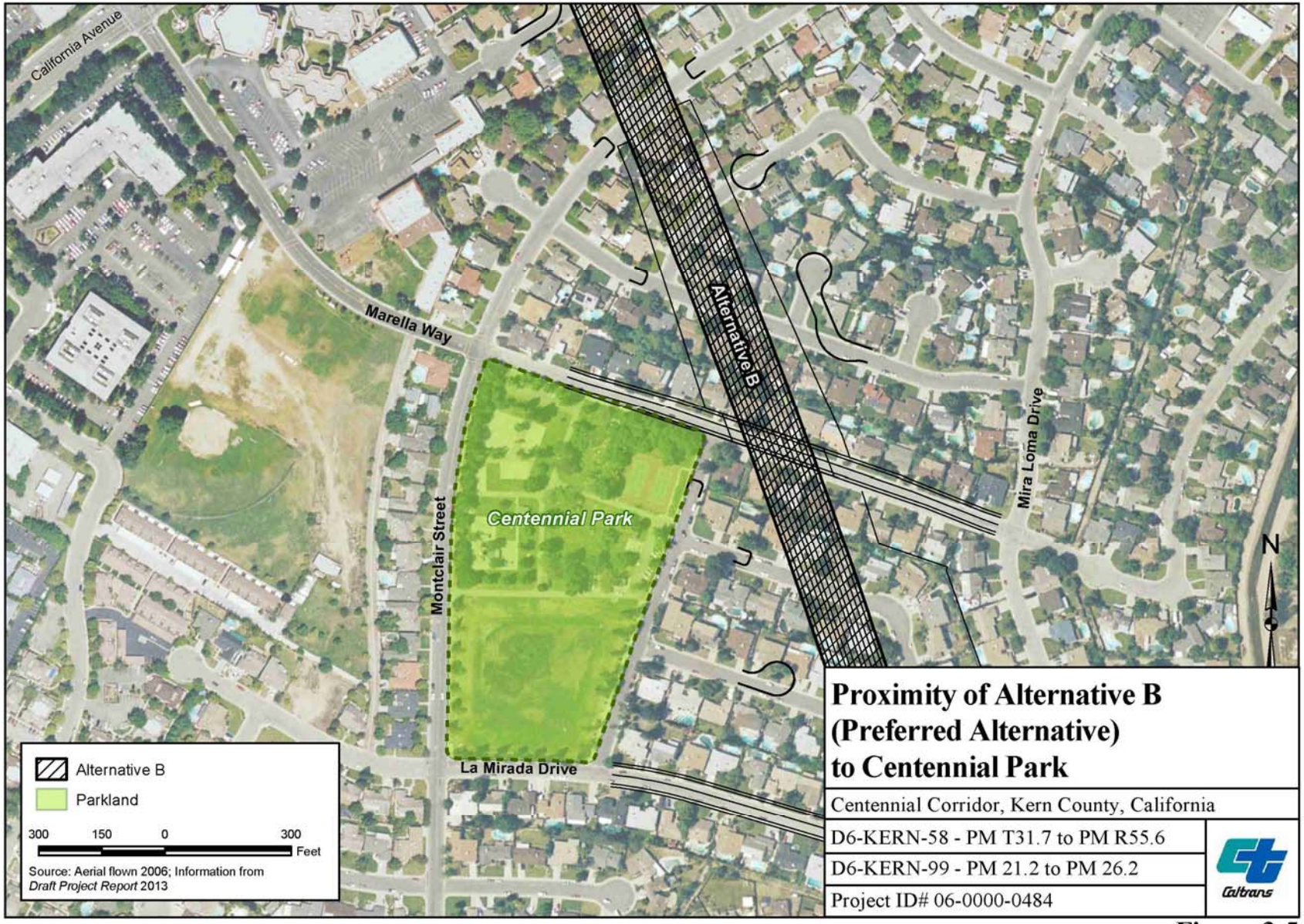

California Avenue
Marella Way
Alternative B
Mira Loma Drive
Montclair Street
Centennial Park
La Mirada Drive
N
Alternative B
Parkland
300 150 0 300
Feet
Source: Aerial flown 2006; Information from
Draft Project Report 2013
Proximity of Alternative B
(Preferred Alternative)
to Centennial Park
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-5

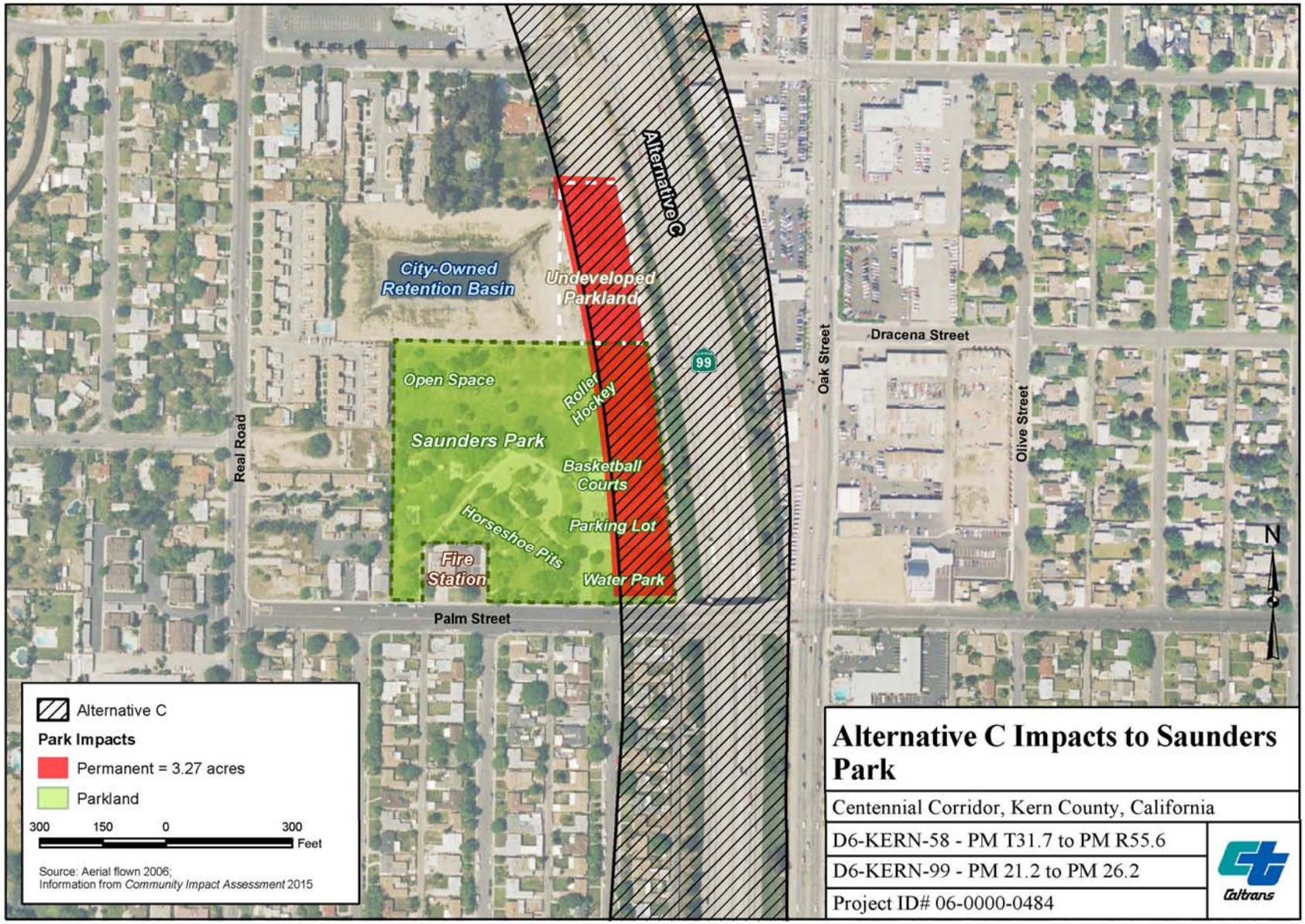

Alternative C
City-Owned Retention Basin
Undeveloped Parkland
Open Space
Roller Hockey
Saunders Park
Basketball Courts
Horseshoe Pits
Parking Lot
Fire Station
Water Park
Real Road
Oak Street
Olive Street
Dracena Street
Palm Street
99
N
Alternative C
Park Impacts
Permanent = 3.27 acres
Parkland
300 150 0 300
Feet
Source: Aerial flown 2006;
Information from Community Impact Assessment 2015
Alternative C Impacts to Saunders Park
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-6

Alternative C

Alternative C would permanently affect 1.95 acres of the developed portion and 1.32 acres of an undeveloped portion of Saunders Park, causing the loss of basketball courts, an enclosed roller hockey arena, a retention basin, a splash/water play area, two parking areas, and an equipment storage room (see Figure 3-6). The new elevated freeway would run alongside the eastern boundary of the park, supported on a retained structure reaching about 30 feet above grade, atop of which would be a sound wall that is another 12 feet high. Overall, a vertical wall would define the eastern boundary of the park. Both landscaping and surface texturing would be applied to soften the appearance of the new structure. Before mitigation, the usefulness of the park would be substantially diminished.

No permanent use of parkland at the Kern River Parkway would occur because Alternative C would be built within the right-of-way acquired for the Westside Parkway. In addition, bridges would span the existing trails (Hoey Trail, equestrian trail, and the Kern River Multi-Use Trail).

No-Build Alternative

Because there would be no construction or operation of the Centennial Corridor with this alternative, no impacts to parkland would occur.

Avoidance, Minimization, and/or Mitigation Measures

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 United States Code 303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites." However, no permanent use of Section 4(f) properties would occur with implementation of Alternative B, the Preferred Alternative. Refer to Appendix B, Section 4(f) Evaluation, in Volume 2 for more information on 4(f) properties.

Since Alternative B, the Preferred Alternative, would not permanently affect any park or recreational facilities, no mitigation is required.

The following mitigation measure would apply if Alternative A was selected:

PR-1 Caltrans, in coordination with the city of Bakersfield, shall implement the following measures to minimize impacts to the Kern River Parkway:

- Prior to construction, reconstruct the Kern River Multi-Use Trail and equestrian trail that would be affected by construction activities. Locate the new realigned trails at underpasses beneath the overhead structures.
- Access to the pedestrian, bicycle, and equestrian trails shall be maintained to the extent practicable during the construction period. Signs shall be furnished for all paths and for any paths temporarily closed for public safety and security.

- Prior to construction, replace the volleyball courts and other park uses potentially displaced by the project construction at a new location within the Kern River Parkway, to be identified by the city of Bakersfield.
- After construction, replant native vegetation that would be cleared during construction of the project using similar plant materials approved by the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife. All mature trees will be replaced at a 1:1 ratio.

The following measure would apply if Alternative C was selected:

PR-2 Caltrans, in coordination with the city of Bakersfield, shall implement the following measures to minimize impacts to Saunders Park that would result from implementing Alternative C:

- Assemble and consolidate excess land in the vicinity of the park to redefine a new park boundary that is estimated to comprise an estimated 12.95 acres, a net increase of 1.65 acres.
- The park shall be developed consistent with the concept plan provided in Section 7.2, Measures to Minimize Harm to Saunders Park of the *Section 4(f) Evaluation* provided in Appendix B, Volume 2. All affected facilities shall be replaced. As shown in the concept layout, the new Saunders Park includes the following relocated facilities: basketball courts, roller hockey facility, splash/water play area, group picnic areas, and parking areas. Security lighting shall be incorporated.

3.1.2 Growth

Regulatory Setting

The Council on Environmental Quality regulations, which established the steps necessary to comply with the National Environmental Policy Act of 1969, requires evaluation of the potential environmental effects of all proposed federal activities and programs. This provision includes a requirement to examine indirect effects that may occur in areas beyond the immediate influence of a proposed action and at some time in the future. The Council on Environmental Quality regulations, 40 Code of Federal Regulations 1508.8, refer to these consequences as indirect impacts. Indirect impacts may include changes in land use, economic vitality, and population density, which are all elements of growth.

The California Environmental Quality Act also requires the analysis of a project's potential to induce growth. California Environmental Quality Act Guidelines, Section 15126.2(d), require that environmental documents "…discuss the ways in which the project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment…"

Affected Environment

This section uses information from the *Community Impact Assessment* (May 2015) and the *Traffic Study Report for the Centennial Corridor Project* (November 2012) prepared for this project.

To determine whether project-related growth is reasonably foreseeable, factors such as project type, project location, and growth pressures in the project area are analyzed. If growth is reasonably foreseeable, then further analysis is required to determine the effect of this growth on resources of concern.

Current Recent Population and Development Patterns in the Project Area

According to the Kern Council of Governments, about one in every 50 people in California now lives in Kern County. The region grew by more than 215,000 persons from 2000 to 2014. By 2011, Kern County's population reached 873,000 persons and was ranked the 11th most populated county of the state's 58 counties.

The metropolitan Bakersfield area has also seen marked population growth over the last 30 years. Between 1980 and 2010, the population has grown from 228,000 to 533,461 persons, which is an approximate annual growth of 2.8 percent. It had the 4th highest percentage growth of the state's 58 counties in the 2013-2014 period.

Growth in residential developments has followed the overall pattern of population growth in metropolitan Bakersfield, and about 80 percent of new housing has been built on the west side. More dense development has occurred closer to central Bakersfield.

Housing construction in the city has been fairly effective in meeting Regional Housing Needs Assessment goals. It is the city's goal to identify and implement programs to balance employment growth with the ability to provide housing opportunities affordable to the incomes of newly created job opportunities. A variety of housing types and economic segments have been provided for through the city's housing programs. The city is providing for housing growth far beyond the current Regional Housing Needs Assessment period.

Future Growth Potential in the Project Area

By 2035, the population of metropolitan Bakersfield is expected to reach about 848,487 persons, which would be about 60 percent of the expected population for all of Kern County. As new housing stock expands to accommodate expected population growth over the next 20 to 30 years, increased demand for access between developing areas and downtown Bakersfield would also be expected. As can be seen in Figure 3-7 (provided in Volume 2), growth within metropolitan Bakersfield is expected to be most pronounced in the northwest area, west of State Route 99, in the northeast area, east of State Route 178, and in the southwest.

The pace of growth within the project area has been particularly slowed in recent years due to the ongoing weak construction market. However, as noted in Section 3.7, Cumulative Impacts, four major private development projects on the west side of

Bakersfield area have been approved, but are not currently under construction, including Bakersfield Commons, Stockdale Ranch, Saco Ranch Commercial Center, and Crossroads Plaza Commercial Center. In addition, several road and highway improvement projects associated with the Thomas Roads Improvement Program and the Regional Traffic Impact Fee Program would both accommodate growth and help support employment within the metropolitan Bakersfield area in upcoming years.

The Kern County General Plan discourages scattered urban density development, especially when it is not supported with adequate infrastructure. The plan guides new development toward existing infrastructure and encourages both mixed-use and infill developments. The plan also contains policies designed to balance the need for new residential development with the county's actual expected growth, as well as promoting a variety of housing types, the efficient use of the land, and making sufficient housing available for each socioeconomic level.

Although general plans promote guided development throughout the city of Bakersfield, the need continues for existing transportation infrastructure to be improved in conjunction with other public infrastructure developments.

Environmental Consequences

The following analysis looks at potential Centennial Corridor growth-related impacts on a broad regional scale before focusing on city-level impacts.

First-Cut Screening Analysis

The Caltrans Standard Environmental Reference provides guidance for conducting growth-related, indirect impact analyses. A first-cut screening process is used by Caltrans to determine whether a potential for growth-related impacts is an issue that needs to be evaluated in the environmental document for a particular project. According to this guidance, the need for a growth-related study is based on the extent to which travel times, or accessibility, would be changed as a result of a project. Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, discusses the impacts on traffic circulation as a result of the proposed Segment 1 construction. Based on the first-cut screening analysis, though Segment 1 in itself would not have a noticeable impact on accessibility, as part of the larger Centennial Corridor Project and as part of the extensive multi-project Thomas Roads Improvement Program, the project could affect accessibility in the region and warrants a growth-related impact analysis.

Macro-Scale Growth Inducement Analysis for the Thomas Roads Improvement Program

A macro-scale *Growth Inducement Analysis* for the Thomas Roads Improvement Program (Parsons, 2009) considered the influence of the entire program of the proposed Thomas Roads Improvement Program projects, including the Centennial Corridor. A total of 12 identified projects were included in the analysis. Most of these projects are west of the Centennial Corridor Project. The construction time frames projected at the time the analysis was performed ranged from 2009 through 2017.

The analysis concluded that the Thomas Roads Improvement Program projects as a group (including the Centennial Corridor) would have the effect of moderately influencing growth pressures in the northwest and west Bakersfield metropolitan areas, and marginally influencing growth pressures in the west central and northeast areas. The Thomas Roads Improvement Program projects were not expected to substantially influence the overall amount, type, or timing of regional growth. The rate of growth has been, and will continue to be, influenced by relatively inexpensive land costs, growing labor demand, increasing demand for affordable housing, and developer activity responding to the marketplace.

Growth-Related Project Impacts (Common to All Build Alternatives)

Given the growth in Bakersfield that has occurred without the project, the Centennial Corridor is being planned to accommodate growth that has already occurred, with limited capacity to induce further growth. Future development and investment in Bakersfield are expected to occur mainly in response to underlying economic conditions, including supply and demand for housing, goods and services, and only marginally due to improved travel time and accessibility. Other factors that would influence future development along the Centennial Corridor and in the western and eastern sections of the metropolitan Bakersfield area include existing infrastructure, land prices, and physical constraints.

Although the Centennial Corridor Project would predominantly accommodate previous growth that has occurred rather than induce new unplanned growth, it would change accessibility and mobility within the metropolitan Bakersfield area and, as part of the larger multi-project Thomas Roads Improvement Program, could potentially contribute to improved accessibility to and from the Los Angeles metropolitan area. By reducing traffic bottlenecks and current stop-and-go vehicular traffic, the build alternatives would facilitate the flow of traffic, leading to time savings for the traveler once the project has been implemented. The project would have the effect of providing a better connection from urbanized areas of Bakersfield near downtown to the suburban fringe and areas beyond by means of a major new multi-lane, limited access highway.

The increased accessibility created by the Centennial Corridor Project may affect the location of growth because improved access to downtown could make north and northwest Bakersfield more desirable. However, on a regional scale, the rate, type, and amount of growth in the project vicinity is not expected to substantially change due to land use controls shaped by local and regional plans and policies, and a desire to approve projects that are compatible with the surrounding land uses.

Growth pressures could potentially be influenced in the western section of Bakersfield with improved access to downtown Bakersfield due to construction of any of the build alternatives. The project could facilitate growth, which has historically been occurring in the western section of Bakersfield even without the project, by reducing commute times to the downtown area. While the rate of growth has slowed in recent years, it is not expected to return mainly as a result of the project. Rather, the project would accommodate the circulation demands that have

been created by past and ongoing developments in the outlying areas of west Bakersfield. This would also potentially indirectly influence development in the downtown area. Bakersfield is positioned to be the economic center of the San Joaquin Valley because of its proximity to Interstate 5 and State Route 99, the two major corridors for goods movement, as well as its location between Los Angeles and the Bay Area. The California Department of Finance projects a 25 percent increase in employment in metropolitan Bakersfield by 2035. By improving access to the downtown, new development and redevelopment of the downtown area may result.

Also, improved access throughout Bakersfield would benefit agricultural-oriented businesses that are west and east of Bakersfield, as travel time and associated costs to and from agricultural businesses and distribution facilities in the downtown area of Bakersfield and along State Route 99 and State Route 58 would be reduced.

By reducing traffic bottlenecks and stop-and-go vehicular traffic on the existing State Route 58, the build alternatives would facilitate the flow of traffic, resulting in an overall time savings for the traveler. However, while the transportation improvements would reduce the time-cost of travel, those savings would be minimal. As discussed in *Community Impact Assessment* (May 2015), the data indicates an anticipated time savings of 8 minutes for trips between the geographic points of Bakersfield and Los Angeles. While the project would have the effect of providing a better connection from urbanized areas of Bakersfield near downtown to the suburban fringe and areas beyond by means of a major new multi-lane, limited access highway, the time savings associated with that improved accessibility is minor in terms of influencing interregional locational decisions for residences and businesses.

Apart from commercial development opportunities associated with land right next to new freeway interchanges, the Caltrans *Guidance for Preparers of Growth-related, Indirect Impact Analyses* indicates that, unless transportation projects open up new land areas that had not been previously accessible, on a regional basis, the impacts to convert land uses are generally minor. The proposed Centennial Corridor Project is a transportation facility in an area that has been served by roads and highways for many decades. The build alternatives would not facilitate new development by opening up access to previously undeveloped areas. Also, the pace and amount of development in Bakersfield is projected to occur with or without the Centennial Corridor Project. The absence of the Centennial Corridor has not been a major constraint to development in Bakersfield, or the immediate outlying areas.

In summary, no build alternative is expected to substantially influence the overall amount or type of regional growth or influence the redistribution of economic development and population. The pattern and rate of population and housing growth would remain consistent with the population expected in existing planning documents for the area. Growth in metropolitan Bakersfield is expected to follow the trend of the Central Valley's population growth, which is fueled by high birthrates and the in-migration of people from other parts of California. The potential for growth in the Bakersfield area is consistent with local land use plans and current trends; the project would not substantively influence growth, and no growth-related impacts are

expected. Current growth trends and potential future growth are considered in local land use plans, and the project would not influence growth that is not currently planned. The project would not result in direct adverse growth-related impacts.

Indirect Impacts

Indirect or secondary growth-related impacts in the region can include additional demands for housing, employment, and goods and services associated with population increase caused by or attracted to new development.

Under the three build alternatives, no new housing units or commercial and industrial uses would be needed to support project implementation. The build alternatives would create temporary construction jobs and would not lead to any permanent increase in the employment base within the project area; therefore, no demand for housing, goods and services, or employment would be generated by the build alternatives.

The three build alternatives would not provide new access to currently undeveloped areas in the project area. The build alternatives would build new freeway/roadway facilities along Segment 1 of the Centennial Corridor, but there would be no new on-ramps or off-ramps that would provide freeway access to undeveloped areas. Lands immediately surrounding the alignments are generally developed or approved for development. Improvements at the Stockdale Highway and State Route 43 intersection (in Segment 3) would ease operations at this intersection, but would not provide new capacity in the area because of the limited extent of the improvements.

No-Build Alternative

The No-Build Alternative would not lead to any physical improvements that may induce growth or development in the surrounding area or in Bakersfield. The existing local roadway and regional highway system would operate at its current level of efficiency, and congested conditions would remain and become worse over time. No growth-related impacts are expected.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are proposed.

3.1.3 Farmland

This section addresses potential impacts to farmland and agricultural land, including land under Williamson Act contracts that would result from construction of the Centennial Corridor Project.

Regulatory Setting

The National Environmental Policy Act and the Farmland Protection Policy Act (7 U.S. Code 4201–4209 and its regulations; 7 Code of Federal Regulations Part 658) require federal agencies, such as the Federal Highway Administration (or its designee), to coordinate with the Natural Resources Conservation Service if their activities may irreversibly convert farmland (directly or indirectly) to non-agricultural

use. For purposes of the Farmland Protection Policy Act, farmland includes prime farmland, unique farmland, and land of statewide or local importance.

The California Environmental Quality Act requires the review of projects that would convert Williamson Act contract land to non-agricultural uses. The main purposes of the Williamson Act are to preserve agricultural land and to encourage open space preservation and efficient urban growth. The Williamson Act provides incentives to landowners through reduced property taxes to discourage the early conversion of agricultural and open space lands to other uses.

Affected Environment

The Kern County Agricultural Commissioner's Office estimates that 803,769 acres were harvested in Kern County in 2010 (source: 2010 Agricultural Crop Report). The top five commodities for 2010 by value—grapes, almonds, pistachios, milk, and citrus—account for about 60 percent (more than $2.8 billion) of the total value of agricultural production in the county. Other high producers include a variety of fruits, vegetables, cotton, and livestock.

The California Department of Conservation administers the Farmland Mapping and Monitoring Program, which is the only statewide land use inventory done on a regular basis. The California Department of Conservation designates land as Prime Farmland, Unique Farmland, or Land of Statewide or Local Importance as Important Farmland. Although there is no Important Farmland within Segments 1 and 2, the California Department of Conservation has designated much of the land in Segment 3 as Prime Farmland. The land affected by the Stockdale Highway/State Route 43 intersection improvements is designated as Prime Farmland and Rural Residential Land.

Lands under the California Land Conservation Act of 1965 contract, also referred to as the Williamson Act, are restricted from conversion to other land uses; however, the regulation does allow for public improvements in a preserve, if necessary. Williamson Act contracts are for a period of 10 years and are renewed automatically each year, unless the landowner or local government files to initiate non-renewal. The Government Code requires the minimum size of the area under contract be 10 acres. In return for a Williamson Act contract, property tax assessments are stabilized. Currently, there are four parcels under Williamson Act contracts located in the southwest quadrant of the Stockdale Highway/State Route 43 intersection.

Environmental Consequences

Common to All Build Alternatives

There is no Prime Farmland in Segments 1 and 2; therefore, there would be no impacts to Prime Farmlands or to Williamson Act contract land within these two segments. The improvements at the Stockdale Highway and State Route 43 intersection in Segment 3 would have impacts on farmland.

The proposed intersection improvements at Stockdale Highway and State Route 43 would result in permanent impacts to 3.16 acres of Prime Farmland and 0.84 acres of

Statewide and local important farmland for a total of 4 acres of farmland to be directly converted. There will also be temporary construction impacts to about 4 additional acres. Because the area that would be affected by the project sits at the edge of the roadway, the remainder of the parcels would continue to be farmable tracts of land. Areas affected by the temporary construction impacts would be restored and usable when the improvements are completed. The intersection improvements would affect one parcel southwest of the intersection, under a Williamson Act contract, resulting in permanent impacts to about 0.4 acre and temporary construction impacts to about 0.5 acre. Only the impacted area would be converted and taken out of the Williamson Act contract. The unaffected portion of the parcel would remain under the contract. The removal of the 0.4 acre of land from the Williamson Act contract would not affect the viability of the remainder of the parcel remaining under the contract. Therefore, impacts to tax savings for the landowner are not anticipated.

The total acreage of Prime Farmland in Kern County is 703,387 acres (source: State of California Department of Conservation Division of Land Resource Protection, Farmland Mapping & Monitoring Program [1984-2013]). The total County's Prime Farmland to be lost or affected by the project is 0.000057 percent. The Farmland Conversion Impact Rating for Corridor Type Projects form (Form NRCS-CPA-106) was completed as part of the coordination with the U.S. Department of Agriculture (refer to Appendix J in Volume 2). Based on this coordination, the project would not result in a substantial impact on farmland.

No-Build Alternative

The No-Build Alternative would not result in any impacts to Important Farmland or lands under a Williamson Act contract.

Avoidance, Minimization, and/or Mitigation Measures

Right-of-way acquisition of the Prime Farmland, Statewide and Local Important Farmland, and Williamson Act contract land for the intersection improvements at Stockdale Highway and State Route 43 cannot be avoided. But, due to the small size of land required, substantial impacts to farmland operations are not expected. The land owners would receive appropriate compensation allowed by laws as described in Section 3.1.4.2, Relocations and Real Property Acquisition.

Mitigation and Minimization Measure

AG-1 In conjunction with right-of-way acquisition for the improvements to the Stockdale Highway/State Route 43 intersection, Caltrans shall coordinate with the County of Kern and the California Department of Conservation on Caltrans' intent to acquire property within a Williamson Act contract. Such notices shall be consistent with Government Code Sections 51290 through 51295 for public acquisition of Williamson Act land for a public improvement. The County of Kern shall amend the applicable Williamson Act contract to reflect the removal of the right-of-way purchased for roadway improvements from the contract.

3.1.4 Community Impacts

Three subject areas are discussed in the Community Impacts section: community cohesion and character; relocation and property acquisition; and environmental justice. The section focuses on Segment 1, which includes the improvements to connect Centennial Corridor to the Westside Parkway. Impacts to Segments 2 and 3 have been previously evaluated in their respective environmental documents, and there have been no substantive changes to the general settings of the area since the environmental documents for Segments 2 and 3 were certified.

3.1.4.1 Community Character and Cohesion

Community cohesion is the degree to which residents have a "sense of belonging" to their neighborhood, a level of commitment to the community, or a strong attachment to neighbors, groups, and institutions, usually because of continued association over time. The information in this section comes from the *Community Impact Assessment* (May 2015) prepared for this project.

Regulatory Setting

The National Environmental Policy Act of 1969 as amended established that the federal government use all practicable means to ensure that all Americans have safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 U.S. Code 4331[b][2]). The Federal Highway Administration in its implementation of the National Environmental Policy Act (23 U.S. Code 109[h]) directs that final decisions on projects are to be made in the best overall public interest, taking into account adverse environmental impacts, such as destruction or disruption of human-made resources, community cohesion, and availability of public facilities and services.

Under the California Environmental Quality Act, an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant. Since this project would result in physical change to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the project's effects.

Affected Environment

The study area is characterized as containing a mix of mostly suburban residential communities, many dating to the 1970s, along with homes that date to the immediate post-World War II period or earlier, the latter most markedly as one gets closer to downtown Bakersfield. While the main land use in the Centennial Corridor study area is single-family residential housing, there are also medium-density residential (single- and multiple-family), commercial (neighborhood and regional), institutional (government and schools), and light industrial (general manufacturing) uses. As described below, the Centennial Corridor (see Figure 3-8, Study Area Neighborhoods, provided in Volume 2) can be perceived as a collection of sub-communities or neighborhoods: Quailwood–Park Stockdale, Westpark, Oleander-Sunset, Southwest Bakersfield, and Southeast Bakersfield. Some residential areas

within the larger developed areas are further identified by subdivision names, as indicated below.

In 2009, as part of the community impact assessment process, to gauge local residents' sense of the Centennial Corridor Project and supplement information not otherwise available, Caltrans developed and mailed a neighborhood survey to about 16,000 residents living within 1,000 feet of each of the build alternatives for Segment 1 (see Appendix A of the *Community Impact Assessment* for a copy of the survey form). About 920 survey forms were returned. The survey included questions relating to one's perceived quality of life, length of time in the residential unit, and whether the unit was owned or rented. Everyone received an identical survey questionnaire, which was coded so project planners could analyze responses based on the neighborhood geographical area of those who responded. This was done so that data would be gathered in a consistent way from each of the neighborhoods that might be directly affected by the project. Survey forms were available in English and Spanish. Information gathered from those surveys is included in the following discussions.

Community Characteristics

Quailwood – Park Stockdale

The Quailwood and Park Stockdale neighborhoods have been combined because they have similar characteristics and were both master-planned by the Tenneco Company. While a small amount of the housing in the area dates to the 1940s, most of the housing stock was built from the 1960s to the 1980s. Quailwood–Park Stockdale is bound roughly by Ming Avenue to the south, California Avenue to the east, the Kern River to the north, and Coffee Road/Gosford Road to the west.

Respondents to the survey form mailed to residents living in the project study area referred to as Park Stockdale and Quailwood most commonly stated their preference for choosing to live in this section of Bakersfield because of its centrality to nearby amenities, including the Kern River Parkway and bike paths, nearby shopping centers, and restaurants, as well as schools and churches. Most of the area residents responding felt the neighborhood was safe and secure (some were pleased with being able to reside in an upscale, gated community), and many noted the neighborhood's overall cleanliness and quiet. Many of those who completed the survey form were members of a local homeowner's or condominium association. Some expressed that in recent years change had come to the neighborhood primarily in the form of younger families moving in. The one common complaint among many of those responding was the worsening local traffic conditions. Of those who did express an opinion on a project alternative for the Centennial Corridor, there was little support for Alternatives A and B.

Westpark

Westpark is west of State Route 99, north of Stockdale Highway, and south and east of California Avenue, which bends through the project area. While the oldest homes in this area date back to the late 1940s and 1950s, the Westpark neighborhood was mostly developed as part of tract development from the late 1960s through the 1970s.

As part of its master plan development, the Stockdale Development Corporation deeded 9 acres in the heart of the future Westpark neighborhood to the city to establish a park. Centennial Park includes tennis and basketball courts, picnic tables, a pavilion, and a dog park. Harris Elementary School sits along the northeast boundary of the neighborhood, and most neighborhood children walk to school. Centennial Park and Harris Elementary School are considered focal points for neighborhood activity based on one-on-one interviews conducted with neighborhood residents in 2009. The neighborhood has an active homeowner's organization. Westpark is somewhat unique among Bakersfield neighborhoods in that many essential community services are within walking distance of most houses.

The survey respondents residing in the Westpark community cited proximity to schools, churches, parks, retail, and the downtown area as features that attracted them to the neighborhood. A large community of elderly and retired people has owned homes for more than 20 years, and there are many older, well-made homes. Westpark has a Neighborhood Watch Group. Most respondents described the neighborhood as safe and clean, offering them and their families and neighbors a good quality of life.

Most survey respondents noted opposition to the project, with the most negative comments expressed about building Alternative B. Several comments conveyed preference for the alternative that follows the existing freeway alignment as much as possible (Alternative C) or for Alternative A, because these alternatives would cause the least disruption to their neighborhood. Many respondents noted preference for an elevated or depressed highway, rather than an at-grade facility, with incorporation of attractive landscaping and sound walls. Common concerns about the project included that it would disrupt the neighborhood with increased noise and air quality impacts, as well as increased opportunity for graffiti. Other repeated concerns were that the project would decrease property values in the neighborhood and displace residents and businesses. Many respondents noted concern about displacing the retired and elderly residents for whom the impact would be greater because they have lived in the area so long and have limited resources to handle being displaced and finding replacement housing, especially in an area with so many local services. Provision of crosswalks near parks and other locations were repeatedly listed as potential issues the project could address.

During one-on-one interviews, many Westpark respondents expressed that they take advantage of the proximity to nearby community amenities and neighborhood-based small businesses, allowing them to walk or drive a very short distance to local restaurants, houses of worship, grocery markets, and retail centers. Recreational walking, including people walking dogs, is also common in the neighborhood. When citing attributes of their neighborhood, residents of Westpark often mentioned the affordability of homes, a sense of safety and stability, neighborhood walkability, and access and convenience to other parts of the city. The general feel of the area—with its large trees and sense of community—is identified as a quality that distinguishes their neighborhood from others in Bakersfield.

Oleander-Sunset

The Oleander-Sunset neighborhood is generally considered to be bound by California Avenue to the north, Oak Street to the west, Brundage Lane to the south, and Union Avenue to the east. The main streets in the neighborhood are Union and Chester Avenues, H Street, Palm Street, Fourth Street, and Brundage Lane.

The Oleander-Sunset Park Association, formed in 1992, is considered Bakersfield's first homeowners association. A renewed community spirit revolved around the growing understanding and appreciation of the neighborhood's rich history, including residences that date back to the late 19th and early 20th centuries. The Sunset Park subsection of the community is generally located in the northwest corner of the larger Oleander-Sunset neighborhood; its first houses were built in the mid-1920s.

The housing stock of the neighborhood is broken down as 82 percent being single-family units and 18 percent being multi-family units. Residents of the Oleander-Sunset neighborhood benefit from the neighborhood's centralized location, shopping and dining opportunities, and easy access to other local amenities. Some of the nearby recreational areas include Saunders Park, Lowell Park, Wayside Park, and Beal Park. The southwest corner of this Oleander-Sunset neighborhood, which is directly affected by the project (Alternative C) encompassing Olive and Cypress streets among others, can be characterized by the presence of single-family tract homes built in 1950. A large number of the commercial land uses located along the neighborhood's border on Brundage Lane, east of Oak Street, are related to automotive care (tire sales, engine repair, and brake service).

The Oleander-Sunset community survey respondents overall expressed sentiments that their neighborhoods offer a safe, desirable place within an older section of Bakersfield, with well-preserved, unique homes and older trees. Most respondents cited the neighborhood as offering an excellent or good quality of life. The community has many historic homes and provides multiple parks and good access to nearby downtown. Some respondents commented that visitors come to this neighborhood because of its historic character and for neighborhood-sponsored community events such as the July 4th parade and Christmas carriage tours.

Several survey respondents noted that younger families are moving into the Oleander-Sunset neighborhood, and they felt there is increased pedestrian and bicycle traffic, especially near parks and schools. Traffic congestion and cut-through traffic were repeatedly cited as existing problems, at the California Avenue/Oak Street intersection in particular.

Many of those responding to the survey also expressed concerns over aesthetics, with repeated interest for a depressed freeway with landscaping or a landscaped buffer. There were mixed comments about the provision of construction of sound walls, with some aesthetic concerns about the walls and highway and some comments calling for walls that could be painted. Providing noise walls to address existing sound from State Route 99 and addressing traffic congestion on local streets were listed multiple times as potential issues the project could address. A couple of respondents noted that

speeding automobile traffic in areas with high pedestrian traffic is an existing problem. Oak Street, California Avenue, and Truxtun Avenue were repeatedly mentioned as locations to provide or maintain cross-through traffic opportunities with the project. Several respondents showed support for a freeway connection west from State Route 99, urging the use and expansion of existing roadways as a priority in selecting an alternative.

Southwest Bakersfield

Southwest Bakersfield is the most populated section of the Bakersfield metropolitan area. Development in this neighborhood was influenced by the construction of California State University, Bakersfield in the 1970s. Areas farther east, in the northeast section of the Southwest Bakersfield area shown in Figure 3-8 (provided in Volume 2), near Belle Terrace and Real Road, south of Stockdale Highway, are also residential in nature and mostly encompass post-World War II suburban tract housing dating from the early to mid-1950s. Many homes in this area sit on smaller parcels compared to the more recent homes west of New Stine Road. Because they have been there longer, the residential streets typically have more mature trees and landscaping; there is also a higher concentration of multi-family residential units in this section than in other neighborhoods in the study area. Various commercial services are provided by businesses on nearby Stockdale Highway.

Many survey respondents from this sub-community expressed opposition to the project because they felt it would disrupt or destroy the neighborhood and devalue property. Multiple respondents commented that being offered fair market value for their homes would not justly compensate them due to the current low market conditions, and they would be financially damaged if their home was to be acquired to accommodate the project. Hardship for elderly residents who would be displaced was a repeated concern by respondees. Several expressed preference for Alternative C because they felt it would cause the least disruption to neighborhoods as well as the least number of displacements, and they expressed opposition to Alternative B because they felt it would cause the most disruption. Many respondents also expressed support for the project. Several respondents expressed interest in a depressed highway with landscaping and noise walls. Increased opportunity for graffiti was another repeated concern about the project. Addressing traffic congestion on arterial streets was commonly noted as a problem the project could address.

Southeast Bakersfield

The southeast side of Bakersfield, the northern border of which touches the project area of all build alternatives, is a redevelopment area that generally extends from H Street east to Washington Street and from the State Route 58 corridor north to the California Avenue corridor. In interviews done in 2009, respondents of this section stated they believed the city's redevelopment efforts helped to stimulate the area and bring new businesses that catered to the local residents; this helped bring residents back to the neighborhood. Several residents stated it was fairly easy to get around this section of Bakersfield and one could comfortably walk to nearby places such as grocery stores, other retail stores, and local parks. The neighborhood provides

affordable housing according to many of the residents who responded to the survey. Some of the commercial businesses within the area are described by its residents as small businesses and minority owned. Most of the areas right next to existing State Route 58 are industrial or commercial in nature; residential areas are generally south of the Brundage Lane corridor and State Route 58.

Most survey respondents from Southeast Bakersfield rated the neighborhood quality of life as good or fair, but several respondents rated it as poor. Many respondents also commented on the good freeway access (State Route 99 and State Route 58) offered by the neighborhood. At the same time, many respondents commented on noise from these highways as an existing problem and requested sound walls. Provision of noise walls to address existing sound from State Route 99 and State Route 58, addressing speeding traffic on local streets, improving street lighting, and sidewalks and street pavement conditions were listed many times as potential issues the Centennial Corridor Project could address. Multiple respondents commented that in looking at the map the project does not appear to affect their neighborhood. Many respondents expressed general support for the project and complained about congestion on State Route 58 (West) (Rosedale Highway). Sound walls, landscaping with trees, speed bumps, and stop signs as traffic-calming measures were listed as potential project features to help make the project more compatible with the neighborhood. Several respondents expressed interest in an elevated highway being built.

Community Cohesion

Community cohesion stems from the social interaction among members of a community or neighborhood. Indicators of higher community cohesion generally include the following:

- Long average residency tenures
- Households of two or more people
- Social factors such as higher proportions of homeownership versus rentals, and single-family homes versus higher-density housing
- Ethnic homogeneity
- Substantial community activity
- Higher proportion of seniors
- Facilities for pedestrians and the disabled
- Community facilities

Based on information collected by Caltrans, including through feedback in interviews and public meetings, returned survey forms, and field surveys, the Centennial Corridor project area can be thought of as generally containing several moderately cohesive neighborhoods. For example, residents of all the neighborhood districts potentially affected by one or more of the build alternatives are likely to have neighborly exchanges on the street and see each other occasionally at nearby grocery stores or local restaurants, as well as during school functions and while attending services at local places of worship, to name a few instances. When members of gated

communities get to know their neighbors as they participate in group activities, or residents of older neighborhoods feel common bonds for protecting the historic character of their neighborhood and involve themselves in Neighborhood Watch programs, they exhibit certain characteristics of people residing in cohesive communities. Therefore, it might be best to view the concept of community cohesion as being on an ongoing condition and not an either/or characteristic.

Westpark neighborhood residents appear to exhibit a strong sense of community cohesiveness. Shopping, local restaurants, the nearby bookstore, preschool and elementary schools, places of worship, and non-emergency and outpatient medical care facilities are all within walking distance of Westpark, and many residents report they frequently walk rather than drive to nearby destinations. Availability of facilities in a walking distance allows face-to-face contact and contributes to a cohesive community, compared to master planned developments in Southwest Bakersfield and Quailwood-Park Stockdale, for example, which would require a car for most people to get around to local businesses and amenities. Centennial Park and Harris Elementary School are anchors in the Westpark community, serving to further bind the residents as a cohesive group, but certainly the residents living near many of the parks would likely experience much of the same sense of cohesiveness.

A factor that would distinguish Westpark from other nearby sub-community sections is that many of its residents have been involved in the Centennial Corridor Project over the course of many years, and they have shown a strong commitment to staying involved. When public meetings for the project were held, a great many of those attending came from Westpark. The neighborhood's interest in the project is reflected in part by the degree of participation in voluntary one-on-one interviews and survey return rates. Although residents of all potentially affected neighborhoods were encouraged to participate in the one-on-one interviews, most of the interviewees were residents of Westpark. Likewise, no neighborhood matched Westpark for returning the general survey forms. These numbers, and the consistency of the individual responses to interview/survey questions, are further evidence of the strong community cohesion within the Westpark neighborhood.

In addition, a sizable percentage of the surveys returned to Caltrans in 2009 noted that many Westpark residents have adopted an informal system to provide their neighbors assistance in times of need, much more than was shown in survey forms returned from the other nearby communities.

Measuring the quality of life within a neighborhood is an important aspect in determining the satisfaction of individuals with their community or neighborhood. What one defines as quality of life is subjective. Many factors may contribute to an individual's image of a community – for example, the opportunity for forming friendships, the attachment of residents to their particular neighborhood, a positive sense of the nearby physical and cultural environment. Table 3.5 demonstrates how survey responders to the Caltrans 2009 questionnaire perceive the quality of life within their particular sub-community or neighborhood.

Table 3.5 Quality of Life within Centennial Corridor Communities

Neighborhood	Quality of Life (Percentage)					
	Excellent	Good	Fair	Poor	Unknown	No Answer
Westpark	49.7	40.5	7.0	1.9	0.0	0.9
Quailwood-Park Stockdale	37.5	52.5	5.0	2.5	0.0	2.5
Southwest Bakersfield	19.4	56.4	21.0	2.7	0.0	0.5
Southeast Bakersfield	4.0	44.5	33.7	15.8	2.0	0.0
Oleander-Sunset	19.4	55.4	18.3	4.8	0.5	1.6

Source: Developed from the *Community Impact Assessment* 2015.

As shown in Table 3.5, about 90 percent of the residents of Westpark and Quailwood-Park Stockdale rated their quality of life as being either good or excellent, while other sections of Bakersfield collectively rated their quality of life as merely good or fair. This closely parallels the comments that were formally received during public meetings, information obtained from the one-on-one interviews, and the handwritten comments expressed on the neighborhood surveys returned to Caltrans.

In summary, while factors used to measure community cohesion tend to be somewhat subjective and difficult to quantify, Westpark, as a whole, exhibits many of the classic characteristics perceived to be associated with a cohesive community.

Socioeconomic Characteristics

In addition to feedback from residents about their neighborhoods, socioeconomic and demographic data for the census tracts and block groups for each alternative, as shown in Figures 3-9a through 3-9c (provided in Volume 2), were used for reference and analysis in this section and are based on the 2010 U.S. Census. Also included in the analysis is a larger region of analysis, specifically the city of Bakersfield and Kern County.

Table 3.6 shows the racial composition of the population by alternative compared to the larger region. The information is summarized below:

- Alternative A passes through 17 census block groups with a total population reported at 13,921, of which about 43 percent are white and about 57 percent are considered minority (non-white).
- Alternative B passes through 16 census block groups with a total population reported at 12,460, of which about 44 percent are white and about 56 percent are considered minority (non-white).
- Alternative C passes through 15 census block groups with a total population of 11,689, of which about 42 percent are white and about 58 percent are considered minority (non-white).

Table 3.6 Race and Ethnic Composition of the Population in the Project Area

Geographic Area	Total Population	White	African-American	American Indian/ Alaska Native	Asian	Native Hawaiian/ Other Pacific Islander	Other Race/Two or more races	Total Minority Population	Hispanic or Latino of Any Race
Kern County	839,631	323,794	45,377	5,893	33,100	995	17,439	515,837	413,033
		39%	5%	1%	4%	<1%	2%	61%	49%
city of Bakersfield	347,483	131,311	26,677	2,265	20496	357	8,172	216,172	158,205
		38%	8%	1%	6%	<1%	2%	62%	46%
Alternative A	23,868	10,304	2,126	191	854	18	569	13,564	9,806
		43%	9%	1%	4%	0%	2%	57%	41%
Alternative B	22,446	9,882	1,853	178	828	17	534	12,564	9,341
		44%	8%	1%	4%	0%	2%	56%	41%
Alternative C	18,815	7,971	1,562	158	708	15	443	10,844	7,958
		42%	8%	1%	4%	0%	2%	58%	42%

Note: Percentage number is rounded to the nearest one.
Source: Developed from the *Community Impact Assessment* 2015.

Table 3.7 presents the data on household income according to the 2010 U.S. Census. The information is summarized below:

- Alternative A is contained within 11 census tracts with an average household size of about 2.9 persons and an average median household income of $44,620.
- Alternative B is contained within 11 census tracts with an average household size of about 2.9 persons and an average median household income of $44,620.
- Alternative C is contained within 12 different census tracts with an average household size of about 2.8 persons and an average median household income of $45,112.

Table 3.7 2010 Median Income Data for Affected Census Tracts

Geographic Area	Total Occupied Households	Average Persons per Household	Median Household Income (dollars)	2010 Poverty Guideline[a]
Alternative A and B				
Census Tract 5.07	1,283	2.9	$78,188	$18,310
Census Tract 18.01	2,040	3.0	$46,107	$18,310
Census Tract 18.02	2,134	2.5	$64,839	$18,310
Census Tract 19.01	1,318	2.8	$41,500	$18,310
Census Tract 19.02	1,825	2.8	$38,018	$18,310
Census Tract 20.00	2,205	3.3	$20,513	$22,050
Census Tract 26.00	931	3.5	$33,092	$22,050
Census Tract 27.00	1,721	3.4	$47,668	$22,050
Census Tract 28.12	2,065	2.4	$27,955	$18,310
Census Tract 28.13	1,652	2.7	$31,604	$18,310
Census Tract 38.12	1,633	2.7	$61,339	$18,310
Total or Average	18,807	2.9	$44,620	-
Alternative C				
Census Tract 5.07	1,283	2.9	$78,188	$18,310
Census Tract 17.00	1,907	2.0	$50,525	$14,570
Census Tract 18.01	2,040	3.0	$46,107	$18,310
Census Tract 18.02	2,134	2.5	$64,839	$18,310
Census Tract 19.01	1,318	2.8	$41,500	$18,310
Census Tract 19.02	1,825	2.8	$38,018	$18,310
Census Tract 20.00	2,205	3.3	$20,513	$22,050
Census Tract 26.00	931	3.5	$33,092	$22,050
Census Tract 27.00	1,721	3.4	$47,668	$22,050
Census Tract 28.12	2,065	2.4	$27,955	$18,310
Census Tract 28.13	1,652	2.7	$31,604	$18,310
Census Tract 38.12	1,633	2.7	$61,339	$18,310
Total or Average	20,714	2.8	$45,112	-

Table 3.7 2010 Median Income Data for Affected Census Tracts

Geographic Area	Total Occupied Households	Average Persons per Household	Median Household Income (dollars)	2010 Poverty Guideline[a]
city of Bakersfield	111,132	3.1	$53,997	$18,310
Kern County	254,610	3.2	$47,089	$18,310

[a] The federal poverty line or level is issued each year by the Department of Health and Human Services and is used for determining financial eligibility for certain federal programs, including Medicare, Family Planning Services, and the Community Food and Nutrition Program, among others. They are a simplified version of the Census Bureau's poverty thresholds and the same for the 48 contiguous states. Neither the Census Bureau nor the Department of Health and Human Services (HHS) tabulates the number of people below the HHS poverty guidelines. The best approximation for the number of people below the HHS poverty guidelines in a specific area would be the number of persons below the Census Bureau poverty thresholds in that area. Information from the Department of HHS, Office of the Assistant Secretary for Planning and Evaluation. Accessed at: www.aspe.hhs.gov/poverty on February 10, 2012.

Source: Developed from the *Community Impact Assessment* 2015 (U.S. Census, 2010, ACS 5-Year Estimate 2006-2010, DP-03, S1101, DP04).

Although the average median household incomes within each alternative study area are less than the city of Bakersfield and Kern County as a whole, they are above the federal poverty guideline, except for Census Tract 20.00. The poverty line, determined by the Department of Health and Human Services on a yearly basis, is defined as a minimum income level below which a person is officially considered to lack adequate subsistence and to be living in poverty. Households below this line are considered "low-income." The poverty guideline (also known as the "poverty line") in 2010 for a household of 3 and 4 persons was $18,310 and $22,050, respectively.

Housing Demographics

Based on 2010 U.S. Census housing characteristics data, the project area covering the build alternatives contained about 9,372 housing units for Alternatives A, 8,747 housing units for Alternative B, and 7,232 housing units for Alternative C. Most of the housing units in each build alternative study area were occupied at a percentage similar to the city of Bakersfield (about 92 percent), but slightly higher than the County of Kern (about 89 percent).

The area with the highest percentage of occupied housing units belonged to Tract 18.02, Block Group 1 (96 percent). The area with the lowest percentage of occupied units was in Tract 19.02, Block Group 3 (86 percent). The high percentage of occupied units along the project corridor is likely due to a combination of factors including, but not limited to, price, incidence of foreclosures, and tenure of residents.

Environmental Consequences

Construction of any of the build alternatives would place a new freeway in existing neighborhoods, causing numerous residential and business displacements, neighborhood disruption, and environmental resource impacts such as localized air quality, noise, and visual effects as discussed below.

Alternative A

This alignment would pass through the northern portion of the Quailwood-Park Stockdale and also the northern portion of neighborhoods in the Southwest section of Bakersfield. A total of 356 residential units and 127 commercial, industrial, and manufacturing businesses would be displaced. Residential areas that would experience the greatest number of displacements include the condominiums on Mohawk Street and Lennox Avenue; several apartment houses on Williamson Way; and single-family residences on Brite Street, Frazier Avenue, Laverne Avenue, Curran Street, Jones Street, and Griffiths Street, among others. Many single-family residences on these streets are considered eligible for the National Register of Historic Places as part of the Rancho Vista Historic District. Displacement of these homes would result in a substantial change in the character of this small section of Bakersfield.

Many business properties that would be required for Alternative A are concentrated along California Avenue and Stockdale Highway. Detailed information on property acquisitions is provided in Section 3.1.4.2, Relocation and Property Acquisition.

As part of the new freeway construction, changes to several local residential streets would be required. Any proposed roadway closures or redesign, such as an overpass or underpass of the freeway, would change the circulation patterns and access of the local residents. For example, some residents living south of Stockdale Highway and west of South Real Road (shown in Figure 3-9a of Volume 2) may perceive that together with State Route 99 they would feel somewhat "boxed in" on two sides by the presence of the new raised freeway that would create a dominant visual presence in the neighborhood. Although project design would minimize changes in the circulation pattern as much as possible, seven local street closures (refer to Appendix E in Volume 2) would inconvenience and diminish the sense of safety for some pedestrians and bicyclists and would reduce direct automobile connectivity to the larger streets in the affected neighborhoods. Changes that would restrict pedestrian and bicycle travel would result in a negative effect on community cohesion.

Residents living close to the new freeway would experience a greater exposure to trucks and automobile noise. A *Noise Study Report* (March 2014; available on a CD affixed to the back of the printed copies of the final environmental documents that are located at the libraries listed in Chapter 7, and on the Centennial Corridor website: http://www.dot.ca.gov/dist6/environmental/projects/centennial/index.html) for the project identified 235 affected receivers representing 532 frequent outdoor use areas where the noise level would be elevated as a result of freeway traffic. A total of 19 sound walls were recommended feasible and reasonable, which would abate 203 of these affected receivers, which represent 464 frequent outdoor use areas. Detailed information on noise effects of the project can be found in Section 3.2.7, Noise and Section 4.2.3, Unavoidable Significant Environmental Effects – Noise.

The Air Quality Analysis determined that predicted concentrations of carbon monoxide are estimated to be less than 50 percent of the applicable standards. The

project would not contribute to a violation of standards, and project-level carbon monoxide conformity would be satisfied.

A qualitative particulate matter conformity analysis was done to predict the level of local impacts from particulate matter (PM_{10} and $PM_{2.5}$) as a result of traffic operations. The results show that the project would not cause a new or contribute to a violation of particulate matter standards with the implementation of the project.

A quantitative hot-spot analysis of local emissions of mobile source air toxics was done. A significant decrease in mobile source air toxics emissions was calculated for the project alternatives when comparing 2018 and 2038 emissions to the base year (2008) levels. This is directly due to the improved pollution emission performance of a modernized fleet of all vehicles, especially heavy diesel trucks, due to federal and state fuel content and engine emissions rules. More detailed information on air quality analysis can be found in Section 3.2.6, Air Quality and Section 4.2.2, Significant Environmental Effects of the Project – Air Quality.

With the new freeway built in the neighborhood, residents would experience some visual changes from the existing condition. A *Visual Impact Assessment* (March 2014) assessed impacts to visual and aesthetics at various key viewpoints along each build alternative and found that long-term visual impacts on key viewpoints as a result of construction of Alternative A would range from moderately low to moderately high. Presence of the elevated structure and sound walls would, for some, result in obstructed views that would adversely affect the visual character of the suburban neighborhoods. The new freeway that would run through the neighborhoods west of State Route 99 would change the visual character of the area. East of the State Route 58/State Route 99 interchange, the alignment for all three build alternatives would follow existing State Route 58 east to Cottonwood Avenue. Most of the proposed project design in this segment is within the existing right-of-way, in a landscape that is already characterized by flat topography, transportation facility infrastructure, light industrial, commercial, and residential properties next to the freeway, which would not largely change under any of the build alternatives. Detailed information on visual impact analysis can be found in Section 3.1.7, Visual/Aesthetics.

In summary, adverse effects to the overall character of the small portion of the project area in Southwest Bakersfield and Quailwood-Park Stockdale neighborhoods are expected as a result of construction of Alternative A. In these areas, the residential tract neighborhood scale would be lost with the addition of a new freeway.

Alternative B (Preferred Alternative)

Implementation of Alternative B mirrors some of the impacts affecting neighborhoods discussed for Alternative A. The distinction between Alternatives A and B is the location of the alignment in the western portion of the project area where it crosses the Kern River and where it would bisect the industrial and commercial areas on the east side of the river. Alternative B, generally northeast of the Alternative A alignment, would bisect the existing Westpark suburban neighborhood from California Avenue and Easton Drive in a diagonal fashion from northwest to

southeast through to the intersection of Stockdale Highway and the Stine Canal overcrossing.

A segment of the Alternative B alignment would run just northeast of Centennial Park. This alignment avoids direct impacts to the Stockdale Christian School, First Assembly of God Church, and Assembly Manor Retirement Home on California Avenue. Alternative B would be built below grade through much of the Westpark neighborhood. In addition, access across the freeway would be maintained at several key spots (California Avenue, Stockdale Highway, La Mirada Drive, Ford Avenue, and Marella Way) to help circulation from neighborhood sections that would otherwise be cut off. The option of removing the La Mirada Drive overcrossing from Alternative B was also considered. Removal of the overcrossing would not substantially change access, which would be provided by the Marella Way overcrossing. Removal of the La Mirada Drive overcrossing would eliminate the need to displace 13 single-family homes on La Mirada Drive near Centennial Park and save about $2.5 million in construction costs. Caltrans also considered and decided to build an undercrossing at Ford Avenue to maintain connection of Ford Avenue between Stine Road and McDonald Way. The undercrossing would not require the acquisition of any additional property and would add about $4.4 million in construction costs.

After the circulation of the draft environmental document, Caltrans decided to implement all of the proposed crossings, including maintaining the La Mirada Drive overcrossing to address public comments regarding community cohesion and connectivity. Accordingly, proposed overcrossings at La Mirada Drive and Marella Way, as well as the proposed undercrossing at Ford Avenue, would provide three local street connections between California Avenue and Stockdale Highway.

As part of the new freeway construction, changes to several local residential streets would be required. Alternative B would permanently close the following 11 local streets:

- Charter Oaks Avenue, between Easton Drive and Del Rey Court
- Montclair Street, from west of Easton Drive to east of Kensington Avenue
- Woodlake Drive, east of Kensington Avenue and west of Easton Drive alignment
- Kensington Avenue, from Woodlake Drive to Malibu Court
- Hillsborough Drive, east of Fallbrook Street
- Kentfield Drive, east of Fallbrook Street
- Joseph Drive, from Candy Street to Dunlap Street
- Dunlap Street, from Joseph Drive to Ford Avenue
- Morrison Street, south of Ford Avenue
- Garnsey Avenue, north of Elcia Drive
- Williamson Way, north of Elcia Drive

Any proposed roadway closures or redesign, such as an overpass or underpass of the freeway, would change the circulation patterns and access of the local residents.

Although project design would minimize changes in the circulation pattern as much as possible, closing the 11 local streets or segments listed above would inconvenience and diminish the sense of safety for some pedestrians and bicyclists and would reduce direct automobile connectivity to the larger streets in the affected neighborhoods. Changes that would restrict, though not completely curtail, pedestrian and bicycle travel would result in a negative effect on community cohesion in the Westpark section of Bakersfield.

Implementation of the Centennial Corridor Project will result in closure of 11 local streets or segments which will, in some cases, greatly lengthen the distance for current pedestrian routes in Westpark. The city will coordinate with Caltrans to install a dedicated new pedestrian sidewalk for the benefit of residents living in homes south of La Mirada Drive and Joseph Drive. The pedestrian sidewalk will enhance connectivity to newly divided areas and shorten the route for pedestrians to access popular community facilities located on either side of the freeway, including Centennial Park, Harris Elementary School, and other neighborhood destinations. This proposed feature would upgrade bicyclist and pedestrian access via La Mirada Drive.

Alternative B would result in more residential relocations in the Westpark neighborhood and fewer residential relocations in the Southwest Bakersfield neighborhood. A total of 310 residential units and 121 commercial, industrial, and manufacturing businesses would be displaced. The most single-family residential displacements would occur on Dunlap Street, Morrison Street, Del Rey Court, Montclair Street, La Mirada Drive, Kentfield Drive, Marella Way, Kensington Avenue, Brite Street, and Garnsey Street. Most business-related properties required for implementation of the project are on California Avenue, Stockdale Highway, and Real Road.

Residents living close to the new freeway would experience greater exposure to truck and automobile noise. A *Noise Study Report* (March 2014) for the project identified 230 affected receivers representing 482 frequent outdoor use areas where the noise level would be elevated as a result of freeway traffic. A total of 25 sound walls was recommended feasible and reasonable, which would abate 193 of these affected receivers, which represent 411 frequent outdoor use areas. During the circulation of the draft environmental document, sound wall surveys were sent to affected residents and benefitted receptors via registered mail and door-to-door canvassing to obtain input whether the property owner and/or resident is opposed to the construction of the sound wall. Based on the results of the sound wall surveys, all 25 proposed sound walls indicated above will be constructed as part of the project. Detailed information on noise effects of the project can be found in Section 3.2.7, Noise.

With Alternative B, air quality impacts would occur to residents living closer to the freeway in a way similar to that of Alternative A above.

A *Visual Impact Assessment* (March 2014) done for the project found that Alternative B would result in moderately low to moderately high visual impacts for

residents in Westpark and a portion of the Southwest Bakersfield area through which the Alternative would pass, resulting in adverse effects to the character of both neighborhoods. As with Alternative A, some residents living south of Stockdale Highway and west of South Real Road (shown in Figure 3-9b of Volume 2) may perceive that, together with existing State Route 99, they would feel more enclosed with the presence of a new aerial freeway structure in the neighborhood. The freeway that runs through the neighborhoods would change the visual character of the area. Detailed information on visual impacts can be found in Section 3.1.7, Visual/Aesthetics.

Due to the large number of community residents that would be displaced, the Westpark community would undergo substantial change. In addition, by changing through access on certain streets, creating cul-de-sacs, and changing internal circulation, the project would change access within the neighborhood. As discussed in Section 3.1.1.3, Parks and Recreation, Alternative B would eliminate several east-west roadways that provide access to Centennial Park, which is a key feature in the Westpark neighborhood. However, area residents would continue to have access to the park via the remaining roadways (such as Marella Way and Montclair Street).

The character of this relatively quiet suburban development, which has existed since the early 1970s as an integrated community system, would be further changed by the addition of substantial visual and noise impacts, as detailed in Sections 3.1.7 Visual/Aesthetics and Section 3.2.7, Noise. Impacts experienced at the neighborhood level would change the quality of life of many of the residents who live next to the new freeway. Also, bisecting Westpark, a community that appears to be cohesive, as discussed in Section 3.1.4.1, Community Character and Cohesion, could hinder the continued connectiveness of that area. Access within the neighborhood, characterized presently by the ability to travel by means of a variety of modes, including walking and bicycling, would be altered despite efforts by design engineers to minimize the disruption to established and familiar local circulation routes and convenient travel routes. Construction of a freeway would create physical barriers in Westpark where none existed before.

Alternative C

The Alternative C alignment differs from the alignments of Alternatives A and B by avoiding the bisection and separation of residents in the Westpark and Southwest Bakersfield neighborhoods. Of the three alternatives, Alternative C would require the most business acquisitions, but would have the fewest effects on residential units. A total of 133 residential units and 198 commercial, industrial, and manufacturing businesses would be displaced. Residential areas that would experience the most displacements would be the condominiums on Brite Street and single-family residences on Oakdale Drive, Wetherley Drive, Roosevelt Street, La Verne Avenue, Chester Avenue, Terry Street, and Haybert Court. Most business properties that would be acquired for this alternative are on Commerce Drive, Easton Drive, Oak Street, Real Road, and Brundage Lane.

The new freeway would be aligned next to the existing railroad tracks and existing State Route 99 freeway. The tracks and the freeway bisect business parks and divide residential neighborhoods, and the project would not result in any further division. Thus, implementation of Alternative C would not create a sense of separation for neighborhood areas on the east and west sides of State Route 99, because that separation has existed since the time State Route 99 was rerouted from its original alignment two miles east (today's Union Avenue) in the middle 1960s. Very little pedestrian activity occurs between these neighborhoods because of heavy, fast-moving traffic. The one exception is the Palm Street overcrossing over State Route 99 from Oak Street, which links the Oleander-Sunset neighborhood to Saunders Park. Rows of houses south of Saunders Park and next to State Route 99, specifically along Oakdale Drive and Wetherley Drive (between Palm Avenue and Verde Street), would be removed by Alternative C; however, most of the existing residential tract developments would remain intact. The Alternative C alignment would be less likely to negatively affect community cohesion compared to the other two alignment alternatives; therefore, the overall effects of Alternative C on cohesiveness may be less severe than would be the case with implementation of Alternative A or B.

Residents close to the new freeway would experience a greater exposure to trucks and automobile noise. A *Noise Study Report* (March 2014) for the project identified 189 affected receivers representing 401 frequent outdoor use areas where the noise level would be elevated as a result of freeway traffic. A total of 17 sound walls were recommended feasible and reasonable, which would abate 149 of these affected receivers, which represent 326 frequent outdoor use areas. Detailed information on noise effects of the project can be found in Section 3.2.7, Noise.

With Alternative C, air quality impacts would occur to residents living closer to the freeway in the similar way as that described under Alternatives A and B above.

Residents next to the affected homes could experience adverse community impacts. The residences in the impact area are on higher ground than the existing State Route 99, which was built below grade, but residences that would continue to be in the neighborhood would be at a lower elevation than the new freeway. Those living in the remaining housing units would see the freeway structure carrying State Route 58 traffic and hear the increased truck and automobile noise. According to the *Visual Impact Assessment* (March 2014), Alternative C would result in average to moderately high visual impacts for the remaining residents at the western edge of the Westpark and Saunders Park areas.

Houses that would remain with implementation of Alternative C along Wetherley Drive would then be right next to a freeway and have views of sound walls along the freeway right-of-way. Noise impacts would be abated with construction of sound walls. The sound walls could block views and adversely affect the visual character of the neighborhoods.

In summary, Alternative C would result in the most business acquisitions but would have the fewest effects on residential units. However, residents living closest to the new freeway would experience greater exposure to truck and automobile noise. In addition, residents next to the affected homes could experience adverse community impacts such as being located next to a freeway and views of sound walls.

No-Build Alternative

No impacts would result from implementation of the No-Build Alternative because there would be no construction of the project.

Avoidance, Minimization, and/or Mitigation Measures

Project design would minimize impacts to the neighborhoods to the extent feasible and practicable. Mitigation measures presented in Parks and Recreation, Section 3.1.1.3, Traffic and Transportation/Pedestrian and Bicycle Facilities, Section 3.2.6, Noise, Section 3.2.7, and Construction Impacts, Section 3.6 of this environmental document have been developed to minimize impacts to the neighborhoods affected by the project construction and operation. The following mitigation measures are provided in addition to specific measures in respective sections indicated earlier. These specifically include the aesthetic design theme and the assistance mandated by the Uniform Relocation Act, as amended, provided during the relocation process.

Minimization and Mitigation Measures

C-1 The overall Centennial Corridor aesthetic design theme shall be compatible with surrounding neighborhoods and in keeping with the overall Westside Parkway design theme, to the extent feasible, including landscaping, aesthetic sound wall, and bridge treatments. Other approaches and design solutions to mitigate or reduce community impacts will continue to be evaluated through final design.

C-2 Caltrans, in coordination with the city of Bakersfield, shall prepare a relocation analysis as part of the *Final Relocation Impact Report* (December 2014). The results will be incorporated into the final environmental document. The relocation analysis will enable the relocation activities to be planned so that the problems associated with the displacement of individuals, families, and businesses are recognized in advance of moves and so that solutions are developed to minimize the adverse impacts of displacement. The scope of planning will be based on the complexity and nature of the anticipated displacement activity, including the evaluation of program resources available to carry out timely and orderly relocations.

C-3 Close coordination with the Kern County Department of Human Services shall be undertaken to prepare a special publication for the residents of the Centennial Corridor project area that will identify the variety of social service providers available from metropolitan Bakersfield and Kern County public and private community-based organizations, including local

religious institutions. The publication, which will be prepared in both English and Spanish, will also include contact numbers and the methods to obtain those services. Hard copies of the publication will be widely distributed in addition to online versions being placed on a website for viewing and downloading. The following services should be anticipated: employment opportunities and workforce development; legal services; information about financial and tax consequences of relocation; possible homeowner credit-repair counseling; first-time buyer counseling; and other services for special needs populations, including disabled, low-income, and senior citizens.

3.1.4.2 Relocation and Property Acquisition

Regulatory Setting

Caltrans' Relocation Assistance Program is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and Title 49 Code of Federal Regulations Part 24. The purpose of the Relocation Assistance Program is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. See Appendix D in Volume 2 for a summary of the Relocation Assistance Program.

All relocation services and benefits are administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 U.S. Code 2000d, et seq.). See Appendix C in Volume 2 for a copy of Caltrans' Title VI Policy Statement.

Affected Environment

Information for this section comes from the *Final Relocation Impact Report* (February 2015) and the *Community Impact Assessment* (May 2015) prepared for the project.

The project sits in the metropolitan Bakersfield area, which is densely developed. All Segment 1 alternatives would result in displacements (full acquisitions) or partial acquisitions of residential and non-residential properties. Residential properties include single-family residences and multi-family residences. No mobile homes would be directly affected by the project, and group housing is not known to be affected. The non-residential properties include hotels and motels, medical centers and clinics, gas stations, restaurants, fast-food outlets, mini-storage facilities, liquor stores, auto body or auto repair businesses, used-car dealerships, retail stores, office buildings, a privately owned nursery school, industrial/manufacturing buildings, and an animal hospital.

Environmental Consequences

All three build alternatives would result in numerous full acquisitions, partial acquisitions, permanent easements, and temporary construction easements, as shown

in Figures 3-10a through 3-10c (provided in Volume 2). A list of potentially affected properties, including affected businesses, for each alternative is presented in the *Community Impact Assessment* and was included as Appendix G in Volume 2 of the draft environmental document circulated for public review from May 9, 2014, to July 8, 2014. Due to the sensitive nature of the information, the list of affected properties for each alternative is being kept on file with Caltrans and the city of Bakersfield, and is not included in this final environmental document. The design plans showing the locations of the affected properties are provided in Appendix E in Volume 2. The corresponding right-of-way maps showing potentially affected properties can be found in the *Final Relocation Impact Report* prepared for this project.

Adequate relocation resources for residential displacements would be available within a 15-mile radius of the project area. A 15-mile radius replacement area was chosen because it has a sufficient supply of replacement single-family and multi-family dwelling units, as well as comparable commercial sales data matching similar socioeconomic characteristics of the existing population. The replacement area contains public amenities similar to the existing community, including access to public transportation, public and private educational facilities, major commercial outlets, and entertainment venues.

The project area contains a relatively high proportion of elderly residents, presenting a challenge for relocation because of the burden of the cost of housing and the residents' often fixed and limited incomes. The elderly also often have special physical needs, and enhanced relocation advisory assistance may be necessary in such cases. Moving seniors to new housing may also require changes to the replacement housing to meet Americans with Disabilities Act (ADA) compliance requirements. In addition, particular medical needs—including at-home medical care, access to public transit, home delivery services, and lifestyle preferences—may likely require sensitive responses to those needs.

Another factor for consideration is accommodation of low-income and non-English speaking populations. Recommended mitigation measures contain provisions to ensure the relocation needs of the elderly, low-income, and non-English speaking residents are met.

Based on a 2013 real estate report (*Kern Business Journal*, October-November 2013) the real estate vacancy rates in Bakersfield total nearly 6.7 percent in the commercial office market, 11.6 percent in retail, and 3.8 percent in the industrial sector. While recognizing the normally expected difficulty in relocating and reestablishing certain types of non-residential properties, the report concluded that there is ample space available in the current real estate market, and both purchase prices and lease rates are competitive within Bakersfield to accommodate those needs.

The severity of non-residential property impacts would vary with the type of business displaced. Certain businesses—such as automotive repair garages, gasoline service stations, auto detailing, and other similar businesses—typically experience a greater challenge in finding a suitable replacement site because these types of businesses

traditionally serve localized market areas and are only allowed in certain areas as they are restricted by zoning. While Alternatives A and B each have two such properties, Alternative C would require right-of-way acquisition from 18 automobile-oriented business operations, as well as four auto sales lots east of State Route 99.

This may also be the case for some of the business parks that would be displaced in Alternative C, such as the business park complexes at 1400, 4000, 4100, 4200, and 4300 Easton Drive, which support a variety of enterprises and would no longer find an adequate replacement parcel within the boundaries of the city of Bakersfield proper, though most of the individual operations within these business parks do not appear to need large amounts of space.

Property uses in the Centennial Corridor, such as a veterinary clinic, a bowling alley, massage therapy, or a cocktail lounge may also be difficult to relocate due to zoning restrictions, the need to reapply for licenses, or the ability to find an existing facility that can accommodate that same functional use. Of these types of property, Alternative C has the most with seven; Alternatives A and B each have three businesses that fall within this category.

In addition, the continuing recession may have weakened some marginal businesses in certain sectors to the point where relocation or disruption of these businesses could result in their complete failure.

Certain types of business operations within each build alternative alignment may hold a particular niche or serve important social roles within the community. These businesses may include, for example, certain hair salons or barber shops, neighborhood bars and restaurants, the bowling alley, and so forth. To take another example, the Little Red School House, a child-care facility established in 1967, which would be displaced by Alternative B, is the type of business for which it takes years to build a good reputation and often grows by word of mouth among parents. Relocation in the same general locale would be important. While classifying such properties necessarily involves subjective judgment, it appears that each of the three build alternatives has a small number of properties that would fall within this category, with the most being potentially displaced by Alternative C.

The city of Bakersfield, through the Thomas Roads Improvement Program office, has engaged a right-of-way consultant to implement and manage the Centennial Corridor Project's right-of-way program. Two community meetings with a right-of-way focus have been held—one on December 6, 2012, and one on June 11, 2014—to keep the affected property owners informed about the relocation claims process and benefits, as well as to provide the opportunity for the property owners to express their concerns about relocation issues.

In addition, an early acquisition program has been launched to allow the affected property owners to engage in the program sooner, allowing them to more quickly mitigate hardships and environmental concerns. The early acquisition program will

also help reduce the challenges associated with relocating more than 300 businesses/residences in a short period of time.

Under recent federal legislation, known as "The Moving Ahead for Progress in the 21st Century Act" ("MAP-21"), 23 U.S.C. 108, Congress authorized both Caltrans and eligible local public agencies to perform certain early acquisition activities. The purposes of early acquisition include expediting project delivery, creating jobs, and reducing hardship for those who own property in the proposed path of a project and who encounter difficulties when they seek to sell their property before final project approval. Early acquisition allows owners to voluntarily sell and relocate if they wish. Early acquisition has the potential to mitigate the disruptions and hardships that lengthy project schedules can impose on a community.

Following the acquisition of required right-of-way, there is a possibility that acquired properties may sit vacant until construction activities begin. Vacant homes and businesses may be undesirable to adjacent property owners whose property was not acquired for the Centennial Corridor Project, because vacant buildings are often subject to graffiti and vagrancy problems. For this reason vacant structures on acquired right-of-way would be the first order of work once project construction begins. Therefore, vacant structures subject to demolition would be demolished prior to other scheduled construction activities such as grading and paving. If a home or building has been acquired for the project, Caltrans and the city of Bakersfield have developed a strategy to minimize the length of time during which acquired properties will remain vacant prior to demolition. To enhance safety, minimize graffiti, and reduce vagrancy problems associated with vacant buildings, Caltrans and the city of Bakersfield would either (1) rent the homes and businesses on a month-to-month basis to keep them occupied as long as possible in advance of demolition, or (2) demolish each building as soon as possible after acquisition. This latter option would result in vacant lots being interspersed in business areas and neighborhoods. With either option, proper management of acquired property by the project's right-of-way staff is a key consideration. Caltrans and the city of Bakersfield will develop a strategy during final design.

Landlocked, uneconomic remnants, or properties remaining after a partial take, that are of such size, shape, or condition as to be of little value or of substantially impaired economic viability, and/or other right-of-way parcels no longer required by Caltrans for the operation of State Route 58, may be declared and certified as excess properties. The city of Bakersfield will have the first right of refusal to purchase the properties proposed for excess sale. Direct sales of excess land to the city shall be for public uses as required by the Caltrans Right of Way Manual Section 16.04.05.02 and generally will be made available at fair market value. In addition, Caltrans and the city will coordinate to identify possible park uses that could be developed in conjunction with other areas in which Caltrans will maintain easements in the event the city wishes to use some or all of the easement area for future recreation uses. Any such uses would not be allowed to conflict with Caltrans' need to access State Route 58 for maintenance and other responsibilities.

To facilitate the work of the right-of-way management team and project personnel responsible for negotiations with impacted property owners and tenants throughout the acquisition and relocation process, a local office has been established in Bakersfield. The office has a full-time right-of-way staff with the experience and technical knowledge necessary to address all right-of-way issues associated with the project.

Alternative A

Residential Displacements

As shown in Table 3.8, Alternative A would displace the most residential units among the three build alternatives, with a total of 356: 140 single-family residences, 74 duplex/triplex units (the most among the three alternatives), and 142 apartment units (also the most among the three alternatives). Based on California Department of Finance 2010 household data for the city of Bakersfield (3.1 average persons per household), Alternative A would displace an estimated 1,104 persons.

Table 3.8 Type of Residential Displacements for Each Alternative

Type	Alternative		
	A	B (Preferred Alternative)	C
Single-Family Residence	140	200	88
Duplex/Triplex (2 or 3 units)	74	16	16
Apartment House Units (Building with 4 or more units)	142	94	29
Total Residential Units Displaced	356	310	133
Total Persons Displaced (based on 3.1 persons per unit)	1,104	961	413
Source: Developed from the *Community Impact Assessment* 2015.			

The most residential displacements for Alternative A would be south of Mohawk Street between Truxtun Avenue and California Avenue. In this area, an estimated 26 and 38 condominiums would be taken from two Greenbrier condominium complexes on Mohawk Street and Lennox Avenue, substantially reducing the number of available units in this complex.

A second area of residential acquisition would occur south of Stockdale Highway between South Montclair Street and Williamson Way. In this area, an estimated 60 single-family homes would be taken from within the Rancho Vista subdivision neighborhood of Southwest Bakersfield. The acquisitions in this area would cut through the northern edge and middle half of an early post-war subdivision.

In another area of residential acquisition on the south side of proposed State Route 58 at Chester Avenue, a cluster of eight single-family homes would be taken. Adequate relocation resources for residential displacements would be available within a 15-mile radius of the project area. Therefore, no adverse effect on the overall housing supply in the area would result from implementation of Alternative A.

Note that about 77 percent of the residential units to be displaced in Alternative A are occupied by renters.

Non-residential Displacements

As shown in Table 3.9, Alternative A would displace 127 non-residential properties.

Commercial business displacements make up the largest category of displaced businesses. This category would include professional offices, retail merchants, banks, medical offices and dental clinics, real estate and mortgage offices, restaurants, fast-food outlets, mini-storage facilities, and private schools.

Table 3.9 Non-residential Displacements for Each Alternative

Type	Alternative		
	A	B (Preferred Alternative)	C
Commercial Businesses	127	106	184
Industrial/Manufacturing Businesses	0	15	13
Non-profit Organizations	0	0	1
Total Non-residential Units Displaced	127	121	198

Source: Developed from the *Community Impact Assessment* 2015.

Most business displacements for Alternative A would occur near the California Avenue/Stockdale Highway intersection, where businesses would be displaced surrounding the Lennox/California Avenue intersection and east of California Avenue extending southeasterly to Stockdale Highway. In addition, businesses would be displaced in the area south of Stockdale Highway, from Real Road to State Route 99, and would cause several scattered displacements south of this location on the west side of State Route 99 and also in the transition area to State Route 58. Alternative A would displace fast-food, retail, office, public storage (405 units), the Public Health Education Center (a nursing school), and banking, restaurant, and market businesses.

Most non-residential properties directly affected by implementation of any of the build alternatives would be able to find suitable replacement sites nearby.

Partial Acquisitions

Partial acquisitions are property acquisitions needed for the project that do not require the entire property. Table 3.10 identifies the partial acquisitions by type and alternative.

Table 3.10 Number of Parcels Subject to Partial Acquisitions by Land Use Type

Land Use Type	Alternative A	Alternative B (Preferred Alternative)	Alternative C
Vacant Land	14	12	11
Single-Family Residential	13	33	8
Multi-Family Residential	5	1	1
Commercial/Industrial	16	15	22
Farm/Agricultural	6	6	6
Permanent and/or Temporary Easements	50	61	36
Other[1]	5	2	2
Total Partial Acquisitions	**109**	**130**	**86**

[1] "Other" refers to churches, park and ride facilities, flood channels, parks, drainage basins and public lands.
Source: Developed from the *Community Impact Assessment* 2015.

Alternative A would result in partial acquisitions of 18 residential parcels, 16 commercial parcels, and 25 other various land uses. There would be 50 permanent easements and/or temporary construction easements required. This alternative would also encroach into the Kaiser Health Care Center site at 3501 Stockdale Highway by an estimated 5.8 percent of the site, affecting mostly onsite parking.

Economic Considerations

Property tax, sales tax, and employment are three economic parameters considered for assessing effects from displacement activities. Certain economic benefits would come with implementation of any of the build alternatives as calculated as part of a Federal Highway Administration Surface Transportation Efficiency Analysis Model (STEAM). These are not taken into account in the analysis below, however, though they can be quite substantial. Such economic improvements are measured incrementally, in part by time savings on freight transport services and less roadway congestion and traffic delay, potentially saving drivers travel time, fuel, auto repair, and maintenance; and reduction in property damage and lower medical costs attributable to fewer vehicle crashes. Collectively, these savings are estimated to total more than $1.1 billion over the 20-year life cycle of the project.

Property Tax: Although Alternative A would require the permanent acquisition of a number of properties, the potential loss of property tax base with implementation of this alternative would not be considered substantial. Based on the current real estate data for the project area, the total value of property tax paid by these property owners is in the range of $1 million annually. The total assessed value for the properties is about $85 million. Therefore, the loss of property tax from these businesses would be about 1 percent of the total property tax revenue currently received by the city of Bakersfield and the County of Kern.

Sales Tax: The sales tax loss for the city of Bakersfield from the aggregate loss in retail sales is estimated to be less than $1 million in the event that all displacees were

to move out of the city (worst case). Since most displaced people are expected to be relocated within the city, no adverse effect to sales tax revenue is anticipated.

Employment: Displacement of businesses as a result of the required right-of-way acquisition would cause some loss in employment due to relocation. Because most businesses are expected to be successfully relocated within the city, impacts on employment are not expected to be adverse. Should employees of businesses decide not to work at the new business location, then they would lose their employment. It is also possible that a business may eventually fail if the new site selected proves to be inadequate. In such a case, jobs would be lost. There may even be a few people who would be displaced from their homes, but not lose their place of employment; however, they may be forced to travel much farther, resulting in higher commuting costs. In such cases, their overall net income would be reduced in the short run, which could eventually lead to job changes. Overall, experience with measuring employment effects of past transportation projects, as reflected in national research studies, shows that effects are not likely to be substantively disruptive for most people affected by the project.

Alternative B (Preferred Alternative)

Residential Displacements

As shown in Table 3.8, Alternative B would displace 310 residential units, with the largest number of single-family residences (200) among the three build alternatives. Alternative B would also displace 16 duplex/triplex units and 94 apartment units. The *Final Relocation Impact Report* (February 2015) identified that there may be about 500 to 600 available residential properties for rent or for sale in any particular month within the replacement area (a 15 mile radius from the State Route 58/State Route 99 interchange in the city of Bakersfield), and would supply adequate comparable housing replacements. As assessed in January 2015, 341 available commercial and/or industrial properties were identified for rent or purchase in the commercial sectors of Bakersfield and adjacent areas. It is evident that many replacement housing options for renters and buyers affected by the project are available in the immediate project area as well as the larger replacement area region. Please see the *Final Relocation Impact Report* prepared for this project for more information about relocation opportunities.

Using California Department of Finance 2010 household data for the city of Bakersfield (3.1 average persons per household), Alternative B would displace 961 persons. The most residential displacements for Alternative B lie in the area between California Avenue and Stockdale Highway, east of Centennial Park. More than 150 single-family homes would be taken along this stretch of the project. This would occur through the middle portion of the Westpark community, effectively resulting in two smaller neighborhoods separated by the new freeway.

Another area of residential acquisition sits on the south side of the proposed State Route 58 alignment, at Chester Avenue. A cluster of eight single-family homes would be acquired at this location. Adequate relocation resources for residential

displacements would be available within a 15-mile radius of the Alternative B project area.

Note that about 51 percent of residential units displaced in Alternative B are occupied by renters.

Non-residential Displacements

As shown in Table 3.9, Alternative B would displace the fewest non-residential properties and associated businesses, with 121. Commercial business displacements constitute the largest category of displaced businesses. Alternative B would displace 15 industrial/manufacturing businesses. It is expected that these properties could find replacement parcels well within the 50-mile range.

For Alternative B, business displacements would occur in the area south of Carrier Canal extending to California Avenue, and then again in the same areas west of State Route 99 and transitioning to State Route 58. Alternative B would displace offices and 405 public storage units. This alternative would displace the Little Red School House, a private day-care facility at Easton Drive and California Avenue.

Alternative B would displace many of the same types of businesses affected under Alternative A, though it would affect fewer fast-food outlets. Alternative A has six fast-food outlets, Alternative C has four, and Alternative B has one. Alternative B, however, would displace an estimated 12 office buildings compared to 17 within Alternative A. Very few of the properties would appear to offer unique challenges. Two auto-related businesses and three massage therapy businesses would appear to be the most problematic. Ample space is available in the current real estate market, and both purchase prices and lease rates are competitive within Bakersfield to accommodate those needs.

Most non-residential properties directly affected by implementation of Alternative B would be able to find suitable replacement sites nearby.

Partial Acquisitions

As shown in Table 3.10, Alternative B would result in partial acquisitions of 34 residential parcels, 15 commercial parcels, and 20 other various land uses. There would be 61 permanent easements and/or temporary construction easements. This alternative would have also encroached into the Kaiser Health Care Center site at 3501 Stockdale Highway and affected about 0.25 acre or 4.8 percent of the site, mostly parking, but with subsequent design modifications, impacts to the facility have been avoided, as discussed in Appendix K.

Kaiser Health Care Center

During the public circulation period of the draft environmental document, Caltrans and the city of Bakersfield received a letter from Peterson Law Group on behalf of Kaiser Foundation Health Plan, Inc. (Kaiser), dated July 7, 2014, describing various concerns about the proposed Centennial Corridor Project. See comment GP-9 in Volume 3 of this final environmental document for the letter from Peterson Law

Group. Due to these concerns, preliminary design plans for Alternative B were changed to avoid direct impacts to the Kaiser Health Care Center. The preliminary design revisions to avoid impacts on the Kaiser medical offices are shown in Appendix K of this document (Volume 2). These revisions would significantly increase the distances between the Kaiser facility and the project improvements, creating an 80-foot buffer between the medical facility's parking lot and the proposed alignment. No obstructions associated with the Centennial Corridor Project will block Kaiser Health Care Center driveways, and no changes would be made to alter configuration of the existing driveways. In addition, the modified design will not require property or temporary construction easements on Kaiser's property.

Parking: With the modified alignment in place, there would be no loss of parking, either permanently or during construction under the revised project design.

Freeway Access: Overall reduction in traffic congestion brought about by the completed project is anticipated to enhance overall access to the Kaiser property and will result in a safer transportation network in the area immediately surrounding the health care facility due to traffic on adjacent streets shifting towards the new freeway (Alternative B), thereby reducing congestion in the area. Changes in travel patterns due to the permanent closure of freeway ramps near the Kaiser facility will likely slightly increase travel distances, but the result will be only minor increases in travel time to and from the Kaiser facility for its health care professionals and members. A travel time summary comparison between the Preferred Alternative B and No Build Alternative has been conducted for travel to and from the Kaiser facility (see Appendix K). Overall, the increase in travel time resulting from the project would be offset by long-term benefits of decreased travel time for intraregional and interregional traffic, when taking into account the reductions in regional traffic congestion brought about by the project. Decreased travel times in high congestion travel corridors will lead to an overall reduction in harmful emissions by reducing idling. Increased idling times on the local streets would occur under the No Build conditions. It is important to note that idling times would dramatically raise the particulate matter quantities for the No-Build with most concentrations added along Rosedale and Stockdale Highways.

Appendix K of this final environmental document (Volume 2) includes Exhibits 3 and 4, which show existing and post-project (Alternative B) travel patterns to and from the Kaiser facility from State Route 99 and State Route 58. Also, Table 1 in Appendix K compares existing and post-project (Alternative B) travel times to and from the Kaiser facility. As shown in Table 1 (Appendix K), the additional travel time to and from the Kaiser facility is relatively modest from both highways. The results of the analysis indicate that to reach the Kaiser facility from southbound State Route 99, the additional travel time would be approximately 1 minute. From other access routes, travel time increases would range from 30 seconds to a maximum of 1.5 minutes. Under no-build conditions (in which the Stockdale off-ramp remains), travel time would increase due to increasing congestion on State Route 99 by 397.43 million person hours per year by 2038, as shown in Table 3-17 from the Traffic Study, Volume 1. However, the increase in travel time resulting from implementation of the

project would be offset by the project's long-term benefits of decreased travel time for intraregional and interregional traffic, given the anticipated overall reduction in regional traffic congestion resulting from implementation of the Centennial Corridor Project.

Urgent Care Operations: As discussed in Section 3.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, emergency vehicle access for police, fire protection, and emergency services would be maintained at all times during construction. Law enforcement, fire, and emergency services could experience slightly increased response times because of construction-related road closures, temporary detours, and increased traffic congestion. It is not expected that temporary road closures would result in more than 1 mile of out-of-direction travel because nearby alternative route(s) would be maintained and identified as part of the detour plans.

Kaiser expressed a general concern that the loss of the State Route 99 southbound off-ramp, the Stockdale Highway off-ramp, would create a great hardship for Kaiser and its members and would significantly impact the value and viability of the health care facility. Removing the State Route 99 southbound off-ramp would enhance freeway operations. The purpose of the project is to reduce heavy traffic congestion on State Route 58, which includes the portion of the freeway near the Kaiser Facility, and to provide enhanced route continuity between two major freeways that serve the southern San Joaquin Valley. The project is specifically designed to enhance regional transportation as well as to address long-term capacity issues that have burdened east-west travel within the city. Under Alternative B (Preferred Alternative), the Kaiser facility will sit close to these two major highways. Moreover, once constructed, Alternative B will provide substantial improvements to the area's traffic circulation and ease congestion on the local streets adjacent to the Kaiser facility.

Caltrans has analyzed potential impacts on urgent care services at the Kaiser facility. The Centennial Corridor Project includes improvements to the way vehicles access State Route 99 and State Route 58, and the final environmental document found that these improvements, once implemented, would result in minor changes to travel times experienced by emergency service providers, as discussed in Section 3.1.5 of this document (Utilities/Emergency Access). The final environmental document found that these changes would not adversely affect emergency response times. The Centennial Corridor Project would also reduce congestion and bring about potentially faster overall response times. As discussed in Section 3.1.6 of the final environmental document (Traffic and Transportation/ Pedestrian and Bicycle Facilities), the traffic studies for the Centennial Corridor Project show better traffic flow for all vehicles due to direct route continuity. For example, with project implementation, the nearby intersection to the Kaiser facility at Real Road and Stockdale Highway will operate at a level of service D in 2018 as compared to the No Build scenario where the same intersection would operate at a level of service E. In addition, the same intersection at Real Road and Stockdale Highway will operate at a level of service F by 2038. The Centennial Corridor Project will also provide additional capacity that would help

reduce congestion on adjacent local roadways since significant traffic volumes are expected to shift to the freeways.

Air Quality: Though air quality impacts have been determined not to be significant, the increased travel distances associated with the potential design revisions described in the Freeway Access and Parking subheadings above on page 116, would further attenuate emissions at the Kaiser facility. The project's objective of reducing heavy traffic congestion on State Route 58, including the portion of the freeway located near the Kaiser facility, should also provide air quality benefits to the area because of the reduction of stop-and-go traffic. In addition, Caltrans has entered into a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District to provide improvements to local air quality within the project area. Caltrans shall provide $1.5 million in funding to the San Joaquin Valley Air Pollution Control District so they can administer the air quality emission reduction programs. A copy of the Voluntary Emission Reduction Agreement can be found in Appendix L, Volume 2. Caltrans will continue to coordinate with the San Joaquin Valley Air Pollution Control District throughout the project development process to implement air quality improvements for the community and other air quality-related requirements during the construction of the project.

Safety: All construction-related activities in the vicinity of the Kaiser facility will be monitored contractually by a technical expert for site safety. A construction site safety plan will be implemented and monitored for compliance with all applicable safety requirements on an ongoing basis during construction. As the project is a federally funded and future state-sponsored transportation facility, all requirements governing safety, health and sanitation will be strictly enforced in accordance with 23 Code of Federal Regulations 635.

Vibration: Generally, there is little potential for building damage from vibration impacts to occur when major construction activities take place at a distance of 30 feet or more from existing structures. At the closest point, major construction activities will not take place within a minimum of 100 feet from the Kaiser facility, so no damage from vibrations is anticipated.

The project will be designed in accordance with Caltrans' Seismic Design Criteria to ensure insulation of new support structures and minimize post-construction vibration. Pre-construction building inspections would occur in accordance with Caltrans' Standard Condition SC-CI-25. Additional measures to mitigate and minimize vibration impacts are included in the Environmental Commitments Record for Preferred Alternative B (see Appendix F, Volume 2).

Noise: The Kaiser facility is close to State Route 99 in an area with high ambient noise levels. Most construction activities at a 100-foot distance fall below these levels and would not be considered to be disproportionate to the existing conditions. A few activities might create temporary sounds that exceed the ambient levels, but could be abated through the use of various measures, such as adding mufflers to internal combustion engines on construction vehicles. Additionally, the Kaiser Health Care

Center at 3501 Stockdale Highway in Bakersfield would not be negatively affected if noise impacts increased during nighttime construction since patients and staff are not there at night. Thus, another noise abatement measure for the Kaiser facility would be to minimize noise impacts during daytime hours. A construction noise and vibration monitoring and mitigation plan will be prepared before the start of construction to predict construction noise levels during different phases of the construction activity and to identify proper abatement measures, including the use of temporary noise barriers, outdoor sound curtains or sound curtain noise barriers. These measures typically reduce equipment noise levels by 15 to 22 dBA. Based on these noise abatement measures, Caltrans is confident that the noise levels associated with construction equipment will be adequately reduced and there will be no adverse impacts on the Kaiser facility.

Visual/Aesthetics: The proposed realignment of Alternative B will significantly contribute to minimizing any adverse visual impacts on the Kaiser facility.

Responses to Kaiser's comments to Caltrans, dated July 7, 2014, are included in Volume 3 of this document, identified as GP-9. Please also refer to Appendix K in Volume 2 for additional details regarding Alternative B design changes, and avoidance measures.

Economic Considerations

Property Tax: Based on current real estate data for this project, the total value of property tax paid by potentially affected properties under Alternative B is about $0.5 million annually. The total assessed value for the properties is about $47 million. Therefore, the worst-case loss of property tax from these businesses would be less than 1 percent of the total property tax revenue currently received by the city of Bakersfield and the County of Kern.

Sales Tax: The sales tax loss for the city of Bakersfield from the aggregate loss in retail sales is estimated to be less than $0.8 million in the event all displacees were to move out of the city (worst case). Since most displaced people are expected to relocate within the city, no adverse effect to sales tax revenue is expected.

Employment: Similar to Alternative A, because most businesses are expected to be successfully relocated within the city, the impacts on employment are not expected to be adverse.

Alternative C

Residential Displacements

As shown in Table 3.8, Alternative C would displace 133 residential units. Of these, 88 are single-family residences, 16 are duplex/triplex units, and 29 are apartment units.

Using California Department of Finance 2010 household data for the city of Bakersfield (3.1 average persons per household), Alternative C would displace 413 persons. Most residential displacements (an estimated cluster of 71 single-family

units) for Alternative C would be west of State Route 99 between Palm Avenue and Stockdale Highway, many of them on Oakdale Drive and Wetherley Drive. These acquisitions would occur on the eastern edge of the established residential neighborhood, further extending the influence of the freeway barrier into that area.

Another area of residential acquisition sits on the south side of proposed State Route 58, at Chester Avenue. A cluster of eight single-family homes there would be taken. Adequate relocation resources for residential displacements would be available within a 15-mile radius of the Alternative C project area. About 59 percent of residential units displaced in Alternative C are occupied by renters.

Non-residential Displacements

As shown in Table 3.9, Alternative C would displace the most non-residential properties, with 198. Commercial business displacements make up the largest category of displaced businesses. Alternative C would displace 13 industrial/ manufacturing businesses.

Most of the Alternative C business displacements would occur in the area from Truxtun Avenue to State Route 99, south of the BNSF Railway tracks, and again in the same areas west of State Route 99 and transitioning to State Route 58 described above under Alternative A. Alternative C would involve displacement of all or parts of eight business parks on Easton Drive. The alternative would also displace an animal hospital at 2905 Brundage Lane and an animal emergency clinic at 4300 Easton Drive. Also, Alternative C would displace more office buildings (an estimation of 58) as compared to Alternatives A and B.

Ample space is available in the current real estate market, and both purchase prices and lease rates are competitive within Bakersfield to accommodate those needs. Most of the businesses to be displaced have been in operation 7 years or less, although Alternative C would also displace a substantial number of businesses that have been in operation from 8 years to more than 15 years; these businesses could have long-established local clientele loyalties and site identities that may entail some additional difficulties for relocation.

Certain types of businesses may hold a particular niche in the community, having built their business on local repeat customers and customer referrals over time. For example, the 13 auto repair shops located in the Alternative C area (versus none near Alternatives A and B) are likely this type of business, relying on the longevity of the business at a particular location. There are also businesses located near Alternative B that appear to cater to older residents, reflecting the nearby neighborhood demographics. These include the Walls Hearing Aid Center, Procare Hospice, and Affordable Dentures. Also, Alternative C would displace more office buildings (an estimated of 58) as compared to Alternatives A and B.

Most non-residential properties directly affected by implementation of any of the build alternatives would be able to find suitable replacement sites nearby.

Partial Acquisitions

Table 3.10 showed the number of partial acquisitions by type and alternative. Alternative C would result in partial acquisitions of 9 residential parcels, 22 commercial parcels, and 19 other various land uses. In addition, there would be 36 permanent and/or temporary construction easements. This alternative would also encroach into the Kaiser Health Care Center site, affecting an estimated 2 percent of the site, mostly parking.

Economic Considerations

Property Tax: Based on the current real estate data for this project, the total value of property tax paid by the potentially affected property owners under Alternative C is estimated at less than $0.8 million annually. The total assessed value for the properties is $70 million. Therefore, the worst-case loss of property tax from these businesses would be about 1 percent of the total property tax revenue currently received by the city of Bakersfield and the County of Kern.

Sales Tax: The sales tax loss for the city of Bakersfield from the aggregate loss in retail sales is estimated to be less than $0.4 million in the event all displacees were to move out of the city (worst case). Since most displaced people are expected to be relocated within the city, no adverse effect to sales tax revenue is expected.

Employment: As under Alternatives A and B, because most businesses are expected to be successfully relocated within the city, the impacts on employment are not expected to be adverse.

No-Build Alternative

No relocation of residences or businesses would be required under this alternative.

Avoidance, Minimization, and/or Mitigation Measures

Standard Condition

The following standard condition and mitigation measure would apply to all three build alternatives:

SC-R-1 Caltrans, in coordination with the city of Bakersfield, shall implement all property acquisition and relocation activities in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act) of 1970 (Public Law 91-646, 84 Stat. 1894). The Uniform Act mandates that certain relocation services and payments be made available to eligible residents, businesses, and non-profit organizations displaced by the project. The Uniform Act provides uniform and equitable treatment by federal or federally assisted programs of persons displaced from their homes, businesses, or farms, and establishes uniform and equitable land acquisition policies. See Appendix D in Volume 2 for more information on the Caltrans Relocation Assistance Program.

Mitigation Measure

R-1 The following measures may be considered by Caltrans and the city of Bakersfield for incorporation into the relocation plan to minimize impacts to displaced businesses and residences:

- Disruption of children's education shall be minimized to the extent feasible. This may include, where possible, scheduling the relocation of families with school-aged children during the months of June through August, and identifying, as a priority, replacement housing options within the same Bakersfield public and private school district for those families who wish to keep their children there.
- All relocation assistance materials shall be written in a non-technical way and be available in Spanish and English. One or more of the relocation specialists shall be fluent in Spanish; have demonstrated training/be certified from the International Right-of-Way Association; and have no fewer than five years of experience in explaining to potentially affected homeowners, tenants, and businesses, the provisions of the Uniform Relocation Act, as amended.
- To the extent applicable, relocation of residential and non-residential properties shall be phased over time so that displacees have an opportunity to select the best replacement sites without competing with other affected property owners within the same community.
- To the extent applicable, a lease-back of non-residential properties shall be considered to allow those proprietors who wish to continue to conduct their business at their current location as long as it is feasible.
- Last Resort Housing Program payments shall be used to relocate residential households being displaced, if necessary, as provided for by the Uniform Relocation Act, as amended.
- One or more specialists on the relocation team with prior experience working with people with special needs—especially the elderly, disabled, and low-income population groups—shall be made available to facilitate the relocation process.
- Supplemental transportation at no cost shall be offered for displaced persons to inspect potential relocation housing should they be unable to use their own transportation.
- At least one "business fair" shall be conducted to provide information to those businesses facing displacement. The fair will be an opportunity to provide businesses with the information and resources concerning how to optimize the impending relocations. Among people expected to participate are those working in the commercial leasing sector, moving companies, and others.

- In advance of potential relocations of minority-owned businesses, outreach to such organizations as the Kern County Black Chamber of Commerce and Kern County Hispanic Chamber of Commerce shall be undertaken to identify resources that may be of particular help to such businesses.

3.1.4.3 Environmental Justice

Regulatory Setting

All projects involving a federal action must comply with Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,* signed by President William J. Clinton on February 11, 1994. This order directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Low income is defined based on the Department of Health and Human Services poverty guidelines. In 2010, the poverty threshold for a family of three was $18,310 and for a family of four was $22,050.

All considerations under Title VI of the Civil Rights Act of 1964 and related statutes will also be observed for this project. Caltrans' commitment to upholding the mandates of Title VI is demonstrated by its Title VI Policy Statement, signed by the Director (see Appendix C in Volume 2).

Affected Environment

This section identifies minority and low-income populations in the project area that would be subject to environmental justice analysis. The percentage of minorities and low-income populations for each alignment area is compared to related information for the city and county. To be certain that no environmental justice community is overlooked, this process is repeated for individual areas. Information for this section comes from the *Final Relocation Impact Report* (February 2015) and the *Community Impact Assessment* (May 2015) prepared for the project. These technical studies can be found on a CD affixed to the back of the printed copies of the final environmental documents that are located at the libraries listed in Chapter 7, Distribution List, of this Volume.

The project passes through portions of 12 census tracts from which socioeconomic data from the 2010 U.S. Decennial Census have been collected. Table 3.11 lists the census tracts and respective block groups for all three build alternatives and provides the race and ethnic composition for each block group. The city of Bakersfield and Kern County serve as communities of comparison, and the race and ethnic composition for these two jurisdictions are also included in Table 3.11.

As shown in Table 3.11, the overall racial composition of the city of Bakersfield is about 46 percent Hispanic/Latino and about 38 percent white, with people of other race and ethnicity categories making up about 17 percent of the city population. The overall racial composition of Kern County is about 49 percent Hispanic/Latino and

about 39 percent white, with people of other race and ethnicity categories making up about 12 percent of the remaining county population; therefore, the minority population makes up about 63 and 61 percent of the total populations of the city and county, respectively. Note that beginning with the 2000 Census individuals were allowed to identify themselves as belonging to more than one race so percentages will total more than 100 percent.

Alternative A

As shown in Figure 3-9a (provided in Volume 2) and listed in Table 3.11, Alternative A passes through 17 block groups, which together contain a population that is about 43 percent white, 41 percent Hispanic/Latino, and 9 percent African-American, with people of other race and ethnicity categories making up the remaining 7 percent of the population. As a whole, the 17 block groups that contain the Alternative A alignment hold a minority population of about 57 percent, which is lower than the minority population in the city and county, estimated at about 63 and 61 percent, respectively.

When four Census block groups are broken out from the totals identified above, they would be considered environmental justice communities because the proportion of minorities exceed city and county averages by 10 percent or more. The environmental justice block groups, shown in Figure 3-9a (provided in Volume 2), are as follows:

- Census Tract 20.00, Block Group 3 (93 percent minority)—this area also has a median income below the poverty guideline
- Census Tract 26.00, Block Group 3 (88 percent minority)
- Census Tract 27.00, Block Group 5 (75 percent minority)
- Census Tract 28.12, Block Group 3 (78 percent minority)

Alternative A passes through 11 census tracts that together contain 18,807 households, with an average household size of about three people. The annual median household income for this area is $44,620 compared with $53,997 in the city and $47,089 in the county, which have an average household size of about three people; therefore, the study area for Alternative A would not be considered a low-income community because the average income of residents is well above the federal poverty level ($22,050 for a family of four). However, as noted above, Census Tract 20.00 Block Group 3 qualifies as a low-income area when considered independently of the rest of the alignment area.

Alternative B (Preferred Alternative)

As shown in Figure 3-9b (provided in Volume 2) and listed in Table 3.11, Alternative B passes through 16 block groups that together contain a population that is about 44 percent white, about 41 percent Hispanic/Latino, and about 8 percent African-American, with people of other race and ethnicity categories making up about 7 percent of the remaining population. As a whole, the Alternative B study area population is about 56 percent minority, which is lower than the minority population in the city and county, estimated at 63 and 61 percent, respectively.

The Alternative B study area would pass through three of the same census block groups as Alternative A that would be considered environmental justice communities:

- Census Tract 20.00, Block Group 3 (93 percent minority)—this area also has a median income below the poverty guideline
- Census Tract 26.00, Block Group 3 (88 percent minority)
- Census Tract 27.00, Block Group 5 (74 percent minority)

Alternative B passes through 11 census tracts that together contain 18,807 households, with an average household size of about three people. The median household income for this area is $44,620, compared with $53,997 for the city and $47,089 for the county; therefore, the Alternative B study area would not be considered a low-income population because the average income of residents is well above the federal poverty threshold ($22,050 for a family of four). However, as noted above, Census Tract 20.00 Block Group 3 qualifies as a low-income area when considered independently of the rest of the alignment area.

Alternative C

As shown in Figure 3-9c (provided in Volume 2) and listed in Table 3.11, Alternative C passes through 15 block groups that together contain a population that is about 42 percent white, about 42 percent Hispanic/Latino, and about 8 percent African-American, with people of other race and ethnicity categories making up about 7 percent of the remaining population. The Alternative C study area population is about 57 percent minority, which is lower than the minority population in the city and county, estimated at 63 and 61 percent, respectively.

The Alternative C study area would also pass through the same three census block groups that would be considered environmental justice communities as those listed above under Alternative B. In addition, most of the residential relocations in Alternative C are in a single census tract block group (Census Tract 18.01 Block Group 1) that has an African-American population more than 60 percent higher than the city average and more than 2.5 times the county average. Because so many residential relocations are concentrated in this single block group, it is treated as an environmental justice community.

Alternative C passes through 12 census tracts that together contain 20,714 households, with an average household size of 2.8 people. The annual median household income for this area is $45,112, compared with $53,997 and $47,089 in the city and county, respectively; therefore, the Alternative C study area would not be considered a low-income population because the average income of residents is well above the federal poverty threshold ($22,050 for a family of four). However, as noted above, Census Tract 20.00 Block Group 3 qualifies as a low-income area when considered independently of the rest of the alignment area.

Environmental Consequences

This section presents the benefits and adverse impacts of the project in relationship to both the overall community and environmental justice neighborhoods. The purpose of this discussion is to determine whether the project disproportionally impacts the environmental justice neighborhoods (i.e., neighborhoods that contain a higher percentage of minority and low-income populations when compared to the comparable information for the city and county) when compared to other neighborhoods in the project area. Based on the executive order to address environmental justice in minority populations and low-income populations, a disproportionately high and adverse effect on minority and low-income populations means an adverse effect that: (1) is predominately borne by a minority population and/or a low-income population, or (2) will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population.

Development for the Centennial Corridor is being carried out to ensure that the following environmental justice strategies are followed:

- Avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations
- Ensure the full and fair participation by all potentially affected communities in the transportation decision-making process
- Prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations

Table 3.11 Race and Ethnic Composition of the Project Area Population By Block Group

Geographic Area	White	Black or African-American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Other Race/Two or More Races	Hispanic or Latino of Any Race
city of Bakersfield	131,311	26,677	2,265	20,496	357	8,172	158,205
	38%	8%	1%	6%	0%	2%	46%
Kern County	323,794	45,377	5,893	33,100	995	17,439	413,033
	39%	5%	1%	4%	0%	2%	49%
California	21,453, 394	2,299,072	362,801	4,861,007	144,386	1,054,283	14,013,719
	58%	6%	1%	13%	<1%	3%	38%
U.S.	196,817,552	38,929,319	2,932,248	14,674,252	540,013	9,009,073	50,477,552
	64%	13%	<1%	5%	<1%	3%	16%
Alternative A							
Census Tract 5.07, Block Group 1	2,486	45	39	130	3	58	837
	69%	1%	1%	4%	0%	2%	23%
Census Tract 18.01, Block Group 3	1,062	216	3	94	3	67	675
	50%	10%	0%	4%	0%	3%	32%
Census Tract 18.02, Block Group 1	394	114	4	94	0	42	329
	40%	12%	0%	10%	0%	4%	34%
Census Tract 18.02, Block Group 3	526	28	8	23	0	30	420
	60%	7%	1%	4%	0%	2%	26%
Census Tract 19.01, Block Group 2	526	28	8	23	0	30	379
	53%	3%	1%	2%	0%	3%	38%
Census Tract 19.01, Block Group 3	329	44	10	14	0	28	354
	42%	6%	1%	2%	0%	4%	45%
Census Tract 19.02, Block Group 3	374	45	7	27	1	17	399
	43%	5%	1%	3%	0%	2%	46%
Census Tract 20.00, Block Group 3	118	517	7	84	0	44	1,031
	7%	29%	0%	5%	0%	2%	57%
Census Tract 26.00, Block Group 3	142	186	7	19	2	28	829
	12%	15%	1%	2%	0%	2%	68%

Table 3.11 Race and Ethnic Composition of the Project Area Population By Block Group

Geographic Area	White	Black or African-American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Other Race/Two or More Races	Hispanic or Latino of Any Race
Census Tract 27.00, Block Group 1	235	47	15	29	0	10	448
	30%	6%	2%	4%	0%	1%	57%
Census Tract 27.00, Block Group 4	256	41	2	19	1	14	422
	34%	5%	0%	3%	0%	2%	56%
Census Tract 27.00, Block Group 5	249	29	7	21	0	26	638
	26%	3%	1%	2%	0%	3%	66%
Census Tract 28.12, Block Group 1	510	119	19	18	0	29	561
	41%	9%	2%	1%	0%	2%	45%
Census Tract 28.12, Block Group 2	595	82	11	11	0	30	432
	51%	7%	1%	1%	0%	3%	37%
Census Tract 28.12, Block Group 3	445	324	14	31	3	52	1,070
	23%	17%	1%	2%	0%	3%	55%
Census Tract 28.13, Block Group 1	547	82	3	37	0	15	503
	46%	7%	0%	3%	0%	1%	42%
Census Tract 38.12, Block Group 2	1,057	92	16	144	3	48	479
	57%	5%	1%	8%	0%	3%	26%
Grand Total	**10,304**	**2,126**	**191**	**854**	**18**	**569**	**9,806**
	43%	**9%**	**1%**	**4%**	**0%**	**2%**	**41%**
Alternative B							
Census Tract 5.07, Block Group 1	2,486	45	39	130	3	58	837
	69%	1%	1%	4%	0%	2%	23%
Census Tract 18.01, Block Group 2	1,002	166	20	64	4	48	1,025
	43%	7%	1%	3%	0%	2%	44%
Census Tract 18.01, Block Group 3	1,062	216	3	94	3	67	675
	50%	10%	0%	4%	0%	3%	32%
Census Tract 18.02, Block Group 1	394	114	4	94	0	42	329
	40%	12%	0%	10%	0%	4%	34%

Table 3.11 Race and Ethnic Composition of the Project Area Population By Block Group

Geographic Area	White	Black or African-American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Other Race/Two or More Races	Hispanic or Latino of Any Race
Census Tract 19.01, Block Group 2	526	28	8	23	0	30	379
	53%	3%	1%	2%	0%	3%	38%
Census Tract 19.01, Block Group 3	329	44	10	14	0	28	354
	42%	6%	1%	2%	0%	4%	45%
Census Tract 19.02, Block Group 3	374	45	7	27	1	17	399
	43%	5%	1%	3%	0%	2%	46%
Census Tract 20.00, Block Group 3	118	517	7	84	0	44	1,031
	7%	29%	0%	5%	0%	2%	57%
Census Tract 26.00, Block Group 3	142	186	7	19	2	28	829
	12%	15%	1%	2%	0%	2%	68%
Census Tract 27.00, Block Group 1	235	47	15	29	0	10	448
	30%	6%	2%	4%	0%	1%	57%
Census Tract 27.00, Block Group 4	256	41	2	19	1	14	422
	34%	5%	0%	3%	0%	2%	56%
Census Tract 27.00, Block Group 5	249	29	7	21	0	26	638
	26%	3%	1%	2%	0%	3%	66%
Census Tract 28.12, Block Group 1	510	119	19	18	0	29	561
	41%	9%	2%	1%	0%	2%	45%
Census Tract 28.12, Block Group 2	595	82	11	11	0	30	432
	51%	7%	1%	1%	0%	3%	37%
Census Tract 28.13, Block Group 1	547	82	3	37	0	15	503
	46%	7%	0%	3%	0%	1%	42%
Census Tract 38.12, Block Group 2	1,057	92	16	144	3	48	479
	57%	5%	1%	8%	0%	3%	26%
Grand Total	**9,882**	**1,853**	**178**	**828**	**17**	**534**	**9,341**
	44%	**8%**	**1%**	**4%**	**0%**	**2%**	**41%**

Table 3.11 Race and Ethnic Composition of the Project Area Population By Block Group

Geographic Area	White	Black or African-American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Other Race/Two or More Races	Hispanic or Latino of Any Race
Alternative C							
Census Tract 5.07, Block Group 1	2,486	45	39	130	3	58	837
	69%	1%	1%	4%	0%	2%	23%
Census Tract 17.00, Block Group 4	365	22	7	7	1	28	232
	55%	3%	1%	1%	0%	4%	35%
Census Tract 18.01, Block Group 1	383	151	7	42	4	26	517
	34%	13%	1%	4%	0%	2%	46%
Census Tract 18.02, Block Group 1	394	114	4	94	0	42	329
	40%	12%	0%	10%	0%	4%	34%
Census Tract 19.01, Block Group 2	526	28	8	23	0	30	379
	53%	3%	1%	2%	0%	3%	38%
Census Tract 19.01, Block Group 3	329	44	10	14	0	28	354
	42%	6%	1%	2%	0%	4%	45%
Census Tract 19.02, Block Group 3	374	45	7	27	1	17	399
	43%	5%	1%	3%	0%	2%	46%
Census Tract 20.00, Block Group 3	118	517	7	84	0	44	1,031
	7%	29%	0%	5%	0%	2%	57%
Census Tract 26.00, Block Group 3	142	186	7	19	2	28	829
	12%	15%	1%	2%	0%	2%	68%
Census Tract 27.00, Block Group 1	235	47	15	29	0	10	448
	30%	6%	2%	4%	0%	1%	57%
Census Tract 27.00, Block Group 4	256	41	2	19	1	14	422
	34%	5%	0%	3%	0%	2%	56%
Census Tract 27.00, Block Group 5	249	29	7	21	0	26	638
	26%	3%	1%	2%	0%	3%	66%
Census Tract 28.12, Block Group 1	510	119	19	18	0	29	561
	41%	9%	2%	1%	0%	2%	45%

Table 3.11 Race and Ethnic Composition of the Project Area Population By Block Group

Geographic Area	White	Black or African-American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Other Race/Two or More Races	Hispanic or Latino of Any Race
Census Tract 28.13, Block Group 1	547	82	3	37	0	15	503
	46%	7%	0%	3%	0%	1%	42%
Census Tract 38.12, Block Group 2	1,057	92	16	144	3	48	479
	57%	5%	1%	8%	0%	3%	26%
Grand Total	**7,971**	**1,562**	**158**	**708**	**15**	**443**	**7,958**
	42%	**8%**	**1%**	**4%**	**0%**	**2%**	**42%**

Note: percentage number is rounded to the nearest one.
Source: Developed from the *Community Impact Assessment* 2015.

The study areas for Alternatives A, B, and C contain five census block groups that meet the criteria for considering them as environmental justice communities required by Executive Order 12898. Three points should be noted. All three build alternatives go through three of the five block groups; the fourth is next to only Alternative A, and the fifth is affected only by Alternative C. The effects of the alternatives, be they positive or adverse, would be felt equally along each of the alignments. So, while environmental justice communities have been identified, the Centennial Corridor Project would not result in "disproportionately high and adverse" effects on environmental justice communities because of the equivalent distribution of the effects on all communities through which the alignments pass.

Because the project serves both intraregional and interregional traffic, the transportation benefits would be equally available to all residents of the county. For example, all users (including transit users, pedestrians, and bicyclists) would benefit from less congested streets. Private vehicles and public transportation would benefit from the continuous east-west route.

Relocations

The combined relocations of residential and commercial properties under Alternative A in the four environmental justice neighborhoods would be 36 compared to 447 relocations in the non-environmental justice neighborhoods. Alternative B (Preferred Alternative) would have 7 relocations within environmental justice neighborhoods compared to 424 relocations in non-environmental justice neighborhoods. Alternative C would have 88 relocations compared to 243 relocations. The magnitude of impacts is not appreciably more severe or greater in the environmental justice communities compared to the non-environmental justice communities, nor is the impact predominantly borne by the environmental justice community. It should be noted, however, that most residential relocations for Alternative C would be in environmental justice communities including nearly 90 percent of the single-family home relocations. Moreover, in Census Tracts 20.00, BG 3 and 26.00, BG 5, east of Chester Avenue, containing areas common to all build alternatives with the greatest concentration of environmental justice populations, the project work would involve few property acquisitions and occur mostly within the existing right-of-way.

Air Quality

Overview

Potential effects from air pollutant emissions on sensitive receptors serving communities next to the build alternative alignments, such as schools, day care facilities and senior centers, have been evaluated. The following facilities are within 500 feet of a buffer from a build alternative alignment:

- Little Red School House (on the Alternative B alignment and about 1,700 and 3,500 feet from the Alternative A and C alignments, respectively)—this day care facility will be relocated under Alternative B.
- Five Star Care Center (about 140 feet from Alternatives A and B and about 110 feet from Alternative C).

- Caring Corner Day Care Center (about 300 feet from State Route 99 for all build alternative alignments)
- Healthsouth Bakersfield Rehabilitation Hospital (about 500 and 1,400 feet from the Alternative B and C alignments, respectively, and over 2,000 feet from the Alternative A alignment)
- Bakersfield Family Medical (about 500 and 1,900 feet from the Alternative B and C alignments, respectively, and over 2,000 feet from the Alternative A alignment)
- Stockdale Podiatry (200 and 150 feet from the Alternative A and C alignments, respectively)—this outpatient facility provides foot treatment; as an outpatient facility, it is not considered a sensitive receptor to air pollutants
- Kaiser Permanente–Stockdale Medical Office (next to the Alternative A alignment, and 105 feet from the Alternative B alignment, and over 500 feet away from the Alternative C alignment)—this facility contains medical clinics with no inpatient care; therefore, it is not considered a sensitive receptor to air pollutants since patients cannot spend prolonged periods of time within the facility.
- Stockdale Christian School—(375 feet from the Alternative B alignment, and about 2,000 feet away from Alternatives A and C)
- Assembly Manor—a senior housing facility (located within 500 feet of the Alternative B alignment, and approximately 2,000 feet away from the alignments of Alternatives A and C)

The only sensitive community facility receptor that is within neighborhoods with environmental justice populations is the Caring Corner Day Care Center, east of State Route 99. The roadway improvement at this location involves sidewalk relocation for Alternatives A and B but no work under Alternative C. No effect on businesses would occur. Based on the results of the air quality analysis, none of the above facilities would be substantially affected by air pollutant concentrations. One neighborhood park, Saunders Park, west of Oak Street and State Route 99, a portion of which is within the Alternative C alignment, is next to an environmental justice community. Though no detailed park user information is available, Saunders Park is likely used mostly by local residents, including the nearby environmental justice community. No other neighborhood parks sit in environmental justice communities within the Centennial Corridor build alternatives. The analysis indicates that the effects from air pollution concentrations on low-income and minority populations in the study area compared with non-low-income and/or minority populations would be the same. Therefore, there would be no impacts borne predominantly by low-income and/or minority population and, consequently, no disproportionate or high and adverse effects on environmental justice populations, pursuant to Executive Order 12898.

Analysis and Modeling

Air quality has both regional and local components. On a regional scale, there would be no impacts borne predominantly by low-income and/or minority populations or

disproportionately experienced by such groups. The effects of emissions from transportation sources are experienced equally across the basin.

On a local scale, there would be no impacts borne predominantly by low-income and/or minority populations or disproportionately experienced by such groups. Using carbon monoxide as an example, the analysis has determined that of the 10 intersections analyzed, seven are near the five identified census block groups with environmental justice populations: Mohawk Street/California Avenue, California Avenue/ Stockdale Highway, Chester Lane/ California Avenue, State Route 99 southbound ramp/ California Avenue, Stine Road/Stockdale Highway, Real Road/Stockdale Highway and H Street/Brundage Lane. At these intersections (as well as the remaining six intersections in the analysis), none of the calculated concentrations were above the established federal or state standards and all have been shown to be about the same in absolute value. A qualitative analysis was done for particulate matter with a diameter less than 10 microns (PM_{10}) and fine particulate matter ($PM_{2.5}$). Results of the qualitative particulate matter and conformity analysis indicated that 24-hour average concentrations of particulate matter (PM_{10}) along the study area corridor would be less than the currently established applicable National Ambient Air Quality Standard.

Results of the EMFAC modeling and conformity analysis determined that annual average concentrations of fine particulate matter ($PM_{2.5}$) along the study area corridor would be less than the currently established applicable National Ambient Air Quality Standard. Concentrations of fine particulate matter ($PM_{2.5}$) along the study area corridor would not exceed no-build concentrations and would be in conformity with the State Implementation Plan for achieving the 24-hour fine particulate matter ($PM_{2.5}$) standard.

Therefore, based on these results, there would be no impacts borne predominantly by low-income and/or minority populations, nor would those effects be more severe on such groups. Accordingly, no disproportionate or high and adverse effects on environmental justice populations are expected, pursuant to Executive Order 12898. Detailed air quality analysis and results are presented in the *Air Quality Study Report* (February 2014) prepared for the project.

Mobile Source Air Toxics

For mobile source air toxics, conservative emission estimates for the project opening year (2018) and the horizon operational year (2038) indicate substantial reductions in all locations analyzed (Rosedale Highway between Allen Road and State Route 99, Stockdale Highway between Allen Road and H Street, California Avenue between Stockdale Highway and State Route 99, State Route 99 between Airport Drive and White Lane), except for the Westside Parkway between Allen Road and State Route 99 and State Route 58 between State Route 99 and Cottonwood. Although these two segments of roadway pass through the neighborhoods with environmental justice populations, no hospitals, schools, or day-care facilities sit within the 500 feet of the freeway within the respective environmental justice communities.

The Caring Corner Day Care Center, 300 feet from State Route 99 in a neighborhood with an environmental justice population, would experience a reduction in the mobile source air toxics. The reduction is due in large part to improvements in automotive technology resulting from scheduled regulatory requirements and redirection of traffic once the new freeway is established.

The distribution of low-income and minority populations in the study area compared with non-low-income and/or minority populations is the same; the effects would be felt equally throughout the corridor. So, there would be no impacts borne predominantly by low-income and/or minority populations.

Voluntary Emission Reduction Agreement

After the circulation of the draft environmental document, on November 13, 2014, Caltrans entered into a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District to provide improvements to local air quality within the project area. Caltrans shall provide $1.5 million in funding to the San Joaquin Valley Air Pollution Control District so they can administer the air quality emission reduction programs. Currently, the proposed voluntary programs in this agreement would include implementing programs such as school bus diesel engine retrofit; heating, ventilation, and air conditioning upgrades to qualified schools; and wood burning stove replacement with cleaner-burning fuels. A copy of the Voluntary Emission Reduction Agreement is provided in Appendix L, Volume 2. Caltrans will continue to coordinate with the San Joaquin Valley Air Pollution Control District throughout the project development process to implement air quality improvements for the community and other air quality related requirements during the construction of the project.

Service-oriented Facilities

As noted in the Relocation Section of the *Community Impact Assessment* for this project, the following service-oriented facilities would be subject to either partial or full acquisition:

Alternative A

- Better Way Services (mental health counseling)—full acquisition
- PathPoint (education and training for young adults with developmental or other disabilities)—full acquisition
- Farmworker Institute for Education and Leadership Development—full acquisition

Alternative B (Preferred Alternative)

- Healthsouth Bakersfield Rehabilitation Hospital—partial acquisition

Alternative C

- Kern County Department of Human Services—full acquisition

PathPoint and the Farmworker Institute for Education and Leadership Development are next to Tract 28.12 Block Group 3, which is identified as an environmental justice neighborhood. If Alternative A was selected, these facilities would be relocated to an area within the same block group to minimize impacts to the community members using services from these two facilities.

Transportation and Accessibility

Local street changes would be required under each alternative. A road closure at nine spots along each of the Alternatives A and B alignments would be required. Out of these, only one road closure under Alternative A would be within the environmental justice communities. Alternate routes for local access are provided for all the alternatives. No existing transit routes operate on the streets proposed for permanent change/closure; so, there would be no direct effects to transit service due to road changes or closures. Traffic diverted to local streets as a result of any build alternative would not substantially affect transit services.

Each build alternative is designed to maintain existing pedestrian and bicycle travel ways to the extent feasible. Bike routes would be a component of planned Centennial Corridor overcrossings and undercrossings where existing and/or planned routes exist. No local through street access would change under Alternative C; pedestrian, bicycle, and vehicle accessibility to schools and existing links between neighborhoods and schools would stay as they are.

Alternatives A and B would require some permanent street closures, which would change local access patterns and, in some cases, potentially lengthen travel distances to community facilities for some pedestrians and cyclists. Impacts to pedestrian and bicycle facilities would not disproportionately affect a minority or low-income community. So, no impacts would be borne predominantly by low-income and/or minority populations; no effects would be more severe on such groups.

No-Build Alternative

Under the No-Build Alternative, no construction would occur; therefore, there would be no environmental justice issues associated with the No-Build Alternative.

Avoidance, Minimization, and/or Mitigation Measures

Because Alternatives A, B, and C would not cause disproportionately high and adverse effects on minority or low-income populations pursuant to Executive Order 12898 regarding Environmental Justice, no mitigation is required. Implementation of minimization and mitigation measures outlined elsewhere in this environmental document would minimize impacts on all local communities, including low-income and minority neighborhoods.

3.1.5 Utilities/Emergency Services

This section addresses potential impacts to public utilities and emergency services that would result from construction of the Centennial Corridor Project. Short-term construction impacts are also addressed in Section 3.6.

Affected Environment

The study area for utilities and emergency services impact assessment for Segment 1 includes the area right next to the proposed freeway alignment and the surrounding area that is likely to be disturbed by the proposed freeway construction. The information in this section is from the *Community Impact Assessment* (May 2015) prepared for this project.

Utilities and emergency services for Segments 2 and 3 have been described in their respective environmental documents; there have been no changes since certification of those environmental documents.

Utilities

The project area is served by the following utility providers:

Water Service:	City of Bakersfield, California Water Service Company (CalWater), Big West (water line)
Wastewater:	City of Bakersfield
Storm Drainage:	City of Bakersfield
Gas:	Pacific Gas and Electric (PG&E), Southern California Gas Company
Electric:	Pacific Gas and Electric (PG&E)
Telecommunications:	Bright House Network, AT&T, Time Warner Communications, MCI, Verizon, Alliance, Sprint
Oil and Petroleum Lines:	Alon USA, Mobil Oil Company, San Joaquin Facilities Management Incorporated, Chevron Oil Company, Tricor Incorporated

These service providers have utility lines in areas that would become the right-of-way for the Centennial Corridor Project. The following utilities occur within the project's footprint (area of disturbance):

- Water lines, 4 inches to 16 inches in diameter
- Sewer lines, 6 inches to 10 inches in diameter
- Electrical lines, 12 kilovolt underground and overhead lines, and 70- and 115-kilovolt transmission lines on steel towers
- Gas lines, 2 inches to 6 inches in diameter
- Cable television lines, overhead lines, and buried cables in 1-inch to 4-inch ducts
- Oil and petroleum pipelines, 10 inches in diameter
- Oil wells, lines, and flowlines
- Street lights, traffic signals, interconnects, and storage boxes

- Storm drain facilities, 30-inch pipe, a detention basin, and a pump house

Emergency Services

The Kern County and city of Bakersfield Fire Departments provide fire protection services to the area. The Kern County Fire Department also provides emergency medical services. Paramedic and ambulance service is provided by Hall Ambulance, a private company.

The Bakersfield Police Department, the Kern County Sheriff's Department, and the California Highway Patrol provide law enforcement and police protection services to the project area.

No changes to utility and emergency service systems for Segments 2 and 3 have occurred since the environmental documents were completed.

Environmental Consequences

Utilities

Common to All Build Alternatives

Utilities are allowed in the Caltrans right-of-way with an encroachment permit. Utility facilities (such as water lines, sewer laterals, electrical connections/lines/poles, natural gas service lines, streetlights, fire hydrants, and cable television lines and utility boxes) in the right-of-way would be subject to abandonment, removal, and relocation or replacement as a result of project construction. Utility companies would be given enough notice to relocate their facilities before construction or at a later stage of construction, as appropriate.

Such coordination is standard during the design phase. Utility relocations would be done using standard engineering practices, so substantial service disruption is not expected.

Existing oil wells within the proposed right-of-way would be abandoned in accordance with the requirements in the California Code of Regulations.

For the improvements proposed in Segment 3 at the intersection of Stockdale Highway and State Route 43, utilities, such as natural gas, electricity, and telephone lines would need to be relocated. The utility relocation plans would be prepared during the design phase. As part of that effort, the design team would work with the utility provider to identify the relocation area that would minimize impact to the various resources. Generally, utilities would be relocated within the existing right-of-way. These areas are already disturbed so adverse impacts are not expected and implementation of standard engineering practices would ensure that no substantial interruptions of utility service would occur. Should the relocation of the utilities result in impacts to resources, additional environmental clearance will be required.

Alternative A

Alternative A would relocate about 221 utility facilities. Some would be high-risk utility relocations per Caltrans' *Policy on High and Low Risk Underground Facilities within Highway Right of Way*; these would include a 7,800-foot-long section of oil pipeline, an active oil well, and a section of 12-kilovolt underground electrical line. As discussed in Section 3.6, Construction Impacts, the utility lines would be relocated before construction of the road. The utility relocation plans would be prepared during the design phase. As part of that effort, the design team would work with the utility provider to identify the relocation area that would minimize impact to the various resources. Generally, utilities would be relocated within the existing right-of-way. These areas are already disturbed so adverse impacts are not expected and implementation of standard engineering practices would ensure that no substantial interruptions of utility service would occur. Should the relocation of the utilities result in impacts to resources, additional environmental clearance will be required.

Alternative B (Preferred Alternative)

Alternative B would relocate about 236 utility lines or facilities. Also, six oil wells and associated lines would be abandoned. High risk utility relocations include abandoning or changing petroleum production pipelines; relocating about 7,800 feet of an existing 10-inch oil pipeline; abandoning or relocating six oil wells and an oil tank; relocating or protecting in place 12-kilovolt underground electrical facilities; and protecting in place a 10-inch gas line in the Union Avenue overcrossing. Other major relocations (not considered high risk) include relocating 70-kilovolt and 115-kilovolt electrical towers. Alternative B originally proposed to relocate six Pacific Gas and Electric transmission towers; however, after the circulation of the draft environmental document, it was determined that the Westside Parkway Project will relocate these Pacific Gas and Electric transmission towers, as a locally-sponsored project by the city of Bakersfield. The relocation of the six Pacific Gas and Electric towers was identified as a project activity in the previously approved *Final Westside Parkway Environmental Assessment/ Environmental Impact Report* (2007) to accommodate the construction of the Westside Parkway Project. However, these Pacific Gas and Electric transmission towers were not relocated as stated in the city of Bakersfield's General Plan. The Westside Parkway is in their final stages of construction completion and the city of Bakersfield has decided to relocate the towers to their final location to accommodate planned projects per the city of Bakersfield's General Plan.

The utility relocation plans would be prepared during the design phase. As part of that effort, the design team would work with the utility provider to identify the relocation area that would minimize impact to the various resources. Generally, utilities, with the exception of the large electrical towers, would be relocated within the existing right-of-way. These areas are already disturbed so adverse impacts are not expected and implementation of standard engineering practices would ensure that no substantial interruptions of utility service would occur. Should the relocation of the utilities result in impacts to resources, additional environmental clearance will be required.

Alternative C

Alternative C would relocate about 205 utility lines or facilities. High-risk utility relocations include relocating oil lines; relocating about 9,400 feet of a 10-inch oil pipeline; relocating or protecting in place 12-kilovolt underground electrical facilities; and protecting in place a 10-inch gas line on the Union Avenue overcrossing. Other major relocations (not considered high risk) include relocating 70-kilovolt and 115-kilovolt electrical towers and relocating five telecommunication towers and one AT&T equipment building. Alternative C would result in relocating six Pacific Gas and Electric towers.

The utility relocation plans would be prepared during the design phase. As part of that effort, the design team would work with the utility provider to identify the relocation area that would minimize impact to the various resources. Generally, utilities, with the exception of the large electrical towers, would be relocated within the existing right-of-way. These areas are already disturbed so adverse impacts are not expected and implementation of standard engineering practices would ensure that no substantial interruptions of utility service would occur. Should the relocation of the utilities result in impacts to resources, additional environmental clearance will be required.

No-Build Alternative

No freeway/roadway improvements would be built under the No-Build Alternative, so no utility relocations would be required under this alternative.

Emergency Services

Common to All Build Alternatives

Where local roads would be closed, emergency access would be changed. Based on conceptual plans reviewed with the city of Bakersfield and County of Kern Fire Departments, no road closures would isolate areas or hinder emergency response times. With reduced congestion after project implementation, there would be a benefit of potentially faster response times. Impacts to emergency service systems during project construction, such as delays due to construction, are discussed in Section 3.6, Construction Impacts.

No-Build Alternative

The No-Build Alternative would not directly affect traffic patterns, nor would it lead to construction detours that could affect emergency services. In the long term, however, there would be a reduced traffic level of service on State Route 58 that could result in delays for emergency response vehicles.

Avoidance, Minimization, and/or Mitigation Measures

Standard conditions of approval are requirements based on local, state, or federal regulations that are required independently of the California Environmental Quality Act or National Environmental Policy Act analysis but also serve to offset or prevent specific impacts. These have been identified in the Avoidance, Minimization, and Mitigation Measures Section, where appropriate.

The project design minimizes impacts to the existing utility system as much as practicable. Because there would be no impacts to utility systems or emergency services over the long term, no mitigation measures are required. Minimization Measure SC-U-1 has been identified to minimize potential impacts from the abandonment of the oil wells. Standard conditions for impacts as a result of construction activities are presented in Section 3.6, Construction Impacts.

SC-U-1 Existing oil wells within the proposed right-of-way would be abandoned in accordance with the requirements in the California Code of Regulations. This includes filing a Notice of Intent and preparing an abandonment plan for approval by the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources. Completion of the well abandonment process in compliance with existing regulations would ensure that no environmental hazards are created by the plugging operations or the abandoned well.

3.1.6 Traffic and Transportation/Pedestrian and Bicycle Facilities

This section addresses potential impacts to vehicular traffic and circulation. Impacts to the transit system, pedestrian and bicycle facilities, and parking are also addressed.

Regulatory Setting

Caltrans, as assigned by the Federal Highway Administration, directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of federal-aid highway projects (23 Code of Federal Regulations 652). It further directs that the special needs of the elderly and the disabled must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

In July 1999, the U.S. Department of Transportation issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally-assisted programs is governed by the U.S. Department of Transportation regulations (49 Code of Federal Regulations part 27) implementing Section 504 of the Rehabilitation Act (29 U.S. Code 794). The Federal Highway Administration has enacted regulations for the implementation of the 1990 Americans with Disabilities Act (ADA), including a commitment to build transportation facilities that provide equal access for all persons. These regulations require application of the Americans with Disabilities Act requirements to federal-aid projects, including Transportation Enhancement Activities.

Affected Environment

The traffic and circulation impact analysis in this section is based on the results of the *Traffic Study Report for the Centennial Corridor Project* (November 2012). Analysis on parking, public transportation, and pedestrian and bicycle facilities comes from the *Community Impact Assessment* (May 2015) for this project. The proposed project is consistent with the *State Route 58 Corridor System Management Plan* (September 2011) prepared by Caltrans and approved by the Kern Council of Governments. A project consistency analysis with adopted plans is provided in Section 3.1.1, Land Use.

The study area used for the traffic analysis runs from Cottonwood Road on the east to Interstate 5 on the west, and from just north of State Route 58 (West) (Rosedale Highway) on the north to White Lane on the south. The traffic analysis considers the overall operating conditions of the highway and local street network in the traffic study area for the existing (baseline) condition (2008); the opening year (2018); and the 20-year design life (2038).

This section describes lack of route continuity and summarizes the characteristics of the existing roadway network in the study area, the existing traffic volumes, the truck traffic, and the current operating conditions of the roadway network. Future traffic forecasts for the build alternatives and the No-Build Alternative are presented in the Environmental Consequences section that follows.

Existing Roads and Highways

The purpose of the Centennial Corridor Project is to provide route continuity and associated traffic congestion relief along State Route 58 within metropolitan Bakersfield and Kern County from State Route 58 east (at Cottonwood Road) to Interstate 5. The goal of route continuity is to ease the driving task by reducing the need to change lanes and search for directional signing. Route continuity is qualitatively evaluated in terms of driver ease of use, maintaining consistent levels of service and speeds, and by providing an appropriate number of lanes. (Please see Figures 1-3a through 1-3d in Section 1.2 of Chapter 1 which illustrate and describe level of service conditions. Local intersections [i.e. city streets] are considered deficient at level of service D, E, or F. State highway or freeway ramp intersections [owned and operated by Caltrans] are considered deficient at level of service E or F.)

Currently, State Route 58 lacks route continuity from the State Route 58/State Route 99 interchange west to Interstate 5. From the State Route 58/99 interchange, State Route 58 is offset by about 2 miles where State Routes 58 and 99 merge and share a common north-south alignment. Traffic continuing west from the shared portion of State Route 58/State Route 99 must exit at the State Route 178/24th Street off-ramp to access State Route 58 (West) where the road resumes as an east-west local road known as Rosedale Highway/24th Street.

State Route 58 runs west of State Route 99 as an arterial highway (Rosedale Highway) for about 12 miles. Between Allen Road and Mohawk Street, the road is under local control (the city and county, not the state, own the roadway). At State Route 43, State Route 58 is again offset to the north for about 1 mile and shares alignment with State Route 43. From this point, State Route 58 again assumes an east-west alignment as a two-lane roadway for about 8 miles, and then has an interchange with Interstate 5. Table 3.12 describes the existing study area roads and highways.

The lack of route continuity contributes to traffic congestion and reduced levels of service on adjoining highways and local streets. As shown in Table 1.1 in Chapter 1, 16 local intersections with traffic signals along State Route 58 currently operate at level of service E or F during at least one of the peak hours. This condition is expected to worsen as the population grows, and by 2038, 22 intersections are projected to operate at level of service E or F.

The pattern of regional highways and local arterial streets in the study area is shown in Figure 3-11 (provided in Volume 2). The characteristics of these thoroughfares are summarized in Table 3.12.

Table 3.12 Study Area Roads and Highways

Facility Name	Type	Direction	Number of Lanes	Road and Highway Characteristics
State Route 99	Freeway	North-South	8	State Route 99 is a north/south facility and is used as an alternate route for Interstate 5. The speed limit is 65 miles per hour in the project study area.
State Route 58	Freeway (East); Local Highway and conventional (West)	East-West	Varies	***Interstate 5 to Allen Road.*** Two-lane conventional highway. Alignment is disjointed by about 1 mile at State Route 43 which has a shared alignment with State Route 58. State Route 43 is also a two-lane conventional highway. ***Allen Road to State Route 99.*** Two lanes in each direction, with outside turn pocket lanes at street intersections. It should be noted the portion of Rosedale Highway between Allen Road and Mohawk Street was previously part of State Route 58 and is now a local roadway. ***State Route 99.*** Four lanes in both north and south directions along a 2-mile shared route with State Route 99. ***State Route 58 East (Barstow-Bakersfield Highway).*** Four to six lane freeway within Bakersfield metro area. Four lane freeway east of Bakersfield.
State Route 178	Arterial/ Freeway	East-West	4	Crosses northeast Bakersfield before extending east through the Kern River Valley past Lake Isabella to State Route 14. State Route 178 is four lanes east of Oak Street to downtown Bakersfield; three lanes in each direction as part of a one-way couplet through downtown; and a four to six lane freeway east of downtown.
Interstate 5	Interstate Highway	North-South	4	A major north-south route of the Interstate Highway System, linking San Diego, Los Angeles, Sacramento, and Redding. Four lanes within Kern County, north of State Route 99 junction.
Truxtun Avenue	Arterial	East-West	4–6	Two lanes in each direction from Coffee Road to downtown Bakersfield and 3 lanes in each direction when approaching Chester Avenue.
New Stine Road (south of State Route 58)/ California Avenue	Arterial	North-South (New Stine); East-West (California)	5–6	South of Stockdale Highway, New Stine Road is striped with bike lanes. The California Avenue alignment turns northeast before extending across downtown Bakersfield. Bike lane striping is discontinued north of Stockdale Highway.
Stockdale Highway (west of State Route 99) /Brundage Lane	Major Arterial	East-West	4–6	Stockdale Highway is a local road with four to six lanes and bike lanes. Brundage Lane is two lanes in each direction east of State Route 99.
Ming Avenue	Major Arterial	East-West	4–6	Two lanes in each direction east of Allen Road, with single and double outside turning lanes. Near Hughes Lane, two lanes in each direction.
Allen Road	Minor Arterial	North-South	2–4	From Rosedale Highway south, one lane in each direction and two lanes in each direction south of the Kern River.

Table 3.12 Study Area Roads and Highways

Facility Name	Type	Direction	Number of Lanes	Road and Highway Characteristics
Calloway Drive/ Old River Road (south of Stockdale Highway)	Arterial	North-South	4–6	Two lanes in each direction from Rosedale Highway south and three lanes in each direction when approaching Brimhall Road. South of Marby Grange Way, the roadway is being widened to three lanes.
Coffee Road/ Gosford Road (south of Stockdale Highway)	Arterial	North-South	4–6	Three lanes in each direction for most of Coffee Road and Gosford Road.
Oak Street/ Wible Road (south of Stockdale Highway)	Arterial	North-South	4–6	***Oak Street:*** Two lanes in each direction south of 24th Street, three lanes in each direction with right-turn lanes when approaching California Avenue. ***Wible Road:*** Two lanes in each direction.
Chester Avenue	Arterial	North-South	4	Two lanes in each direction for most of the route.
Union Avenue (State Route 204)	Arterial	North-South	6	Three lanes in each direction for most of the route.

Definitions of the Facility types:

Local County or City Roadways:
Arterials are roads used primarily for through traffic movements rather than access to adjacent land. Arterials are characterized by providing high vehicular capacity and continuity of movement. Traffic signals are used to control traffic movements at intersections of high volume cross streets and at driveways providing access to significant land uses such as major shopping centers. Speed limits are typically between 30 and 50 mph, depending on the density of use of the surrounding development. In school zones, speeds may be further reduced; likewise, in sparsely developed or rural areas, speeds may be increased. The width of arterial roads can range from two lanes to ten lanes or more. Some arterials are divided at the center with a paved median, while others share a common center lane, such as a center turning lane. Arterial roads are often referenced as "Major arterials" or "Minor Arterials" depending on the number of through traffic lanes and the importance of the roadway to the local circulation system.

Collector roadways are relatively short, and provide connections from local roads to arterial streets. Collector roads are typically two lanes wide and are not signalized, except at major intersections with arterial roadways.

Local roadways serve adjacent land uses, such as residential neighborhoods. They provide access to collector roadways, which in turn connect to the arterial street network.

State Highways:
Conventional: A highway without control of access which may or may not be divided. Grade separations at intersections or access control may be used when justified at spot locations.
Expressway: An arterial highway with at least partial control of access, which may or may not be divided or have grade separations at intersections.
Freeway: A divided arterial highway with full control of access and with grade separations at intersections.

Source: Developed from the *Traffic Study Report for the Centennial Corridor Project* 2012 and *Highway Design Manual* (Chapter 60, Nomenclature).

Existing Traffic Volumes

Existing traffic volumes presented in this environmental document refer to the traffic volume in 2008, the year the Notice of Preparation for this environmental document was issued.

The average daily traffic volume along State Route 58 is 7,000 vehicles from Interstate 5 to State Route 43, between 7,100 and 21,000 vehicles from State Route 43 to Allen Road; between 40,500 and 49,500 vehicles from Allen Road to State Route 99; and 68,000 vehicles east of State Route 99. The average daily traffic volume along State Route 99 is 100,000 vehicles north of Rosedale Highway; 132,000 vehicles between Rosedale Highway and State Route 58 (East); and 134,000 vehicles south of State Route 58 (East). North of the river, Allen Road carries from 10,000 to 17,000 vehicles per day. Stockdale Highway carries from 18,000 to 34,000 vehicles per day. The daily volumes by road segment, approximately 100 entries, are shown in Figure 2-12 of the *Traffic Study Report for the Centennial Corridor Project* (November 2012).

Truck Traffic

Truck traffic in Kern County accounts for 27 percent of total traffic, compared to a statewide average of 9 percent. The proportion of truck traffic on State Route 99 ranges from 18 to 27 percent, which is two to three times the statewide average. As a critical link in the state transportation network, State Route 58 is used by a large number of regional and inter-regional trucks.

According to 2009 traffic data (*2009 Annual Average Daily Truck Traffic on the California State Highway System*, December 2010), every weekday there are 500 five-axle trucks on State Route 58 east of Enos Lane (7.1 percent of the annual average daily traffic), over 2,000 five-axle trucks west of Mohawk Street (4.9 percent of the annual average daily traffic), 6,700 five-axle trucks east of the interchange with State Route 99 (9.9 percent of the annual average daily traffic) and 8,000 five-axle trucks at the interchange with Cottonwood Road (12.2 percent of the annual average daily traffic).

Without an efficient east-west route through Bakersfield, truck drivers resort to using a dispersed system of inadequate highways, which has strained the transportation network. Truck traffic along the State Route 58 corridor is generally heaviest near the State Route 99 interchanges in Bakersfield, likely due to local and regional trucks using the corridor and the various truck-related land uses (such as agricultural businesses and distribution facilities) along the freeways.

Existing Intersection Levels of Service

Efficiency of traffic operations on a transportation facility is measured in terms of level of service, with level of service A representing the best operating conditions and level of service F the worst as illustrated in Figures 1-3a through 1-3d of Section 1.2, Purpose and Need.

Freeway operational performance was measured using computer software developed by the Federal Highway Administration. To determine freeway level of service, the number of passenger cars per lane over mile-long freeway segments was calculated using computer software and then compared to the criteria listed in Figure 1-3a. In addition, the intersections at the end of freeway interchange ramps were evaluated using the same computer software. The level of service criteria for intersections are shown graphically in Figures 1-3c and 1-3d in Section 1.2, Purpose and Need.

The Caltrans design standard for urban areas within District 6 is level of service D, which means that Caltrans facilities are to be designed to operate at level of service D or better for 20 years from the date construction is completed (2038 for this project). Existing level of service on State Route 99 in the project area without the project is summarized in Table 1.2 in Section 1.2, Purpose and Need. State Route 58 east of State Route 99 is relatively uncongested under existing conditions, except for the eastbound segment approaching Union Avenue. The shared section of State Route 99 and State Route 58 between State Route 58 (East) and Rosedale Highway is more congested, with slower speeds and light congestion experienced at the interchanges. This is from traffic merging with freeway traffic at the on-ramps and traffic on the freeway changing lanes to get to the off-ramps. Locations on State Route 99 that are operating below level of service D are identified below.

State Route 99 Northbound. Most of the analysis locations operate at level of service D or better, except for the following locations that operate at level of service E:

- White Lane eastbound on-ramp during the morning peak hour
- White Lane westbound on-ramp during the morning peak hour
- State Route 58 off-ramp during the morning peak hour
- California Avenue off-ramp during the morning peak hour
- Rosedale Highway off-ramp during the morning peak hour

State Route 99 Southbound. Most of the analysis locations operate at level of service D or better, except for the following locations, which operate at level of service E:

- California Avenue off-ramp during the afternoon peak hour
- Ming Avenue off-ramp during the afternoon peak hour

The State Route 58 off-ramp from southbound State Route 99 operates at level of service F during the afternoon peak hour, as both the off-ramp volume and the mainline volume exceed their capacity in the two right lanes.

Level of service C is the design standard used for local intersections in metropolitan Bakersfield. The overall performance of the highway network was evaluated using a 2007 update of the Kern Council of Governments Regional Transportation Travel Forecasting Model. A total of 79 intersections of the street network were selected for study (see Figure 3-11, provided in Volume 2). Existing level of service for key

intersections under study was summarized and presented in Table 1.1 of Section 1.2, Purpose and Need of this environmental document.

Traffic Accident Data

Caltrans maintains a traffic safety database called the Traffic Accident Surveillance and Analysis System. The database tabulates crash rates for all highways in California, identified by post miles. Data is reported based on the number of lanes, whether the crash occurred on wet or dry pavement, whether it occurred during the night or day, and whether the crash resulted in fatalities. Data collected between 2010 and 2013 indicates that total accidents for State Route 58 and State Route 99 in the project area are higher than the average for similar facilities in California.

Parking Facilities

Much of the Segment 1 study area is characterized by typical suburban residential neighborhoods, with on-street and off-street parking in residential areas and usually plentiful off-street surface parking in commercial lots. Parking conditions vary along the major arterials within the study area.

Park and ride lots are used to encourage carpooling. A park and ride lot with 49 parking spaces sits west of State Route 99, south of Stockdale Highway.

Public Transit Service

Public transit service in the metropolitan Bakersfield area is provided by the Golden Empire Transit District, Consolidated Transportation Service Agency, Kern Regional Transit Division, Amtrak, and Greyhound. Four transit centers lie in the study area: Downtown Transit Center, Southwest Transit Center, Bakersfield Greyhound Station, and Bakersfield Amtrak Station.

The Golden Empire Transit District serves an area of 60 square miles with a fleet of 81 buses and 19 GET-A-Lift buses. It provides bus service to about 24,000 riders each weekday, with more than 7 million boardings each year. (Note that a one-way trip may involve more than one boarding per trip due to the need to transfer between bus routes.)

In the project area, Golden Empire Transit District Routes 11 and 14 provide east-west service. Route 11 runs along Stockdale Highway, going between Stockdale Village (at California Avenue and Stockdale Highway) and California State University, Bakersfield. The route then runs south to Ming Avenue, providing east-west service to State Route 204 (Union Avenue), and then crosses the city via Union Avenue and various streets to an eastern end at Bakersfield College. Route 14 provides service between downtown and California State University, Bakersfield via Rosedale Highway.

The Kern Regional Transit Division provides transit services to unincorporated cities in Kern County. Some of the routes offer service between Bakersfield and the surrounding rural communities.

The alignment for the California High-Speed Train project through downtown Bakersfield crosses the eastern portion of the study area. This 800-mile (track length) rail line would serve as a transportation backbone for the state by connecting Los Angeles/Anaheim to San Francisco with trains that would reach speeds of 220 miles per hour. Initial construction is slated to begin with the Central Valley segment, with a goal of completing the San Francisco to Los Angeles segments by 2029.

Pedestrian and Bicycle Facilities

The main components of the pedestrian circulation system are sidewalks and crosswalks. Most developed properties in the Segment 1 study area are improved with sidewalks. While the city requires installation of sidewalks in conjunction with new development, some older study area streets within neighborhoods built before this requirement took effect do not have sidewalk improvements.

Kern County first adopted a bikeway plan in the mid-1970s. The plan called for bike lanes on various streets and dedicated bike paths on canal levees, along former railroad rights-of-way, and along the Kern River. In 1984, the Kern Council of Governments sponsored a bikeway study for the region, calling for more bike lanes on existing conventional streets and fewer bike paths along canals and abandoned railroad rights-of-way. In 2012, the Kern Council of Governments updated its plan with a study called the *Kern County Bicycle Master Plan and Complete Streets Recommendations*, December 2012, which identified a network of bicycle facilities that will provide improved access.

The *Metropolitan Bakersfield General Plan* contains a bikeway master plan that identifies existing and planned bikeways in Bakersfield:

- Near the project, the master plan designates a Class 1 (off-road) bike path along the Kern River.
- A Class 2 bike lane is a designated bike lane painted on the roadway. Class 2 bike lanes are shown along Stockdale Highway west of Oak Street; on Oak Street/Wible Road south of the Kern River; on Brimhall Road from Coffee Road to Heath Road; on Mohawk Street from Hageman Road to California Avenue; and on Allen Road, Calloway Drive, and Coffee Road from Snow Road to East Panama Road. The master plan identifies a future bikeway that would extend the Class 2 bike lane on H Street from Ming Avenue to Brundage Lane.
- A Class 3 bike route is an unpainted bike lane on the roadway (generally using wider shoulders). The master plan designates Class 3 bike routes on Brundage Lane between Oak Street and State Route 58 and Marella Way/New Stine Road/Garnsey Lane/Real Road/Palm Avenue/4th Street/Virginia Avenue from California Avenue to State Route 58.

In November, 2013, the Bakersfield City Council approved a Bicycle Transportation Plan. The plan identifies existing and proposed bikeways, outlines system deficiencies, creates a priority list of recommended improvement projects with cost estimates, and catalogs potential sources of funding. The plan recommends two

relatively low-cost spot improvement projects for the Westpark neighborhood, on Garnsey Avenue and Marella Way, each consisting of placement of signage and pavement markings. The Kern County Bicycle Master Plan and Complete Streets Recommendations and the city of Bakersfield Bicycle Transportation Plans are incorporated by reference as a part of the Kern Council of Governments' 2014 Regional Transportation Plan.

The Kern River Parkway within the project area consists of a variety of park facilities and several types of trails, including a paved bike trail, the Hoey Trail, and equestrian trails. The Kern River Parkway bike trail extends along the south side of the river. A long-term paved bike path detour was built at Mohawk Street in 2010 to allow the bike path to remain open while the Westside Parkway was being built.

Environmental Consequences

The following traffic analysis addresses the build alternatives and No-Build Alternative during the opening year (2018) and the 20-year design life (2038) of the project. The project analysis evaluates the changes in traffic patterns as a result of the Westside Parkway being incorporated into the State Highway System. The traffic conditions for the future years are also compared against the baseline 2008 conditions.

Results of the traffic study showed the build alternatives would provide better traffic flow for all vehicles including trucks, due to direct route continuity compared to both the existing condition and the No-Build Alternative in the future years. The improvements would result in the following circulation benefits:

- Improvements between Cottonwood Road and State Route 99 would provide auxiliary lanes and collector-distributor lanes (lanes separated from the freeway to accommodate the lane-changing associated with traffic getting on and off the freeway), which would improve traffic flow by separating traffic exiting the freeway from through traffic.
- State Route 58 would no longer be required to share an alignment with State Route 99. It would continue westerly and connect to the Westside Parkway. This would eliminate the 2-mile overlap where State Routes 58 and 99 merge and share a common north-south alignment, thereby removing traffic from State Route 99.
- By moving traffic onto the Westside Parkway, which is a freeway, the project would enable drivers to continue their trips without having to use a local roadway. This would also eliminate the need to stop at multiple signals and the San Joaquin Valley railroad crossing at Landco Drive.
- The Westside Parkway would connect to Stockdale Highway to provide a direct link to Interstate 5, eliminating the offset route that exists at State Route 43.

Later in this section is more detailed information on the operation of the freeways and intersections. The benefits are summarized here.

The additional capacity provided by the build alternatives compared to the No-Build Alternative would also help reduce congestion on adjacent local roadways because traffic is expected to shift to the freeway.

Because the benefits of the project would extend beyond State Route 58, the project was evaluated using the Surface Transportation Efficiency Analysis Model (STEAM, version 2.0), which quantifies the cost of congestion in dollars. The STEAM model assigns $10.83 as the cost for a person sitting in congestion for 1 hour. Below are the savings in travel time over the 20-year (2018–2038) study period for the build alternatives compared to the No-Build Alternative (note that the cost savings in travel time associated with the project would extend beyond the 20-year period studied and would actually increase in later years because of future increased congestion).

- Alternative A—$769 million
- Alternative B—$794 million
- Alternative C—$945 million

Detailed traffic analysis is provided in the sections that follow. Level of service analysis on freeways, ramps, and key intersections documents the benefits summarized above. Other issues addressed include safety benefits, the loss of parking, transit operations, and pedestrian and bicycle facilities.

Circulation Networks Assumptions

Common to All Build Alternatives

Network Improvements

The 2038 circulation network used in the traffic analysis assumes implementation of transportation improvements listed in the *2011 Regional Transportation Improvement Plan* and the *Metropolitan Bakersfield Transportation Impact Fee* program. The improvements from each of these programs are assumed to be in place by 2038. The planned future construction of these improvements explains why there are locations that would operate at a better level of service in 2038 than the projected level of service for 2018.

Level of service is a ranking A through F rating, with A being best and F being worst. See Figures 1-3a through 1-3d in Chapter 1 for a comparison of the different levels of service.

Freeway Changes

Changes to existing freeway on-ramps along State Route 99 and existing State Route 58 are required as part of the project and would affect traffic conditions. Freeway access changes proposed for each build alternative and the closest alternative travel routes are discussed below and shown on the project plans provided in Appendix E in Volume 2:

- The southbound State Route 99 off-ramp with direct access to Stockdale Highway would be eliminated. Vehicles would exit at the California Avenue interchange, just to the north. California Avenue and Oak Street provide a direct connection with the Stockdale Highway corridor.
- The northbound State Route 99 exit and entrance access points to and from Wible Road would be eliminated. Vehicles would use either the California Avenue interchange to the north or the Ming Avenue interchange to the south, depending on the destination.
- Access from Real Road and the Stockdale Highway corridor to southbound State Route 99 would be eliminated. Real Road or Stine Road would provide access to southbound State Route 99 via the Ming Avenue interchange.

Alternative A

Freeway Changes

The following freeway changes would apply to Alternative A:

- The connection between westbound State Route 58 (East) to Real Road and the Stockdale Highway corridor would be eliminated. Drivers would have the option to use the H Street/Chester Avenue interchange. The next nearest intersection to the north would be Calloway Drive.
- The northbound State Route 99/Ming Avenue on-ramp would be reconfigured to allow traffic to access westbound State Route 58 (Centennial Corridor) or northbound State Route 99. Access to eastbound State Route 58 from the Ming Avenue interchange would be eliminated. Vehicles would instead use the H Street/Chester Avenue interchange.

Local Street Changes

With Alternative A of Segment 1, changes to the local street network would affect local circulation as well as pedestrian and bicycle access. In all cases, alternative access would be provided nearby. On the north side of the proposed State Route 58, the following existing through streets would either end or be converted to a cul-de-sac just north of the proposed right-of-way: Jones Street, Williamson Way, McDonald Way, and Business Park South.

On the south side of the proposed State Route 58, the following existing through streets would either end or be converted to a cul-de-sac just south of the project right-of-way: Jones Street, South Garnsey Avenue, Williamson Way, Frazier Avenue, Westwood Street, McDonald Way, Brite Street, South Oleander Avenue, and Houchin Road. South Garnsey Avenue, an existing cul-de-sac, would end farther south.

Alternative B (Preferred Alternative)

Freeway Changes

The following freeway changes would apply to Alternative B:

- The connection between westbound State Route 58 (East) to Real Road and the Stockdale Highway would be eliminated. Drivers would have the option to use the H Street/Chester Avenue interchange. The next nearest intersection to the north would be Mohawk Street.
- The northbound State Route 99/Ming Avenue on-ramp would be reconfigured to allow traffic to access westbound State Route 58 (Centennial Corridor) or northbound State Route 99. Access to eastbound State Route 58 from the Ming Avenue interchange would be eliminated. Vehicles would instead use the H Street/Chester Avenue interchange.

Local Street Changes

Alternative B of Segment 1 would also require changes to the local street network. On the north side of the proposed State Route 58, the following existing through streets would end just north of the proposed right-of-way: Kentfield Drive and Hillsborough Drive.

On the south side of the proposed State Route 58, the following existing through streets would either end or be converted to a cul-de-sac just south of the proposed right-of-way: Dunlap Street, Kentfield Drive, Kensington Avenue, Woodlake Drive, Montclair Street, Hillsborough Drive, and Charter Oaks Avenue. South Garnsey Avenue would end farther south to accommodate the proposed roadway right-of-way.

Seville Street would be extended north just past Laverne Avenue to serve existing properties. A frontage road connection between Mona Way and Belle Terrace would be established. Belle Terrace would form an overpass across State Route 99. The existing Wood Lane cul-de-sac would move slightly west. North-south through access would remain at Belle Terrace.

To address concerns about bicycle and pedestrian connectivity, preliminary design plans for Alternative B now include a multi-use pathway that will run parallel to the project alignment connecting California Avenue to Commerce Drive. The decision to incorporate a multi-use pathway to accommodate bicycle and pedestrian connectivity was made in response to public comments requesting a bicycle connection spanning over the Carrier Canal. As part of this change, an approximately 100-foot-long bridge over the Carrier Canal would be constructed to accommodate two-way bicycle and pedestrian traffic. The preliminary design layout for the Carrier Canal Crossing is included in Figure 2-5b and Appendix E, Alternative B, sheets 8 and 9 of this final environmental document (Volume 2). The proposed modification is located within the study area analyzed in the draft environmental document and supporting technical studies. This multi-use pathway and bridge structure enhancement will provide direct connectivity to the Kern River Parkway Bike Trail for its users. Incorporation of this connection into the project design would enhance local circulation because the

proposed modification would provide an additional connection between California Avenue and Commerce Drive. As a result, significant impacts to local street circulation are not anticipated in this portion of the study area.

Alternative C

Freeway Changes

Access from westbound State Route 58 (East) to California Avenue via State Route 99 would be eliminated. Drivers would have the option to use the H Street/Chester Avenue interchange to access California Avenue to the north.

Local Street Changes

Alternative C would change the local street network. On the west side of State Route 99, the following existing streets would end at the future State Route 58 extension: Oakdale Drive, Bank Street and Alamo Street. A frontage road link between Mona Way and Belle Terrace Avenue would be established. The existing Belle Terrace Avenue bridge would be replaced with a new overpass across State Route 99. East-west through access would remain at Belle Terrace. Chester Avenue, an existing cul-de-sac on the west side of State Route 99 and a dead-end on the east side of State Route 99, would be shortened on both sides of the new facility.

On the south side of the State Route 58 extension (Centennial Corridor), Commerce Drive would be converted to a cul-de-sac just south of the project right-of-way. Commerce Drive currently ends in a cul-de-sac south of Truxtun Avenue. Commerce Drive would end farther south to accommodate the proposed road right-of-way, but neither circulation nor access would be affected.

No-Build Alternative

As part of the regional planning effort, numerous transportation improvements are assumed in the metropolitan Bakersfield area. These improvements are identified on the Regional Transportation Plan and in the Metropolitan Bakersfield Traffic Fee Impact Program. These improvements are not part of the Centennial Corridor Project and would occur regardless of the approval of Centennial Corridor. Therefore, they are assumed as part of the future roadway network for all the alternatives, including the No-Build Alternative. The improvement projects that would have the greatest influence in the project study area involve upgrades to major thoroughfares, including Rosedale Highway (State Route 58), State Route 99, Oak Street, and State Route 204.

Circulation and Congestion

Common to All Build Alternatives

Circulation and congestion are analyzed using freeway segment analysis and intersection level of service analysis. Information in the following subsections comes from the *Traffic Study Report* for the project.

Effectiveness of Freeway Segment Analysis

The effectiveness of freeway segments along State Routes 58 and 99 in both directions in the traffic study area is analyzed in the *Traffic Study Report for the Centennial Corridor Project*. Table 3.13 shows the freeway segments that would operate at level of service E or F in the forecasted years 2018 and 2038, for the build alternatives and the No-Build Alternative.

As shown in the table, none of the freeway segments along State Routes 58 and 99 would operate at the unacceptable level of service E or F in 2018 with any of the build alternatives; up to four freeway segments along State Route 99 would operate at level of service E or F with the No-Build Alternative. By 2038, up to 16 freeway segments along State Routes 58 and 99 would operate at the unacceptable level of service E or F under the No-Build Alternative compared to four segments for Alternatives A and B and five segments for Alternative C.

Table 3.13 Results of Freeway Effectiveness Analysis for Freeway Mainlines Within the Study Area

Freeway Analyzed	Peak Hour	Number of Segments with Level of Service E or F							
		2018				2038			
		No-Build	A	B	C	No-Build	A	B	C
State Route 58 Eastbound	AM	0	0	0	0	0	0	0	0
	PM	0	0	0	0	0	0	0	0
State Route 58 Westbound	AM	0	0	0	0	0	0	0	0
	PM	0	0	0	0	2	0	0	0
State Route 99 Northbound	AM	1	0	0	0	5	1	1	2
	PM	1	0	0	0	3	0	0	0
State Route 99 Southbound	AM	0	0	0	0	0	0	0	0
	PM	2	0	0	0	6	3	3	3
Totals	--	4	0	0	0	16	4	4	5

Source: Developed from the *Traffic Study Report for the Centennial Corridor Project* 2012.

These projections show that future congestion reduction with the project would benefit all traffic, including truck traffic; as mentioned earlier, east-west truck volume is currently very high relative to other state highway facilities in Kern County.

Intersection Level of Service Analysis

A total of 79 roadway intersections were analyzed to evaluate traffic congestion conditions under the project alternatives for the existing (baseline) year (2008), opening year (2018), and horizon year (2038). Projected traffic conditions in future years are compared against the 2008 baseline condition. Table 3.14 lists the intersections that have or would have traffic operations at deficient levels of service for existing and future (2018 and 2038) years. Local intersections (city streets) are considered deficient at level of service D, E, or F. State highway or freeway intersections including ramp intersections are considered deficient at level of service E or F. This information is summarized in Table 3.15.

Table 3.14 Comparison of Intersections Operating at Deficient Levels of Service

	Intersection	Peak Hour	Existing Condition (2008)		Future Year Traffic Control	Forecasted 2018 Level of Service (Delay[1])				Forecasted 2038 Level of Service (Delay[1])			
			Traffic Control	Level of Service (Delay*)		No-Build	Alt. A	Alt. B	Alt. C	No-Build	Alt. A	Alt. B	Alt. C
1	Interstate 5 Southbound Ramps/Stockdale Highway	Morning	northbound/ southbound 2-way stop		northbound/ southbound 2-way stop								
		Afternoon								F (92)*	F (66)*	F (69)*	F (52)*
3	State Route 43/Rosedale Highway	Morning	4-way stop		4-way stop								
		Afternoon								F(77)	F(82)*	F (79)*	F (83)*
4	State Route 43/Stockdale Highway	Morning	4-way stop		4-way stop	F(46)*	F(53)	F(52)	F(54)	F(>150)*	F(>150)*	F(>150)*	F(>150)*
		Afternoon				F(66)*	F(86)	F(87)	F(82)	F(>150)*	F(>150)*	F(>150)*	F(>150)*
7	Stockdale Highway/Nord Road	Morning	Signal		Signal	D(40)	D(40)	D(39)	D(37)				
		Afternoon											
8	Stockdale Highway/Wegis Avenue	Morning	northbound/ southbound 2-way stop		northbound/ southbound 2-way stop					F(>150)*	F(>150)*	F(>150)*	F(>150)*
		Afternoon								F(>150)*	F(>150)*	F(>150)*	F(>150)*
13	Allen Road/Rosedale Highway	Morning	Signal	D(37)	Signal					D(41)	D(36)	D(38)	D(36)
		Afternoon		E(77)		D(43)	D(41)	D(40)	D(41)	D(47)	D(48)	D(48)	D(47)
18	Allen Road/Stockdale Highway	Morning	Signal	D(39)	Signal								
		Afternoon											
19	Calloway Drive/Rosedale Highway	Morning	Signal	E(69)	Signal	D(40)	D(47)	D(43)	D(52)	D(49)	E(53)	E(56)	D(54)
		Afternoon		F(91)		D(41)	D(40)	D(39)	D(39)	D(55)	E(59)	E(61)	E(62)
23	Calloway Drive/Stockdale Highway	Morning	Signal	D(36)	Signal	D(41)	D(48)	D(47)	D(43)	D(52)	D(43)	D(45)	D(44)
		Afternoon		D(39)						D(40)	D(37)	D(38)	D(36)
24	Coffee Road/Rosedale Highway	Morning	Signal	E(76)	Signal	E(69)	D(46)	D(45)	D(41)	F(82)	E(64)	E(67)	E(65)
		Afternoon		E(66)		F(88)	F(93)	F(109)	F(129)	F(93)	F(84)	F(136)	F(94)
25	Coffee Road/Westside Parkway Westbound Ramp/Brimhall Road	Morning	Signal	E(60)	Signal								
		Afternoon		E(73)						D(43)			
28	Coffee Road/Truxtun Avenue	Morning	Signal	E(67)	Signal								
		Afternoon		F(81)									

Table 3.14 Comparison of Intersections Operating at Deficient Levels of Service

	Intersection	Peak Hour	Existing Condition (2008)		Future Year Traffic Control	Forecasted 2018 Level of Service (Delay[1])				Forecasted 2038 Level of Service (Delay[1])			
			Traffic Control	Level of Service (Delay*)		No-Build	Alt. A	Alt. B	Alt. C	No-Build	Alt. A	Alt. B	Alt. C
29	Coffee Road/Stockdale Highway	Morning	Signal	F(112)	Signal	D(36)	D(38)	D(44)	D(38)	E(56)	E(65)	E(57)	E(65)
		Afternoon		F(90)		D(54)	D(53)	D(51)	D(50)	F(100)	F(93)	F(83)	F(104)
30	Mohawk Street/Rosedale Highway	Morning	No Signal[2]	F(63)	Signal	E(57)	D(50)	E(61)	E(69)	F(104)	E(65)	F(84)	E(77)
		Afternoon		F(53)		F(112)	F(87)	F(154)	F(139)	F(123)	F(107)	F(109)	F(106)
33	Mohawk Street/Truxtun Avenue	Morning	Signal		Signal								
		Afternoon		D(42)						E(60)			
34	Mohawk Street/California Avenue	Morning	Signal		Signal					F(106)	D(37)	D(41)	D(35)
		Afternoon				F(89)	E(62)	E(55)	E(56)	F(162)	E(65)	E(62)	F(82)
35	Stockdale Highway/California Avenue	Morning	Signal	E(56)	Signal	E(65)	D(40)	D(43)	D(43)	F(93)	D(42)	D(46)	D(43)
		Afternoon		F(82)		D(49)	E(59)	E(57)	E(62)	F(100)	E(74)	E(60)	E(64)
36	Airport Drive/State Route 204 Off-ramp	Morning	Signal	D(36)	Signal								
		Afternoon		D(43)									
38	Buck Owens Boulevard/Rio Mirada Drive	Morning	Signal	D(44)	Signal								
		Afternoon											
39	State Route 99 Northbound Ramps/Buck Owens Boulevard	Morning	Signal	D(39)	Signal	D(41)		D(38)	D(37)	D(38)	D(42)	D(45)	D(42)
		Afternoon		D(38)		D(44)	D(44)	D(43)	D(46)	D(46)	D(43)	D(42)	D(43)
42	Rosedale Highway/State Route 99 Northbound Ramps	Morning	Signal	D (51)	Signal								
		Afternoon		F(126)							D(43)	D(36)	D(38)
43	24th Street/Oak Street	Morning	Signal	F(89)	Signal								
		Afternoon		F(100)						D(38)	D(38)	D(39)	D(37)
44	Truxtun Avenue/Empire Drive	Morning	Signal		Signal								
		Afternoon								D(48)		D(52)	
45	Truxtun Avenue/Oak Street	Morning	Signal	D(43)	Signal	D(36)				E(62)	D(52)	D(53)	D(52)
		Afternoon		E(74)		D(53)	D(44)	D(46)	D(44)	E(74)	D(46)	D(45)	D(48)

Table 3.14 Comparison of Intersections Operating at Deficient Levels of Service

	Intersection	Peak Hour	Existing Condition (2008)		Future Year Traffic Control	Forecasted 2018 Level of Service (Delay[1])				Forecasted 2038 Level of Service (Delay[1])			
			Traffic Control	Level of Service (Delay*)		No-Build	Alt. A	Alt. B	Alt. C	No-Build	Alt. A	Alt. B	Alt. C
46	California Avenue/Chester Lane	Morning	Signal		Signal								
		Afternoon					D(54)	D(48)	D(52)		F(131)	F(124)	F(121)
47	California Avenue/State Route 99 Southbound Ramps	Morning	Signal		Signal						E(58)	E(60)	E(59)
		Afternoon				E(61)	E(66)	E(66)	E(62)	E(76)	F(90)	F(83)	F(83)
49	California Avenue/Oak Street	Morning	Signal	D(44)	Signal								
		Afternoon		E(79)		E(56)	D(41)	D(41)	D(40)	E(62)	E(59)	E(58)	E(58)
50	Stockdale Highway/Stine Road	Morning	No Signal	Not Available	Signal	D(40)				F(89)			
		Afternoon				E(76)	D(53)	D(48)	D(52)	F(>150)	F(90)	F(84)	F(81)
51	Stockdale Highway/Real Road	Morning	Signal	F(96)	Signal	E(59)	D(40)	D(42)	D(51)	D(48)	D(36)	D(43)	D(45)
		Afternoon		F(93)		E(58)	D(41)	D(39)	F(82)	F(94)	D(53)	D(51)	F(91)
53	Brundage Lane/Oak Street	Morning	Signal		Signal								
		Afternoon		D(39)		D(42)				D(40)			
56	Ming Avenue/New Stine Road	Morning	Signal	E(57)	Signal	D(47)		D(38)	D(37)	D(47)	D(42)	D(48)	D(45)
		Afternoon		E(80)		D(48)	D(37)	D(39)	D(40)	E(70)	D(44)	D(45)	E(55)
57	Ming Avenue/Real Road	Morning	Signal		Signal								
		Afternoon		E(61)						E(65)			
59	Ming Avenue/Wible Road	Morning	Signal	E(61)	Signal								
		Afternoon		E(68)									
60	Ming Avenue/ State Route 99 Northbound Ramps	Morning	Signal		Signal					D(36)			
		Afternoon		D(40)									
61	Ming Avenue/Castro Lane	Morning	Signal		Signal								
		Afternoon								D(39)	D(40)	D(37)	D(36)
62	White Lane/Wible Road	Morning	Signal	D(55)	Signal	E(56)	E(65)	E(61)	E(58)	F(83)	F(84)	E(78)	F(81)
		Afternoon		F(83)		E(77)	E(72)	E(73)	E(72)	F(132)	F(139)	F(137)	F(130)

Table 3.14 Comparison of Intersections Operating at Deficient Levels of Service

	Intersection	Peak Hour	Existing Condition (2008)		Future Year Traffic Control	Forecasted 2018 Level of Service (Delay[1])				Forecasted 2038 Level of Service (Delay[1])			
			Traffic Control	Level of Service (Delay*)		No-Build	Alt. A	Alt. B	Alt. C	No-Build	Alt. A	Alt. B	Alt. C
63	White Lane/State Route 99 Southbound Ramps	Morning	Signal		Signal								
		Afternoon		F(110)		F(96)	F(90)	F(81)	F(86)	F(97)	F(87)	F(89)	F(94)
65	White Lane/Hughes Lane	Morning	Signal	D(36)	Signal	D(36)	D(37)	D(39)	D(39)	D(37)	D(43)	D(41)	D(46)
		Afternoon		D(38)		D(45)	D(45)	D(44)	D(44)	--	D(48)	D(53)	D(50)
66	H Street/Brundage Lane	Morning	Signal		Signal								
		Afternoon		D(35)		D(39)	D(40)	D(51)		E(68)	D(54)	D(48)	
67	H Street/State Route 58 Westbound Ramp	Morning	Signal		Signal								
		Afternoon		E(56)		E(66)	D(45)	D(47)		E(64)	D(35)	D(36)	D(36)
69	H Street/Ming Avenue	Morning	Signal		Signal						D(35)	D(33)	D(37)
		Afternoon		D(35)		D(43)	D(41)	D(45)	D(43)	D(37)	D(42)	D(41)	D(41)
70	Chester Avenue/Brundage Lane	Morning	Signal		Signal								
		Afternoon					D(41)	D(46)	D(36)	E(68)	D(54)	D(48)	
73	Chester Avenue/Ming Avenue	Morning	Signal		Signal	D(39)	D(36)	D(38)	D(44)		D(36)	D(40)	D(40)
		Afternoon				D(37)	D(43)	D(43)	D(41)	D(48)	D(48)	D(53)	D(51)
74	Union Avenue/Brundage Lane	Morning	Signal	D(42)	Signal					D(47)	D(43)	D(46)	E(57)
		Afternoon		D(40)						D(43)	D(48)	D(49)	D(51)
75	Brundage Lane/ State Route 58 Westbound Ramps	Morning	Signal		Signal								
		Afternoon								D(41)	D(42)	D(43)	D(43)

1 Note: Only intersections operating at a deficient level of service are listed in the table. Cells with no values listed are operating at an acceptable level of service. Local intersections are considered deficient at level of service D, E, or F. Caltrans' intersections (ramp intersections) are considered deficient at level of service E or F. The number in parenthesis is the delay in seconds, rounded to a full number.

2 The Rosedale Highway/Mohawk Street intersection was signalized after 2008, which represents the baseline for the analysis in this environmental impact report/environmental impact statement.

* Level of service improves to an acceptable level with installation of a traffic signal.

Source: Developed from the *Traffic Study Report for the Centennial Corridor Project* 2012.

Table 3.15 Summary of Deficient Intersections

	Existing (2008)	No-Build 2018	Alternative A 2018	Alternative B 2018	Alternative C 2018	No-Build 2038	Alternative A 2038	Alternative B 2038	Alternative C 2038
Local Intersections Operating at:									
Level of Service D	9 morning 7 afternoon	9 morning 11 afternoon	10 morning 14 afternoon	10 morning 14 afternoon	10 morning 12 afternoon	7 morning 10 afternoon	11 morning 13 afternoon	11 morning 14 afternoon	11 morning 9 afternoon
Level of Service E	6 morning 7 afternoon	5 morning 4 afternoon	1 morning 3 afternoon	2 morning 3 afternoon	2 morning 3 afternoon	2 morning 7 afternoon	4 morning 4 afternoon	4 morning 4 afternoon	4 morning 4 afternoon
Level of Service F	4 morning 8 afternoon	1 morning 4 afternoon	1 morning 3 afternoon	1 morning 3 afternoon	1 morning 4 afternoon	8 morning 11 afternoon	3 morning 9 afternoon	3 morning 9 afternoon	3 morning 11 afternoon
Ramp Termini Operating at:									
Level of Service E	1 morning 2 afternoon	0 morning 2 afternoon	0 morning 1 afternoon	0 morning 1 afternoon	0 morning 1 afternoon	0 morning 2 afternoon	1 morning 0 afternoon	1 morning 0 afternoon	1 morning 0 afternoon
Level of Service F	0 morning 2 afternoon	0 morning 1 afternoon	0 morning 1 afternoon	0 morning 1 afternoon	0 morning 1 afternoon	0 morning 2 afternoon	0 morning 3 afternoon	0 morning 3 afternoon	0 morning 3 afternoon
Source: Developed from the *Traffic Study Report for the Centennial Corridor Project* 2012.									

No-Build Alternative

With the No-Build Alternative, State Route 99, State Route 58, and State Route 178 are all predicted to have high daily traffic volumes. Traffic volumes on each freeway segment would increase. In terms of traffic operations, the roadway network would experience congestion along Rosedale Highway, 24th Street, Truxtun Avenue extension west of Oak Street, portions of Stockdale Highway, State Route 99, and portions of State Route 178, Coffee Road, Mohawk Street, and Union Avenue.

Safety Benefits

Analysis of All Build Alternatives

The build alternatives would result in safety benefits associated with considerably less congestion on local streets and State Route 99, as discussed earlier.

As discussed in the Traffic Study Report, accident costs benefits were quantified using the STEAM model. In 2038, the build alternatives would result in an estimated savings of between $6.3 million and $8.9 million compared to the No-Build Alternative. Additionally, based on the University of Washington Report, "Why Can't We Be Friends: Reducing Conflicts Between Bicycles and Trucks" (December 7, 2012, Chapter 7), removing traffic, including trucks, from local streets would result in fewer potential vehicular hazards to bicyclists and pedestrians.

No-Build Alternative

The No-Build Alternative would not provide safety benefits because no improvements would be made. Accident types most frequently avoided by providing freeway improvements are rear-end collisions, sideswipes, and hit objects. Rear-end collisions are the most frequent type of accident avoided.

Parking Impacts

Analysis of All Build Alternatives

Based on preliminary design information, the assessment of parking impacts was made by determining the number of available parking spaces, the types of businesses being affected, and the total number of parking spaces that would remain after project implementation.

All alternatives would remove a 49-space Caltrans Park and Ride facility on Stockdale Highway between Real Road and State Route 99. But, each alternative provides for a replacement lot providing a minimum of 49 parking spaces. (Please see Figures 2-4a, 2-5a, and 2-6a, provided in Volume 2, for the locations of replacement park and ride facilities for Alternatives A through C, respectively.)

All build alternatives would have affected parking at the Kaiser Health Care Center, though replacement parking could be provided using land leftover on an adjacent parcel acquired for the project. However, after the circulation of the draft environmental document, Alternative B has been revised to avoid impacts to Kaiser's parking facilities and operations, as documented in Appendix K, Volume 2. The number of parking spaces affected varies by alternative, as shown in Table 3.16.

Table 3.16 Summary of Parking Impacts

Build Alternative	Current Number of Parking Spaces	Affected Parking Spaces[1]	Parking Spaces Remaining After Construction	Net Loss of Parking Spaces
A	1,635	285	1,513	122
B	1,210	234	1,064	146
C	1,771	383	1,629	142

1. Includes temporary parking space losses during construction
Source: Developed from the *Community Impact Assessment* 2015.

No-Build Alternative

The No-Build Alternative would not remove any parking spaces.

Public Transit Impacts

Common to All Build Alternatives

Implementation of the transportation improvements is expected to enhance transit service because they would improve east-west access across the city of Bakersfield, while at the same time reducing freeway and local street congestion. Improved access, connectivity, continuity, and reduced congestion with all build alternatives should result in more timely and reliable transit service in the project area after project completion. Also, transit agencies serving the metropolitan Bakersfield area would likely be able to offer new bus routing options using the project freeway corridor.

No Golden Empire Transit routes use streets proposed for permanent closure/change under the build alternatives; neither do they use any of the freeway ramps proposed for closure. Therefore, there would be no direct effects to transit service due to road changes or closures. There may be some localized, minor increases in traffic on collector and arterial streets that would receive diverted traffic during operation of the build alternatives, but these indirect impacts are not expected to be substantial and should not adversely affect transit.

Alternative A

Alternative A would provide the shortest, most direct east-west service to the west side of Bakersfield, but there are no exits as you travel west from downtown along this alternative alignment in the Segment 1 study area. So, destinations such as shopping centers on Stockdale Highway would not be directly accessible via this alternative.

Alternative B (Preferred Alternative)

With Alternative B, east-west travel time across the Segment 1 study area would be slightly longer than for Alternative A, given the greater length of this alternative alignment. Eastbound transit on this alternative route would be able to exit at Truxtun Avenue, providing direct access to the Health South Bakersfield Rehabilitation Hospital and nearby office parks.

Alternative C

With Alternative C, east-west travel time across the Segment 1 study area would be slightly longer than for Alternatives A and B, given that this alternative would provide the least direct route. Also, with Alternative C, the exit to and from Real Road and State Route 58 is maintained. The Real Road connection provides direct access to the Stockdale and California Avenue corridors, which is not provided in Alternatives A and B. This would provide better accessibility for both transit and other vehicles.

No-Build Alternative

As mentioned under the discussion of Circulation Network Assumptions, as part of the regional planning effort, many transportation improvements have been planned in the metropolitan Bakersfield area. These improvements, which are not part of the Centennial Corridor Project are assumed as part of the future roadway network for all alternatives, including the No-Build Alternative. Several of these improvement projects involve upgrades to major thoroughfares, including Rosedale Highway (State Route 58), State Route 99, Oak Street, and State Route 204. Generally, these improvements should improve traffic under operational conditions which, in turn, could benefit transit service. However, overall level of service on the circulation network would be reduced compared to existing conditions and implementation of the build alternatives.

Impacts to Pedestrian and Bicycle Facilities

Overall, the project would be designed to retain existing pedestrian and bicycle travel ways to the extent feasible. Each of the Segment 1 build alternatives would be designed to provide for arterial and collector road connections across the facility. Specific impacts on pedestrian and bicycle travel by alternative are provided below.

Alternative A

The proposed closure of Frazier Avenue, McDonald Way, Jones Street, and Williamson Way would eliminate existing local access used by bicyclists and pedestrians. Because residential areas are on both sides of the freeway, the lack of pedestrian and bicycle connection, particularly at Stine Road, would increase neighborhood travel distances. The closing of Business Park South, which is north of Stockdale Highway and east of California Avenue, would slightly affect pedestrian and bicycle travel times to and from the adjacent residential neighborhood. However, bikeways designated on the Bikeway Master Plan would not be affected.

Alternative A would affect a bicycle trail and the Hoey Trail on the south side of the Kern River. On the north side of the Kern River, a portion of the equestrian trail would be relocated within the Kern River Parkway.

Alternative B (Preferred Alternative)

The proposed closure to through traffic of Montclair Street, Charter Oak Avenue, Woodlake Drive, Kensington Avenue, Hillsborough Drive, Kentfield Drive, and Williamson Way would eliminate travel ways used by bicyclists and pedestrians, resulting in modified travel patterns in the same neighborhood. With this alternative, pedestrian and bicycle cross-freeway access would be limited to the two overcrossings. Permanent bicycle and pedestrian traffic crossings would be at La Mirada Drive, Marella Way, Ford Avenue, California Avenue, Stockdale Highway, Belle Terrace, Ming Avenue, Hughes Lane, and H Street.

The option of removing the La Mirada Drive overcrossing from Alternative B was also considered. Caltrans and the city of Bakersfield evaluated the benefits associated with minimizing impacts on the remaining neighborhood, costs, and internal circulation needs. Removal of the overcrossing would not substantially change access for the Westpark neighborhood, which would be provided by the Marella Way overcrossing. Removal of the La Mirada Drive overcrossing would eliminate the need to displace 13 single-family homes on La Mirada Drive near Centennial Park and save about $2.5 million in construction costs.

An undercrossing at Ford Avenue was also considered. This undercrossing would maintain connection of Ford Avenue between Stine Road and McDonald Way, which is the design option that was raised during the public information meeting held on December 6, 2012. The undercrossing would not require the acquisition of any additional property and would add about $5.5 million in construction cost.

After the circulation of the draft environmental document, Caltrans has decided to implement all of the proposed crossings, including maintaining the La Mirada Drive overcrossing. Accordingly, proposed overcrossings at La Mirada Drive and Marella Way, as well as the proposed undercrossing at Ford Avenue, will provide three local street connections between California Avenue and Stockdale Highway.

The Class 3 bike route (an on-road, unstriped bike route) designated on the Bikeway Master Plan, which uses Montclair Street, would have to be changed. The route currently uses Garnsey Lane to Mira Loma Drive, to Montclair Street, to Marella Way. Under Alternative B, the route would have to be changed to continue along Mira Loma Drive to Marella Way. This would provide generally the same access to California Avenue, but would require a realignment of the route on the city of Bakersfield Bikeway Master Plan.

To address concerns regarding bicycle and pedestrian connectivity, preliminary design plans for Alternative B now include a multi-use pathway to run parallel to the project alignment connecting California Avenue to Commerce Drive. The decision to incorporate a multi-use pathway to accommodate bicycle and pedestrian connectivity was made in response to public comments requesting a bicycle connection spanning over the Carrier Canal. As part of this change, an approximately 100-foot-long bridge over the Carrier Canal would be constructed to accommodate two-way bicycle and pedestrian traffic. The preliminary design layout for the Carrier Canal crossing is

included in Figure 2-5b and Appendix E, Alternative B, sheets 8 and 9 of this document (Volume 2). The proposed modification is located within the study area analyzed in the draft environmental document and supporting technical studies. This multi-use pathway and bridge structure enhancement will provide a direct link to the Kern River Parkway Bike Trail for its users. Incorporation of this connection into the project design would enhance local circulation because the proposed modification would provide an additional connection between California Avenue and Commerce Drive. No impacts to bicycle and pedestrian facilities are anticipated.

Furthermore, implementation of the Centennial Corridor Project will result in the permanent closure of certain residential streets, which in some cases greatly lengthens the routes for current pedestrian routes in Westpark. The city will coordinate with Caltrans to install a dedicated new pedestrian sidewalk for the benefit of residents living in homes south of La Mirada Drive and Joseph Drive. The pedestrian sidewalk would enhance connectivity to newly divided areas in the Westpark neighborhood and shorten the route for pedestrians to access popular community facilities located on either side of the freeway, including Centennial Park, Harris Elementary School, and other neighborhood destinations. This proposed feature would upgrade bicyclist and pedestrian access via La Mirada Drive.

Alternative C

Because no local through street access would be eliminated, Alternative C would not directly affect pedestrian and bicycle networks.

No-Build Alternative

Because no local through street access would be eliminated, the No-Build Alternative would not directly affect pedestrian and bicycle networks.

Avoidance, Minimization, and/or Mitigation Measures

Mitigation measures are presented below for each of the adverse effects to traffic identified in this section. Standard conditions for impacts on traffic and circulation during construction are presented in Section 3.6, Construction Impacts.

Minimization and Mitigation Measures

T-1 Modifications could include parking lot design modifications, space management (such as parking area restriping), or identifying parking lot replacement options.

The following measure would apply if Alternative A were selected:

T-2 For Alternative A, Caltrans shall take into consideration the means to minimize both operational and construction impacts to existing and planned bike routes and trails potentially affected by the project construction, such as rerouting the trails prior to the initiation of construction activities.

The following measure would apply if Alternative B were selected:

T-3 During final design, Caltrans shall work with the city of Bakersfield to amend the Metropolitan Bakersfield General Plan, Bikeway Master Plan to reflect the modified Class 3 bicycle route affected by Alternative B and shall take into consideration the means to minimize both operational and construction impacts to existing and planned bike routes and trails potentially affected by the project construction, including the Kern River Parkway bike path and Hoey Trail. The Kern River Parkway bike path and Hoey Trail shall be protected in-place to ensure connectivity with the existing facility on both sides of the bridge. All pedestrian facilities shall be designed to meet or exceed requirements of the Americans with Disabilities Act and current safety standards. Access to the pedestrian, bicycle, and equestrian trails shall be maintained to the extent practicable during the construction period.

The following measure would apply if Alternative C were selected:

T-4 With Alternative C, replacement parking shall be created to compensate for the loss of parking at Saunders Park. Sufficient parking shall be provided to meet zoning code requirements for the park.

3.1.7 Visual/Aesthetics

This section addresses potential visual and aesthetic impacts associated with the alternatives of the project. Preparation of the visual analysis is consistent with methodologies established by Federal Highway Administration's Visual Impact Assessment for Highway Projects (1981). Viewpoint analysis was focused on Segment 1, which will be newly built as part of the Centennial Corridor Project. However, there are also intersection improvements at the Stockdale Highway and State Route 43 (known locally as Enos Lane) intersection (Segment 3). These would include widening the intersection to provide turn lanes and adding traffic signals to control traffic movement. Stockdale Highway would be widened to add a dedicated left-turn lane and a shared through/right-turn lane in both directions. These improvements would be built at the same time as the Segment 1 improvements.

Regulatory Setting

The National Environmental Policy Act of 1969, as amended, establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and *aesthetically* (emphasis added) and culturally pleasing surroundings (42 U.S. Code 4331[b][2]). To further emphasize this point, the Federal Highway Administration in its implementation of National Environmental Policy Act (23 U.S. Code 109[h]) directs that final decisions on projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

The California Environmental Quality Act establishes that it is the policy of the state to take all action necessary to provide the people of the state "with…enjoyment of *aesthetic,* natural, scenic and historic environmental qualities" (California Public Resources Code Section 21001[b]).

Affected Environment

Information in this section is based on the analysis in the *Visual Impact Assessment* (March 2014) for the project.

The Centennial Corridor project area sits at the southern end of the San Joaquin Valley in west-central Kern County, which has relatively flat topography. The Kern River is an important visual and recreational corridor running through the project area. All of the project alternatives cross the river, so the river is readily visible from all the build alternatives.

Much of the regional landscape of the project area, except for the northwestern portion, consists of urbanized land uses. Existing views are typical of a developed urban setting with little topographic variation and limited middle-ground or background vistas. Some locations within the region allow for visual relief from the urban setting. These include parkland such as Centennial Park, Saunders Park, and the Kern River Parkway. No Scenic Highways are found in the project area. Figure 3-12 shows images of typical views in the project area.

Viewshed

A "viewshed" is the area normally visible from an observer's viewpoint; it is limited by the screening/obstruction effects of any vegetation or structures.

To describe the visual environment of the project area, the viewshed was divided into four geographic landscape units, described in Table 3.17. A landscape unit is an area with similar visual characteristics; it is often marked by changes in land uses or a physical characteristic such as crossing a river or entering a valley.

Table 3.17 Summary of Landscape Units

Landscape Unit	Description	
State Route 58	Image Types	Commercial, residential, industrial
	Viewer Groups	Motorists, residents, commercial employees
	Visual Resources	Residential neighborhoods and commercial properties
	Overall Visual Character	Established transportation facility; residential neighborhoods; commercial properties
State Route 99	Image Types	Commercial, residential, recreational, industrial
	Viewer Groups	Motorists, residents, commercial employees, recreational viewers
	Visual Resources	Residential neighborhoods and commercial properties; Saunders Park
	Overall Visual Character	Established transportation facility; residential neighborhoods; commercial properties; Saunders Park

Table 3.17 Summary of Landscape Units

Landscape Unit	Description	
Mixed-Land Use	Image Types	Commercial, residential, recreational, industrial
	Viewer Groups	Commercial employees, motorists, residents, recreational users
	Visual Resources	Strip mall commercial development with some larger buildings; Centennial Park; the Kern River; the Kern River Parkway and Bike Path
	Overall Visual Character	Dense, urbanized strip mall development; residential neighborhoods; parkland; the Kern River
Sparsely Developed/ Kern River	Image Types	Residential, recreational, industrial
	Viewer Groups	Residents, motorists, commercial employees, recreational users
	Visual Resources	Expansive undeveloped land; the Kern River; the Kern River Parkway and Bike Path; Lake Truxtun
	Overall Visual Character	Underdeveloped area, parkland, the Kern River
Source: Developed from the *Visual Impact Assessment* 2014.		

Thirteen key viewpoints along each alternative alignment of Segment 1 were identified to represent the visual character of each landscape unit. See Figure 3-13 for the landscape units and key viewpoint locations.

Each of the 13 viewpoints was analyzed to determine its visual quality in terms of *vividness* (how the views mix together to create patterns that stay in a person's memory); *intactness* (the consistency of the views of the natural and human-made landscape and amount of inconsistent views); and *unity* (how well the features blend to a visual design).

The seven evaluation criteria used to measure existing visual quality are: very low, low, moderately low, average, moderately high, high, and very high. Existing and simulated project viewpoints are shown in Figures 3-14 through 3-26. The environmental conditions in 2008, when the Notice of Preparation was issued and when the existing view photos were taken, serve as the baseline for the impact analysis evaluated for this project.

Viewer Groups

Viewer groups are groups of people that would see the project. Viewer groups for the Centennial Corridor Project include drivers on the road, residents, and employees and customers of the commercial and office/light industrial uses along the route. Residents would be more sensitive to changes than would a driver passing through an area at 40 to 50 miles per hour.

Sparsely Developed/Industrial

Residential

Recreational

Commercial

Source: Visual Impact Assessment 2014

Representative Views within the Project Area

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-12

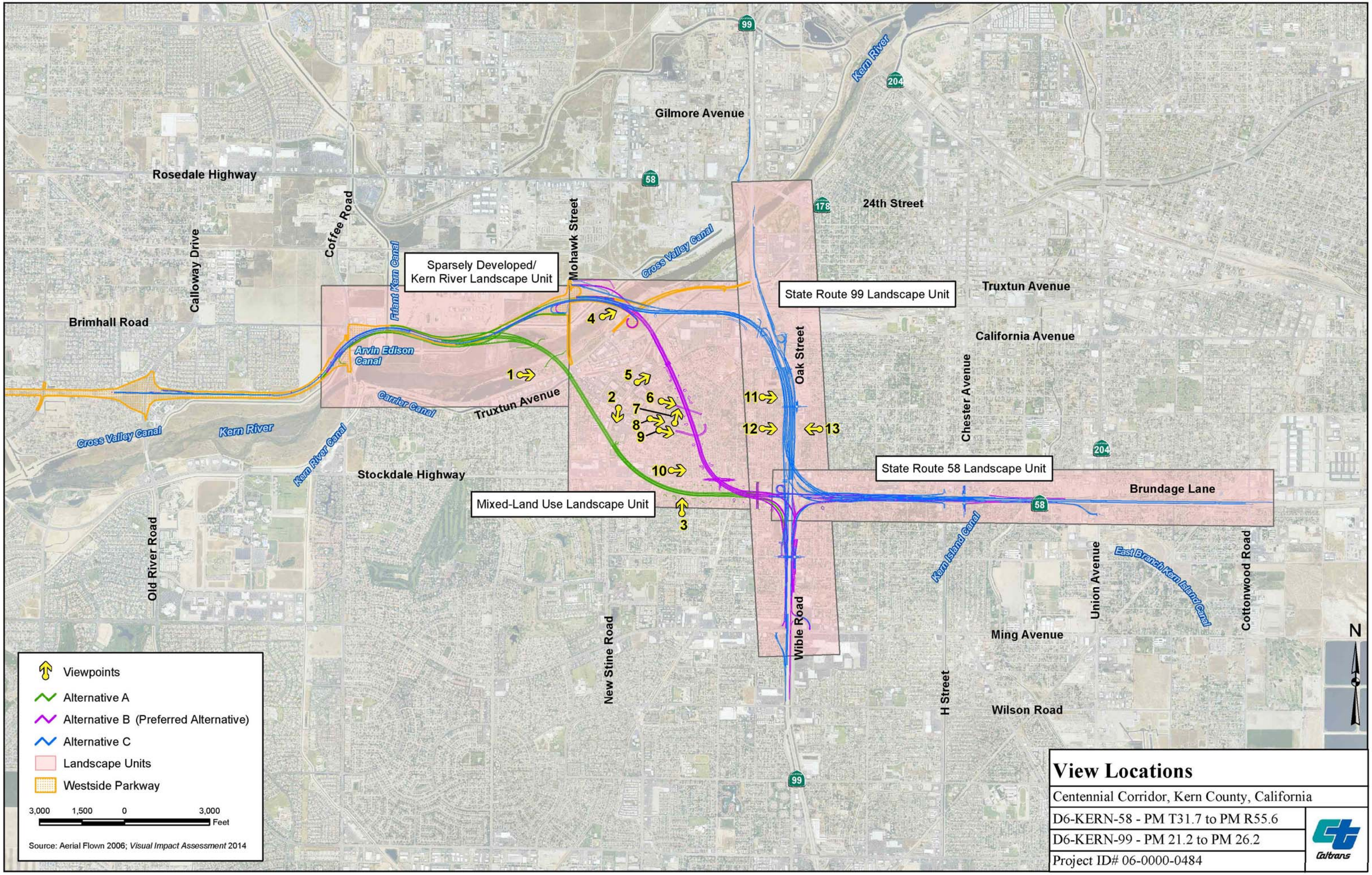

Gilmore Avenue
Rosedale Highway
24th Street
Truxtun Avenue
California Avenue
Brimhall Road
Stockdale Highway
Brundage Lane
Ming Avenue
Wilson Road
Coffee Road
Calloway Drive
Mohawk Street
Oak Street
Chester Avenue
Old River Road
New Stine Road
Wible Road
H Street
Union Avenue
Cottonwood Road
Kern River
Cross Valley Canal
Friant Kern Canal
Arvin Edison Canal
Carrier Canal
Kern River Canal
Kern Island Canal
East Branch Kern Island Canal
Sparsely Developed/ Kern River Landscape Unit
State Route 99 Landscape Unit
State Route 58 Landscape Unit
Mixed-Land Use Landscape Unit
1
2
3
4
5
6
7
8
9
10
11
12
13
99
58
178
204
N
Viewpoints
Alternative A
Alternative B (Preferred Alternative)
Alternative C
Landscape Units
Westside Parkway
3,000 1,500 0 3,000
Feet
Source: Aerial Flown 2006; Visual Impact Assessment 2014
View Locations
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-13

Existing view (Baseline Condition 2008).

Simulated project view without vines.

Simulated project view with vines.

Source: Visual Impact Assessment 2014

Viewpoint 1 Kern River Parkway (looking east toward Alternative A Corridor Alignment)

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-14

Existing view (Baseline Condition 2008).

Simulated project view.

Viewpoint 2 California Avenue near Lennox Avenue (looking south toward Alternative A Corridor Alignment)

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

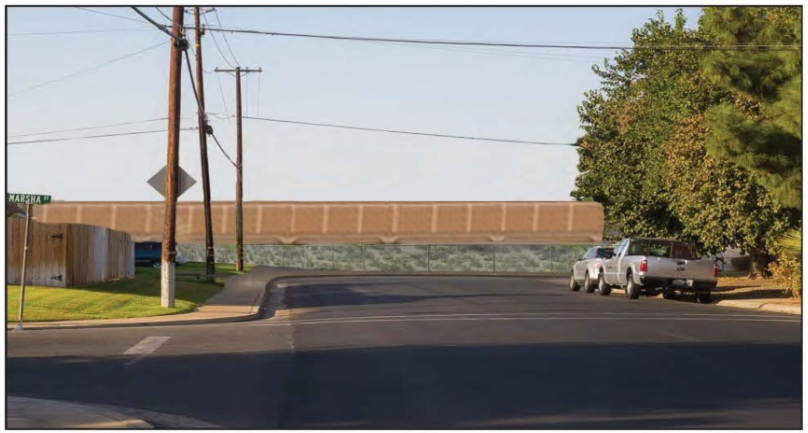
D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

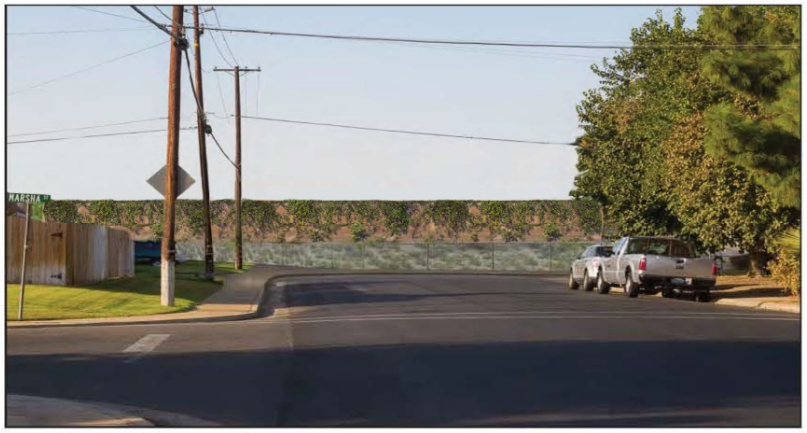
Source: Visual Impact Assessment 2014

Figure 3-15

Existing view (Baseline Condition 2008).



Simulated project view without vines.



Simulated project view with vines.

Viewpoint 3 McDonald Way near Peckham Avenue (looking north toward Alternative A Corridor Alignment)

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Source: Visual Impact Assessment 2014

Figure 3-16

Baseline Condition 2008.

Existing View with Westside Parkway.

Simulated view with Westside Parkway and Centennial Corridor.

Source: Visual Impact Assessment 2014

Viewpoint 4 Kern River Parkway (looking northeast toward Alternative B [Preferred Alternative] Corridor Alignment)

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-17

Existing view (Baseline Condition 2008).

Simulated project view.

Viewpoint 5 California Avenue near Marella Way (looking northeast toward Alternative B [Preferred Alternative] Corridor Alignment)

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Source: Visual Impact Assessment 2014

Figure 3-18

Existing view.

Simulated Project View, Option A

Simulated Project View, Option B

Simulated Project View, Option B with Air Quality Mitigation

Source: Visual Impact Assessment 2014

Viewpoint 6 Centennial Park (looking east on Marella Way toward Alternative B [Preferred Alternative] Corridor Alignment)

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-19

Existing view (Baseline Condition 2008).

Simulated project view.

Viewpoint 7 Centennial Park (looking north on Fallbrook Street toward Alternative B [Preferred Alternative] Corridor Alignment)

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Source: Visual Impact Assessment 2014

Figure 3-20

Existing view (Baseline Condition 2008).

Simulated project view.

Viewpoint 8 Centennial Park (looking east toward Alternative B [Preferred Alternative] Corridor Alignment)

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

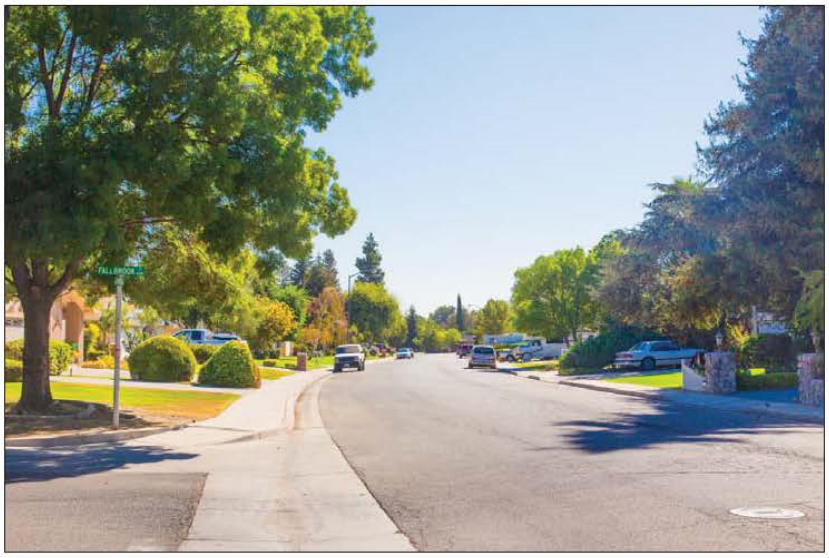
D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Source: Visual Impact Assessment 2014

Figure 3-21



Existing view (Baseline Condition 2008).

Simulated project view.

Viewpoint 9 La Mirada Drive at Fallbrook Street (looking east toward Alternative B [Preferred Alternative] Corridor Alignment)

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Source: Visual Impact Assessment 2014

Figure 3-22

Existing view (Baseline Condition 2008).

Simulated project view without vines.

Simulated project view with vines.

*Note: The option for adding a Ford Road undercrossing would maintain connection of Ford Road between Stine Road and McDonald Way. The bridge would not require the acquisition of any additional property.

Source: Visual Impact Assessment 2014

Viewpoint 10 Ford Avenue near Candy Street (looking east toward Alternative B [Preferred Alternative] Corridor Alignment)

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

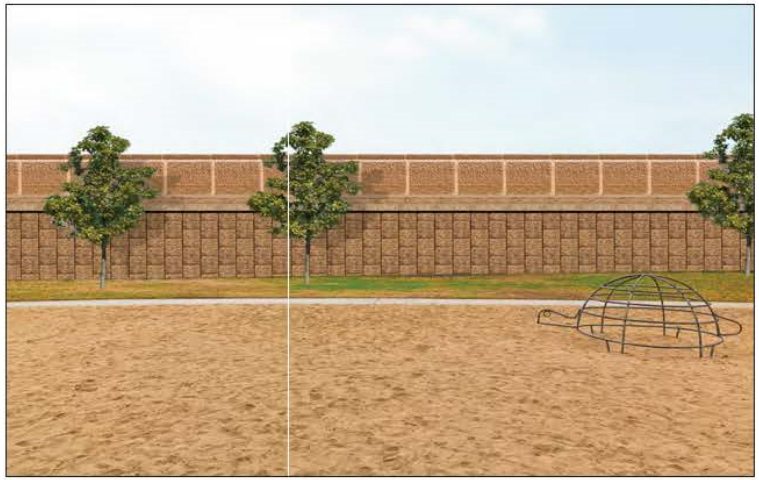
D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-23

Existing view (Baseline Condition 2008).



Simulated project view without vines.

Simulated project view with vines.

Source: Visual Impact Assessment 2014

Viewpoint 11 Saunders Park (looking east toward Alternative C Corridor Alignment)

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-24

Existing view (Baseline Condition 2008).

Simulated project view without vines.

Simulated project view with vines.

Source: Visual Impact Assessment 2014

Viewpoint 12 Bank Street near Wetherley Drive (looking east toward Alternative C Corridor Alignment)

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-25

Existing view (Baseline Condition 2008).

Simulated project view.

Viewpoint 13 Bank Street near Olive Street (looking west toward Alternative C Corridor Alignment)

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Source: Visual Impact Assessment 2014

Figure 3-26

Environmental Consequences

The visual impact assessment analyzed changes at key viewpoints in the project study area. Photo simulations compared existing and post-project views. Table 3.18 shows existing and "with project" vividness, intactness, and unity ratings, plus overall visual ratings for the viewpoints.

Table 3.18 Summary of Existing Visual Quality for Viewpoints[1]

Viewpoint			Vividness	Intactness	Unity	Overall Visual Quality[2]
Alternative A						
Viewpoint 1	Kern River Parkway (looking east toward Alternative A)	**Existing**	Moderately High (5)	Moderately High (5)	Moderately High (5)	Moderately High (5)
		With Alternative A	Average (4)	Moderately Low (3)	Average (4)	Average (3.7)
Viewpoint 2	California Avenue near Lennox Avenue (looking south toward Alternative A)	**Existing**	Average (4)	Average (4)	Average (4)	Average (4)
		With Alternative A	Moderately Low (3)	Moderately Low (3)	Moderately Low (3)	Moderately Low (3)
Viewpoint 3	McDonald Way near Peckham Avenue (looking north toward Alternative A)	**Existing**	Average (4)	Average (4)	Average (4)	Average (4)
		With Alternative A	Moderately Low (3)	Moderately Low (3)	Moderately Low (3)	Moderately Low (3)
Alternative B						
Viewpoint 4	Kern River Parkway (looking northeast toward Alternative B)	**Existing**	Moderately High (5)	Average (4)	Average (4)	Average (4.3)
		With Alternative B	Average (4)	Moderately Low (3)	Moderately Low (3)	Moderately Low (3.3)
Viewpoint 5	California Avenue near Marella Way (looking northeast toward Alternative B)	**Existing**	Average (4)	Moderately High (5)	Average (4)	Average (4.3)
		With Alternative B	Moderately Low (3)	Average (4)	Moderately Low (3)	Moderately Low (3.3)
Viewpoint 6	Centennial Park (looking east on Marella Way toward Alternative B)	**Existing**	Average (4)	Moderately High (5)	Average (4)	Average (4.3)
		With Alternative B	Moderately Low (3)	Average (4)	Moderately Low (3)	Moderately Low (3.3)
Viewpoint 7	Centennial Park (looking north on Fallbrook Street toward Alternative B)	**Existing**	Average (4)	Moderately High (5)	Average (4)	Average (4.3)
		With Alternative B	Moderately Low (3)	Moderately Low (3)	Moderately Low (3)	Moderately Low (3)
Viewpoint 8	Centennial Park (looking east toward Alternative B)	**Existing**	Average (4)	Moderately High (5)	Average (4)	Average (4.3)
		With Alternative B	Average (4)	Average (4)	Average (4)	Average (4)
Viewpoint 9	La Mirada Drive at Fallbrook Street (looking east toward Alternative B)	**Existing**	Average (4)	Average (4)	Average (4)	Average (4)
		With Alternative B	Average (4)	Moderately Low (3)	Moderately Low (3)	Moderately Low (3.3)
Viewpoint 10	Ford Avenue near Candy Street (looking east toward Alternative B)	**Existing**	Average (4)	Average (4)	Average (4)	Average (4)
		With Alternative B	Moderately Low (3)	Moderately Low (3)	Moderately Low (3)	Moderately Low (3)

Table 3.18 Summary of Existing Visual Quality for Viewpoints[1]

Viewpoint			Vividness	Intactness	Unity	Overall Visual Quality[2]
Alternative C						
Viewpoint 11	Saunders Park (looking east toward Alternative C)	**Existing**	Average (4)	Moderately High (5)	Average (4)	Average (4.3)
		With Alternative C	Moderately Low (3)	Average (4)	Moderately Low (3)	Moderately Low (3.3)
Viewpoint 12	Bank Street near Wetherley Drive (looking east toward Alternative C)	**Existing**	Moderately Low (3)	Average (4)	Moderately Low (3)	Moderately Low (3.3)
		With Alternative C	Moderately Low (3)	Moderately Low (3)	Moderately Low (3)	Moderately Low (3)
Viewpoint 13	Bank Street near Olive Street (looking west toward Alternative C)	**Existing**	Average (4)	Average (4)	Average (4)	Average (4)
		With Alternative C	Average (4)	Average (4)	Average (4)	Average (4)

[1] Seven evaluation criteria were applied to measure visual quality: very low, low, moderately low, average, moderately high, high, and very high (Federal Highway Administration 1981).

[2] The score for the Overall Visual Quality was determined by adding the score for Vividness, Intactness, and Unity then dividing by three. This gave an average score for the three evaluation criteria.

Source: Developed from the *Visual Impact Assessment* 2014.

Common to All Build Alternatives

As noted in Section 2.1.1, the aesthetic treatment for walls and bridges of all build alternatives would be designed to be consistent with the Westside Parkway to provide a cohesive visual character to the project. Landscaping would be implemented upon completion of construction. Plant material would use native and adapted plant material consistent with Caltrans District 6 approved plant palette and would not include any invasive plant species. With the similar aesthetic treatment, no visual contrast along the corridor would be seen.

Alternative A

Three key viewpoints were analyzed for the Alternative A alignment:

Viewpoint 1 – Kern River Parkway (looking east toward Alternative A)

This viewpoint is in the Kern River Parkway near the intersection of Truxtun Avenue and the Mohawk Street extension. The natural topography and views of the Kern River Parkway and various tree types and foliage have a moderately high degree of overall visual quality (see Figure 3-14, Viewpoint 1 Kern River Parkway, looking east toward Alternative A).

Alternative A would build a new retaining wall and raised freeway north of Truxtun Avenue crossing Kern River Parkway (see simulated view in Figure 3-14). The addition of the retaining wall and raised freeway would affect the vividness, intactness, and unity of the existing view because the human-made structure would encroach on the natural landscape, resulting in a change in visual character of the Kern River Parkway. There would be a moderately high to high adverse change in the

visual quality/character of this viewpoint, decreasing the overall visual quality to an average rating.

The main viewer group for this viewpoint is Kern River Parkway users. The park users would see the views of the new freeway for a moderate duration and, therefore, would have a high sensitivity and awareness of the project and its effect on views. The view through the Kern River Parkway at this location would be interrupted by the new freeway. The viewer awareness of the changes is likely to be high.

The resulting visual impact to Viewpoint 1 would be moderately high and adverse with implementation of Alternative A.

Viewpoint 2 – California Avenue near Lennox Avenue (looking south toward Alternative A)
This viewpoint is near the intersection of California Avenue and Lennox Avenue in a busy commercial area. The streetscape is developed with commercial land uses, street furniture, and business signs. This viewpoint has an average degree of overall visual quality (see Figure 3-15, Viewpoint 2 California Avenue near Lennox Avenue, looking south toward Alternative A).

Alternative A would build a new overhead freeway north of Stockdale Highway crossing California Avenue. There would be concrete freeway decking and concrete columns supporting the new transportation facility (see simulated view in Figure 3-15). The proposed freeway would affect vividness, intactness, and unity of the existing view by introducing a new substantial above-grade structure into the commercial area as well as bisecting the commercial area. A visual change to Viewpoint 2 would be from average to moderately low.

The view from southbound California Avenue includes commercial development and prominent signage. The main viewer groups for this viewpoint include motorists and commercial area users. Motorists driving by this area would see the view at this location for a short time (about 1 to 5 seconds) and therefore, awareness to the changes of view is likely to be low. Awareness to the changes of view of the commercial employees is likely to be moderate or average because they would see the project only during business hours.

The resulting visual impact to Viewpoint 2 would be moderately low with implementation of Alternative A.

Viewpoint 3 – McDonald Way near Peckham Avenue (looking north toward Alternative A)
This viewpoint is near the intersection of McDonald Way and Peckham Avenue in a single-family residential neighborhood. The McDonald Way streetscape has residential homes, trees, and overhead utility lines and has an average degree of overall visual quality (see Figure 3-16, Viewpoint 3 McDonald Way near Peckham Avenue, looking north toward Alternative A).

Alternative A would build a cul-de-sac at the end of McDonald Way and Peckham Avenue, and a chain-link fence would be put up in front of a landscaped slope leading to a raised freeway and sound wall south of Stockdale Highway crossing McDonald Way (see simulated view in Figure 3-16). Many residential properties would be relocated to build the new freeway. The retaining wall, sound wall, and raised freeway would affect vividness, intactness, and unity of the existing view because the new freeway would add an above-grade structure into the residential area. The existing character of the area would change from a quiet residential street into a neighborhood bisected by a freeway. A moderate to high adverse change in the visual quality/character of this viewpoint would occur, resulting in a decrease in the visual quality from average to moderately low. The main viewer groups for this viewpoint include motorists and area residents. Motorists using northbound McDonald Way would see the foreground and middleground views of the new freeway for a brief time while driving by. Residents would see the scene of the new freeway for a longer period of time from their homes and the neighborhood and, therefore, would have a high sensitivity and awareness of the project and its effect on views. In addition, the project would affect the character of the residential landscape. Viewer awareness of the changes in neighborhood character would be high.

The resulting visual impact to Viewpoint 3 would be moderately high and adverse with implementation of Alternative A.

Alternative B (Preferred Alternative)

Seven key viewpoints were analyzed for the Alternative B Alignment:

Viewpoint 4 – Kern River Parkway (looking northeast toward Alternative B [Preferred Alternative])

This viewpoint is in the Kern River Parkway north of the Truxtun Avenue and Commercial Way intersection. This area has flat, open space topography and views of the Kern River Parkway Bike Trail. Also seen are the relatively undeveloped land, fences, petroleum infrastructure, and overhead utility lines that have an average degree of overall visual quality (see Figure 3-17, Viewpoint 4 Kern River Parkway, looking northeast toward Alternative B). Figure 3-17 reflects not only 2008 baseline conditions, but also the recently constructed Westside Parkway because the visual character of this location has been substantially changed since the baseline conditions.

Alternative B would build an elevated freeway and ramps between the Kern River and Truxtun Avenue. The existing transmission towers shown in the baseline view in Figure 3-17 would be relocated as part of the Westside Parkway Project, which is a locally funded project by the city of Bakersfield. In addition, a portion of the Westside Parkway would be visible at this viewpoint. As shown in the simulated project view in Figure 3-17, the freeway decking and concrete columns of the Westside Parkway and support structures and a portion of the flyover connected with Segment 2 would be visible to the viewers.

An elevated freeway in the sparsely developed area would affect vividness, intactness, and unity of the existing view. The change in the visual quality/character

of this viewpoint from a sparsely developed recreational area to one with an elevated freeway would reduce the visual quality from average to moderately low.

The main viewer group for this viewpoint is the Kern River Parkway users who would see the foreground to middle-ground views of the new freeway and ramps for a moderate time (more than 10 seconds at a time) and therefore would have a moderate to high sensitivity and awareness of the project and its effect on these views. The view of the Kern River Parkway Bike Path at this location would be interrupted by the new freeway. Viewer awareness of the changes is likely to be moderate/average to high because the project would slightly decrease the visual character of the key view. So, there would be average adverse changes to Viewpoint 4 with implementation of Alternative B.

Viewpoint 5 – California Avenue near Marella Way (looking northeast toward Alternative B [Preferred Alternative])

This viewpoint is near the intersection of California Avenue and Marella Way. The urban streetscape and views of California Avenue and the various commercial land uses with tree canopy have an average degree of overall visual quality (see Figure 3-18, Viewpoint 5 California Avenue near Marella Way, looking northeast toward Alternative B).

Alternative B would build a new freeway northwest of Centennial Park crossing California Avenue. Concrete freeway decking and concrete columns would support the new freeway (see simulated project view in Figure 3-18). The elevated freeway would affect the vividness, intactness, and unity of the existing view because it would add a new substantial above-grade structure into the mostly commercial building area. There would be an adverse change in the visual quality/character of this viewpoint because the area would be bisected by the freeway. The visual quality of this viewpoint would change from average to moderately low with implementation of Alternative B.

The main viewer groups for this viewpoint include motorists and commercial area users. Motorists using eastbound California Avenue would see the foreground and middle-ground views of the new freeway for a short time while driving by. Commercial area users and employees would see the views of the new freeway for a longer time during business hours, but are likely to have a low sensitivity and awareness of the project because the project would only slightly affect the current highly developed urban character of the landscape. So, there would be moderately low adverse changes to Viewpoint 5 with implementation of Alternative B.

Viewpoint 6 – Centennial Park (looking east on Marella Way toward Alternative B [Preferred Alternative]) Corridor Alignment)

This viewpoint is in Centennial Park along Marella Way. The residential streetscape and views of the park’s sidewalk, trees and distant tennis courts have an average degree of overall visual quality (see Figure 3-19, Viewpoint 6 Centennial Park, Existing View).

Alternative B would build a new overcrossing on Marella Way at Centennial Park, a retaining wall and concrete barrier with pipe rail along the top between the new roadway and park, 6-foot sidewalks and street parking on both sides of the road, and street trees along the north side of the roadway.

The project offers two design options for the south side of the overcrossing. In Option A, a minor slope (about 12 inches) would provide a transition between the park property and the approach to the retaining wall/barrier. Most of the area in front of the wall would remain at its existing elevation and landscaped with turf grasses to blend into the adjacent park landscape. In Option B, a larger slope would be used within existing right-of-way, which reduces the height appearance of the retaining wall and shortens the length of the barrier needed along the sidewalk. The area in front of the wall would be landscaped with turf grasses to blend into the adjacent park landscape.

Residential properties contained within this viewpoint would be removed with the proposed project. In addition, a sound wall would be built at the back of the park near the tennis courts to shield Centennial Park users from the noise created by the proposed freeway. Until project design is complete, the sound wall is assumed to be 16 feet tall. The proposed freeway is not visible from this viewpoint because it is depressed below grade behind the sound wall in the background of this viewpoint.

The proposed overcrossing and removal of houses would be a substantial change in the visual environment of the neighborhood residential landscape surrounding Centennial Park. The change would affect the vividness, intactness, and unity of the existing view because the new freeway would change the visual character of the residential area; the existing character of the area would change from a quiet residential street into a bisection of the neighborhood by a large-scale transportation facility. In addition, the residential properties within this viewpoint would be removed with the proposed project. Therefore, there would be a high adverse change in the visual quality/character of this viewpoint, resulting in a moderately low visual quality with the implementation of Alternative B (see Figure 3-19, Viewpoint 6 Centennial Park, Simulated Project View, Option A and Option B).

Motorists using eastbound Marella Way would have short-term (less than 5 seconds) views of the proposed freeway (Alternative B) because Marella Way would be elevated over the freeway at this location. Residents would have longer duration (more than 10 seconds) foreground to middle-ground views of the new freeway and would have a high sensitivity and awareness of the project and its effect on views from their homes and neighborhood. Viewer awareness of the changes is likely to be high because duration of the view is long (more than 10 seconds) for community residents, and the proposed project would remove all residential properties contained within this viewpoint.

The resulting visual impact would be moderately high for Viewpoint 6 with implementation of Alternative B.

Viewpoint 7 – Centennial Park (looking north on Fallbrook Street toward Alternative B [Preferred Alternative] Corridor Alignment)

This viewpoint is in Centennial Park along Fallbrook Street. The grassy park area, tennis courts, sidewalk, and views of homes, trees, and lampposts have an average degree of overall visual quality (see Figure 3-20, Viewpoint 7 Centennial Park, Existing View).

Alternative B would build a new overcrossing on Marella Way and a cul de sac on Fallbrook Street. Until project design is complete, the sound wall is assumed to be 16 feet tall. The residential properties contained within this viewpoint would be removed with the proposed project. The proposed freeway is not visible from this viewpoint.

The proposed overcrossing, cul de sac, and removal of houses would be a substantial change in the visual environment of the neighborhood residential landscape surrounding Centennial Park. The change would affect the vividness, intactness, and unity of the existing view because the new transportation facilities would change the visual character of the residential area; the existing character of the area would change from a quiet residential street next to the park into a bisection of the neighborhood by a large-scale transportation facility. Therefore, there would be an adverse change in the visual quality/character of this viewpoint, resulting in a moderately low visual quality with the implementation of Alternative B (see Figure 3-20, Viewpoint 7 Centennial Park, Simulated Project View).

Motorists using Fallbrook Street would have long-term (more than 10 seconds) foreground and middle-ground views of the proposed project (Alternative B). Residents would have longer duration (more than 10 seconds) foreground to middle-ground views of the new freeway and would have a moderately high sensitivity and awareness of the project and its effect on views from their homes and neighborhood. Viewer awareness of the changes is likely to be high because duration of the view is long (more than 10 seconds) for community residents and motorists who would now need to turn around in the cul de sac, rather than continue on to Marella Way, and the proposed project would affect the character of the residential landscape.

The resulting visual impact would be moderately high for Viewpoint 7 with implementation of Alternative B.

Viewpoint 8 – Centennial Park (looking east toward Alternative B [Preferred Alternative] Corridor Alignment)

This viewpoint is in Centennial Park near the picnic area. Views of the grassy park and picnic area, mature trees and adjacent neighborhood have an average degree of overall visual quality (see Figure 3-21, Viewpoint 8 Centennial Park, Existing View).

Alternative B would build a sound wall, freeway, and cul de sac at Centennial Park. Except for two houses directly behind the picnic area, the residential properties within this viewpoint would be removed with the proposed project. The proposed freeway is not visible from this viewpoint because it is depressed below grade behind the sound wall in the background of this viewpoint.

The proposed sound wall, freeway, cul de sac, and removal of houses would be a substantial change in the visual environment of the neighborhood residential landscape surrounding Centennial Park. The change would affect the intactness and unity of the existing view because the new freeway would change the visual character of the residential area; the character would change from a quiet residential street to a neighborhood bisected by a large-scale transportation facility. Therefore, there would be an adverse change in the visual quality/character of this viewpoint, resulting in an average visual quality with the implementation of Alternative B (see Figure 3-21, Viewpoint 8 Centennial Park, Simulated Project View).

Motorists using Centennial Park would have long-term (more than 10 seconds) background views of the proposed freeway (Alternative B). Residents would have long duration (more than 10 seconds) background views of the new freeway and would have a high sensitivity and awareness of the project and its effect on views from their homes and neighborhood. Viewer awareness of the changes is likely to be high because duration of the view is long (more than 10 seconds) for community residents and motorists, and the proposed project would affect the character of the residential landscape.

The resulting visual impact would be moderately high for Viewpoint 8 with implementation of Alternative B.

Viewpoint 9 – La Mirada Drive at Fallbrook Street (looking east toward Alternative B [Preferred Alternative] Corridor Alignment)
This viewpoint is near the intersection of La Mirada Drive and Fallbrook Street. The residential streetscape and views of homes, trees, roadway and cars have an average degree of overall visual quality (see Figure 3-22, Viewpoint 9 La Mirada Drive at Fallbrook Street, Existing View).

Alternative B would build an overcrossing on La Mirada Drive at Fallbrook Street. Residential properties in the background of this viewpoint would be removed as a result of the proposed project; foreground and middle-ground homes would remain with their driveways elevated to meet the new overcrossing. The proposed freeway would be depressed under the overcrossing at this location. The option of removing the La Mirada Drive overcrossing from Alternative B was also considered, which could eliminate the need to displace 13 single-family homes on La Mirada Drive near Centennial Park. However, the decision was made to maintain the La Mirada Drive overcrossing, therefore visual analysis from this viewpoint includes construction of the overcrossing.

The proposed overcrossing and removal of residential properties would be a substantial change in the visual environment of the neighborhood residential landscape. The change would affect the intactness and unity of the existing view because the new freeway would change the visual character of the residential area; the character would change from a quiet residential street into a neighborhood bisected by a large-scale transportation facility. Therefore, there would be a high adverse change in the visual quality/character of this viewpoint, resulting in a

moderately low visual quality with the implementation of Alternative B (see Figure 3-22, Viewpoint 9 La Mirada Drive at Fallbrook Street, Simulated Project View).

Motorists using the proposed La Mirada overcrossing would have long-term (more than 10 seconds) foreground and middle-ground views of the proposed freeway and overcrossing (Alternative B). Residents would also have long duration (more than 10 seconds) foreground to middle-ground views of the new freeway and would have a high sensitivity and awareness of the project and its effect on views from their homes and neighborhood. Viewer awareness of the changes is likely to be high because duration of the view is long (more than 10 seconds) for community residents, and the proposed project would affect the character of the residential landscape.

The resulting visual impact would be moderately high for Viewpoint 9 with implementation of Alternative B.

Viewpoint 10 – Ford Avenue near Candy Street (looking east toward Alternative B [Preferred Alternative])

In this viewpoint near the intersection of Ford Avenue and Candy Street, the residential streetscape and views of homes, trees, fences, and overhead utility lines have an average degree of overall visual quality (see Figure 3-23, Viewpoint 10 Ford Avenue near Candy Street, looking east toward Alternative B).

Alternative B would build a new sound wall and an elevated freeway behind these features near the Ford Avenue and Candy Street intersection (see Figure 3-23, Viewpoint 10 Ford Avenue near Candy Street, Simulated Project View). Many residential properties would be relocated to build the new freeway. The new structures would add a substantial change in the visual environment of the neighborhood residential landscape, affecting the vividness, intactness, and unity of the existing view and the visual character of the residential area from a quiet residential street to a neighborhood that is bisected. So, there would be an adverse change in the visual quality/character of this viewpoint, resulting in a moderately low visual quality.

The main viewer groups for this viewpoint include motorists and area residents. Motorists using eastbound Ford Avenue would see the foreground and middle-ground views of the new freeway for a short time while driving by. Residents would see the views of the new freeway from their homes and neighborhood for a much longer time and therefore would have a high sensitivity and awareness of the project. Residents' views down Ford Avenue would be interrupted by the freeway, no longer allowing them to look down the street at a neighbor's house. Overall, viewer awareness of the changes is likely to be high. So, the resulting visual impact would be moderately high for Viewpoint 6 with implementation of Alternative B.

Alternative C

Seven key viewpoints were analyzed for the Alternative C alignment:

Viewpoint 11 – Saunders Park (looking east toward Alternative C)

This viewpoint is in Saunders Park near the children's sand play area. The views of the play area, parking lot, park building, wall, trees, foliage, and overhead utility lines have an average degree of overall visual quality (see Figure 3-24, Viewpoint 11 Saunders Park, looking east toward Alternative C).

Alternative C would build a new raised freeway and sound wall parallel to the existing State Route 99 (see Figure 3-24, Viewpoint 11 Saunders Park, Simulated Project View). This would introduce a substantial change in the visual park landscape, affecting the vividness, intactness, and unity of the existing view. The visual character of Saunders Park would be affected from the removal of parkland and some mature trees, and addition of a new sound wall outside the parking lot perimeter. The visual quality at this viewpoint would therefore be adversely changed, from average to moderately low.

The main viewer group for this viewpoint is the Saunders Park users who would see the views of the new freeway and wall for a long duration. Viewer awareness of the changes at this location would be high. So, the resulting visual impact would be moderately high adverse changes to Viewpoint 11 with implementation of Alternative C.

Viewpoint 12 – Bank Street near Wetherley Drive (looking east toward Alternative C)

In this viewpoint near the intersection of Bank Street and Wetherley Drive on the west side of State Route 99, the residential streetscape views of overhead utility lines, trees, and a wall have a moderately low degree of overall visual quality (see Figure 3-25, Viewpoint 12 Bank Street near Wetherley Drive, looking east toward Alternative C).

Alternative C would build a chain-link fence in front of a landscaped slope leading to a sound wall and raised freeway next to and parallel to the existing State Route 99 (see Figure 3-25, Viewpoint 12 Bank Street near Wetherley Drive, Simulated Project View). Nearby residential properties would be relocated for project construction, affecting the intactness of this viewpoint. The change is not likely to affect vividness or unity because there is an existing wall next to the existing State Route 99 freeway. However, the overall visual quality/character of this viewpoint would remain moderately low with implementation of Alternative C.

The main viewer groups for this viewpoint include motorists and area residents. Motorists using eastbound Bank Street would see the views of the sound wall and raised freeway for a short time while driving by. Residents would see the project for a longer time and therefore would have a moderate sensitivity and awareness of the project and its effect on views from their homes and neighborhood. Viewer awareness of the changes is likely to be at the moderate/average level. So, there would be average adverse changes to Viewpoint 12 with implementation of Alternative C.

Viewpoint 13 – Bank Street near Olive Street (looking west toward Alternative C)

In this viewpoint near the intersection of Bank Street and Olive Street, next to the east side of State Route 99, the streetscape is commercial, with a car lot on the left side of the viewpoint and trees and foliage. This viewpoint has an average degree of overall visual quality (see Figure 3-26, Viewpoint 13 Bank Street near Olive Street, looking west toward Alternative C).

Adjacent and parallel to the existing State Route 99 (see Figure 3-26, Viewpoint 13 Bank Street near Olive Street, Simulated Project View), Alternative C would build a short concrete barrier with a chain-link fence on top. Some mature trees may be removed, but would be replaced. The addition of the concrete barrier and chain-link fence would change the visual environment of the mixed commercial/residential area, but would not affect the vividness, intactness, and unity of the existing view because the character of this viewpoint would not substantially change. So, this viewpoint would remain at an average rating with the implementation of Alternative C.

The main viewer groups for this viewpoint include motorists and area residents. Motorists using westbound Bank Street would see the structure a short time while driving by. The view from westbound Bank Street is from within a mixed commercial/residential area. Community residents would see the project structure longer (more than 10 seconds) and therefore would have a moderate sensitivity and awareness of the project and its views from their homes and businesses. Viewer awareness of the changes is likely to be moderate/average. So, there would be average adverse changes to Viewpoint 13 with implementation of Alternative C.

The assessment results for all viewpoints are summarized in Table 3.19. Impacts to visual qualities and aesthetics of the area during construction are discussed in Section 3.6, Construction Impacts.

Table 3.19 Summary of the Visual Impact Assessment[1]

Viewpoint			Overall Visual Quality[2]	Viewer Response	Resulting Visual Impact[3]
Alternative A					
Viewpoint 1	Kern River Parkway (looking east toward Alternative A)	Existing Visual Quality	Moderately High (5)	High (6)	Moderately High (4.9)
		Visual Resource Change	Average (3.7)		
Viewpoint 2	California Avenue near Lennox Avenue (looking south toward Alternative A)	Existing Visual Quality	Average (4)	Moderately Low (3)	Moderately Low (3)
		Visual Resource Change	Moderately Low (3)		
Viewpoint 3	McDonald Way near Peckham Avenue (looking north toward Alternative A)	Existing Visual Quality	Average (4)	High (6)	Moderately High (4.5)
		Visual Resource Change	Moderately Low (3)		

Table 3.19 Summary of the Visual Impact Assessment[1]

Viewpoint			Overall Visual Quality[2]	Viewer Response	Resulting Visual Impact[3]
Alternative B (Preferred Alternative)					
Viewpoint 4	Kern River Parkway (looking northeast toward Alternative B)	Existing Visual Quality	Average (4.3)	Moderately High (5)	Average (4)
		Visual Resource Change	Moderately Low (3)		
Viewpoint 5	California Avenue near Marella Way (looking northeast toward Alternative B)	Existing Visual Quality	Average (4.3)	Low (2)	Moderately Low (2.7)
		Visual Resource Change	Moderately Low (3.3)		
Viewpoint 6	Centennial Park (looking east on Marella Way toward Alternative B)	Existing Visual Quality	Average (4.3)	High (6)	Moderately High (4.5)
		Visual Resource Change	Moderately Low (3)		
Viewpoint 7	Centennial Park (looking north on Fallbrook Street toward Alternative B)	Existing Visual Quality	Average (4.3)	High (6)	Moderately High (4.5)
		Visual Resource Change	Moderately Low (3)		
Viewpoint 8	Centennial Park (looking east toward Alternative B)	Existing Visual Quality	Average (4.3)	High (6)	Moderately High (5)
		Visual Resource Change	Average (4)		
Viewpoint 9	La Mirada Drive at Fallbrook Street (looking east toward Alternative B)	Existing Visual Quality	Average (4)	High (6)	Moderately High (4.7)
		Visual Resource Change	Moderately Low (3.3)		
Viewpoint 10	Ford Avenue near Candy Street (looking east toward Alternative B)	Existing Visual Quality	Average (4)	High (6)	Moderately High (4.5)
		Visual Resource Change	Moderately Low (3)		
Alternative C					
Viewpoint 11	Saunders Park (looking east toward Alternative C)	Existing Visual Quality	Average (4.3)	High (6)	Moderately High (4.7)
		Visual Resource Change	Moderately Low (3.3)		
Viewpoint 12	Bank Street near Wetherley Drive (looking east toward Alternative C)	Existing Visual Quality	Moderately Low (3.3)	Average (4)	Average (3.5)
		Visual Resource Change	Moderately Low (3)		
Viewpoint 13	Bank Street near Olive Street (looking west toward Alternative C)	Existing Visual Quality	Average (4)	Average (4)	Average (4)
		Visual Resource Change	Average (4)		

[1] Seven evaluation criteria were applied to measure visual quality: very low, low, moderately low, average, moderately high, high, and very high (Federal Highway Administration 1981).
[2] Visual Resource Change summation taken from Table 3.18, Summary of Existing Visual Quality for Viewpoints.
[3] Resulting Visual Impact = (Visual Resource Change of the Overall Visual Quality + Viewer Response) ÷ 2

Source: Developed from the *Visual Impact Assessment* 2014.

Segment 2 (Westside Parkway)/Segment 3 (Western Connection)

Analysis for Segment 2 (Westside Parkway) was done in the previous environmental document; the minor improvements to the Westside Parkway would not create additional visual impacts, so analysis for Segment 2 is not performed in this environmental document. In Segment 3 only minor improvements at the intersection of Stockdale Highway and State Route 43 are proposed. No substantial new elements (such as bridges or walls) are being introduced in Segment 3. No environmental impacts or substantial visual changes would occur with construction or operational impacts associated with Segment 2 or Segment 3.

No-Build Alternative

No environmental impacts would occur with the No-Build Alternative.

Avoidance, Minimization, and/or Mitigation Measures

As noted above, the aesthetic treatment for walls and bridges would be consistent with the design used for the Westside Parkway to provide a cohesive visual character to the project. Figures 3-14 through 3-26 (Simulated Project View) show the Westside Parkway treatments as they could look on the Centennial Corridor alternatives. Design features, such as depressing Alternative B between California Avenue and Ford Avenue, would minimize visual disruption of the roadway in the Westpark neighborhood.

Implementation of the following minimization measures would soften the addition of new transportation corridor infrastructure, reduce visual impacts, and improve visual appeal to the residential, open space, and commercial areas along the proposed project alternatives. These measures are also intended to reduce the visual impacts of the proposed project for community residents, commercial employees, recreation viewers, and motorists traveling along commercial corridors near the proposed project.

Minimization Measures

V-1 In conjunction with final design, the city of Bakersfield and Caltrans shall develop, and the contractor shall implement, a landscaping plan that includes the following requirements:

- All drip zones of isolated trees shall be protected with fencing. In addition, the existing environmentally sensitive areas (parks, Kern River) shall remain protected.
- An irrigation system shall be provided to all new plantings.
- An extended three-year maintenance period after the construction is completed shall be provided for single-source maintenance through the establishment period.

V-2 The overall Centennial Corridor aesthetic design theme shall be compatible with surrounding neighborhoods and in keeping with the overall Westside Parkway design theme, to the extent feasible, including

landscaping, aesthetic sound walls, bridge treatments, and lighting fixtures. The architectural treatments are shown in the visual simulations and are primarily comprised of brick. Additionally, the simulations contain views with and without vines for walls. The city of Bakersfield and the county of Kern shall enter into maintenance agreements with Caltrans. The maintenance agreements with the city and county will include maintenance of the enhanced aesthetic treatment, including graffiti removal. It should be noted that the city will have to provide the beige color paint to Caltrans for graffiti removal so that it is matched with the Westside Parkway architectural treatments. In the event the city cannot provide the beige color paint, Caltrans will have to use grey color paint to remove graffiti.

V-3 As part of storm water runoff management, the infiltration basins will be designed to include buffer areas and/or plant screens to shield public views where practical.

V-4 Landscaping would be implemented upon completion of construction. Plant material would consist of native, drought tolerant, and self-sustaining species. Any proposed plant material shall be approved by the District Landscape architect and/or consistent with the Caltrans District 6-approved plant palette and would not include any invasive plant species.

V-5 Caltrans shall preserve as many mature trees as practical. The landscape plan will incorporate a tree replacement plan with a replacement ratio of 1:1—for every one tree removed, a tree will be planted. Mature trees (larger than 20 feet high) that are to be removed shall be replaced using 20-inch box trees. A tree survey conducted by the city of Bakersfield and Caltrans shall be completed during the final design phase of the project. Design plans shall indicate locations of existing specimen-sized trees (larger than 20 feet high) to be preserved if possible. Tree replacement shall meet all Caltrans and city standards and policies.

3.1.8 Cultural Resources

This section addresses potential impacts to archaeological and architectural resources that are historic properties and within the designated Area of Potential Effects. The Area of Potential Effects includes areas that may be directly or indirectly affected by construction of the project alternatives. An indirect impact occurs when the project could cause a change in character or use of historic properties, but would not directly encroach upon the property. Only those properties sitting within the Area of Potential Effects were included in the survey.

Regulatory Setting

The term “cultural resources” as used in this document refers to all “built environment” resources (structures, bridges, railroads, water conveyance systems, etc.), culturally important resources, and archaeological resources (both prehistoric

and historic), regardless of significance. Laws and regulations dealing with cultural resources are explained below.

The National Historic Preservation Act of 1966, as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the National Register of Historic Places. Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings, following regulations issued by the Advisory Council on Historic Preservation (36 Code of Federal Regulations 800).

On January 1, 2004, a Section 106 Programmatic Agreement between the Advisory Council, Federal Highway Administration, California State Historic Preservation Officer, and Caltrans went into effect for Caltrans projects, both state and local, with Federal Highway Administration involvement. In January 2014, the first amended Section 106 Programmatic Agreement went into effect. The Programmatic Agreement implements the Advisory Council's regulations, 36 Code of Federal Regulations 800, streamlining the Section 106 process and delegating certain responsibilities to Caltrans. The Federal Highway Administration's responsibilities under the Programmatic Agreement have been assigned to Caltrans through the National Environmental Policy Act Assignment (23 U.S. Code 327) Memorandum of Agreement, which became effective October 1, 2012.

Historic properties may also be covered under Section 4(f) of the U.S. Department of Transportation Act, which regulates the "use" of land from historic properties. See Appendix B in Volume 2 for specific information about Section 4(f).

Historical resources are also considered under the California Environmental Quality Act as well as California Public Resources Code Section 5024.1, which established the California Register of Historical Resources. California Public Resources Code Section 5024 requires state agencies to identify and protect state-owned resources that meet National Register of Historic Places listing criteria. It further requires Caltrans to inventory state-owned structures in its right-of-way.

Affected Environment

The following documents were summarized in the *Historic Property Survey Report* (January 2013) and *Supplemental Historic Property Survey Report* (February 2015) and serve as the basis for the analysis in this section: *Archaeological Survey Report* (January 2013), *Extended Phase I Geoarchaeological Study* (November 2012), the *Historical Resources Evaluation Report* (March 2014), and California Historic Bridge Inventory sheet (October 2011). Information from the Finding of Effect on historic properties (March 2014) was also used. A second stage of the *Extended Phase I Geoarchaeological Study* was performed for Alternative B (Preferred Alternative) (February 2015).

Common to All Build Alternatives

Caltrans has determined that no bridges associated with the project are listed in or eligible for the National Register of Historic Places.

Built Environment Resources

The built environment within the Area of Potential Effects reflects the evolution of this portion of Bakersfield. Residential subdivisions, particularly mid-20th century subdivisions, are the predominant building type found within the project area in areas north and south of Stockdale Highway and west of State Route 99. Older residential parcels dating to the early 20th century, modern residential parcels, commercial buildings, canals, oil wells, bridges, and railroads are also found within the project area. Oil operations continue to extract crude oil nearest the Kern River.

The Secretary of the Interior sets standards for evaluating cultural resources for their potential eligibility to the National Register of Historic Places. For this study, cultural resources fewer than fifty years of age were evaluated to take into consideration their potential significance at the time construction begins, which may be several years beyond when the architectural history survey was conducted.

The 639 historic-era resources evaluated for this project reflect the major historical events discussed in the Historic Property Survey Report. The resources exist throughout the Centennial Corridor with most within the boundaries of the city of Bakersfield. All but one of the resources (the Kern Island Canal), date to the 20th century. About 10 percent were built in the 20th century before the end of World War II; the remaining were built after the end of World War II between 1946 and the mid-1960s.

Most of the buildings (about 95 percent) are modest residential properties built between the 1920s and 1960s. About 93 percent of the homes were built in one of three common styles: Minimal Traditional, Ranch, or Contemporary. Most of the houses in these three styles were built in subdivisions with homogenous architectural styles.

Cultural resources records were searched at the Southern San Joaquin Valley Information Center at California State University, Bakersfield in May and June 2007. An updated records search was done in August 2009. A survey of the area was done in the field to evaluate all buildings, structures, and objects found within the Area of Potential Effects. A total of 639 buildings or groups of buildings and structures required formal evaluations.

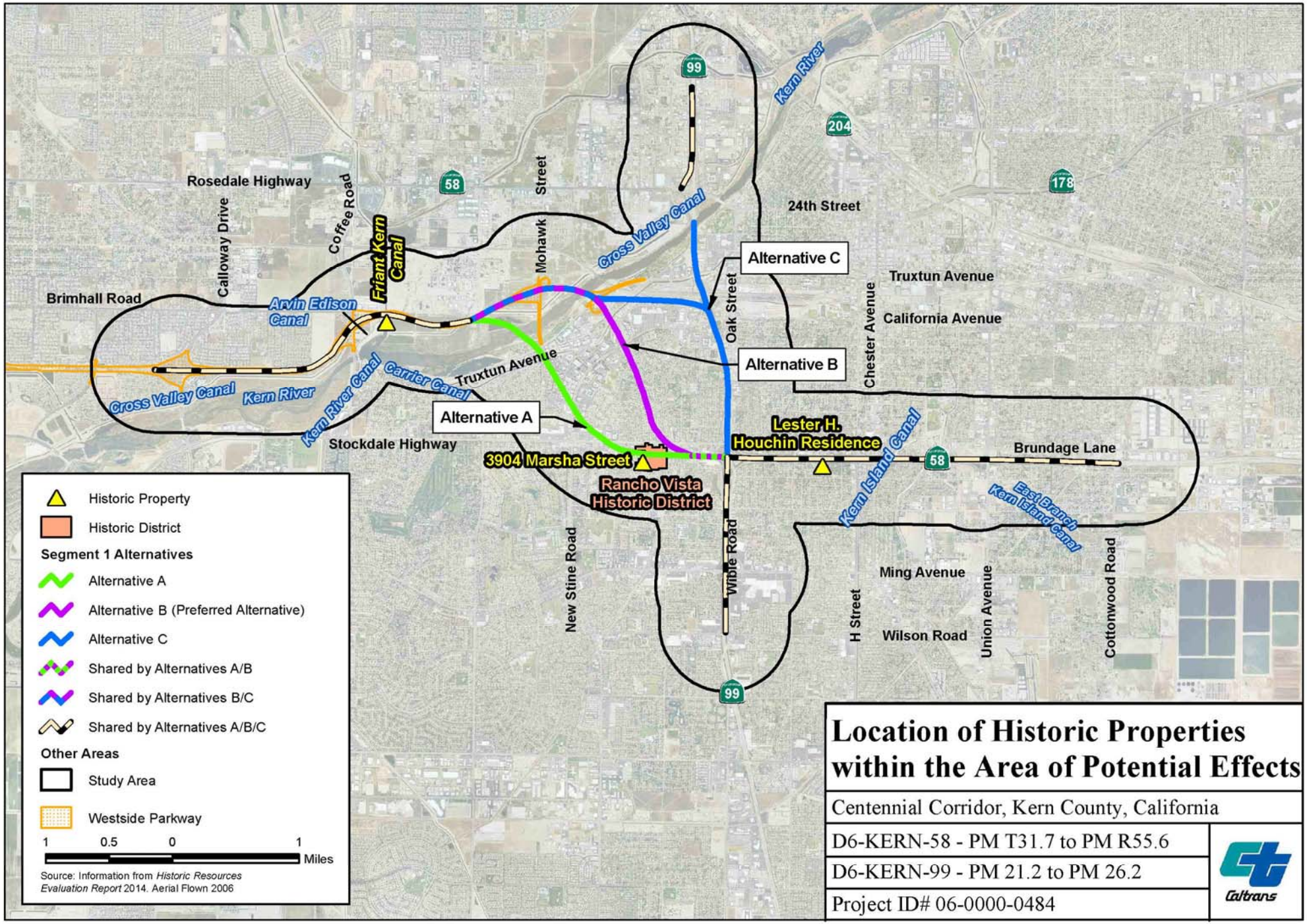
Four properties within the Area of Potential Effects were determined eligible for inclusion in the National Register of Historic Places: Friant-Kern Canal, the Lester H. Houchin residence, the Rancho Vista Historic District, and the property at 3904 Marsha Street (see Figure 3-27 for location of each historic property). These historic properties are described below. No remaining property formally evaluated for this project is eligible for the National Register of Historic Places or the California Register of Historical Resources.

Friant-Kern Canal

Friant-Kern Canal has been determined eligible for the National Register of Historic Places and is listed in the California Register of Historical Resources. As a key component of California's Central Valley Project, the canal has been determined eligible for listing in the National Register of Historic Places under Criterion A. It is historically significant at the state level under Criterion A within the context of development, construction, and operation of the Central Valley Project. The period of significance—1945 to 1951—is the canal's period of construction. Friant-Kern Canal is a 152-mile-long gravity-fed earth- and concrete-lined canal that ends at the Kern River northwest of Bakersfield. Character-defining features include its overall length, width, and its major contributing structures. The historic boundary of this property encompasses the canal and the contributing features that are attached to the canal.

All build alternative alignments would follow the recently built Westside Parkway that crosses the Friant-Kern Canal. Photo 1 shows a view of Friant-Kern Canal looking north toward the recently constructed Westside Parkway.

Photo 1. Friant-Kern Canal looking north toward the recently constructed Westside Parkway.



Location of Historic Properties within the Area of Potential Effects

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-27

Lester H. Houchin residence

The Lester H. Houchin residence and its detached garage at 307 South Oleander Avenue was determined eligible for listing in the National Register of Historic Places and the California Register of Historical Resources at the local level under Criterion C as an important local example of Colonial Revival architecture. The period of significance for this historic property is 1939. Contributing elements include the residence; the two-story garage; the circular driveway; and the landscaping on the north, south, and east sides of the residence and garage.

Photo 2 is a view of the Lester H. Houchin residence taken from Oleander Street looking north toward State Route 58 (depressed freeway).

Photo 2. Lester H. Houchin residence from Oleander Street looking north toward State Route 58

Rancho Vista Historic District

Rancho Vista Historic District is a residential subdivision determined to be eligible for the National Register of Historic Places under Criteria A and C. The tract is an unusual and important example of post-World War II efforts made to apply prefabrication techniques to tract housing. The general boundary of this historic property is defined by Stine Road to the east, Stockdale Highway to the north, McDonald Way to the west, and Quarter Avenue to the south. A more precise boundary, which excludes some non-contributing parcels that are part of the original tract development along perimeter streets, has been delineated as part of the Section 106 (National Historic Preservation Act) documentation prepared for the project. Rancho Vista Historic District is significant at the local level and has a period of significance between 1950 and 1957 when the residences in the area were built. Of the 113 properties that are within the Rancho Vista Historic District boundaries, 81 properties are considered contributors (see Figure 12 of Volume 2, Appendix B). Character-defining features of this district include design characteristics of the tract (i.e., rounded concrete curbs; concrete sidewalks placed next to the curb with no

planting strip; houses set back from the curb at varying distances, and mature trees that were planted as part of the initial tract development) and design characteristics of the houses (i.e., small, one-story residences with compact plans, wood-frame construction on low concrete foundation; varied roof forms, including gable, hip and combination roofs; wood siding in a variety of types, applied both vertically and horizontally; and metal casement windows).

Photos 3a and 3b are a view of the east boundary of the Rancho Vista Historic District taken from Stine Road looking north toward the new freeway alignment (Alternatives A and B).

Photo 3a. East boundary of the Rancho Vista Historic District taken from Stine Road looking north toward the new freeway alignment (Alternatives A and B).

Photo 3b. Photo taken from about 4 houses north of Photo 3a looking north toward the new freeway alignment (Alternative B).

Photo 4 shows a view of the Rancho Vista Historic District taken on Jones Street south of Stockdale Highway looking northeast toward Alternative B Alignment. Alternative C is farther away and cannot be seen from any area within the Rancho Vista Historic District.

Photo 4. Rancho Vista Historic District taken from Jones Street south of Stockdale Highway looking northeast toward Alternative B Alignment

3904 Marsha Street Property

The property at 3904 Marsha Street, in addition to being a contributor to the Rancho Vista Historic District, was determined to be individually eligible for the National Register of Historic Places and is a historical resource under California Environmental Quality Act. The residence is significant under Criterion A at the local level for its association with the Cold War and civil defense measures designed for survival in the event of a nuclear war. The period of significance is between 1956 (when the residence was built) and 1962 (generally the end of the period of fallout shelter construction in the United States). The historic property boundary is defined by the legal parcel.

Photo 5 shows a view of the property at 3904 Marsha Street residence taken from Marsha Street looking north-northeast toward the new freeway alignment (Alternatives A and B). Alternative C is farther away and cannot be seen from this residence.

Photo 5. 3904 Marsha Street residence taken from Marsha Street looking north-northeast toward the new freeway alignment (Alternatives A and B).

Archaeological Resources

The archaeological project area includes all areas within the proposed right-of-way and a buffer of about 10 feet to allow for potential construction impacts. A larger area was surveyed as part of the analysis.

Three archaeological/historical resources records searches were done at the Southern San Joaquin Valley Information Center at California State University, Bakersfield; each covered different portions of the project area and a surrounding 0.5-mile radius: May to July 2007; July 15, 2009; and November 29, 2011. The searches found that few archaeological studies (8 total) that include portions of the archaeological survey area have been completed. Since much of the city of Bakersfield was developed before consideration of cultural resources, very few sites were recorded. Four cultural resources were recorded within half a mile of the archaeological project area. None of the known archaeological sites are within the survey area itself.

Consultation with the Native American Heritage Commission began in June 2007 as part of the Thomas Roads Improvement Program projects. This consultation involved requests for a search of the Sacred Lands File and a contact list of potentially interested Native American representatives. The Native American Heritage Commission responded by letter on June 21, 2007, and stated that the Sacred Lands File search does not show the presence of Native American cultural resources in the immediate project area. The Commission provided a contact list of 12 Native American groups and individuals who may have knowledge of Native American cultural resources not formally listed in any database. Those individuals were contacted, as was a second group of individuals identified as potentially interested but

not listed by the Native American Heritage Commission. Several responses were received as a result, and three requested additional information. On December 21, 2011, these three individuals were sent an updated informational letter describing the current Centennial Corridor Project. Results of the Native American consultation are provided in Section 5.3.3, Native American Consultation.

Archaeological field surveys were done April 13 through 15, 2009; October 26 and 27, 2011; and November 28 and 29, 2011. A pedestrian survey was also done on a small sliver parcel on December 3, 2014. The surface of the archaeological survey area is covered mostly by asphalt, concrete, buildings, and other structures; only in a few cases—particularly near the Kern River—is there undeveloped land. No archaeological sites were found during the survey. The survey included all of Segment 1, those portions of Segment 2 where improvements are proposed as part of this project, as well as a portion of Segment 3 at the intersection of Stockdale Highway and State Route 43. A sensitivity study for Segment 1 was done in the *Extended Phase I Geoarchaeological Study*. The analysis reviewed existing data and developed an archaeological sensitivity study for buried archaeological sites (a computer model based on soils and geologic maps and archaeological data to determine an area's archaeological sensitivity). This study was used to evaluate the archaeological sensitivity of each alternative. An Extended Phase I, Stage II investigation of Alternative B (Preferred Alternative) did not identify any prehistoric or historic cultural deposits in the Area of Potential Effects. The fieldwork involved exploratory backhoe trenching and coring in areas of proposed subsurface impacts (depressed freeway segments and retention basins) within accessible parcels, especially those that were located in the areas of high or very high sensitivity, as mapped by the Extended Phase I, Stage I study.

Environmental Consequences

Architectural Built Environment Resources

Four properties within the Area of Potential Effects were determined eligible for the National Register of Historic Places: Friant-Kern Canal, Lester H. Houchin Residence, Rancho Vista Historic District, and the property at 3904 Marsha Street. On February 15, 2013, Caltrans initiated consultation with the State Historic Preservation Officer on these determinations and on April 15, 2013, the State Historic Preservation Officer concurred. The Section 106 process concluded with execution of a Memorandum of Agreement that includes measures to mitigate the adverse effects of Alternative B (Preferred Alternative) on the Rancho Vista Historic District. The correspondence with the State Historic Preservation Officer and the Memorandum of Agreement are included in Appendix J, Volume 2.

Section 4(f) of the Department of Transportation Act of 1966, states that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites." A discussion of Section 4(f) as it relates to the four historic properties under the three build alternatives is included below. More

detailed information can be found in Appendix B, Section 4(f) Analysis, contained in Volume 2 of this environmental document.

Alternative A

Friant-Kern Canal

Alternative A alignment would follow the recently built Westside Parkway that crosses the Friant-Kern Canal. This alternative would require the construction of an additional bridge crossing Friant-Kern Canal for the eastbound Coffee Road on-ramp connector, in addition to the Westside Parkway. As proposed, this project feature will have no adverse effect on the historically significant canal. The architectural design of the new bridge will be similar in character to another recently constructed bridge structure (Westside Parkway Project) over the Friant-Kern Canal, which the State Historic Preservation Officer concurred there was no adverse effect. While the project would add a second bridge over the canal, in the context of it being a 152-mile-long linear feature, there would be no direct or indirect adverse effect and no cumulative effect due to the length of the property. Further, the footings and abutments of the new bridge will be located outside of the National Register boundaries of the historic canal. The short bridge crossings over the canal do not diminish the historic character nor significant qualities that qualify the Friant-Kern Canal for National Register eligibility.

Photo 6 shows a simulated view of Friant-Kern Canal looking north toward the recently constructed Westside Parkway with Alternative A Alignment.

Photo 6. Simulated view of Friant-Kern Canal looking north toward the recently constructed Westside Parkway with Alternative A Alignment

Lester H. Houchin Residence

Alternative A alignment would follow the existing State Route 58 located approximately 56 feet from the northern edge of this historic property's boundary and about 150 feet from the elevation on the north side of the residence. Alternative A would not encroach into the Lester H. Houchin residential property boundaries, nor cause a change in the physical setting of the resource that would compromise the characteristics or features that qualify the resource for the National Register. Under this alternative a retaining wall and sound wall will be constructed near this historic property. The retaining wall would rise 25 feet from the base of the existing depressed freeway (State Route 58). The top of the retaining wall would be at the same level as Brite Street. The 8-foot-tall sound wall would be built atop the retaining wall along the north side of Brite Street. All proposed construction activities would be conducted within the state right-of-way; therefore, there would be no direct effects to this historic property. The sound wall, as well as construction activity, would be shielded by the existing mature and dense landscaping located along the north side of the property. No indirect adverse effects to this historic property would be expected from the introduction of new visual elements, which would be barely discernable. In addition, no adverse noise or vibration effects to this historic property would be expected.

Photo 7 shows the simulated view of the Lester H. Houchin residence from Oleander Street looking north toward State Route 58 where the new freeway alignment under all alternatives would follow.

Photo 7. Simulated view of Lester H. Houchin residence from Oleander Street looking north toward all build alternative alignments

Rancho Vista Historic District

Alternative A alignment would traverse the center of the Rancho Vista Historic District. Under Section 106, Alternative A would result in a direct adverse effect to this property by physically destroying or damaging its contributing elements and character-defining features. Direct impacts would result from the construction of an infiltration basin, an elevated roadway, and sound walls within the Rancho Vista Historic District. The construction of an elevated freeway structure would also introduce a visual intrusion that would not be in keeping with the character and setting of the Rancho Vista Historic District. Photo 8 shows the simulated view of the Rancho Vista Historic District (taken from Stine Road near Peckham Avenue looking toward Alignment A). Alternative A would demolish more than half of the contributors (46 of the 81 residences). This would diminish the qualities that make the property eligible for the National Register, to such a degree that the historic property would lose its eligibility as it would no longer be able to convey its significant history due to a substantial loss of integrity. Alternative A would result in the use of a Section 4(f) historic property (as discussed above and in the *Section 4(f) Evaluation* provided in Appendix B in Volume 2).

Photo 8. Simulated view of Rancho Vista Historic District taken from Stine Road and Peckham Street looking north toward Alternative A Alignment

3904 Marsha Street Property

The residential property at 3904 Marsha Street is both a contributor to the Rancho Vista Historic District and is individually eligible for the National Register for a fallout shelter located in the rear of the property. The house and garage, both dating from 1956, and the circa 1960-62 underground shelter, are all character-defining features of the historic property, and are located approximately 180 feet south of the limits of construction and improvements that would be undertaken for Alternative A, and cannot be seen from the view shown in Photo 4 above. Therefore, under Section 106, there would be no adverse effect on the character-defining features of the property, which include the shelter entry hatch and ventilation pipe, neither of which is visible to anyone not standing in the rear yard. There would be no use under Section 4(f).

Alternative B (Preferred Alternative)

Friant-Kern Canal

Alternative B alignment would follow the recently built Westside Parkway that crosses the Friant-Kern Canal. Alternative B would not require new construction over the Friant-Kern Canal in addition to the Westside Parkway. No view would be changed from what is seen in Photo 1 above. Therefore, there would be no effect under Section 106 and no use of this Section 4(f) historic property.

Lester H. Houchin Residence

Similar to Alternative A, Alternative B alignment would follow the existing State Route 58 located approximately 56 feet from the northern edge of this historic property's boundary and about 150 feet from the elevation on the north side of the residence. The view looking toward Alignment B would be the same as that shown in Photo 7 above. Alternative B would not result in any adverse effect to the Lester H. Houchin residential property as discussed under Alternative A above.

Rancho Vista Historic District

Alternative B alignment would be located about 110 feet away from the nearest contributing residence within the Rancho Vista Historic District, with a proposed sound wall of approximately 12 to 16 feet in height, located approximately 70 feet from the closest edge of the historic property boundary. Although the elevated roadway structure at about 38 feet in height (with a sound wall atop it in places) could alter some views when looking north, east and northeast from street level from some sections of the Rancho Vista Historic District; the new infrastructure from most contributors would be relatively low on the horizon and be primarily visible to the north only from certain streets and to the northeast from the spatial gaps between the houses and when not otherwise obstructed by trees. Photo 9 shows the simulated view of the Rancho Vista Historic District (taken at Stine Road near Peckham Avenue looking toward Alignment B) and Photo 10 from Jones Street south of Stockdale Highway looking northeast toward Alternative B Alignment.

Photo 9. Simulated view of Rancho Vista Historic District taken from Stine Road about 4 houses north of Peckham Street looking north toward Alternative B Alignment

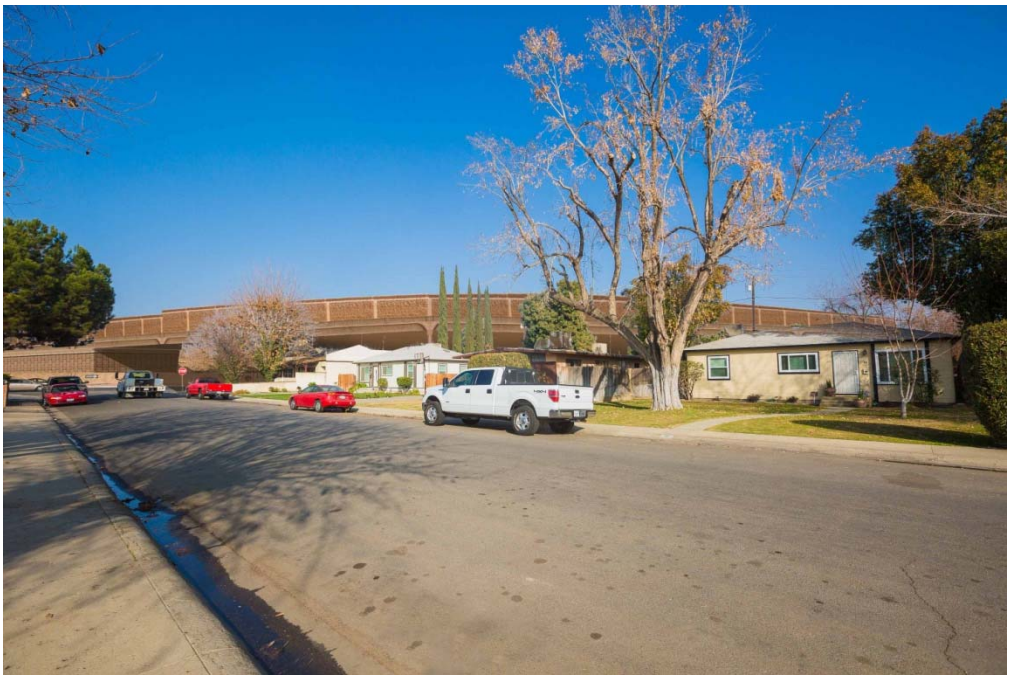


Photo 10. Simulated view of Rancho Vista Historic District taken from Jones Street south of Stockdale Highway looking northeast toward Alternative B Alignment

Rancho Vista Historic District is eligible for the National Register as a significant example of a planned postwar residential subdivision with houses built using innovative whole-house prefabrication techniques. The integrity of location, design, materials, and workmanship would remain the same. The historic association and feeling of the historic property as a postwar residential housing tract from the perspective of most of its contributors would remain largely unchanged under Alternative B. In consultation with the State Historic Preservation Officer, Caltrans has determined that implementation of Alternative B would have an adverse effect on the Rancho Vista Historic District under Section 106 due to visual impacts associated with construction of an aerial structure with sound walls that would be incompatible with the historic district.

Under Section 4(f), no land within the Rancho Vista Historic District will be permanently incorporated into the project under Alternative B. Thus, there will be no direct use. Nor will there be any temporary occupancy of the historic district. While the introduction of an elevated structure and sound walls would be out of scale with the historic setting and would have the effect of diminishing the overall integrity of the historic property, thereby constituting an adverse effect under Section 106, the Section 4(f) regulations limit "constructive use" to circumstances where a "project's proximity impacts are so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired" [23 Code of Federal Regulations 774.15]. The full *Section 4(f) Evaluation,* contained in Volume 2, Appendix B, examined the proximity impacts to Rancho Vista Historic District and concluded there would be no constructive use of the property.

3904 Marsha Street Property

The residential property at 3904 Marsha Street is located approximately 1,200 feet southwest of the limits of construction and improvements which would be undertaken for Alternative B, and cannot be seen from the view shown in Photo 5 above. Therefore, under Section 106, there would be no effect on the character-defining features of the property, which include the shelter entry hatch and ventilation pipe, neither of which is visible to anyone not standing in the rear yard. There would be no use under Section 4(f).

Alternative C

Friant-Kern Canal

Alternative C alignment would follow the recently built Westside Parkway that crosses the Friant-Kern Canal. Alternative C would not require new construction over the Friant-Kern Canal in addition to the Westside Parkway. No view would be changed from what is seen in Photo 1 above. Therefore, there would be no effect under Section 106 and no use of this Section 4(f) historic property.

Lester H. Houchin Residence

Similar to Alternatives A and B, the Alternative C alignment would follow the existing State Route 58 located approximately 56 feet from the northern edge of this historic property's boundary and about 150 feet from the elevation on the north side

of the residence. The view looking toward Alignment C would be the same as that shown in Photo 7 above. Alternative C would not result in any adverse effect to the Lester H. Houchin residential property as discussed under Alternatives A or B above.

Rancho Vista Historic District

Alternative C alignment is located about 1,300 feet west of the boundary of the Rancho Vista Historic District at its nearest point, so it would have no direct or indirect adverse effect on the Rancho Vista Historic District. The view of the Alternative C alignment cannot be seen from any contributors within the Rancho Vista Historic District. None of the qualities that qualify the property for eligibility will be diminished. Therefore, in addition, there would be no Section 4(f) use of the historic property under this alternative.

Property at 3904 Marsha Street

The residential property at 3904 Marsha Street is located over 2,300 feet southwest of the limits of construction and improvements which would be undertaken for Alternative C, and cannot be seen from the view shown in Photo 5 above. Therefore, under Section 106, there would be no effect on the character-defining features of the property, which include the shelter entry hatch and ventilation pipe, neither of which is visible to anyone not standing in the rear yard. There would be no use under Section 4(f).

No-Build Alternative

The No-Build Alternative would have no effect on architectural resources because no construction would occur. The No-Build Alternative would not use a Section 4(f) historic property.

Archaeological Resources

Common to All Build Alternatives

The records search indicated that four cultural resources were recorded within half a mile of the project area. None of the sites are within the Area of Potential Effects. No archaeological sites were identified during the field survey of the project area.

With use of the sensitivity study in the Extended Phase I Geoarchaeological study, areas of low potential, moderate potential, high potential, and very high potential were identified within the study area.

Areas of moderate potential for buried resources include soils mapped as urban land that have experienced extensive historical-period disturbance related to the building of roads and structures. Areas of high potential include areas that overlap in time with prehistoric occupation of the Bakersfield area.

Areas of very high potential are next to the abandoned channels identified in the 1952 aerial images and the modern channel of the Kern River.

As shown in Table 3.20, among the three alternatives, Alternative C crosses the highest number of acres with very high potential and high potential (a combined total of 354 acres) of discovering a buried archaeological site. Alternative B crosses the lowest number of acres of very high potential and high potential (a combined total of 321 total acres) and the highest number of acres of low potential (50 total acres). All three alternatives extend over areas of very high potential where buried sites (if present) are most likely to be found.

Table 3.20 Buried-Site Potential for Alternatives A, B, and C in Acres

Buried-Site Potential	Alternative		
	A	B (Preferred Alternative)	C
Very high	25	30	52
High	319	291	302
Moderate	154	133	175
Low	36	50	69

Source: Developed from the *Extended Phase I, Stage II Geoarchaeological Investigations for Alternative B of the Centennial Corridor Project* February 2014.

Given the sensitivity of portions of the project area, further identification efforts for archaeological resources were undertaken for the Preferred Alternative. An Extended Phase I, Stage II investigation of Alternative B (Preferred Alternative) did not identify any prehistoric or historic cultural deposits. The fieldwork involved exploratory backhoe trenching and coring in areas of proposed subsurface impacts (depressed freeway segments and retention basins) within accessible parcels, especially those that were located in the areas of high or very high sensitivity, as mapped by the Extended Phase I, Stage I study.

No-Build Alternative

The No-Build Alternative would have no effect on archaeological resources because no construction would occur.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance measures have been incorporated into the current design concepts for each of the build alternative alignments near the Lester H. Houchin residence. Early design concepts assumed embankments (slopes at the edge of the freeway) would have resulted in the State Route 58 right-of-way extending onto the property of the Houchin residence. To avoid impacts to this eligible property, a retaining wall and sound wall is proposed in this location to ensure the project does not affect this property. The retaining wall and sound wall would be at the edge of right-of-way north of Brite Street. This avoids direct impacts to the Houchin residence. In addition, it allows the landscaping on the north side of the property to be retained, which provides a visual buffer to Brite Street and State Route 58.

Mitigation Measures

As Alternative B has been selected as the Preferred Alternative, Caltrans developed a Memorandum of Agreement (see Appendix J of Volume 2) in consultation with the State Historic Preservation Officer in January 2015 to identify specific mitigation measures to reduce adverse visual effects on the Rancho Vista Historic District and mitigate for unavoidable impacts. The measures, in brief, include:

CR-1 The city of Bakersfield shall prepare for submittal to Caltrans, and ultimately the California State Historic Preservation Officer, a detailed report on the history of the key postwar housing tracts within Greater Bakersfield, built between 1945-1973, using broad themes and context from Caltrans' publication, *Tract Housing in California, 1945-1973* (2011), and historical context and themes established in *Historical Resources Evaluation Report* for the Centennial Corridor Project as a foundation. The fact-based, objective report, of at least 50 pages in length, shall be prepared by a historian or architectural historian who meets the Secretary of the Interior's Professional Qualification Standards at 36 Code of Federal Regulations Part 61.

CR-2 The city of Bakersfield will place the content created above onto a city-maintained public website prior to construction and within two years of execution of the Memorandum of Agreement and maintain the website through construction of the project and/or minimum of five years, whichever is longer.

CR-3 The city, in consultation with Caltrans, will incorporate hardscape and landscape features compatible with the character of the Rancho Vista Historic District, including color and texture. The city will provide landscape plans to the Caltrans District 6 architectural historian during the design phase for review and approval. Should Caltrans District 6 and the city fail to agree on the appropriateness of the proposed landscaping plan; Caltrans District 6 will submit a summary of the disagreement to the State Historic Preservation Officer and Cultural Studies Office for a 30-day comment period. Caltrans District 6 and the city will consider all comments received prior to finalizing the landscape plans and provide a written response to the Cultural Studies Office and State Historic Preservation Officer within 14 days. If the parties cannot resolve the dispute regarding landscape plans, continued resolution will proceed in accordance with Stipulation V.C of the Agreement.

3.2 Physical Environment

3.2.1 Hydrology and Floodplain

Regulatory Setting

Executive Order 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. Federal Highway Administration requirements for compliance are outlined in 23 Code of Federal Regulations 650 Subpart A. To comply, the following must be analyzed:

- Practicability of alternatives to any longitudinal encroachments
- Risks of the action
- Impacts on natural and beneficial floodplain values
- Support of incompatible floodplain development
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values affected by the project

The base floodplain is defined as "the area subject to flooding by the flood or tide having a 1 percent chance of being exceeded in any given year." This is also referred to as the "100-year storm event." An encroachment is defined as "an action within the limits of the base floodplain."

Affected Environment

Information in this section comes from the *Location Hydraulic Study* (November 2012) for the project. The discussion below primarily focuses on Segment 1 areas within the influence of the Kern River. Farther west, the Segment 3 study area is located outside the 100-year and 500-year floodplains.

The Kern River is the major water body in the project area, running for 165 miles and draining over 2,400 square miles of the southern Sierra Nevada Mountains. The river flows southwest into the San Joaquin Valley through the city of Bakersfield and empties into the normally dry Kern Lake. Property protection from river floods is provided by a system of levees, bridges, diversion structures, and canals. The Kern River is a designated floodway under jurisdiction of the Central Valley Flood Protection Board. Any encroachment on the floodplain would require permits from this agency. The Federal Highway Administration defines a "significant encroachment" as development that would involve one or more of the following construction or flood-related impacts: (1) significant potential for interruption or termination of a transportation facility that is needed for emergency vehicles or provides a community's only evacuation route; (2) a significant risk; or (3) a significant adverse impact on the natural and beneficial floodplain values.

The Kern River hydrologic and hydraulic conditions have been studied by the Federal Emergency Management Agency and potential flood hazard zones have been mapped. In the project area, the designated 100-year and 500-year floodplains of the river include the river channel and adjacent low-lying areas, as shown in Figure 3-28.

Figure 3-29 shows surface water bodies in the project area. Two groundwater recharge ponds (just north of Truxtun Avenue and south of the Kern River) are referred to as Truxtun Lakes. Various canals in the project area divert the Kern River water for use in agricultural irrigation and municipal water supplies: Arvin-Edison Canal, Friant-Kern Canal, Cross Valley Canal, Carrier Canal, Stine Canal, Central Branch Canal, and Kern Island Canal.

Natural and beneficial uses of the Kern River and adjacent floodplain include fish and wildlife foraging, migration, and breeding; flood flow conveyance and storage; groundwater recharge; and recreational activities. Even with surrounding urbanization, the Kern River and adjacent floodplain have moderate wildlife habitat values in the project area.

Environmental Consequences

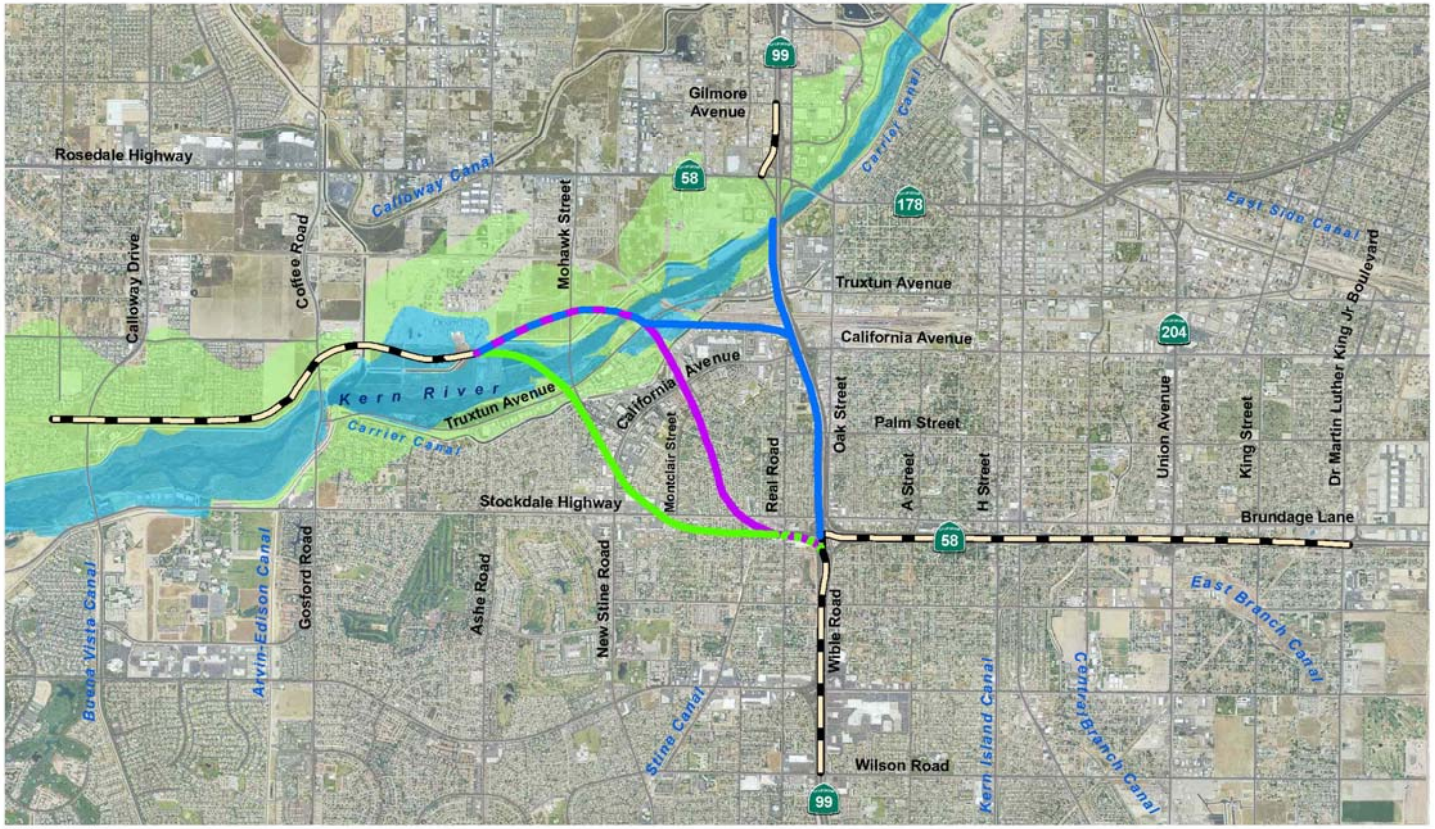
This section discusses impacts to hydrology and floodplain within the project study area as a result of the proposed project alternatives. Construction impacts are provided in Section 3.6 of this environmental document.

Common to All Build Alternatives

The proposed drainage system for each build alternative would keep the existing drainage patterns and route the onsite runoff to existing and proposed infiltration basins through the onsite drainage system. Because all runoff would be retained within these basins, there would be no changes in offsite flow rate or quantity as a result of the project.

Direct runoff into the Kern River and canals would be avoided through roadway design and with infiltration basins located along each proposed alternative. Storm water on pavements would generally drain as surface flow to the outside edge of the freeway/roadway travel lanes, or toward the median. Storm drain inlets would then collect the storm water and direct it into infiltration basins. Several existing drainage facilities would be improved or rerouted to new infiltration/retention basins as a result of the project.

In accordance with Caltrans standards, the drainage facilities would handle runoff from a 25-year, 5-minute storm (i.e., a storm with a 4 percent probability of occurring in any given year, where water flows from the most remote point in a watershed to the watershed outlet in 5 minutes), and infiltration basins would accommodate runoff from two 10-year storms occurring within a 24-hour time period.



Not to Scale;
Source: Information from *Water Quality Assessment Report* 2014; Aerial flown 2006; Federal Emergency Management Agency 2010

Alternative A
Alternative B*
Alternative C
Shared by Alternatives A/B
Shared by Alternatives B/C
Shared by Alternatives A/B/C
100 Year Floodplain
500 Year Floodplain

* Preferred Alternative

Floodplains

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484

Caltrans

Figure 3-28

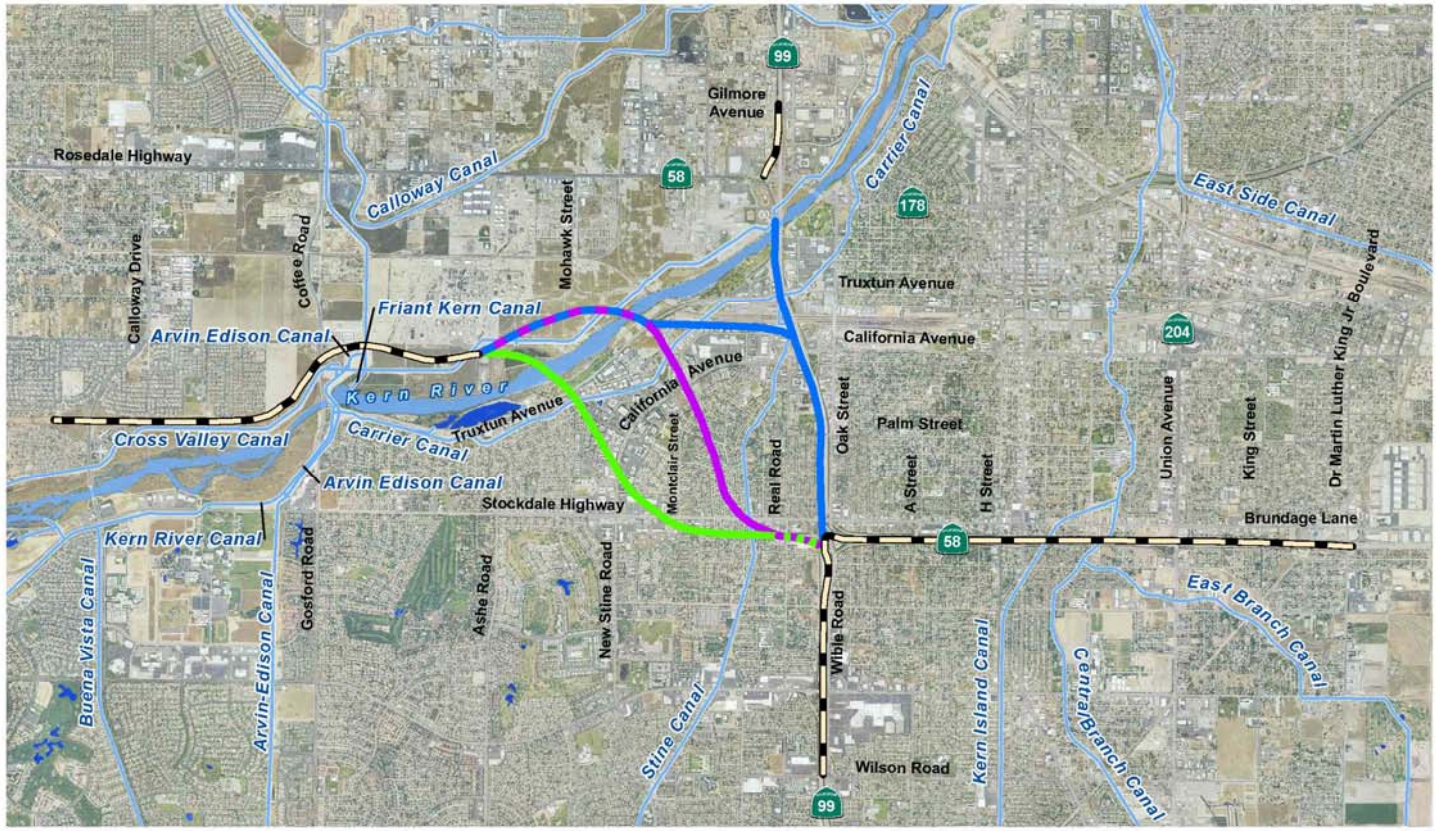

Rosedale Highway
Calloway Canal
Gilmore Avenue
Carrier Canal
East Side Canal
Calloway Drive
Coffee Road
Mohawk Street
Truxtun Avenue
Friant Kern Canal
Arvin Edison Canal
California Avenue
Kern River
Cross Valley Canal
Carrier Canal
Truxtun Avenue
California Avenue
Montclair Street
Real Road
Oak Street
Palm Street
A Street
H Street
Union Avenue
King Street
Dr Martin Luther King Jr Boulevard
Arvin Edison Canal
Stockdale Highway
Brundage Lane
Kern River Canal
Gosford Road
Ashe Road
New Stine Road
Wible Road
Buena Vista Canal
Arvin-Edison Canal
East Branch Canal
Stine Canal
Kern Island Canal
Central Branch Canal
Wilson Road
99
58
178
204
N
Segment 1 Alternatives
Alternative A
Alternative B *
Alternative C
Shared by Alternatives A/B
Shared by Alternatives B/C
Shared by Alternatives A/B/C
Water Features
Canals
Rivers
Lakes
*Preferred Alternative
Not to Scale; Source: Information from Water Quality Assessment Report 2014; Aerial flown 2006; Kern County 2011
Surface Water Bodies
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-29

The three build alternatives would have abutments and piers within the 100-year floodplain of the Kern River. While each alternative bridge does encroach on the floodplain, impacts to the floodplain would not fit the definition of a significant encroachment, as discussed below.

Significant Potential for Interruption or Termination of a Transportation Facility—Road surfaces would be designed to be above the 100-year floodplain elevation, so vehicles using the freeway would not be exposed to flood hazards. The project would not affect emergency vehicle use of State Route 58 or its use as an evacuation route in the event of flooding.

A Significant Risk—Levees along the Kern River protect adjacent areas from flooding by providing at least 3 feet of freeboard (distance between the base flood level and the top of the levee) and an additional 1 foot of freeboard within 100 feet of structures, such as bridges. The increase in water level in the Kern River due to the bridges proposed under all build alternatives would not decrease the freeboard to less than the required minimum for the 100-year design flow. Levee freeboards would not be substantially affected under the build alternatives. The specific effects of each alternative are discussed below.

Since bridge abutments and piers would be built within the Kern River floodplain, there would be a small decrease in storage capacity of the floodplain. The decrease in storage capacity due to the increase in impervious surface area would be minor compared to the size of the Kern River watershed. With conveyance of increased runoff to infiltration basins instead of the river, risks to the river's floodplain due to the added impervious surfaces would be eliminated. Given these consideration, impacts would be minimal and would not result in a significant risk.

Significant Adverse Impact on the Natural and Beneficial Floodplain Values—Even with surrounding urbanization, the Kern River channel and adjacent floodplain have moderate wildlife habitat values. Given the minimal effects on groundwater recharge and the expected minimal loss of habitat (see Section 3.3, Biological Environment), the project would not adversely affect the beneficial uses of the floodplain.

Significant Potential for Support of Probable Incompatible Floodplain Development—The three build alternatives would not support incompatible floodplain development because no new permanent access to the Kern River floodplain would be created by the bridges and structures proposed.

Neither the minor improvements to nor the designation of the Westside Parkway as State Route 58 (Segment 2 of the Centennial Corridor Project) would have an effect on local hydrology or existing flood hazards.

Alternative A

An 855-foot-long bridge would be built over the Kern River west of Mohawk Street, along with the replacement of the existing bridge over the Friant-Kern Canal. Based on the hydraulic analysis, bridge supports to be built in or near the Kern River would

increase water surface elevation, without encroaching on mandated freeboard of the river's levees. Alternative A would raise the 100-year water surface level in the river by no more than 0.46 foot (5.5 inches). The change is reduced to zero about 3,600 feet upstream of the proposed bridge. The calculated increase in water level in the river would be less than 1 foot, and the increase in water level in the Kern River due to the bridges proposed would not decrease the levee freeboard below the required minimum for the 100-year design flow. The impact from the water level rising less than 6 inches in the Kern River channel would not cause an adverse impact to flood flow at this location.

Alternative B (Preferred Alternative)

A 941-foot-long bridge connecting westbound State Route 58 to Mohawk Street and a 677-foot-long mainline bridge would be built over the Kern River. Based on the hydraulic analysis, bridge piers and abutments to be built in the Kern River would raise the 100-year water surface in the river by no more than 0.15 foot (1.8 inches). The change is reduced to zero about 1,500 feet upstream of the proposed bridge. The impact from water rising less than 2 inches would not be adverse.

Alternative C

A 737-foot-long mainline bridge and about a 1,550-foot-long off-ramp bridge would be built over the Kern River. Based on the hydraulic analysis, bridge piers and abutments to be built in the Kern River would raise the 100-year water surface in the river by no more than 0.15 foot (1.8 inches). The change is reduced to zero about 1,500 feet upstream of the proposed bridge. The impact from water rising less than 2 inches would not be adverse.

Although no adverse impact is anticipated with any of the three build alternatives, any increase in the water surface elevation due to proposed improvements within the floodway must be approved by the Central Valley Flood Protection Board and the Federal Emergency Management Agency.

No-Build Alternative

No impacts to hydrology and floodplain would occur under the No-Build Alternative.

Avoidance, Minimization, and/or Mitigation Measures

The following measures would minimize floodplain impacts and preserve the beneficial floodplain values of the project area. In addition, Section 3.6, Construction Impacts, identifies standard conditions that would reduce impacts during construction.

Standard Condition

SC-FP-1 The following measures will be incorporated into project design to minimize flood flow impacts on the Kern River:

1. Project design elements will include incorporation of bridge piers and abutments that are parallel to the direction of water flow to minimize flow obstruction.

2. Pier placement will be optimized to align the piers with existing piers in the Kern River.
3. Bridge abutments will be located outside of or as close to the limits of the floodplain as possible to minimize the reduction of conveyance capacity of the Kern River.
4. Bridges will be designed with sufficient freeboard above the 100-year flood water surface elevation to prevent the bridge deck from affecting flood flows.

3.2.2 Water Quality and Storm Water Runoff

Regulatory Setting

Federal Requirements: Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States, from any point source unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System permit. This act and its amendments are known today as the Clean Water Act, this act has been amended by Congress several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the National Pollutant Discharge Elimination System permit scheme. The following are important Clean Water Act sections:

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the United States, to obtain certification from the State that the discharge will comply with other provisions of the act. [Most frequently required in tandem with a Section 404 permit request. See below.]
- Section 402 establishes the National Pollutant Discharge Elimination System, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the United States. Regional Water Quality Control Boards administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems.
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by the U.S. Army Corps of Engineers.

The goal of the Clean Water Act is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”

The U.S. Army Corps of Engineers issues two types of 404 permits: General and Standard permits. There are two types of General Permits: Regional permits and

Nationwide permits. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of U.S. Army Corps of Engineer's Standard permits. There are two types of Standard Permits: Individual permits and Letters of Permission. For Standard permits, the U.S. Army Corps of Engineers decision to approve is based on compliance with U.S. Environmental Protection Agency's Section 404(b)(1) Guidelines (U.S. Environmental Protection Agency Code of Federal Regulations 40 Part 230), and whether permit approval is in the public interest. The Section 404(b)(1) guidelines were developed by the U.S. Environmental Protection Agency in conjunction with the U.S. Army Corps of Engineers, and allow the discharge of dredged or fill material into the aquatic system (waters of the United States) only if there is no practicable alternative that would have a less adverse effect. The guidelines state that the U.S. Army Corps of Engineers may not issue a permit if there is a least environmentally damaging practicable alternative, to the proposed discharge that would have lesser effects on waters of the United States, and not have any other significant adverse environmental consequences. According to the guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The guidelines also restrict permitting activities that violate water quality or toxic effluent standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the United States. (The U.S. Environmental Protection Agency defines "effluent" as "wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall.") In addition every permit from the U.S. Army Corps of Engineers, even if not subject to the Section 404(b)(1) guidelines, must meet general requirements. See 33 Code of Federal Regulations 320.4.

State Requirements: Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the Clean Water Act and regulates discharges to Waters of the State. Waters of the State include more than just Waters of the United States, like groundwater and surface waters not considered Waters of the United States. Also, it prohibits discharges of "waste" as defined; this definition is broader than the Clean Water Act definition of "pollutant." Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements and may be required even when the discharge is already permitted or exempt under the Clean Water Act.

The State Water Resources Control Board and Regional Water Quality Control Boards are responsible for establishing the water quality standards (objectives and

beneficial uses) required by the Clean Water Act, and regulating discharges to ensure compliance with the water quality standards.

Details about water quality standards in a project area are included in the applicable Regional Water Quality Control Board Basin Plan. In California, Regional Water Quality Control Boards designate beneficial uses for all water body segments, and then set criteria necessary to protect these uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use.

In addition, the State Water Resources Control Board identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with Clean Water Act Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-point source controls, the Clean Water Act requires the establishment of Total Maximum Daily Loads. Total Maximum Daily Loads specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

State Water Resources Control Board and Regional Water Quality Control Boards

The State Water Resources Control Board administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application and oversees water quality functions throughout the state by approving Basin Plans, Total Maximum Daily Loads, and National Pollutant Discharge Elimination System permits. Regional Water Quality Control Boards are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

National Pollutant Discharge Elimination System Program

Municipal Separate Storm Sewer Systems

Section 402(p) of the Clean Water Act requires the issuance of National Pollutant Discharge Elimination System permits for five categories of storm water dischargers, including Municipal Separate Storm Sewer Systems. An Municipal Separate Storm Sewer System is defined as “any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that is designed or used for collecting or conveying storm water.” The State Water Resources Control Board has identified Caltrans as an owner/operator of a Municipal Separate Storm Sewer System under federal regulations. This permit covers all Caltrans rights-of-way, properties, facilities, and activities in the state. The State Water Resources Control Board or the Regional Water Quality Control Board issues National Pollutant Discharge Elimination System permits for five years, and permit requirements remain active until a new permit has been adopted.

Caltrans' Municipal Separate Storm Sewer System Permit, (Order No. 2012-0011-DWQ, NPDES No. CAS000003) was adopted on September 19, 2012 and became effective on July 1, 2013, under revision at the time of this update, contains three basic requirements:

- Caltrans must comply with the requirements of the Construction General Permit (see below)
- Caltrans must implement a year-round program in all parts of the state to effectively control storm water and non-storm water discharges, and
- Caltrans storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices and other measures to the Maximum Extent Practicable, as the State Water Resources Board determines necessary to meet the water quality standards

To comply with the permit, Caltrans developed the Statewide Storm Water Management Plan to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The Storm Water Management Plan assigns responsibilities within Caltrans for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The Storm Water Management Plan describes the minimum procedures and practices Caltrans uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of best management practices. The project will be programmed to follow the guidelines and procedures outlined in the latest Storm Water Management Plan to address storm water runoff.

Construction General Permit

Construction General Permit (Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ and 2012-0006-DWQ), adopted on September 2, 2009, became effective on July 1, 2010. The permit regulates storm water discharges from construction sites that result in a disturbed soil area of 1 acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least 1 acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than 1 acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the Regional Water Quality Control Board. Operators of regulated construction sites are required to develop a Storm Water Pollution Prevention Plan; implement sediment, erosion, and pollution prevention control measures; and obtain coverage under the Construction General Permit.

The Construction General Permit separates projects into Risk Level 1, 2 or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to

the risk level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff hydrogen potential (pH) and turbidity monitoring, and before-construction and after-construction aquatic biological assessments during specified seasonal windows.

For all projects subject to the permit, applicants are required to develop and implement an effective Storm Water Pollution Prevention Plan. In accordance with Caltrans' Standard Specifications, a Water Pollution Control Plan is necessary for projects with a disturbed soil area less than 1 acre.

Section 401 Permitting

Under Section 401 of the Clean Water Act, any project requiring a federal license or permit that may result in a discharge to a water body must obtain a 401 Certification, which certifies that the project will comply with state water quality standards. The most common federal permits triggering 401 Certification are Clean Water Act Section 404 permits issued by the U.S. Army Corps of Engineers. The 401 permit certifications are obtained from the appropriate Regional Water Quality Control Board, dependent on the project location, and are required before the U.S. Army Corps of Engineers issues a 404 permit.

In some cases, the Regional Water Quality Control Board may have specific concerns with discharges related to a project; the Regional Water Quality Control Board may then issue a set of requirements known as Waste Discharge Requirements under the State Water Code that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. Waste Discharge Requirements can be issued for both permanent and temporary discharges of a project.

Affected Environment

Analysis in this section is based on the *Water Quality Assessment Report* (November 2012) technical study prepared for the project.

The Centennial Corridor is within the Kern Delta hydrologic area within the South Valley Floor hydrologic unit of the Tulare Lake hydrologic basin. Receiving water bodies in the Kern Delta hydrologic area include the Kern River, Carrier Canal, Stine Canal, and Kern Island Canal. The Kern River receives storm water runoff from the project area through sheet flow and a number of drainage pipes, canals, retention basins, cross culverts, pump stations, and landscaped areas.

The Tulare Lake hydrologic basin is under the jurisdiction of the Central Valley Regional Water Quality Control Board. The board has prepared a Water Quality Control Plan for the Tulare Lake Basin that lists the beneficial uses of the Kern River as (1) Municipal and Domestic Supply; (2) Agricultural Supply; (3) Industrial Service Supply; (4) Industrial Process Supply; (5) Hydropower Generation; (6) Water Contact Recreation; (7) Non-Contact Water Recreation; (8) Warm Freshwater Habitat; (9) Wildlife Habitat; (10) Rare, Threatened or Endangered Species (Habitat); and (11) Groundwater Recharge.

Surface water quality in the Kern River and other surface water bodies within the Tulare Lake Basin is generally good. To protect water quality, the Central Valley Regional Water Quality Control Board has established water quality objectives for inland surface waters. Water bodies that do not meet the water quality objectives are considered "impaired" under Section 303(d) of the Clean Water Act. None of the water bodies within the project area have been identified as "impaired."

The Southern San Joaquin Groundwater Basin underlies the project area. This groundwater basin is a subbasin of the Tulare Lake hydrologic region. Average depth to groundwater in the project area is estimated at 80 to 120 feet below the ground surface. Variations in groundwater depth may be due to seasonal groundwater fluctuations, weather conditions, surface runoff, and other factors.

Groundwater is the main source of domestic water supply in the Bakersfield area, with the Kern River water and imported water as supplemental sources. Aside from the river channel, there are recharge ponds along the river, recharge facilities, ground percolation programs, canal seepage, spreading/banking projects, and wastewater reclamation that contribute to local groundwater recharge.

The Central Valley Regional Water Quality Control Board has established water quality objectives for groundwater in terms of bacteria, chemical constituents, pH, pesticides, radioactivity, salinity, tastes and odors, and toxicity. Beneficial uses for groundwater in the Kern County Subbasin of the Southern San Joaquin Groundwater Basin are (1) Municipal and Domestic Supply; (2) Agriculture Supply; (3) Industrial Process Supply; (4) Industrial Service Supply; (5) Water Contact Recreation; (6) Non-Contact Water Recreation; and (7) Wildlife Habitat. Groundwater quality in the Tulare Lake hydrologic region is suitable for most urban and agricultural uses.

Environmental Consequences

Common to All Build Alternatives

Under the build alternatives, the project would increase the impervious surface area and potentially increase storm water runoff from construction of Segment 1 and improvement at Stockdale Highway and State Route 43 under Segment 3 as part of the establishment of the Centennial Corridor (see Table 3.21).

Table 3.21 Changes in Impervious Surface Area

Build Alternative	Existing Impervious Area	Construction Disturbance Area	Increase in Impervious Area	Total Proposed Impervious Area
Alternative A	89 acres	1,125 acres	66 acres	155 acres
Alternative B (Preferred Alternative)	129 acres	1,020 acres	34 acres	163 acres
Alternative C	129 acres	1,124 acres	99 acres	228 acres
Source: Developed from the *Water Quality Assessment Report* 2014.				

Infiltration basins are proposed to collect runoff from the proposed improvements, which would help ground infiltration, reduce offsite runoff volumes and velocities, and remove pollutants in storm water.

Pollutants associated with the use of the proposed freeway/roadway include sediment from natural erosion; nutrients (phosphorus and nitrogen) from freeway landscaping; mineralized organic matter in soils; nitrite discharges from automobile exhausts and atmospheric fallout; litter; and metals from the combustion of fossil fuels, the wearing of brake pads, and the corrosion of galvanized structures. Table 3.22 identifies pollutants that could be generated by long-term use of the Centennial Corridor.

Table 3.22 Infrastructure Operation and Associated Pollutants

Pollutant Source	Pollutants
Motor Vehicles	Oil Grease Petroleum Coolants Nitrite Metals
Highway Maintenance	Asphalt Sediment Mineralized Organic Matter Thermoplastics Treated Wood Tree/Shrub Clippings
Landscaping	Aluminum Sulfate Sulfur-elemental Fertilizers – Inorganic and Organic Natural Earth (sand, gravel and topsoil) Herbicide Pesticide Lime
Illegal Dumping	Trash Oil/Grease
Spills	Hazardous and non-hazardous chemicals
Source: Developed from the *Water Quality Assessment Report* 2014.	

Pollutants from transportation facilities that commonly exceeded standards that are considered treatable by Caltrans-approved treatment best management practices are called “Targeted Design Constituents.” Such constituents include sediment, metals (such as total and dissolved fractions of zinc, lead, and copper), nitrogen (including ammonia), phosphorus, and general metals. Although the anticipated ammonia levels that could be generated by use of the Centennial Corridor may exceed the water quality objective for the Kern River and other surface water bodies in the project area (see Figure 3-29), use of treatment best management practices would reduce ammonia levels in storm water runoff and reduce potential adverse impacts to surface water and groundwater.

Pile driving, dewatering and construction activities could encounter groundwater. While piles and foundations may reduce the storage capacity of the underlying groundwater, the displaced volume would not be great compared to the total volume of the groundwater basin. The volume of water used for construction, dust control, and other uses would be nominal. So, construction activities would not deplete groundwater supplies, nor would they interfere with groundwater recharge. The Central Valley Regional Water Quality Control Board has adopted regulations for dewatering activities (Order No. R5-00-175) to reduce effects on surface water. Compliance with the Central Valley Regional Water Quality Control Board's regulations would minimize impacts from dewatering activities.

Segment 2 of the Centennial Corridor Project (Westside Parkway) is now in construction. The Westside Parkway project has incorporated water quality and storm water runoff protection consistent with Caltrans' standards. The improvements within Segment 2 (auxiliary lanes and minor ramp changes) would have nominal influence on surface water or groundwater quality because the improvements are within the Westside Parkway right-of-way, portions of which would be paved as part of the ongoing construction activities.

Adding turn lanes and a traffic signal at the Stockdale Highway and State Route 43 intersection in Segment 3 would only slightly increase the impervious surface area. The use of Stockdale Highway as a connection to Interstate 5 would not change the drainage of the roadway because no improvements beyond those at State Route 43 are required. It would also not substantially change the effects on water quality.

No long-term increase in surface water pollutants would occur with any of the build alternatives. Impacts to water quality and storm water runoff during project construction are discussed in Section 3.6, Construction Impacts.

No-Build Alternative

No ground disturbance, demolition or construction would occur under the No-Build Alternative. So, no impacts on water quality and storm water runoff would occur under this alternative. No new impervious areas that could increase storm water runoff volume and pollutants would be created by the No-Build Alternative.

Avoidance, Minimization, and/or Mitigation Measures

Mitigation Measure

WQ-1 Disturbed soil areas and slopes would be stabilized with permanent landscaping and/or permanent erosion-control measures as part of the Design Pollution Prevention best management practices in Caltrans' Storm Water Management Plan. In addition, velocity dissipation devices would be used in design to reduce erosion potential. Standard best management practices would maintain runoff patterns, volumes, and velocities, and would prevent erosion, channel scouring, and sediment deposition. Standard best management practices include the following:

- Consideration of downstream effects (such as flow rate and pollutant concentration) related to potentially increased flow, including peak-flow attenuation devices, reduction of paved surface, soil modification, and energy dissipation devices.
- Preservation of existing vegetation
- Concentrated flow conveyance systems (ditches, berms, dikes, and swales, overside drains, downdrains, paved spillways, channel linings, flared culvert end sections, outlet protection/velocity dissipation devices)
- Slope/Surface protection systems (specifically, vegetated surfaces, benching/terracing, slope rounding, reduce gradients, hard surfaces)

The treatment best management practices (which include use of biofiltration systems, infiltration devices, detention devices, dry weather flow diversions, gross solid removal devices, multi-chambered treatment trains, wet basins, traction sand traps, and media filters) have been evaluated for use throughout the alignments. The report found that the use of infiltration basins throughout the alignment of each build alternative would allow the storm water runoff to use the natural filtering ability of the soil to remove pollutants. Runoff from all new impervious surfaces would be directed into the infiltration basins for treatment and so would not create any surface water or groundwater quality impacts.

With the incorporation of project design features and standard best management practices into the project, no mitigation measures are required.

Standard conditions for impacts as a result of construction activities are provided in Section 3.6, Construction Impacts.

3.2.3 Geology/Soils/Seismic/Topography

Regulatory Setting

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects "outstanding examples of major geological features." Topographic and geologic features are also protected under the California Environmental Quality Act.

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. The Caltrans Office of Earthquake Engineering is responsible for assessing the seismic hazard for Caltrans projects. Structures are designed using the Caltrans Seismic Design Criteria, which provide the minimum seismic requirements for highway bridges designed in California. A bridge's category and classification will determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities. For more

information, see the Caltrans Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria.

Affected Environment

Information in this section comes from the *Preliminary Geotechnical Report - Centennial Corridor* (revised May 2012).

The San Joaquin Valley is a large plain with a slight southwesterly slope bound by the Coast Ranges to the west, the Sierra Nevada to the east, the Transverse Range to the south, and the San Joaquin/Sacramento Delta to the north. The project area is in the southern portion of the San Joaquin Valley, with the Kern River flowing northeast to southwest.

The project area is nearly flat, with a ground elevation at 380 feet above mean sea level near the intersection of the Westside Parkway and Coffee Road, rising to 405 feet above mean sea level at the intersection of State Route 99 and Gilmore Avenue. Although the area is essentially flat, the site slopes gently to the southwest in the same direction as the flow of the Kern River, which crosses the eastern half of the project area under State Route 99, the BNSF railroad tracks, Mohawk Street and Coffee Road.

The project site is underlain by human-made roadway fill embankments and alluvial fan deposits from the Kern River. Roadway fill embankment materials consist of sands with lesser amounts of silt, gravel and clay.

The project area is not within an Alquist-Priolo Earthquake Fault Zone, as designated by the California Geological Survey. No known active faults go toward or run through the project area, but the area is within a seismically active region of California. Several active faults within the region could produce significant ground shaking at the project site. The closest known active faults to the site are the Kern Front (4.2 miles north of the site at its nearest point), White Wolf (16.5 miles to the southeast), Pleito Thrust (23.2 miles to the south), and San Andreas faults (33 miles to the southwest).

Eleven soil borings were drilled along the three proposed alignments for Segment 1 to get soil information for preliminary design. Boring depths ranged from 11.5 to 86.5 feet. The soil analysis indicated that the upper subsurface materials are susceptible to caving and the soils are non-corrosive to buried metal structures.

Groundwater was encountered in two soil borings. Near the intersection of California Avenue and Lennox Avenue (within Alternative A), groundwater was encountered 70 feet below ground (at an elevation of 322 feet above mean sea level). Near Commerce Drive (within Alternative B), groundwater was encountered 24 feet below ground (at an elevation of 374 feet above mean sea level). Groundwater was not encountered in the other nine borings drilled to maximum depths of 12 to 87 feet. In addition, shallow water conditions may be present near the Kern River and in areas where surface water infiltrates into the ground from unlined canals.

Environmental Consequences

Common to All Alternatives

Grading would not affect any designated natural landmarks as there are no officially-designated natural landmarks or other major geological features within the project area.

The California Geological Survey has not found seismic hazards (including liquefaction and landslides due to earthquake) in the project area. While groundwater levels are estimated to be deeper than 50 feet below the ground surface (which is typically the greatest depth to which liquefaction hazards would occur), near the Kern River, groundwater levels vary seasonally and may be shallower than 50 feet below the ground surface, as seen in one soil boring. Fluctuations in the groundwater level are due to the change in seasons, variations in rainfall, and proximity to the Kern River. Analysis done for the project concluded that liquefaction is unlikely. However, foundations supporting bridges would be designed to withstand the effects of soil liquefaction consistent with Caltrans design specifications.

Earthquakes could lead to ground-shaking hazards in the project area. Using Caltrans seismic design procedures would ensure the structural integrity of structures and reduce hazards to the travelling public during a major earthquake in the region.

As standard engineering practice, the design of embankments and retaining walls would account for long-term settlement, elastic settlement, resistance to lateral loads, lateral earth pressure, increase in vertical and lateral pressures on existing underground utilities, factors of safety for slope stability, and structural stability. Therefore, permanent slopes would be designed no steeper than 2:1 (2 horizontal to 1 vertical). Structures to be supported on shallow foundations would be placed on a layer of compacted fill and should account for total and differential settlements.

Retaining wall selection and design would be based on several considerations (i.e., construction sequence, extent of earthwork, cost, effect on adjacent properties, need for shoring or slope cut, corrosion protection, amount of import fill, and aesthetics). Other factors considered in the engineering design of the project include resistance of underlying soils for pavement thickness, soil corrosion potential, and slopes of utility trenches.

Though soils have the potential to cave, standard construction practices would protect the construction crew from the collapse of slopes within excavation areas and trenches. This would apply for all areas where trenching is required.

Improvements at the Stockdale Highway and State Route 43 (Enos Lane) intersection in Segment 3 would not result in any adverse effects because minimal grading would be required and no geotechnical constraints are expected.

Impacts from construction activities are addressed in Section 3.6, Construction Impacts.

No-Build Alternative

Because no ground disturbance would occur under the No-Build Alternative, there would be no impacts on geology, soils, seismicity or topography. Existing geologic and seismic hazards would remain.

Avoidance, Minimization, and/or Mitigation Measures

The project would be designed to minimize geotechnical impacts. Because there would be no geotechnical impacts using standard design practices, no mitigation measures are required.

3.2.4 Paleontology

This section presents an overview of potential impacts on important paleontological resources.

Regulatory Setting

Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils.

A number of federal statutes specifically address paleontological resources and their treatment and funding for mitigation as a part of federally authorized or funded projects including the Antiquities Act of 1906 [16 U.S. Code 431-433] and Federal-Aid Highway Act of 1960 [23 U.S. Code 305], which authorize the appropriation and use of federal highway funds for paleontological salvage. Under California law, paleontological resources are protected by the California Environmental Quality Act. On the federal side, 23 United States Code 305 authorizes the appropriation and use of federal highway funds for paleontological salvage as necessary by the highway department of any state, in compliance with 16 U.S. Code 431-433 above and state law.

Affected Environment

Information in this section comes from the *Paleontological Evaluation Report* (February 2014).

The project area sits on the San Joaquin Valley floor, a fairly featureless plain that slopes gently southwesterly to the valley axis. Near its northeastern end, the project area crosses the Kern River. Regional surficial geologic mapping indicates the project area is underlain by four sedimentary stratigraphic units, all of continental origin. In ascending stratigraphic order, these stratigraphic units include Pleistocene non-marine sedimentary deposits (includes Turlock Lake and Riverbank Formations elsewhere in the San Joaquin Valley), recent alluvial fan deposits of the Great Valley (includes Modesto Formation elsewhere in the San Joaquin Valley), recent basin deposits of the Great Valley, and recent river and major stream channel deposits of the Great Valley.

Fossilized remains of mostly extinct continental vertebrate species have been recorded in Pleistocene non-marine deposits at numerous localities in the San Joaquin Valley. Additionally, although Holocene deposits are typically too young to yield

fossilized remains, Pleistocene age fossils have also been recovered in units mapped on the surface as Holocene age in other areas of the San Joaquin Valley, indicating that Pleistocene sediments were either present immediately below or that fossils from surrounding Pleistocene deposits were re-deposited in the Holocene age sediments. Excavation in units identified as Holocene is not likely to encounter Pleistocene sediments at depths above five feet as referenced to the native ground surface (see Figure 3-30).

No fossils were found during paleontological surveys of the project area.

Environmental Consequences

Potential construction-related impacts of the build alternatives are discussed in Section 3.6 of this environmental document. There would be no impact on paleontological resources under the No-Build Alternative.

Avoidance, Minimization, and/or Mitigation Measures

Mitigation measures to prevent impacts to significant fossils will be incorporated during construction through the use of a Paleontological Mitigation Plan involving monitoring during excavation in select locations, since excavation into highly sensitive deposits would occur as a result of construction activities. The mitigation program is discussed in Section 3.6, Construction Impacts.

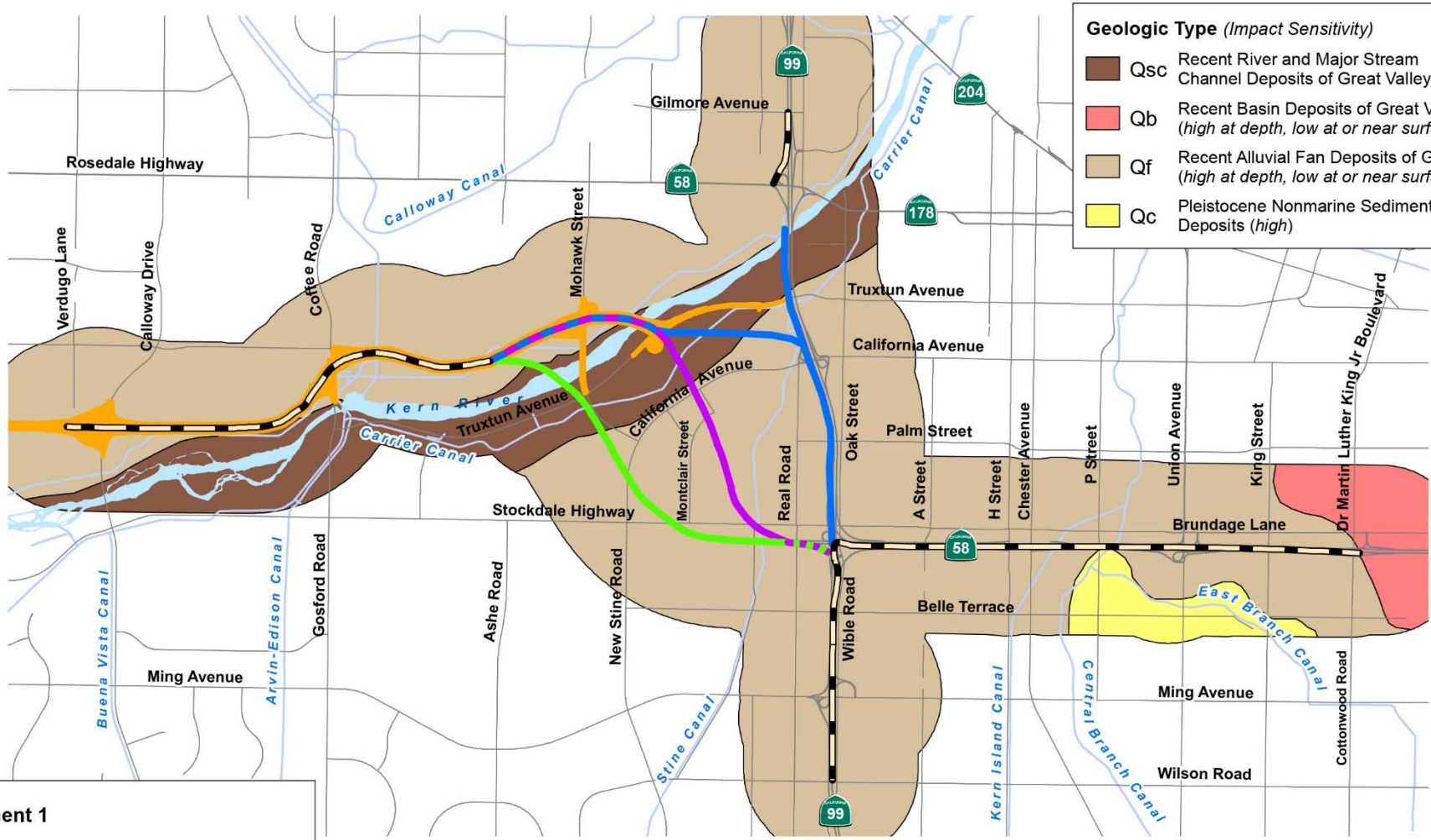
3.2.5 Hazardous Waste or Materials

Regulatory Setting

Hazardous materials including hazardous substances and wastes are regulated by many state and federal laws. Specific statutes govern the generation, treatment, storage, and disposal of hazardous materials, substances and waste, and also the investigation and mitigation of waste releases, air and water quality, human health, and land use.

The main federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act of 1980 and the Resource Conservation and Recovery Act of 1976. The purpose of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, often referred to as Superfund, is to identify and clean up abandoned contaminated sites so that public health and welfare are not compromised. The Resource Conservation and Recovery Act of 1976 provides for “cradle to grave” regulation of hazardous wastes. Other federal laws include:

- Community Environmental Response Facilitation Act of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act
- Atomic Energy Act



Not To Scale
Source: Information obtained from *Paleontological Evaluation Report* 2014

Paleontological Sensitivity

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-30

- Toxic Substances Control Act
- Federal Insecticide, Fungicide, and Rodenticide Act

In addition to the acts listed above, Executive Order 12088, Federal Compliance with Pollution Control, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste and substances under the authority of the California Health and Safety Code and is also authorized by the federal government to implement the Resource Conservation and Recovery Act of 1976 in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and cleanup of contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper disposal of hazardous materials is vital if it is found, disturbed or generated during project construction.

Affected Environment

Information in this section comes from the *Initial Site Assessment for the Centennial Corridor Project* (March 2014), *Focused Initial Site Assessment for the Centennial Corridor Project* (October 2013), *Aerially Deposited Lead Investigation for Centennial/ Beltway Operational Improvements Project* (July 2014), *Preliminary Site Investigation at Private Parcels* (February 2015), and *Asbestos and Lead-Based Paint Survey* (January 2015).

An Initial Site Assessment was done to address potential impacts associated with hazardous materials for all portions of the project where additional right-of-way would be required for the project or where adjacent contamination could affect the construction activities. The evaluation included a site visit, a review of the project area history, and a review of official records (an environmental database report and regulatory agency file reviews) to identify sites of hazardous waste concern. As described in Chapter 2, Segment 2 of the Centennial Corridor Project is composed of the Westside Parkway, which was previously evaluated in the *Westside Parkway Environmental Assessment/Final Environmental Impact Report*. However, the *Initial Site Assessment for the Centennial Corridor Project* did include the easterly portion of the Westside Parkway where improvements are proposed.

The Initial Site Assessment evaluated 850 parcels that are part of the project area, with 197 parcels identified to be part of more than one alternative route. Due to the

large number of parcels that were assessed, the privately owned parcels were observed from public property. The Initial Site Assessment did not include screening or testing for aerially deposited lead, asbestos, radon, lead-based paint, lead in drinking water, or urea formaldehyde. Between the draft environmental document and the final environmental document, sampling for these materials, as applicable, was completed.

The three alternatives being studied for Segment 1 of the project pass through a mix of residential, commercial, and light industrial land use areas. There are residential communities west of State Route 99 and north and south of Stockdale Highway. Some of the businesses use materials classified as hazardous. These include gas stations, paint stores, and automotive support businesses. Oil refineries and businesses that support the oil and gas industry are north of the alignment. These uses have open fields that contain oil wells, aboveground storage tanks, and petroleum pipelines. Oil cake sand (a mixture of oil residue and sand) was found on several of these parcels.

The Kern River, Cross Valley Canal, Stine Canal, and Carrier Canal are in the project area. Each build alternative in Segment 1 crosses the Kern River and Stine Canal. Vacant parcels with scattered oil wells and an oil refinery are north of the Kern River. Segment 3, including the intersection of Stockdale Highway and State Route 43, passes through mostly open space (undeveloped) and agricultural lands.

Following the completion of the initial site assessment and the identification of the Preferred Alternative, Alternative B, a focused initial site assessment was conducted to further evaluate the need to do testing of potential hazardous materials at any parcel or structure to be affected by Alternative B. The focused initial site assessment was developed based on the results of the following activities: review of Initial Site Assessment recommendations; communication with project engineer on current design and proposed right-of-way acquisition; coordination with the city Right-of-Way staff and the previous Hazardous Material Specialist on the Westside Parkway project; and field visits of the ranked parcels identified for Alternative B in the initial site assessment. At the end of the public review period of the draft environmental document, investigations were conducted for aerially deposited lead, asbestos-containing materials, and lead-based paint for the Preferred Alternative B. The following is a description of the additional hazardous materials investigations.

Aerially Deposited Lead

The Aerially Deposited Lead Investigation evaluated the presence of aerially deposited lead in unpaved soil at the freeway shoulders along existing State Route 58 and State Route 99. Soil samples were taken to a maximum depth of 2.5 feet below ground surface. The aerially deposited lead investigation was required because project construction will involve disturbance of surface soils along the freeway that have the potential to expose workers and the public to elevated lead levels.

Asbestos-Containing Materials and Lead-Based Paint

A Preliminary Site Investigation for asbestos and lead-based paint was conducted to determine the presence and concentrations of asbestos-containing materials and lead-based paint for the structures subject to demolition or improvements within the construction footprint of Alternative B.

Soil Investigation at Private Parcels

A Preliminary Site Investigation was conducted at seven properties recommended in the Focused Initial Site Assessment to collect soil samples and analyze them to determine the presence of hazardous materials. The purpose of this Preliminary Site Investigation was to obtain soil contamination data to be used to address potential health and safety issues and develop a soil management plan for implementation during construction.

Environmental Consequences

During the preparation of the draft environmental document, an Initial Site Assessment of all proposed project alternatives was conducted. Parcels within the project boundaries were ranked for their potential for containing hazardous materials/wastes:

- Rank 1: Parcels within the study area that are known to be contaminated with hazardous wastes or substances.
- Rank 2: Parcels within the study area that are suspected of being contaminated with hazardous wastes or substances.
- Rank 3: Parcels that have the potential to be contaminated with hazardous wastes or substances within the study area or having the potential to impact the proposed study area due to known or suspected hazardous wastes or substances located on the parcel.
- NR (no numbered rank): Parcels with no significant potential for the presence of hazardous waste or substances impacting the proposed study area.

Detailed information on sites ranked 1 through 3 for each of the alternatives, as well as the maps showing the location of the ranked parcels is presented as Figures 1 through 5 in the *Initial Site Assessment for the Centennial Corridor Project* (March 2014) attached to the back cover of this Final Environmental Impact Report/Environmental Impact Statement in Volume 1. This information was also included in the draft environmental document that was circulated for public review. Agency consultation consisted of public review of the draft environmental document between May 9 and July 8, 2014. The following agencies were notified of the availability of the draft environmental document: California Environmental Protection Agency, Department of Toxic Substances Control, the city of Bakersfield Fire Department, and the Department of Conservation Division of Oil, Gas, and Geothermal Resources. Volume 3 of this final environmental document provides responses to agency comments regarding potential hazardous waste and materials impacts.

Common to All Build Alternatives

The project would make improvements in all segments of the corridor. Most of the construction requiring new right-of-way is in Segment 1 and to a lesser extent Segment 3 near Stockdale Highway and State Route 43. The minor improvements being made within Segment 2 are mostly within the original construction footprint of the Westside Parkway. Any hazardous waste remediation required for the Westside Parkway project has already been completed as part of that project. The *Initial Site Assessment for the Centennial Corridor Project* addressed the minor additional right-of-way required within Segment 2 (minor sliver acquisitions between Mohawk Street and Coffee Road, see Figures 3-10a–c, provided in Volume 2).

Previous sampling of surface soils along State Routes 58 and 99 near the project limits indicated that there were hazardous levels of lead to a depth of 1.5 feet likely due to the historic use of leaded fuel and emissions settling on the ground. Older buildings and/or bridge structures that are subject to demolition or renovation under each build alternative may contain asbestos and lead-based paint. Both yellow and white traffic paint, striping, and markings on roadways could also contain high lead levels.

Ground-disturbing as well as demolition/renovation activities could potentially expose workers and the public to hazardous wastes or materials.

Alternative A

Five parcels in the Alternative A project area are categorized as Rank 1: four are partial acquisitions and one is a full acquisition. All potentially have soil contamination as a result of oil and oil-production activities. Division of Oil and Gas maps indicate that one parcel contains active and inactive wells; another parcel contains an inactive well.

Alternative A would require a partial right-of-way acquisition from six parcels and full acquisitions of nine parcels that are listed as Rank 2. The potential contaminants in most of these parcels include active or inactive oil wells onsite from oil-pumping activities. Site cleanup may be required before use.

Partial or full acquisition of 14 parcels listed as Rank 3 would be required. Three parcels would require a partial acquisition; five parcels would require a full acquisition; five parcels would be required for a temporary construction easement; and one parcel would be required for a permanent easement. Potential contaminants in most of these parcels include water disposal wells, a leak from a transformer onto soil, presence of an underground storage tank, and use of chemicals in operations.

Seven water infiltration basins are proposed along Alternative A. All but one of the basins would be on parcels listed as No Rank. Only one basin would be on a parcel classified as Rank 3.

Alternative B (Preferred Alternative)

Five parcels within the Alternative B project area are classified as Rank 1: three are subject to full acquisitions and two are subject to partial acquisitions. All potentially have soil contamination as a result of oil and oil-production activities. Division of Oil and Gas maps indicate that one parcel contains active and inactive wells; another parcel contains one inactive well.

Alternative B would require acquisitions from the 11 parcels classified Rank 2; four are subject to partial acquisitions; six are subject to full acquisitions; and a temporary construction easement would be needed from one parcel. The potential contaminants in most of these parcels include active or inactive oil wells onsite from oil-pumping activities. Site clean up may be required before use.

Partial or full acquisition of 12 parcels listed as Rank 3 would be required. Two parcels would require a partial acquisition; four parcels would require a full acquisition; five parcels would be required for a temporary construction easement; and one parcel would be required for a permanent easement. The potential contaminants in most of these parcels include water disposal wells, a leak from a transformer onto soil, presence of an underground storage tank, and use of chemicals in operations.

Eight water infiltration basins are proposed along Alternative B. All of these basins are on parcels that are listed as No Rank.

Based on the recommendations of the *Focused Initial Site Assessment for the Centennial Corridor Project* (October 2013) for the Preferred Alternative B, additional hazardous waste testing was conducted after the circulation of the draft environmental document. The following is a summary of the results of the aerially-deposited lead, lead-based paint, asbestos-containing materials and the soil investigations at the private parcels:

Aerially Deposited Lead

Total lead values of all samples collected were below regulatory levels. However, soluble lead values of all samples generally exceeded the soluble threshold limit concentration value of 5 mg/L and would be classified as California non-Resource Conservation and Recovery Act hazardous waste, if disposed off-site. Excess soil that would not be reused for the project would need to be disposed at a California Class I landfill. Lead was not detected at concentrations that would classify any soil on the project as Federal Resource Conservation and Recovery Act hazardous waste.

- Soil from the northbound and southbound State Route 99 shoulders to a depth of 1.5 feet below ground surface would be considered a California non-Resource Conservation and Recovery Act hazardous waste. The underlying soil is non-hazardous and may be reused on the project or relinquished to the contractor.
- Soil from the eastbound and westbound State Route 58 shoulders to a depth of 0.5 feet below ground surface would be considered a California non-Resource

Conservation and Recovery Act hazardous waste. The underlying soil is non-hazardous and may be reused on the project or relinquished to the contractor.

- Soil from the southbound State Route 99 exit at State Route 58 to a depth of 2.5 feet below ground surface would be considered a California non-Resource Conservation and Recovery Act hazardous waste.

Based on the results of the aerially deposited lead analysis and preliminary design plans, a total of 12,941 cubic yards of soil along the shoulders of northbound and southbound State Route 99 between Ming Avenue Interchange and State Route 58 would be excavated and disposed by the construction contractor at a California Class I landfill.

Lead-Based Paint

The results of the analysis indicate that lead-based paint was found in yellow roadway striping at Kern Valley River Bridge. Lead-containing surface coatings were found in yellow striping on westbound State Route 58 over State Route 99. Lead concentrations at these two locations were found to exceed thresholds for lead-containing surface coatings and the California Total Threshold Limit Concentration, but were below the Federal Toxicity Characteristic Leaching Procedures of 5 mg/L. Therefore, if disturbed and removed, the paint would be considered a California non-Resource Conservation and Recovery Act hazardous waste and would be disposed at a California Class I landfill.

Asbestos-Containing Materials

The results revealed that asbestos was not detected above 1 percent on any of the structures tested. However, asbestos-containing construction materials are present in the railing bolt sealant at the Truxtun Avenue undercrossing. Removal of these materials will be required prior to the structure undergoing improvements. If any building, bridge or undercrossing to be demolished contains asbestos, the contractor shall comply with the National Emissions Standards for Hazardous Air Pollutants regulations as listed in the Code of Federal Regulations (Title 40, Part 61, Subpart M) and the Rules and Regulations of the San Joaquin Valley Air Pollution Control District.

Soil Investigation at Private Parcels

Soil sampling was conducted at the following six parcels subject to (partial or full) acquisition. The results of the investigation are as follows:

- Assessor's Parcel Number 332-280-28 (Vacant – part of oil refinery); partial acquisition
    - Soil samples were found to be below acceptable levels for petroleum hydrocarbons and heavy metals with the exception of arsenic, which contained concentrations that require special management and implementation of additional health and safety procedures.
- Assessor's Parcel Number 332-256-05 (Industrial – tank farm); partial acquisition

  - Soil samples were found to contain elevated levels of petroleum hydrocarbons that may require special management and implementation of additional health and safety procedures.
- Assessor's Parcel Number 020-600-02 (Commercial – parking lot with oil well); full acquisition
  - Soil samples were found to contain elevated levels of petroleum hydrocarbons that may require special management and implementation of additional health and safety procedures.
- Assessor's Parcel Number 332-332-20 (Commercial – parking lot with oil well); full acquisition
  - Low concentrations of petroleum hydrocarbons and volatile organic compounds in the soil were found in soil samples collected from accessible areas. However, soil samples from the area housing an operational oil pump could not be collected. Therefore, contaminated soil discovered underlying the area must be removed by the current oil company leasing the property during abandonment procedures.
- Assessor's Parcel Number 149-221-15 (Residential – former construction company); full acquisition
  - Soil samples were not collected due to access denial by the property owners. An underground storage tank will be removed when the house is demolished. Any residual soil contamination would be addressed during construction.
- Assessor's Parcel Number 149-180-03 (Public land – water utility facility); full acquisition
  - Soil samples were found to contain low concentrations of petroleum hydrocarbon constituents below applicable screening levels and therefore require no further investigation based on the findings and their histories.
- Assessor's Parcel Number 147-112-07 (Commercial – gasoline station); full acquisition
  - Soil samples were found to contain low concentrations of petroleum hydrocarbon constituents below applicable screening levels and therefore require no further investigation based on the findings and their histories.

Alternative C

Five parcels within the Alternative C project area are classified as Rank 1: one is a full acquisition and four are partial acquisitions. All potentially have soil contamination as a result of oil and oil-production activities. Division of Oil and Gas maps indicate that one parcel contains active and inactive wells; another parcel contains one inactive well.

Alternative C would require a partial acquisition from three parcels and full acquisitions of 11 parcels that are listed as Rank 2. Potential contaminants in most of

these parcels include active or inactive oil wells onsite from oil-pumping activities. Site clean up may be required before use.

Partial or full acquisition of 23 parcels listed as Rank 3 would be required. Five parcels would require partial acquisition, and 16 parcels would need full acquisition. In addition, there would be one temporary construction easement and one permanent easement. Potential contaminants in most of these parcels include water disposal wells, a leak from a transformer onto soil, presence of an underground storage tank, and use of chemicals in operations.

Eleven infiltration basins are proposed for Alternative C. Infiltration basins on six parcels have been identified as Rank 3. These include a multi-tenant commercial property, a residential property, and a commercial property.

Construction impacts pertaining to hazardous materials and wastes are discussed in Section 3.6 of this document.

No-Build Alternative

Under the No-Build Alternative, there would be no impacts associated with hazardous waste/materials.

Avoidance, Minimization, and/or Mitigation Measures

A Preliminary Site Investigation for Alternative B (Preferred Alternative) was completed after the circulation of the draft environmental document. Very few hazardous materials/wastes were found as a result of the investigation, however, site clean up will be conducted between the right-of-way acquisition and the project construction periods. Early coordination with relevant regulatory agencies, including, but not limited to, the California Environmental Protection Agency, Department of Toxic Substances Control, Kern County Department of Environmental Health Services, the city of Bakersfield Fire Department, and the Department of Conservation Division of Oil, Gas, and Geothermal Resources would be undertaken to identify and obtain any necessary permits and approvals needed.

Based on the evaluation in the *Initial Site Assessment for the Centennial Corridor Project* (March 2014), a preliminary assessment of cost for remediation (clean-up) of hazardous materials is estimated to be $8,711,250 for Alternative A, $7,935,000 for Alternative B, and $9,947,500 for Alternative C, as set forth in Table 4 of the *Initial Site Assessment*. The cost to clean up hazardous materials is generally the property owner's responsibility. Any remedial activity would occur before property acquisition.

Minimization Measures

H-1 Special provisions shall be included in the construction contract. Contractors will be required to prepare and work under a Health and Safety Contingency Plan(s), which will address worker safety when working with potentially hazardous materials including asbestos, lead-based paint, aerially deposited lead and/or other construction-related

materials within the project right-of-way. Asbestos-containing materials sampling and analysis of buildings subject to demolition will be done by the contractor, as needed, prior to demolition and the statement of work will be included in the specifications.

H-2 A Soil Management Plan and Health and Safety Plan shall be developed by the contractor for approval by Caltrans, based on the results of soil investigation presented in the Preliminary Site Investigation, to ensure that soil excavated during the project construction which is impacted by metals or petroleum hydrocarbons is handled, stockpiled, and disposed of in accordance with federal, state, and local regulations. The Soil Management Plan will also establish Reuse Screening Levels for the excavated soils with contaminant concentrations below the Reuse Screening Levels, which may be reused during construction projects on the right-of-way, while soils with contaminant concentrations exceeding the Reuse Screening Levels will need to be managed as hazardous wastes and disposed of at a Class I landfill.

H-3 Prior to any soil disturbance at the former Tosco Coke Pile (Assessor's Parcel Number 502-010-12), the Department of Toxic Substances Control shall be properly notified.

H-4 Provide written notification to the California Occupational Safety and Health Administration and California Department of Public Health should the construction activities involve removal of more than 100 square or linear feet of lead-based paint containing materials, in accordance with the requirements of Title 8 of the California Code of Regulations, Section 1532.1. In addition, waste characterization and disposal of lead-containing materials and lead contaminated debris shall be conducted in accordance with Title 22 of the California Code of Regulations and the California Health and Safety Code, Section 25157.8.

H-5 Removal and/or disturbance of asbestos-containing construction materials must be conducted by a California Occupational Safety and Health Administration-registered and State licensed asbestos removal contractor. Asbestos-containing construction materials must be removed prior to any construction activities that will impact these materials. Disturbance and/or abatement operations should be performed under the direct observation of a California Certified Asbestos Consultant. At no time shall the identified asbestos-containing construction materials be drilled, cut, sanded, scraped or otherwise disturbed by untrained personnel.

Construction activities involving the potential for impacting asbestos-containing construction materials shall be conducted in accordance with the requirements of Title 8 of the California Code of Regulations, Section 1529. Written notification shall be made to the California Occupational Safety and Health Administration at least 24 hours prior to the initiation of

any construction activities that involve asbestos-related work of at least 100 square or linear feet. National Emission Standards for Hazardous Air Pollutants Notification to the San Joaquin Valley Air Pollution Control District will be made 10 days prior to beginning construction activities (modifications or demolitions). Notification to employees and contractors working on any bridge or structure with asbestos-containing construction materials shall be made in accordance with the California Health and Safety Code, Section 25915 and Proposition 65.

3.2.6 Air Quality

Regulatory Setting

The Federal Clean Air Act as amended, is the primary federal law that governs air quality while the California Clean Air Act is its companion state law. These laws, and related regulations by the U.S. Environmental Protection Agency and California Air Resources Board, set standards for the concentrations of pollutants in the air. At the federal level, these standards are called the National Ambient Air Quality Standards. National and state ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), which is broken down for regulatory purposes into particles of 10 micrometers or smaller – (PM_{10}) and particles of 2.5 micrometers and smaller – ($PM_{2.5}$), and sulfur dioxide (SO_2). In addition, national and state standards exist for lead (Pb), and state standards exists for visibility-reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The national and state standards are set at levels that protect public health with a margin of safety and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under the National Environmental Policy Act. In addition, to this environmental analysis, a parallel “Conformity” requirement under the Federal Clean Air Act also applies.

Conformity

The conformity requirement is based on Federal Clean Air Act Section 176(c), which prohibits the U.S. Department of Transportation and other federal agencies from funding, authorizing, or approving plans, programs, or projects that do not conform to the State Implementation Plan for attaining the National Ambient Air Quality Standards. “Transportation Conformity” applies to highway and transit projects and takes place on two levels: the regional (or planning and programming) level and the project level. The project must conform at both levels to be approved.

Conformity requirements apply only in nonattainment and “maintenance” (former nonattainment) areas for the National Ambient Air Quality Standards, and only for the specific standards that are or were violated. U.S. Environmental Protection

Agency regulations at 40 Code of Federal Regulations 93 govern the conformity process. Conformity requirements do not apply in unclassifiable/attainment areas for National Ambient Air Quality Standards and do not apply at all for state standards regardless of the status of the area.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the standards set for carbon monoxide, nitrogen dioxide, ozone, particulate matter (PM_{10} and $PM_{2.5}$), and in some areas (although not in California) sulfur dioxide. California has nonattainment or maintenance areas for all of these transportation-related "criteria pollutants" except sulfur dioxide, and also has one nonattainment area for lead. However, lead is not currently required by the Federal Clean Air Act to be covered in a transportation conformity analysis. Regional conformity is based on emissions analysis of Regional Transportation Plans and Federal Transportation Improvement Programs that include all transportation projects planned for a region over a period of at least 20 years for the Regional Transportation Plan, and 4 years for the Federal Transportation Improvement Program. Regional Transportation Plan and Federal Transportation Improvement Program conformity is based on travel demand and emissions models to determine whether or not the implementation of those projects would conform to emission budgets or other tests at various analysis years showing that requirements of the Clean Air Act and the State Implementation Plan are met. If the conformity analysis is successful, the Metropolitan Planning Organization and Federal Highway Administration, and/or Federal Transit Administration make determinations that the Regional Transportation Plan and Federal Transportation Improvement Program are in conformity with the State Implementation Plan for achieving the goals of the Federal Clean Air Act. Otherwise, the projects in the Regional Transportation Plan and/or Federal Transportation Improvement Program must be modified until conformity is attained. If the design concept, scope, and "open to traffic" schedule of a proposed transportation project are the same as described in the Regional Transportation Plan and Federal Transportation Improvement Program, then the project meets regional conformity requirements for purposes of project-level analysis.

Conformity analysis at the project-level includes verification that the project is included in the regional conformity analysis and a "hot spot" analysis if an area is a "nonattainment" or "maintenance" area for carbon monoxide and/or particulate matter (PM_{10} or $PM_{2.5}$). A region is "nonattainment" if one or more of the monitoring stations in the region measures a violation of the relevant standard, and the U.S. Environmental Protection Agency officially designates the area as a nonattainment. Areas that were previously designated as nonattainment areas but subsequently meet the standard may be officially redesignated to attainment by the U.S. Environmental Protection Agency and are then called "maintenance" areas. Hot spot analysis is essentially the same, for technical purposes, as carbon monoxide or particulate matter analysis performed for National Environmental Policy Act purposes. Conformity does include some specific procedural and documentation standards for projects that require a "hot-spot" analysis. In general, projects must not cause the hot spot-related standard to be violated and must not cause any increase in the number and severity of violations in nonattainment areas. If a known carbon monoxide or particulate matter

violation is located in the project vicinity, the project must include measures to reduce or eliminate the existing violation(s) as well.

Affected Environment

Information in this section comes from the *Air Quality Study Report* (February 2014) for the project. Detailed analysis methodology, modeling files, and calculation worksheets can be found in the *Air Quality Study Report*. A climate change discussion is provided in Section 4.5.

Climate and Meteorology

The project study area lies in western Kern County, an area within the San Joaquin Valley Air Basin. The air basin is bordered by the Sierra Nevada Mountains on the east, the Pacific Coast Range on the west, and the Tehachapi Mountains on the south; the basin is open to the north extending to the Sacramento Valley Air Basin.

Air quality is affected by climate, topography, and the types and amount of pollutants emitted. The climate in Bakersfield is typical of the southern basin area, with hot dry summers and cooler winters characterized by dense tule fog.

In summer, the average high temperature is about 97 degrees Fahrenheit, and the average low temperature is about 68 degrees Fahrenheit. The wind in the summer is thermally driven by rising air in the Mojave Desert; wind flows in a northwesterly direction through the valley, the Tehachapi Pass and into the Mojave Desert.

In winter, the average high temperature is about 59 degrees Fahrenheit, and the average low temperature is about 43 degrees Fahrenheit. In addition to ambient temperatures, factors affecting ambient air quality include wind direction and speed, as well as atmospheric stability. This pattern is affected by mountain ranges and valleys.

The precipitation in winter in the southern basin is influenced by Pacific storms; there is little or no precipitation in summer. About 90 percent of the precipitation in the area occurs between December and April.

The basin has persistent temperature inversions, which limit vertical dispersion of air pollutants and result in stagnant air. During summer, inversion periods can promote the formation of ozone. In winter, steep inversion layers typically set up after a cold front passes, forming what is referred to as a “tule fog.” This fog can last for days and, under stagnant conditions, can promote a buildup of particulates or carbon monoxide.

Attainment Status

Criteria pollutants are defined as those pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health and prevent degradation of the environment. The standards for these pollutants are shown in Table 3.23.

Table 3.23 State and Federal Criteria Air Pollutant Standards

Pollutant	Averaging Time	State [8] Standard	Federal [8] Standard	Principal Health and Atmospheric Effects	Typical Sources	Project Area Attainment Status
Ozone (O_3) [2]	1 hour 8 hours	0.09 ppm 0.070 ppm	--- [4] 0.07 ppm (4th highest in 3 years)	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic VOC may also contribute.	Low-altitude ozone is almost entirely formed from reactive organic gases/ volatile organic compounds (ROG or VOC) and nitrogen oxides (NOx) in the presence of sunlight and heat. Common precursor emitters include motor vehicles and other internal combustion engines, solvent evaporation, boilers, furnaces, and industrial processes.	**Federal:** *1 Hour* – Nonattainment [12] *8 Hour* – Extreme Nonattainment **State:** *1 Hour* – Severe Nonattainment *8 Hour* – Nonattainment
Carbon Monoxide (CO)	1 hour 8 hours 8 hours (Lake Tahoe)	20 ppm 9.0 ppm [1] 6 ppm	35 ppm 9 ppm ---	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone. Colorless, odorless.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.	**Federal:** Attainment/ Unclassified **State:** Attainment/ Unclassified
Respirable Particulate Matter (PM_{10}) [2]	24 hours Annual	50 µg/m^3 20 µg/m^3	150 µg/m^3 --- [2] (expected number of days above standard < or equal to 1)	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many toxic and other aerosol and solid compounds are part of PM_{10}.	Dust- and fume-producing industrial and agricultural operations; combustion smoke and vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.	**Federal:** *24 Hour* – Attainment/ Maintenance *Annual* – Not applicable **State:** *24 Hour & Annual* – Nonattainment
Fine Particulate Matter ($PM_{2.5}$) [2]	24 hours Annual 24 hours (conformity process [5]) Secondary Standard (annual; also for conformity process [5])	--- 12 µg/m^3 --- ---	35 µg/m^3 12.0 µg/m^3 65 µg/m^3 15 µg/m^3 (98th percentile over 3 years)	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – a toxic air contaminant – is in the $PM_{2.5}$ size range. Many toxic & other aerosol and solid compounds are part of $PM_{2.5}$.	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical and photochemical reactions involving other pollutants including NOx, sulfur oxides (SOx), ammonia, and ROG.	**Federal:** Nonattainment **State:** Nonattainment
Nitrogen Dioxide (NO_2)	1 hour	0.18 ppm	0.100 ppm [6] (98th percentile over 3 years)	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles and other mobile or portable engines, especially diesel;	**Federal:** Attainment/ Unclassified

Table 3.23 State and Federal Criteria Air Pollutant Standards

Pollutant	Averaging Time	State [8] Standard	Federal [8] Standard	Principal Health and Atmospheric Effects	Typical Sources	Project Area Attainment Status
	Annual	0.030 ppm	0.053 ppm	Contributes to acid rain and nitrate contamination of stormwater. Part of the "NOx" group of ozone precursors.	refineries; industrial operations.	**State:** Attainment
Sulfur Dioxide (SO_2)	1 hour 3 hours 24 hours	0.25 ppm --- 0.04 ppm	0.075 ppm [7] (99th percentile over 3 years) 0.5 ppm [9]	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.	**Federal:** Attainment/ Unclassified **State:** Attainment
Lead (Pb)[3]	Monthly Rolling 3-month average	1.5 µg/m^3 ---	--- 0.15 µg/m^3 [11]	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from older gasoline use may exist in soils along major roads.	**Federal:** No Designation/ Classification **State:** Attainment
Sulfate	24 hours	25 µg/m^3	---	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.	**State Only:** Attainment (entire state)
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm	---	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea. Strong odor.	Industrial processes such as: refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs.	**State Only:** Unclassified
Visibility Reducing Particles (VRP)	8 hours	Visibility of 10 miles or more (Tahoe: 30 miles) at relative humidity less than 70%	---	Reduces visibility. Produces haze. Note: Not directly related to the Regional Haze program under the Federal Clean Air Act, which is oriented primarily toward visibility issues in National Parks and other "Class I" areas. However, some issues and measurement methods are similar.	See particulate matter above. May be related more to aerosols than to solid particles.	**State Only:** Unclassified

Table 3.23 State and Federal Criteria Air Pollutant Standards

Pollutant	Averaging Time	State [8] Standard	Federal [8] Standard	Principal Health and Atmospheric Effects	Typical Sources	Project Area Attainment Status
Vinyl Chloride[3]	24 hours	0.01 ppm	---	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes	**State Only:** Attainment

Notes: ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter; ppb=parts per billion (thousand million)

1 Rounding to an integer value is not allowed for the State 8-hour CO standard. A violation occurs at or above 9.05 ppm.
2 Annual PM_{10} National Ambient Air Quality Standards revoked October 2006; was 50 $\mu g/m^3$. 24-hr. $PM_{2.5}$ National Ambient Air Quality Standards tightened October 2006; was 65 $\mu g/m^3$. Annual $PM_{2.5}$ National Ambient Air Quality Standards tightened from 15 $\mu g/m^3$ to 12 $\mu g/m^3$ December 2012 and secondary annual standard set at 15 $\mu g/m^3$.
3 The Air Resources Board has identified vinyl chloride and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM_{10} and, in larger proportion, $PM_{2.5}$. Both the ARB and U.S. Environmental Protection Agency have identified lead and various organic compounds that are precursors to ozone and $PM_{2.5}$ as toxic air contaminants. There are no exposure criteria for adverse health effect due to toxic air contaminants, and control requirements may apply at ambient concentrations below any criteria levels specified above for these pollutants or the general categories of pollutants to which they belong.
4 Prior to 6/2005, the 1-hour ozone National Ambient Air Quality Standards was 0.12 ppm. Emission budgets for 1-hour ozone are still be in use in some areas where 8-hour ozone emission budgets have not been developed, such as the S.F. Bay Area.
5 The 65 $\mu g/m^3$ $PM_{2.5}$ (24-hr) National Ambient Air Quality Standards was not revoked when the 35 $\mu g/m^3$ National Ambient Air Quality Standards was promulgated in 2006. The 15 $\mu g/m^3$ annual $PM_{2.5}$ standard was not revoked when the 12 $\mu g/m^3$ standard was promulgated in 2012. The 0.08 ppm 1997 ozone standard is revoked for conformity purposes only when area designations for the 2008 0.75 ppm standard become effective for conformity use (7/20/2013). Conformity requirements apply for all National Ambient Air Quality Standards, including revoked National Ambient Air Quality Standards, until emission budgets for newer National Ambient Air Quality Standards are found adequate, State Implementation Plan amendments for the newer National Ambient Air Quality Standards are approved with a emission budget, U.S. Environmental Protection Agency specifically revokes conformity requirements for an older standard, or the area becomes attainment/unclassified. State Implementation Plan-approved emission budgets remain in force indefinitely unless explicitly replaced or eliminated by a subsequent approved State Implementation Plan amendment. During the "Interim" period prior to availability of emission budgets, conformity tests may include some combination of build vs. no build, build vs. baseline, or compliance with prior emission budgets for the same pollutant.
6 Final 1-hour NO_2 National Ambient Air Quality Standards published in the Federal Register on 2/9/2010, effective 3/9/2010. Initial area designation for California (2012) was attainment/unclassifiable throughout. Project-level hot spot analysis requirements do not currently exist. Near-road monitoring starting in 2013 may cause redesignation to nonattainment in some areas after 2016.
7 U.S. Environmental Protection Agency finalized a 1-hour SO_2 standard of 75 ppb in June 2010. Nonattainment areas have not yet been designated as of 9/2012.
8 State standards are "not to exceed" or "not to be equaled or exceeded" unless stated otherwise. Federal standards are "not to exceed more than once a year" or as described above.
9 Secondary standard, set to protect public welfare rather than health. Conformity and environmental analysis address both primary and secondary National Ambient Air Quality Standards.
10 Standards no longer apply in California starting in 2013 (1 year after designations to attainment/unclassified statewide) were completed. Do not use or quote any more. Will be removed in 2013 edition of this table.
11 Lead National Ambient Air Quality Standards are not considered in Transportation Conformity analysis.
12 Nonattainment per anti-backsliding provision in the CAA.

Greenhouse Gases and Climate Change:

Greenhouse gases do not have concentration standards for that purpose. Conformity requirements do not apply to greenhouse gases.

Source: Developed from the *Air Quality Study Report* 2014; *California Air Resources Board* 2015.

The basin is currently designated as a federal nonattainment area for ozone and particulate matter equal to or less than 2.5 microns in diameter ($PM_{2.5}$) and a maintenance area for inhalable particulate matter less than 10 microns in diameter (PM_{10}); the basin is subject to conformity requirements for these pollutants.

The project area is within the jurisdiction of the San Joaquin Valley Air Pollution Control District and the Kern Council of Governments. The San Joaquin Valley Air Basin was classified as a serious nonattainment area for the Federal 8-hour ozone

standard. On May 5, 2010 the U.S. Environmental Protection Agency approved the Basin's reclassification to extreme nonattainment. The San Joaquin Valley Air Pollution Control District has implemented an Ozone Attainment Demonstration Plan since 2004. The 2004 Ozone plan, which addressed the 1-hour ozone standard, was withdrawn by California in late 2012. In 2013, the State adopted a revised 1-hour ozone plan that demonstrates that the area will attain the 1-hour ozone standard by 2017. The San Joaquin Valley Air Pollution Control District implemented the current 2007 Ozone Plan for 8-hour ozone on April 30, 2007.

Transportation conformity for ozone is demonstrated by the project being listed in the currently conforming Regional Transportation Plan and Transportation Improvement Program. The Centennial Corridor Project is in the 2014 Regional Transportation Plan (Project Identification Number KER08RTP020). The Kern Council of Governments adopted the 2014 plan on June 19, 2014. The Federal Highway Administration and Federal Transit Administration made a conformity finding for the 2014 plan on December 12, 2014. Segments 1 and 2 of the Centennial Corridor Project are in the Kern Council of Governments' 2015 Federal Transportation Improvement Program, which was federally approved on December 15, 2014 (Project Identification Number KER050104).

The San Joaquin Valley Air Pollution Control District 2012 Attainment Plan for the 2006 $PM_{2.5}$ standard (24-hour average $PM_{2.5}$ = 35 µg/m^3) was adopted by the district on December 20, 2012 and was approved by the California Air Resources Board on January 24, 2013. Approval by the Environmental Protection Agency is pending. According to this plan, the 24-hour fine particulate matter ($PM_{2.5}$) standard of 35 micrograms per cubic meter will be achieved by 2019 (with approval of the 5-year extension of the 2014 deadline). The project is within a federal nonattainment area for fine particulate matter ($PM_{2.5}$) and in a maintenance area for inhalable particulate matter (PM_{10}).

Local Ambient Air Quality

The California Air Resources Board and the San Joaquin Valley Air Pollution Control District maintain a network of air quality monitoring stations located throughout the Basin. The nearest most representative air monitoring station to the project site is the Bakersfield-California Avenue Station at 5558 California Avenue, west of the project alignments. The monitoring station distance is about 0.2 mile, 0.6 mile, and 1.1 mile from the Alternatives A, B, and C alignments, respectively. All criteria pollutants are monitored at this station (i.e., O_3, CO, NO_2, SO_2, PM_{10}, and $PM_{2.5}$). Table 3-24 presents ambient air quality data, which was recorded at this station, for the past 7 years. Table 3-24 shows the following trend in local ambient criteria pollutant concentrations:

- Ozone – The maximum 1-hour ozone concentration recorded during the 2007 to 2014 period was 0.127 ppm. During this period, the California standard of 0.09 ppm was exceeded between 3 to 16 times annually, with the highest number of exceedances recorded in 2009. The 8-hour O_3 standards, for both national and

state standards were exceeded every year and the highest number of exceedances occurred in 2008.

Table 3.24 Criteria Air Pollutants Data Summary (California Avenue Monitoring Station)

Pollutant	Averaging Time	Standard	2007	2008	2009	2010	2011	2012	2013	2014
Ozone (O_3)	1-Hour	Maximum Concentration (ppm)	0.117	0.127	0.120	0.109	0.107	0.102	0.107	0.102
		Days > CAAQS (0.09 ppm)	4	15	16	8	5	9	3	3
	8-Hour	4th Maximum Concentration (ppm)[a]	0.085	0.101	0.086	0.093	0.087	0.087	0.084	0.084
		Days > NAAQS (0.07 ppm)	**25**	**40**	**34**	**28**	**25**	**56**	**22**	**20**
		Days > CAAQS (0.07 ppm)	49	60	58	48	51	83	47	39
Particulate Matter (PM_{10})	24-Hour	Maximum Concentration ($\mu g/m^3$)	115	262	95	86	97	100	121	430
		Days > CAAQS (50 $\mu g/m^3$)	130	170	84	47	116	89	n/a	n/a
		Days > NAAQS (150 $\mu g/m^3$)	n/a	**3**	0	0	0	0	n/a	1
	Annual	State Annual Average (20 $\mu g/m^3$)	49	55	41	33	44	41	n/a	n/a
Particulate Matter ($PM_{2.5}$)	24-Hour	Maximum Concentration ($\mu g/m^3$)	86	99	196	92	80	87	112	102
		Days > NAAQS (35 $\mu g/m^3$)	n/a	**67**	**46**	**29**	n/a	24	50	39
		National Std. 98th Percentile [b]	73	65	67	53	66	56	72	80
	Annual	National Annual (15.0 $\mu g/m^3$)	**21.9**	**21.9**	**19.0**	14.1	16.2	13.0	19.9	18.6
Carbon Monoxide [c] (CO)	1-Hour	Maximum Concentration (ppm)	2.8	3.5	2.2	2.1	n/a	n/a	n/a	n/a
		Days > CAAQS (20 ppm)	0	0	0	0	0	0	0	0
		Days > NAAQS (35 ppm)	0	0	0	0	0	0	0	0
	8-Hour	Maximum Concentration (ppm)	1.97	2.17	1.51	1.34	n/a	n/a	n/a	n/a
		Days > CAAQS (9.0 ppm)	0	0	0	0	0	0	0	0
Nitrogen Dioxide (NO_2)	1-hour	Maximum Concentration (ppm)	0.072	0.083	0.069	0.079	0.064	0.064	0.055	0.060
		Days > CAAQS (0.18 ppm)	0	0	0	0	0	0	0	0
	Annual	Arithmetic Average (0.053 ppm)	0.017	0.016	0.016	0.014	0.015	0.015	n/a	n/a

AAM – Annual Arithmetic Mean; CAAQS – California ambient air quality standards; $\mu g/m^3$ – micrograms per cubic meter; NAAQS – National ambient air quality standards; ppm – parts per million; n/a – sufficient data not available to determine the value

The estimated number of measured concentrations above national standards are shown in **bold**.

Note: Ambient data for SO_2 and airborne lead are not included in this table since the Basin is currently in compliance with state and federal standards for these pollutants.

[a] The 8-hour ozone standard is attained when the fourth highest concentration in a year, averaged over 3 years, is equal to or less than the new national standard of 0.075 ppm (effective May 27, 2008).

Values listed in the table represent midnight-to-midnight 24-hour averaged and may be related to an exceptional event.

[b] Attainment condition for $PM_{2.5}$ is that the 3-year average of the 98th percentile of 24-hour concentrations at each monitor within an area must not exceed the standard (65 $\mu g/m^3$ at the time of monitoring).

[c] Carbon monoxide concentrations have not been measured at the California station since 2005; the listed data are from the Golden State Monitoring Station located at 1128 Golden State Highway, about 2.7 miles northeast of Alternative A, 2.2 miles northeast of Alternative B, and 2 miles northeast of Alternative C alignment.

Source: *Air Quality Study Report* 2015; *California Air Resources Board* 2015.

- Respirable Particulate Matter (PM_{10}) – During the recorded period of 2007 to 2014, the maximum 24-hour monitored data were below the National Ambient Air Quality Standards, with the exception of 2008 and 2014. In 2008 and 2014, the 24-hour highest concentrations recorded were 196 µg/m^3 and 430 µg/m^3, respectively. In 2008, the exceedance was recorded only once; the second-highest measured concentration in 2008 was 128 µg/m^3, which is below the standard level. In 2014, the exceedance was recorded two times. The second-highest measured concentration in 2014 was 180 µg/m^3, which still exceeded the standard level. The third-highest measured concentration in 2014 was 122 µg/m^3, which is below the standard level.
- Fine Particulate Matter ($PM_{2.5}$) – During the recorded period of 2007 to 2014, the 3-year average of 98th percentile of 24-hour concentrations exceeded the 2006 National Ambient Air Quality Standards every year. The annual mean $PM_{2.5}$ concentration exceeded the national ambient air quality standard every year except in 2010 and 2011. Although the recorded data do not show a consistent trend, they do indicate an overall declining trend for ambient $PM_{2.5}$ concentrations in the project area.

Mobile Source Air Toxics

Controlling air toxics emissions became a national priority with passage of the Clean Air Act Amendments, whereby Congress mandated that the U.S. Environmental Protection Agency regulate 188 identified air toxics, also known as hazardous air pollutants. Mobile source air toxics are a subset of the 188 air toxics. The agency identified seven compounds that have significant contributions from mobile sources (Federal Highway Administration 2006) that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment (see the following website for more information: http://archive.epa.gov/airtoxics/nata1999/web/html/index.html. The priority mobile source air toxics are acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases, formaldehyde, naphthalene, and polycyclic organic matter. While the Federal Highway Administration currently considers these to be the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future U.S. Environmental Protection Agency rules. Of these seven pollutants, diesel particulate matter, 1,3-butadiene, and benzene account for about 89 percent of the total toxic air pollutants responsible for potential excess cancer risk. Diesel particulate matter accounts for 71.2 percent of the total toxic air pollutants producing potential excess cancer risk. The Federal Highway Administration released interim guidance on February 3, 2006 to determine when and how to address mobile source air toxics impacts in the National Environmental Policy Act process for transportation projects. The guidance document was updated on September 30, 2009 (Federal Highway Administration 2009). The Federal Highway Administration has identified three levels of analysis:

- No analysis for exempt projects or projects with no potential for meaningful mobile source air toxics effects.

- Qualitative analysis for projects with low potential mobile source air toxics effects.
- Quantitative analysis to differentiate alternatives for projects with higher potential mobile source air toxics effects.

The Centennial Corridor Project best fits into the last category. For projects warranting mobile source air toxics analysis, the seven priority mobile source air toxics should be analyzed.

Based on Federal Highway Administration guidance, the Centennial Corridor Project is a project with higher potential mobile source air toxics effects. This category includes projects that have the potential for meaningful differences among project alternatives. Only a limited number of projects meet this two-pronged test. To fall into this category, projects must:

- Create or significantly alter a major intermodal freight facility that has the potential to concentrate high levels of diesel particulate matter in a single location, or
- Create new or add significant capacity to urban highways such as interstates, urban arterials, or urban collector-distributor routes with traffic volumes where the annual average daily traffic is projected to be in the range of 140,000 to 150,000 or greater by the design year, and
- Be located near populated areas or in rural areas near concentrations of vulnerable populations (i.e., schools, nursing homes, hospitals).

The Centennial Corridor Project meets the second and third criteria above.

Several studies have concluded that mobile sources (i.e., on-road and non-road combined) are responsible for most of the excess cancer risk associated with exposure to urban air toxics. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. Currently, the tools and techniques for assessing project-specific health impacts from mobile source air toxics are limited.

Furthermore, neither the U.S. Environmental Protection Agency nor the California Air Resources Board has established regulatory concentration targets for the seven relevant mobile source air toxics for use in the project development process. For the same reason, states are not required to achieve an identified level of air toxics in the ambient air or to identify air toxics reduction measures in the State Implementation Plan. Developing strategies for reducing mobile source air toxics is a cooperative effort between federal and local authorized agencies.

The Clean Air Act provides the U.S. Environmental Protection Agency with the authority to establish and regulate emission standards for engines and vehicles. The State of California also has certain rights to adopt its own emission regulations, which are often more stringent than the federal rules. To reduce mobile source emissions, mandatory and incentive-based programs have been developed in conjunction with

new engine emission regulations; additional emission testing requirements (i.e., supplemental emission test, not-to-exceed limits); and limiting fuel sulfur content. These programs are implemented by all levels of government: federal, state, and local. Currently, the Federal Highway Administration's interim guidance update is used to analyze potential impacts of mobile source air toxics to be included in environmental documents.

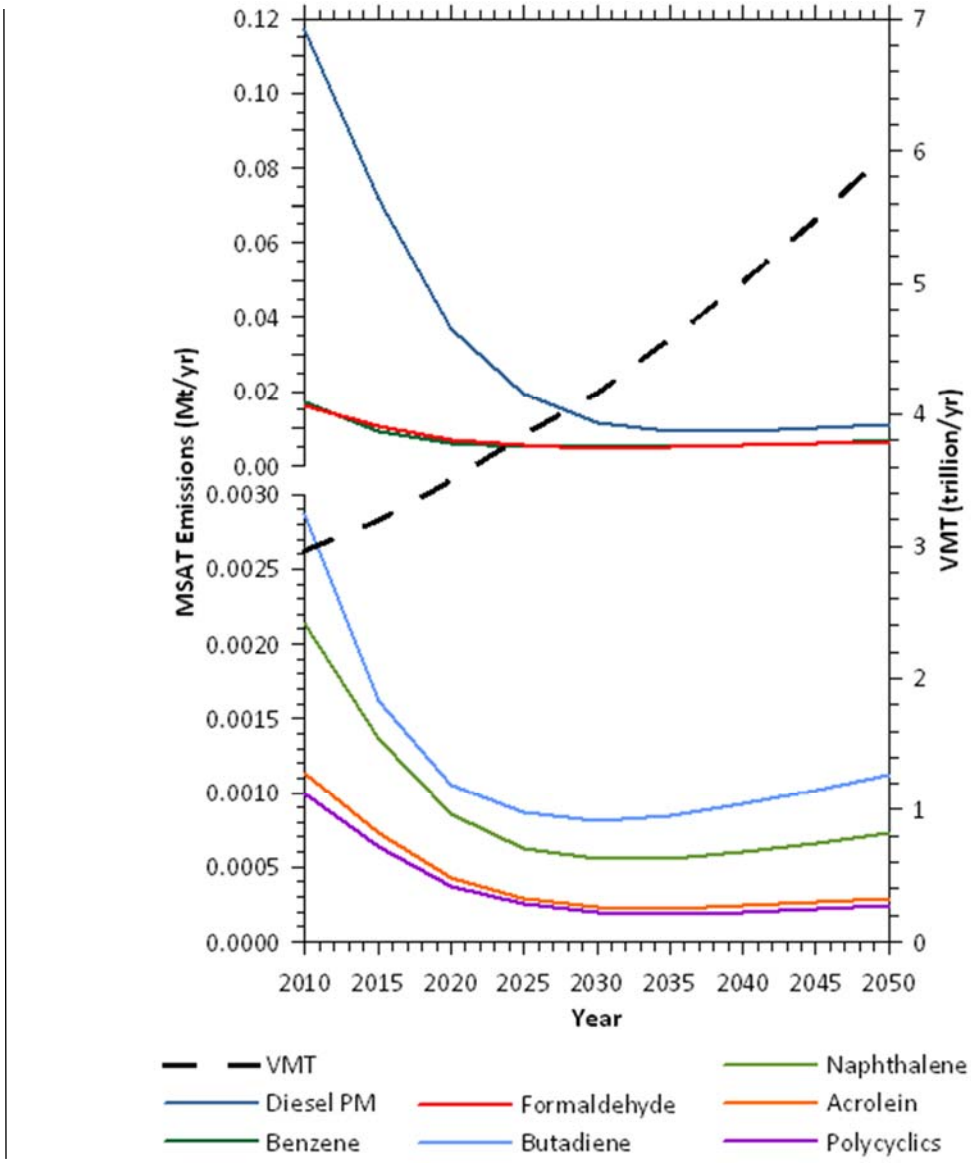
The 2007 U.S. Environmental Protection Agency rule requires controls that will dramatically decrease mobile source air toxics emissions through cleaner fuels and cleaner engines. According to an analysis done by the Federal Highway Administration, using the U.S. Environmental Protection Agency's MOBILE 6.2 emission factors model, even if vehicle activity (vehicle miles traveled) increases by 145 percent as assumed, a combined reduction of 72 percent in the total annual emission rate for the priority mobile source air toxics is projected from 1999 to 2050, as shown in Figure 3-31.

California's vehicle emission control and fuel standards are more stringent than federal standards and are effective sooner, so the effect of combined state and federal regulations is expected to result in greater reduction of mobile source air toxics earlier than the Federal Highway Administration analysis predicts.

Based on the Federal Highway Administration's tiered approach in its interim guidance document, the project would be considered to have potential effects from mobile source air toxics emissions. The *Air Quality Study Report* (2014) used projected traffic data, including peak and off-peak roadway traffic volumes and vehicle miles traveled, fleet mix, traffic diversion data, average speed, and associated changes in air toxics emissions from project alternatives. The following analysis provides an assessment of the project's local effects from mobile source air toxics emissions.

Information for Project-Specific Mobile Source Air Toxics Impact Analysis
Available technical tools do not enable reliable predictions of the project-specific health impacts of the emission changes associated with the alternatives in this environmental document. Due to these limitations, the following discussion is included in accordance with the Council on Environmental Quality regulations (40 Code of Federal Regulations 1502.22[b]) on incomplete or unavailable information.

Figure 3-31 National Mobile Source Air Toxic Emissions Trend, 1999 – 2050 for Vehicles Operating on Roadways



Information that is Unavailable or Incomplete

Evaluating the environmental and health impacts from mobile source air toxics on a proposed highway project would involve several key elements, including emissions modeling; dispersion modeling to estimate ambient concentrations resulting from the estimated emissions; exposure modeling to estimate human exposure to the estimated concentrations; and a final determination of health impacts based on the estimated exposure. Each of these steps is encumbered by technical shortcomings or uncertain science that prevents a more complete determination of the mobile source air toxic health impacts of this project.

Exposure Levels and Health Effects

Shortcomings in current techniques for exposure assessment and risk analysis do not permit reaching meaningful conclusions about project-specific health impacts. Exposure assessments are difficult because it is difficult to accurately calculate annual concentrations of mobile source air toxics near roadways and to determine the portion of a year that people are actually exposed to those concentrations at a specific location. These difficulties are magnified for 70-year cancer assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over a 70-year period. There are also considerable uncertainties associated with the existing estimates of toxicity of the various mobile source air toxics because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population. Because of these shortcomings, any calculated difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with calculating the impacts. Consequently, the results of such assessments would not be useful to decision-makers, who would need to weigh this information against other project impacts that are better suited for quantitative analysis.

Summary of Existing Credible Scientific Evidence Relevant to Evaluating the Impacts of Mobile Source Air Toxics

Research into the health impacts of mobile source air toxics is ongoing. For different emission types, various studies show that some are either statistically associated with adverse health outcomes through epidemiological studies (frequently based on emissions levels found in work settings) or that animals have adverse health outcomes when exposed to large doses. Exposure to toxics has been a focus of numerous U.S. Environmental Protection Agency efforts. Most notably, the agency's National Air Toxics Assessment in 1996 evaluated modeled estimates of human exposure at the county level. While not intended as a measure of or benchmark for local exposure, modeled estimates in the National Air Toxics Assessment database best show the levels of various toxics when aggregated to a national or state level.

In California, the South Coast Air Quality Management District did a comprehensive study on air toxics for the South Coast Air Basin (SCAQMD 2000, 2008). These studies identified particulate emissions, attributed mostly to diesel engines, as an important cancer risk factor. According to the studies, diesel particulate matter accounted for about 84 percent of the total cancer risk associated with the studied group of air pollutants. The studies also provided regional trends in estimated outdoor cancer risk from air toxics emissions.

Sensitive Receptors

Segment 1 of the Centennial Corridor is in an area of mixed land use. Figure 3-32 shows the sensitive receptors in the Segment 1 alternative study area.

Environmental Consequences

This section discusses long-term impacts on air quality in terms of regional air quality conformity and project-level conformity. Temporary impacts associated with construction of the project are addressed in Section 3.6, Construction Impacts.

Regional conformity and project-level conformity for the Westside Parkway (Segment 2) were analyzed in the *Westside Parkway Environmental Assessment/Final Environmental Impact Report.* Regional conformity was met, and no further analysis is required. Project-level conformity was also met. However, because connection with Segment 1 of the Centennial Corridor Project would substantially increase traffic on the Westside Parkway (Segment 2), the project-level analyses addressed in the *Air Quality Study Report* (February 2014) prepared for this project extended west of Segment 1 into the Westside Parkway.

Analysis of Build Alternatives

Regional Air Quality Conformity

In determining whether a project conforms to an approved air quality plan, agencies must use current emission estimates based on the most recent population, employment, travel, and congestion estimates determined by the Kern Council of Governments. As the Metropolitan Planning Organization for the region, the Council of Governments is required to develop and maintain long-range plans and programs, such as 20-year Regional Transportation Plans and 4-year (or longer) Regional Transportation Improvement Programs that set out transportation policies and programs for the region. A conforming Regional Transportation Improvement Program model projects that the regulated pollutants will be reduced to acceptable levels within time frames that meet the National Ambient Air Quality Standards.

The proposed project is listed in the financially constrained 2014 Kern County Regional Transportation Plan, which was found to conform by the Kern Council of Governments on June 19, 2014. The Federal Highway Administration and Federal Transportation Administration made a regional conformity determination on December 12, 2014. Segments 1 and 2 of the project are also included in the Kern Council of Governments' 2015 Federal Transportation Improvement Program, which was determined to conform by the Federal Highway Administration and Federal Transportation Administration on December 15, 2014.

The design concept and scope of the proposed project are consistent with the project description in the 2014 Regional Transportation Program, and the 2015 Federal Transportation Improvement Program, and the "open to traffic" assumptions of the Kern Council of Government's regional emissions analysis.

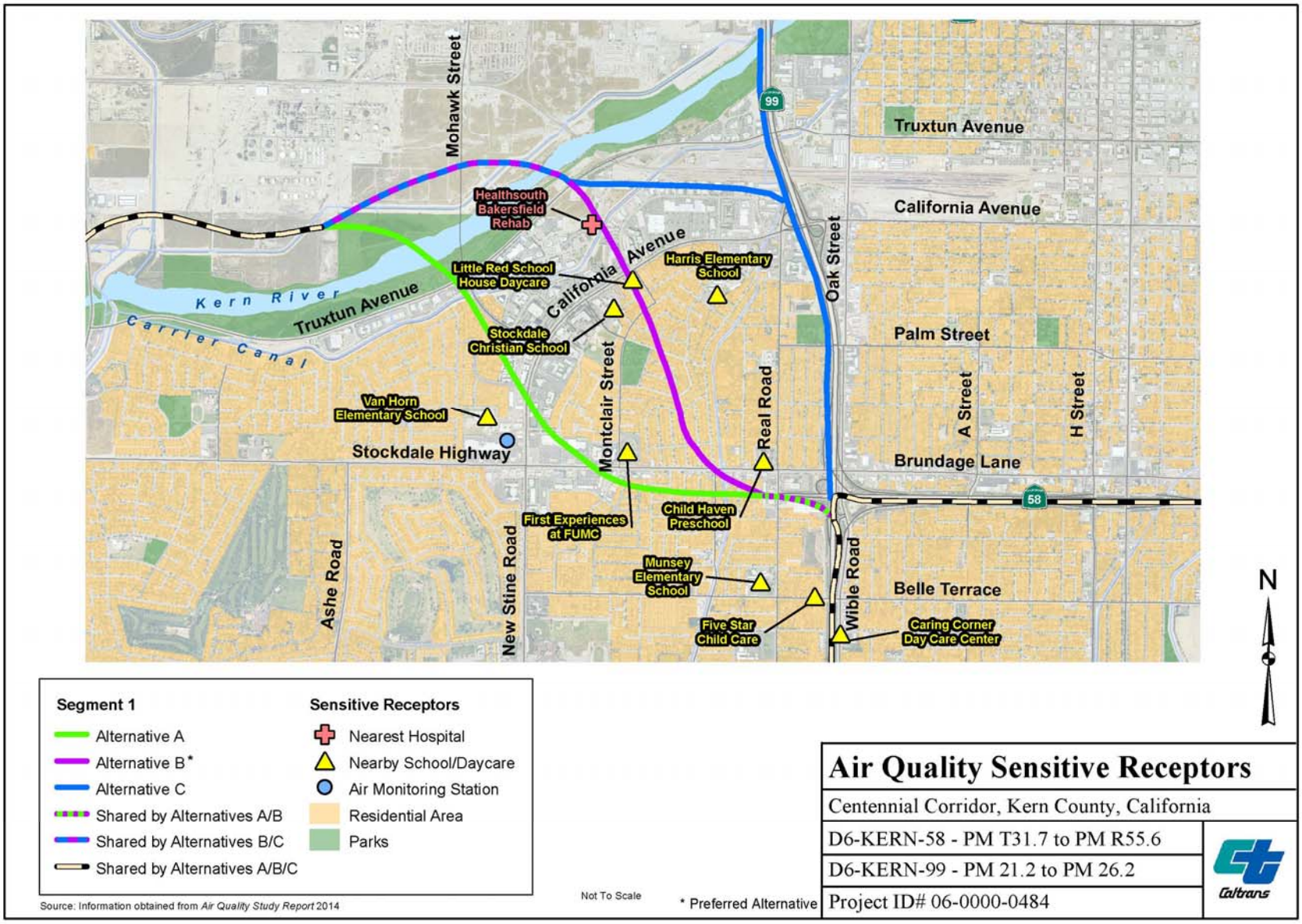

Mohawk Street
Truxtun Avenue
California Avenue
Oak Street
Palm Street
A Street
H Street
Brundage Lane
Real Road
Montclair Street
New Stine Road
Ashe Road
Wible Road
Belle Terrace
Kern River
Carrier Canal
Truxtun Avenue
California Avenue
Stockdale Highway
99
58
Healthsouth Bakersfield Rehab
Little Red School House Daycare
Harris Elementary School
Stockdale Christian School
Van Horn Elementary School
First Experiences at FUMC
Child Haven Preschool
Munsey Elementary School
Five Star Child Care
Caring Corner Day Care Center
N
Segment 1
Alternative A
Alternative B*
Alternative C
Shared by Alternatives A/B
Shared by Alternatives B/C
Shared by Alternatives A/B/C
Sensitive Receptors
Nearest Hospital
Nearby School/Daycare
Air Monitoring Station
Residential Area
Parks
Source: Information obtained from Air Quality Study Report 2014
Not To Scale
* Preferred Alternative
Air Quality Sensitive Receptors
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-32

Project-Level Conformity

The San Joaquin Valley Air Basin is designated as a nonattainment area for the following standards: federal and state ozone, federal and state fine particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), and state inhalable particulate matter less than 10 microns in diameter (PM_{10}). The basin is designated as an attainment/ maintenance area for federal carbon monoxide and inhalable particulate matter (PM_{10}) standards. Based on the federal attainment designations, a project-level transportation conformity determination is required for the project. Project-level transportation conformity was determined by hot spot analyses for carbon monoxide, inhalable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$).

To meet conformity requirements, a project-level hot spot analysis is required under the U.S. Environmental Protection Agency's Transportation Conformity Rule for projects of local air quality concern. The analysis is presented below. On August 7, 2014, the Federal Highway Administration issued the required air quality conformity determination letter for the Centennial Corridor Project (see Appendix H, Volume 2).

Section 40 Code of Federal Regulations 93.123(b)(1) of the Transportation Conformity Rule defines types of projects that are considered projects of local air quality concern, including the following:

- New or expanded highway projects that have a significant number of or significant increase in diesel vehicles.
- Projects affecting intersections that are at level of service D, E, or F with a significant number of diesel vehicles, or those that will change to level of service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project.

The Centennial Corridor Project falls within the category of new or expanded highway projects with a significant number of diesel vehicles. (The U.S. Environmental Protection Agency Guidance suggests that a project of air quality concern would be a project on a new highway or expressway that serves a significant volume of diesel truck traffic, such as facilities with greater than 125,000 annual average daily traffic, with 8 percent or more of such annual average daily traffic as diesel truck traffic.) The 2038 horizon year average annual daily traffic estimates, along segments of some of the study area roadways—including the Westside Parkway, State Route 58 and State Route 99—are projected to be above 150,000 vehicles. The average diesel truck percentage using State Route 99 and the Westside Parkway (when the construction is completed) within the project limits ranges (or will range, in Westside Parkway's case) from 17 to 24 percent. It is not expected that the vehicle fleet mix would change significantly in the future years. According to the traffic operations analysis, several intersections with level of service D, E, and F within the project limits would be affected. Therefore, the project would be considered as a project of local air quality concern.

Carbon Monoxide Hot Spot Analysis

Localized carbon monoxide impacts from the project alternatives were evaluated following the 1997 Caltrans guidance document titled *Transportation Project-Level Carbon Monoxide Protocol*. A quantitative hot spot analysis was done at 10 intersections that would have the highest traffic volume and the worst peak hour level of service (with level of service E or F) according to the *Traffic Study Report for the Centennial Corridor Project* (November 2012). The results are summarized in Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, of this environmental document. The intersections were selected based on their proximity to residential sites and sensitive receptors.

Localized concentrations of carbon monoxide were estimated for existing conditions (2008), opening year (2018), and horizon year (2038) for each build alternative and for the No-Build Alternative using the CALINE4 dispersion model (developed by Caltrans), in conjunction with emission factors from the California Air Resources Board emission factor model EMFAC2007.

Background carbon monoxide concentrations were taken from the Bakersfield-California Avenue Monitoring Station at 5558 California Avenue, which is about 0.2 mile from the Alternative A alignment, about 0.6 mile from the Alternative B alignment, and about 1.1 mile from the Alternative C alignment (see Figure 3-32). Because the air basin is in a maintenance area for carbon monoxide standards, using the average ambient concentrations during the past four years at this monitoring station is appropriate for background concentrations for future years as well as the existing condition.

Results of localized carbon monoxide analysis for Alternative A, shown in Table 3.25, indicate that, for all analyzed intersections, future predicted carbon monoxide concentrations are expected to be less than the existing levels. These reductions, even with projected regional growth and increased traffic, are due to cleaner-burning fuels and improved vehicle emission standards.

All predicted concentrations are estimated to be less than 50 percent of the applicable standards. The modeled data show very little difference in the carbon monoxide concentrations, without or with the project. As Table 3.25 shows, the project would not have a considerable impact on 1-hour or 8-hour local carbon monoxide concentrations at the intersections with the highest traffic volumes. No substantial adverse effect is expected to occur at any other locations in the study area. The project would not contribute to a violation of standards, and project-level carbon monoxide conformity would be satisfied.

The modeled localized carbon monoxide concentrations for Alternatives A, B, and C are shown in Tables 3.25, 3.26, and 3.27, respectively. The results for all the alternatives are very similar and would not contribute to a violation of standards, and project-level carbon monoxide conformity would be satisfied.

Particulate Matter (PM) Hot Spot Analysis

The U.S. Environmental Protection Agency's Transportation Conformity Rule (40 Code of Federal Regulations Parts 51.390 and Part 93, March 2012) addresses local air quality impacts in particulate matter (PM_{10} and $PM_{2.5}$) federal nonattainment and maintenance areas. The rule provides criteria and procedures to ensure that any such project will not cause or contribute to new violations, increase the frequency or severity of any existing violations, or delay the timely attainment of the relevant National Ambient Air Quality Standard as described in 40 Code of Federal Regulations Part 93.101. In March 2006, the U.S. Environmental Protection Agency issued a guidance document with a methodology for qualitative particulate matter analysis. The qualitative analysis is required effective March 10, 2006. The qualitative analysis requires analysis based on the U.S. Environmental Protection Agency's Transportation Conformity Guidance for Qualitative Hot-spot Analyses in Particulate Matter ($PM_{2.5}$ and PM_{10}) Nonattainment and Maintenance Areas.

As of December 20, 2012, a quantitative particulate matter hot-spot analysis (dispersion modeling) is required by the U.S. Environmental Protection Agency. Since the Centennial Corridor Project environmental document review process was initiated in 2008 and the associated technical studies prepared as part of the environmental document, were conducted in 2011, the qualitative analysis is therefore appropriate for this project.

Methodology

The qualitative particulate matter hot spot analysis was conducted following the joint U.S. Environmental Protection Agency / Federal Highway Administration Transportation Conformity Guidance for Qualitative Hot Spot Analysis in particulate matter (PM_{10} and $PM_{2.5}$) nonattainment and maintenance areas dated March of 2006. In accordance with the guidance, the project was analyzed for total emission burden of direct particulate matter (PM_{10} or $PM_{2.5}$) emissions that could be attributed to the implementation of the project (including re-entrained road dust). Roadway construction emissions were not included since the construction is anticipated to last less than the 5-year requirement (anticipated construction will last 3 years). The analysis encompassed all roadways (including local surface streets) that would be affected by the project. As mentioned previously, the project is included in the current approved Regional Transportation Plan and Federal Transportation Improvement Program as required for a project-level conformity determination.

Table 3.25 Localized Carbon Monoxide Concentrations – Alternative A

Intersection	Peak Hour	1-hour Concentration (parts per million)					8-hour Concentration (parts per million)				
		Base Year 2008	Opening Year 2018		Horizon Year 2038		Base Year 2008	Opening Year 2018		Horizon Year 2038	
			No-Build Alternative	Build Alternative	No-Build Alternative	Build Alternative		No-Build Alternative	Build Alternative	No-Build Alternative	Build Alternative
Coffee Road and Stockdale Highway	AM	8.2	4.5	4.5	4.1	4.1	4.79	2.83	2.83	2.62	2.62
	PM	7.4	4.7	4.8	4.3	4.2	4.44	2.97	3.04	2.76	2.69
Mohawk Street and California Avenue	AM	8.1	6.6	6.4	5.5	5.0	4.65	3.67	3.60	3.18	2.97
	PM	6.4	5.4	5.3	4.7	4.3	4.09	3.46	3.39	3.11	2.90
California Avenue and Stockdale Highway	AM	6.6	4.9	4.7	4.5	4.0	4.02	3.04	2.97	2.83	2.62
	PM	7.9	5.2	5.0	4.5	4.3	4.93	3.25	3.18	2.90	2.76
Chester Lane and California Avenue	AM	5.1	4.2	4.2	3.8	3.8	3.11	2.62	2.69	2.41	2.48
	PM	5.8	4.5	4.5	4.0	4.0	3.46	2.76	2.76	2.48	2.55
State Route 99 southbound Ramp and California Avenue	AM	6.1	4.7	4.7	4.1	4.1	3.74	2.83	2.90	2.62	2.62
	PM	7.2	5.0	5.2	4.2	4.4	4.30	3.11	3.18	2.69	2.76
Coffee Road and Rosedale Highway	AM	6.3	4.7	4.7	4.1	4.1	3.88	2.97	2.97	2.62	2.62
	PM	6.6	5.0	5.1	4.2	4.2	4.02	3.18	3.25	2.76	2.69
Stine Road and Stockdale Highway	AM	–*	5.0	4.3	4.4	3.8	–*	2.97	2.76	2.76	2.48
	PM	–*	5.3	4.7	4.6	4.1	–*	3.18	2.97	2.90	2.62
Real Road and Stockdale Highway	AM	8.8	5.8	4.5	4.6	3.9	4.30	3.18	2.76	2.76	2.48
	PM	8.9	5.9	4.8	4.7	4.1	4.44	3.25	2.83	2.83	2.55
Wible Road and White Lane	AM	6.3	4.5	4.6	4.0	4.0	3.81	2.83	2.83	2.55	2.55
	PM	6.7	4.8	4.8	4.1	4.1	4.02	2.97	3.04	2.62	2.62
H Street and Brundage Lane	AM	5.1	4.1	4.2	3.8	3.8	3.11	2.62	2.69	2.48	2.48
	PM	5.4	4.3	4.4	3.9	3.9	3.32	2.76	2.76	2.55	2.55
State Standard (parts per million)		20					9.0				
Federal Standard (parts per million)		35					9				

AM: morning peak hour; PM: afternoon peak hour.

* This is a future intersection that did not exist in the base year 2008.

Notes:

- Total carbon monoxide concentrations include background 1-hour and 8-hour concentrations of 3.3 and 2.2 parts per million, respectively, based on the maximum values recorded during the past 4 years at the California Avenue monitoring station. Model files are included in the February 2014 *Air Quality Study Report.*
- Emission factors were obtained using EMFAC2007 model and for winter (worst case for carbon monoxide exhaust emissions).
- Actual emissions would likely be smaller for certain roadways and the overall project than reported in this table because the predicted truck volumes on parts of the Westside Parkway and State Route 58 are smaller than those used in this analysis which represents the worst case.

Source: *Air Quality Study Report* 2014.

Table 3.26 Localized Carbon Monoxide Concentrations – Alternative B (Preferred Alternative)

Intersection	Peak Hour	1-hour Concentration (parts per million)					8-hour Concentration (parts per million)				
		Base Year 2008	Opening Year 2018		Horizon Year 2038		Base Year 2008	Opening Year 2018		Horizon Year 2038	
			No-Build Alternative	Build Alternative	No-Build Alternative	Build Alternative		No-Build Alternative	Build Alternative	No-Build Alternative	Build Alternative
Coffee Road and Stockdale Highway	AM	8.2	4.5	4.6	4.1	4.1	4.79	2.83	2.90	2.62	2.62
	PM	7.4	4.7	4.9	4.3	4.2	4.44	2.97	3.04	2.76	2.69
Mohawk Street and California Avenue	AM	8.1	6.6	6.3	5.5	5.0	4.65	3.67	3.60	3.18	2.97
	PM	6.4	5.4	5.3	4.7	4.3	4.09	3.46	3.39	3.11	2.83
California Avenue and Stockdale Highway	AM	6.6	4.9	4.7	4.5	4.0	4.02	3.04	2.97	2.83	2.62
	PM	7.9	5.2	5.0	4.5	4.2	4.93	3.25	3.18	2.90	2.76
Chester Lane and California Avenue	AM	5.1	4.2	4.2	3.8	3.8	3.11	2.62	2.69	2.41	2.48
	PM	5.8	4.5	4.5	4.0	4.0	3.46	2.76	2.76	2.48	2.48
State Route 99 southbound Ramp and California Avenue	AM	6.1	4.7	4.6	4.1	4.2	3.74	2.83	2.90	2.62	2.62
	PM	7.2	5.0	5.2	4.2	4.3	4.30	3.11	3.18	2.69	2.76
Coffee Road and Rosedale Highway	AM	6.3	4.7	4.7	4.1	4.1	3.88	2.97	2.97	2.62	2.69
	PM	6.6	5.0	5.1	4.2	4.2	4.02	3.18	3.18	2.76	2.69
Stine Road and Stockdale Highway	AM	–*	5.0	4.4	4.4	3.8	–*	2.97	2.76	2.76	2.48
	PM	–*	5.3	4.7	4.6	4.1	–*	3.18	2.90	2.90	2.62
Real Road and Stockdale Highway	AM	8.8	5.8	4.4	4.6	3.9	4.30	3.18	2.69	2.76	2.48
	PM	8.9	5.9	4.8	4.7	4.2	4.44	3.25	2.90	2.83	2.62
Wible Road and White Lane	AM	6.3	4.5	4.5	4.0	4.0	3.81	2.83	2.83	2.55	2.55
	PM	6.7	4.8	4.8	4.1	4.1	4.02	2.97	2.97	2.62	2.62
H Street and Brundage Lane	AM	5.1	4.1	4.2	3.8	3.8	3.11	2.62	2.69	2.48	2.48
	PM	5.4	4.3	4.5	3.9	3.9	3.32	2.76	2.83	2.55	2.55
State Standard (parts per million)		20					9.0				
Federal Standard (parts per million)		35					9				

AM: morning peak hour; PM: afternoon peak hour.
* This is a future intersection that did not exist in the base year 2008.

Notes:

- Total carbon monoxide concentrations include background 1-hour and 8-hour concentrations of 3.3 and 2.2 parts per million, respectively, based on the maximum values recorded during the past 4 years at the California Avenue monitoring station. Model files are included in the February 2014 *Air Quality Study Report.*
- Emission factors were obtained using EMFAC2007 model and for winter (worst case for carbon monoxide exhaust emissions).
- Actual emissions would likely be smaller for certain roadways and the overall project than reported in this table because the predicted truck volumes on parts of the Westside Parkway and State Route 58 are smaller than those used in this analysis which represents the worst case .

Source: *Air Quality Study Report* 2014.

Table 3.27 Localized Carbon Monoxide Concentrations – Alternative C

Intersection	Peak Hour	1-hour Concentration (parts per million)					8-hour Concentration (parts per million)				
		Base Year 2008	Opening Year 2018		Horizon Year 2038		Base Year 2008	Opening Year 2018		Horizon Year 2038	
			No-Build Alternative	Build Alternative	No-Build Alternative	Build Alternative		No-Build Alternative	Build Alternative	No-Build Alternative	Build Alternative
Coffee Road and Stockdale Highway	AM	8.2	4.5	4.6	4.1	4.1	4.79	2.83	2.90	2.62	2.62
	PM	7.4	4.7	4.7	4.3	4.2	4.44	2.97	2.97	2.76	2.69
Mohawk Street and California Avenue	AM	8.1	6.6	6.4	5.5	5.1	4.65	3.67	3.60	3.18	2.97
	PM	6.4	5.4	5.2	4.7	4.4	4.09	3.46	3.39	3.11	2.83
California Avenue and Stockdale Highway	AM	6.6	4.9	4.7	4.5	4.0	4.02	3.04	2.97	2.83	2.55
	PM	7.9	5.2	5.0	4.5	4.2	4.93	3.25	3.18	2.90	2.76
Chester Lane and California Avenue	AM	5.1	4.2	4.2	3.8	3.8	3.11	2.62	2.69	2.41	2.48
	PM	5.8	4.5	4.5	4.0	4.0	3.46	2.76	2.76	2.48	2.48
State Route 99 southbound Ramp and California Avenue	AM	6.1	4.7	4.5	4.1	4.0	3.74	2.83	2.90	2.62	2.62
	PM	7.2	5.0	5.1	4.2	4.3	4.30	3.11	3.18	2.69	2.76
Coffee Road and Rosedale Highway	AM	6.3	4.7	4.7	4.1	4.1	3.88	2.97	3.04	2.62	2.62
	PM	6.6	5.0	5.0	4.2	4.3	4.02	3.18	3.18	2.76	2.76
Stine Road and Stockdale Highway	AM	–*	5.0	4.4	4.4	3.9	–*	2.97	2.69	2.76	2.48
	PM	–*	5.3	4.8	4.6	4.1	–*	3.18	2.97	2.90	2.62
Real Road and Stockdale Highway	AM	8.8	5.8	5.2	4.6	4.2	4.30	3.18	2.97	2.76	2.62
	PM	8.9	5.9	5.3	4.7	4.4	4.44	3.25	3.11	2.83	2.69
Wible Road and White Lane	AM	6.3	4.5	4.5	4.0	4.0	3.81	2.83	2.83	2.55	2.55
	PM	6.7	4.8	4.7	4.1	4.1	4.02	2.97	2.97	2.62	2.62
H Street and Brundage Lane	AM	5.1	4.1	4.1	3.8	3.7	3.11	2.62	2.62	2.48	2.41
	PM	5.4	4.3	4.2	3.9	3.8	3.32	2.76	2.69	2.55	2.41
State Standard (parts per million)		20					9.0				
Federal Standard (parts per million)		35					9				

AM: morning peak hour; PM: afternoon peak hour.

* This is a future intersection that did not exist in the base year 2008.

Notes:

- Total carbon monoxide concentrations include background 1-hour and 8-hour concentrations of 3.3 and 2.2 parts per million, respectively, based on the maximum values recorded during the past 4 years at the California Avenue monitoring station. Model files are included in the February 2014 *Air Quality Study Report.*
- Emission factors were obtained using EMFAC2007 model and for winter (worst case for carbon monoxide exhaust emissions).
- Actual emissions would likely be smaller for certain roadways and the overall project than reported in this table because the predicted truck volumes on parts of the Westside Parkway and State Route 58 are smaller than those used in this analysis which represents the worst case.

Source: *Air Quality Study Report* 2014.

The U.S. Environmental Protection Agency and Federal Highway Administration established in the Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in PM_{10} and $PM_{2.5}$ Nonattainment and Maintenance Areas (Federal Highway Administration and U.S. Environmental Protection Agency 2006) highlighted two of the following methods for completing a particulate matter (PM_{10} or $PM_{2.5}$) hot-spot analysis:

1. Comparison to another location with similar characteristics – (pollutant trend within the air basin)
2. Air quality studies for the proposed project location – (ambient particulate matter trend analysis in the project area)

The project-level analysis uses a hybrid approach to demonstrate that the proposed project would not result in a new or worsened particulate matter (PM_{10} or $PM_{2.5}$) violation. Air data gathered from the local air district was used to establish the ambient particulate matter trend in proposed project area and will not delay attainment of the National Ambient Air Quality Standards. Documentation from the San Joaquin Valley Air Pollution Control District State Implementation Plan was referenced to establish the regional emissions trends for the project area.

In addition to meeting regional conformity requirements as demonstrated in the Regional Transportation Plan, the project is required to demonstrate that the project will not cause or contribute to any localized violations of particulate matter thresholds, or add to existing violations of the standard, or delay timely attainment of the relevant standard. As such, the project needed to be analyzed at the project level and broken down into more detailed emissions calculations. As the qualitative analysis evolved it became apparent that the example methodologies listed in the U.S. Environmental Protection Agency guidance would not adequately address the project-level impacts with respect to this project. A methodology was derived using a quasi quantitative element that would use the U.S. Environmental Protection Agency approved EMFAC emissions model to compare the project alternatives to the no-build condition.

The analysis included the proposed Segment 1 alignment and also all major local surface streets that would be affected by the project. The following roadway segments and intersections were included in the analysis:

- State Route 58 – State Route 99 to Cottonwood
- State Route 99 – White Lane to State Route 204
- State Route 204 – State Route 99 to Union Road
- Segment 1 – Alternative A, B, and C
- Rosedale Highway – Allen Road to State Route 99
- Stockdale Highway – Allen Road to Oak Street
- Truxtun Avenue – Coffee Road to Oak Street
- Hageman Avenue – Allen Road to State Route 99
- Union Avenue – State Route 204 to State Route 58

- Ming Avenue – Allen Road to Union Road
- Real Road – State Route 58 to California Avenue
- California Avenue – Stockdale Highway to Oak Avenue
- Brundage Lane – Oak Avenue to Union Avenue
- Mohawk Street – California Avenue to Hageman Road
- Westside Parkway – West Beltway to State Route 99
- Allen Road – Ming Avenue to Hageman Road
- Calloway Drive – Ming Avenue to Hageman Road
- Coffee Road – Ming Avenue to Hageman Road
- Wible Road/Oak Street – Ming Avenue to 24th Street
- Off-/On-Ramps: State Route 99 from White Lane Road to State Route 204, State Route 58 from State Route 99 to Cottonwood Road, Westside Parkway from Allen Road to State Route 99
- Intersections: Rosedale Highway/Calloway Drive, Rosedale Highway/Coffee Road, Rosedale Highway/Mohawk Street, Mohawk Street/Truxtun Avenue, Mohawk Street/California Avenue, Stockdale Highway/California Avenue, California Avenue/Chester Lane, California Avenue, State Route 99 Southbound Off-/On Ramps, Stockdale Highway Avenue/Stine Road, Stockdale Highway/Real Road, H Street/ State Route 58 Westbound Ramp, and H Street/ State Route 58 Eastbound Ramp

Each roadway listed above was subdivided into segments that were characterized by volume, speed, length, truck and car proportion. A total of 330 roadway segments were used to calculate emissions for the build and no-build conditions. This approach was used as a way to capture the entire project emissions along mainlines as well as local roadways. The emissions of each roadway segments were summed up to provide the total emissions.

The analysis compared future emissions (year 2038) for the horizon or design year of the No-Build Alternative to the three build alternatives. In addition, further analysis compared opening year (2018) emissions for Alternative B (Preferred Alternative) to the No-Build Alternative. The emissions were calculated using the latest Environmental Protection Agency's approved emissions model, EMFAC 2011. There is an older version of EMFAC (EMFAC 2007); however, it was decided that to be more accurate with the project emissions the latest and recently updated EMFAC 2011 should be used. Since EMFAC 2011 does not provide emission factors beyond 2035, the 2035 emission factors were used with the 2038 traffic data to develop the 2038 emissions results.

Particulate Matter ($PM_{2.5}$ and PM_{10}) Emissions

Table 3.28 provides the sum total of tailpipe, brake wear, and tire wear of particulate matter ($PM_{2.5}$ and PM_{10}) emissions.

Re-entrained Particulate Matter (PM_{10}) road dust was also considered. It was estimated based on the existing and projected traffic data; and was computed using the emission factor equations provided in the Fifth Edition, Volume I of the Environmental Protection Agency's AP-42 document dated January 2011. As shown in Table 3.29, implementation of the proposed project is anticipated to result in reduction of re-entrained Particulate Matter (PM_{10}) road dust for Alternatives A and C, and a slight increase in Alternative B.

Table 3.28 Future Particulate Matter (PM_{10} and $PM_{2.5}$) Emission Reductions by Project Alternatives

Alternative	Total VMT (2038)	Existing (Lb/day)	Year 2018 (Lb/day)	Year 2018 % Emission Reduction when compared to No Build	Year 2038 (Lb/day)	Year 2038 % Emission Reduction when compared to No Build
Particulate Matter (PM_{10})						
No-Build	3,986,596	782.4	409.1		534.5	
Alternative A	3,557,527	--	Not calculated		467.1	-12.6%
Alternative B (Preferred Alternative)	4,154,021	--	407.6	-0.37%	534.3	-0.04%
Alternative C	3,866,240	--	Not calculated		503.0	-5.9%
Fine Particulate Matter ($PM_{2.5}$)						
No-Build		480.3	196.3		250.4	
Alternative A		--	Not calculated		217.4	-13.2%
Alternative B (Preferred Alternative)		--	195.5	-0.41%	246.1	-1.7%
Alternative C		--	Not calculated		233.7	-6.7%
Source: *Air Quality Study Report* 2014.						

Table 3.29 PM_{10} Re-entrained Road Dust by Project Alternatives (Year 2038)

Alternative	Total VMT	Re-entrained Dust (lb/day)
No-Build	3,986,596	0.57
Alternative A	3,557,527	0.51
Alternative B (Preferred Alternative)	4,154,021	0.59
Alternative C	3,866,240	0.55
Source: *Air Quality Study Report* 2014.		

Summaries of particulate matter ($PM_{2.5}$ and PM_{10}) emissions in Table 3.28 indicate that the implementation of the project would result in reduction of particulate matter ($PM_{2.5}$ and PM_{10}) emissions when compared to the No-Build scenario. It should be noted that this reduction in the Build emissions has resulted despite its overall

increase in the truck and total volumes along the Centennial Corridor within the project limits. Additionally, traffic data did not include increased idling times on the local streets that would occur without the project being built. Idling times would dramatically raise the particulate matter quantities for the No-Build with most concentrations added along Rosedale and Stockdale Highways.

Conformity Determination

As mentioned earlier, the project is contained in the approved Regional Transportation Plan and included in the regional emissions analysis that was used to meet regional conformity for the Kern County area. Based upon the above analysis results, this project will not delay timely attainment of the particulate matter (PM_{10} or $PM_{2.5}$) National Ambient Air Quality Standards for the Kern County area.

As indicated in Tables 3.28 and 3.29, the project would result in lower particulate matter (PM_{10} and $PM_{2.5}$) emissions when compared to the No-Build scenario. This decrease in the particulate matter emissions is the result of increase in vehicle speeds and reduction of congestion anticipated with implementation of the project. As such the project will not cause any new particulate matter violations or worsen existing particulate matter violations in the project area. Activities of this project should, therefore, be considered consistent with the purpose of the State Implementation Plan and it should be determined that this project conforms to the requirements of the Clean Air Act.

In May 2012, the San Joaquin Valley Interagency Consultation Group met to discuss the Centennial Corridor Project, a project of air quality concern. Through the interagency consultation process it was determined that a qualitative hot spot analysis was the appropriate level of analysis. On September 19, 2013, Caltrans sent the *Qualitative Particulate Matter (PM10 and PM2.5) Hot Spot Analysis* prepared for the Centennial Corridor Project to the San Joaquin Valley Interagency Consultation Group. This group consists of representatives from: Caltrans, Federal Highway Administration, Environmental Protection Agency, Federal Transit Administration, California Air Resource Board, San Joaquin Council of Governments, Stanislaus Council of Governments, Merced County Association of Governments, Madera County Transportation Commission, Fresno County Council of Governments, Kings County, Tulare County Association of Governments, Kern County Council of Governments, and San Joaquin Valley Air Pollution Control District.

Based on the qualitative analysis, the Federal Highway Administration provided concurrence that the Centennial Corridor Project meets the PM2.5 and PM10 project-level conformity requirements and will not cause or contribute to any new violations of PM standards in any area; increase the frequency or severity of the existing any existing violation, delay timely attainment of PM reductions or milestones. The Federal Highway Administration concurrence and Interagency Consultation are included in Appendix O.

The project as a whole will improve particulate matter emissions within the project limits as shown in the particulate matter qualitative analysis in Table 3.28. However, residents located along the new alignment portion of State Route 58 will experience an increase in traffic within the vicinity of their neighborhood. Total particulate matter emissions for horizon year 2038 for the Preferred Alternative B have been calculated to be approximately 8 tons. The construction of the Preferred Alternative B alignment would shift traffic towards the new alignment and would result in a decrease in particulate matter at local arterials within this same segment area, including major arterials such as: Rosedale Highway (decrease of 2.2 tons), Stockdale Highway (decrease of 2.7 tons) and Truxtun Avenue (decrease of 1.5 tons). Local minor roads would also experience a decrease in particulate matter emissions due to traffic shifting to the new freeway alignment.

Additionally, Caltrans has entered in a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District to provide measures to improve local air quality within the project area (see Appendix L in Volume 2). This agreement will offset any localized particulate matter impacts due to project emissions. See the "Avoidance, Minimization, and/or Mitigation Measures" section for more details on the Voluntary Emission Reduction Agreement.

Construction Conformity

Construction activities will not last more than 5 years at one general location, so construction-related emissions do not need to be included in regional and project-level conformity analysis (40 Code of Federal Regulations 93.123(c)(5)).

Mobile Source Air Toxics

Mobile source air toxics emissions were estimated for each build alternative and the No-Build Alternative for the base year (2008), opening year (2018), and the horizon year (2038) along segments of the eight roadways studied in the project traffic study. Future year analysis compared alternatives, while the 2008 emissions were included to show the effect of current vehicle miles traveled and the degree of control plans on emissions of mobile source air toxics. Analysis was done for seven air toxics identified as priority mobile source air toxics by the U.S. Environmental Protection Agency. The EMFAC2011 model and latest version of the Caltrans' CT-EMFAC Model (Version 4.0 - Sonoma Technology, Inc. 2010) were used to estimate project-specific mobile source air toxics emissions. Detail about methodology and data used for analysis can be found in the *Air Quality Study Report* for the project.

The following roadway segments were included in the analysis:

- Rosedale Highway – between Allen Road and State Route 99
- Stockdale Highway – between Allen Road and H Street
- California Avenue – between Stockdale Highway and State Route 99
- Westside Parkway – between Allen Road and State Route 99 (note traffic volume does not exist on Westside Parkway for base year 2008)

- State Route 58 East – between State Route 99 and Cottonwood Road
- State Route 99 – between Airport Drive and White Lane
- Mohawk Street – between California Avenue and Rosedale Highway
- Real Road – between Stockdale Highway and California Avenue

Tables 3.30 and 3.31 present the estimated daily emissions of priority mobile source air toxics from analyzed roadways for opening year (2018) and horizon year (2038), respectively. Because the health impact of mobile source air toxics on humans in proximity to roadways is still under study, this quantitative analysis is provided only to compare different project alternatives. It should be noted that the results of calculation shown in these tables are conservative. Actual emissions would likely be less for most roadways and also the overall project because the number of roadway segments used in the calculations is fewer than that used in the particulate matter hot-spot analysis described above. In addition, the predicted truck volumes and speeds on each roadway used in the model were higher than the traffic model results due to the averaging methodology used. In addition, based on a Federal Highway Administration analysis using Environmental Protection Agencies' MOVES2010b model, as shown in Figure 3-33, even if vehicle-miles travelled (VMT) increases by 102 percent as assumed from 2010 to 2050, a combined reduction of 83 percent in the total annual emissions for the priority MSAT is projected for the same time period.

Based on the results of the mobile source air toxics emissions within the studied roadway, a significant decrease (50 percent) in mobile source air toxics emissions can be expected for the project alternatives as compared with the base year (2008) levels through future year levels. The decrease is expected to occur for all priority mobile source air toxics. This is directly due to the improved pollution emission performance of a modernizing fleet, including diesel-fueled vehicles, which is a trend that is expected to continue throughout the planning horizon. This finding is consistent with the Federal Highway Administration-projected trend, shown in Figure 3-31.
When comparing both the no-build and build alternatives between 2018 and 2038, the results are mixed. However, the results for 2038 are generally lower when compared to 2018 levels of benzene, 103 butadiene, formaldehyde, and acrolein, depending upon pollutant and alternative. For naphthalene, polycyclic organics, and diesel particulate matter, the emissions in 2038 would be higher than those in 2018.

The mobile source air toxics emissions from each build alternative would be less than the No-Build Alternative along several studied roadways. For most of the study area roadways, the three build alternatives are comparable in level of emissions, while Alternative A exhibits lower mobile source air toxics emissions than Alternatives B and C in the opening year and slightly lower emissions than Alternatives B and C in the horizon year. The mobile source air toxics emissions level of Alternatives B and C are in the same order of magnitude.

Table 3.30 Comparison of Mobile Source Air Toxics Emissions for Project Alternatives – Opening Year 2018

Roadway Scenario/ Alternative	Mobile Source Air Toxics Emissions (grams per day)						
	Benzene	1,3-Butadiene	Formaldehyde	Acrolein	Naphthalene	Polycyclic Organics	Diesel Particulate Matter[a]
Base Year (2008)	7,835	1,692	12,728	368	2,845	395	66,533
No-Build Alternative	3,577	730	7,606	153	1,211	168	31,948
Alternative A	3,743	768	7,797	162	1,244	173	31,115
Alternative B (Preferred Alternative)	3,864	793	8,042	167	1,297	180	32,332
Alternative C	3,848	788	8,098	165	1,319	183	33,257
Project increment (change from No-Build Alternative)							
Alternative A	**166**	**38**	**191**	**9**	**33**	**5**	-833
Alternative B (Preferred Alternative)	**287**	**63**	**436**	**14**	**86**	**12**	**384**
Alternative C	**270**	**58**	**492**	**12**	**108**	**15**	**1309**

[a] Diesel Particulate Matter includes emissions of inhalable particulate matter (PM_{10}) and total organic gases from diesel-powered vehicles traveling along the roadway.

Notes: Methodology and calculation worksheets are provided in the *Air Quality Study Report.*

The results of calculation shown in this table are conservative. Actual emissions would likely be less for most roadways and also the overall project because the number of roadway segments used in the calculations is fewer than that used in the particulate matter hot-spot analysis. In addition, the predicted truck volumes and speeds on each roadway used in the model were higher than the traffic model results due to the averaging methodology used.

Source: Developed from the *Air Quality Study Report* 2014.

Table 3.31 Comparison of Mobile Source Air Toxics Emissions for Project Alternatives – Horizon Year 2038

Roadway Scenario/ Alternative	Mobile Source Air Toxics Emissions (grams per day)						
	Benzene	**1,3-Butadiene**	**Formaldehyde**	**Acrolein**	**Naphthalene**	**Polycyclic Organics**	**Diesel Particulate Matter[a]**
Base Year (2008)	7,835	1,692	12,728	368	2845	395	66,533
No-Build Alternative	3,274	680	6,596	143	1,371	192	35,266
Alternative A	3,596	751	7,073	159	1,557	218	38,981
Alternative B (Preferred Alternative)	3,693	772	7,224	163	1,598	224	39,495
Alternative C	3,716	782	7,013	166	1,531	214	37,833
Project increment (change from No-Build Alternative)							
Alternative A	**322**	**71**	**477**	**16**	**186**	**26**	**3,715**
Alternative B (Preferred Alternative)	**419**	**92**	**628**	**20**	**227**	**32**	**4,229**
Alternative C	**442**	**102**	**417**	**23**	**160**	**22**	**2,567**

[a] Diesel Particulate Matter includes emissions of PM_{10} and total organic gases (TOG) from diesel-powered vehicles traveling along the roadway.

Notes: Methodology and calculation worksheets are provided in the *Air Quality Study Report.*

The results of calculation shown in this table are conservative. Actual emissions would likely be less for most roadways and also the overall project because the number of roadway segments used in the calculations is fewer than that used in the particulate matter hot-spot analysis. In addition, the predicted truck volumes and speeds on each roadway used in the model were higher than the traffic model results due to the averaging methodology used.

Source: Developed from the *Air Quality Study Report* 2014.

In summary, the U.S. Environmental Protection Agency projections indicate a continuing downward trend of all seven primary mobile source air toxics. Comparison of the data in Tables 3.30 and 3.31 indicates that, even with an increase in traffic volume (and vehicle miles traveled), the mobile source air toxics emissions are expected to decline from opening year to horizon year. Due to the comparably less detailed roadway network coverage used in the mobile source air toxics emissions calculation, the analysis shows a general increase in total emissions for the build alternatives compared to the No-Build Alternative. However, the 2038 data show a relatively small increase over the no-build emissions, even though the vehicle miles traveled increase would be considerable.

The study of mobile source air toxics, dose-response effects, and modeling tools are currently in a state where accurate information is incomplete or unavailable. This is relevant to making a viable prediction of any reasonably foreseeable adverse effects on the human environment. Studies are currently being done to clarify some of these unknowns; however, information is not yet available.

No-Build Alternative

The No-Build Alternative would not make any project improvements in Segment 1; however, Segment 2 (Westside Parkway) from Allen Road to Truxtun Avenue is now operational. Additionally, the final segment of the Westside Parkway (from Allen Road to Stockdale Highway) will be completed in 2014. Therefore, the operational consequences of Segment 2, in the absence of Segment 1, are considered as part of the No-Build Alternative. The regional and project-level conformity for the Westside Parkway under no Centennial Corridor Project were analyzed in the *Westside Parkway Environmental Assessment/Final Environmental Impact Report.* Regional and project-level conformity were shown, and no further analysis is required. Operation of Segment 2 only was judged to not create a new violation or worsen an existing violation of the National Ambient Air Quality Standards for particulate matter (PM_{10} or $PM_{2.5}$). However, this alternative is not consistent with regional goals and policies for congestion management and traffic condition improvement, and it would not be consistent with the projected regional growth and the local government goals and policies for reducing air quality emissions within its respective jurisdiction.

Avoidance, Minimization, and/or Mitigation Measures

Caltrans has entered into a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District to provide measures to improve local air quality within the project area, as shown in Appendix L, Volume 2.

The San Joaquin Valley Air Pollution Control District's Voluntary Emission Reduction Agreement is a grant/incentive program. The $1.5 million dollars provided by Caltrans to the San Joaquin Valley Air Pollution Control District to fund this Voluntary Emission Reduction Agreement will be used to award funds to programs, businesses, residents, and municipalities to generate real and quantifiable reductions in emissions for the Bakersfield area and the Central Valley. Participation by Bakersfield residents is voluntary and is available to residents living within a certain

distance of the project alignment. The following are some examples of how these funds will be used to reduce air pollution:

- Grants to residents to purchase cleaner vehicles through the San Joaquin Valley Air Pollution Control District's Drive Clean Rebate Program
- Grants to residents through the San Joaquin Valley Air Pollution Control District's Tune-In Tune-Up program to repair older high-polluting vehicles
- Grants to residents to replace fireplaces and non-certified wood-burning stoves with clean-burning U.S. Environmental Protection Agency-certified units through the San Joaquin Valley Air Pollution Control District's Burn Cleaner Incentive Program. Implementation of the wood-burning stove replacement would prioritize environmental justice communities near the Preferred Alternative B alignment to obtain this improvement (first priority). Second priority would be available to residents within 500 feet of either side of the new freeway.
- Grants to electrify or replace existing diesel-powered off-road equipment through the San Joaquin Valley Air Pollution Control District's Heavy-Duty Engine Program
- Grants to replace old trucks with new low-emissions trucks through the District's Truck Voucher Program
- Grants to replace or retrofit the engines of older and high-polluting school buses through the San Joaquin Valley Air Pollution Control District's School Bus Replacement Program. This would be provided for buses that operate within the Preferred Alternative B alignment.
- Grants for heating, ventilation, and air conditioning upgrades to qualified schools. Schools within 1,500 feet along the Preferred Alternative B alignment meeting the criteria for heating, ventilation, and air conditioning upgrades would be eligible for this measure. Daycare centers, pre-schools, and schools with an air filtration rating of less than a minimum efficiency reporting value of 8 may be eligible for this upgrade as part of the Voluntary Emission Reduction Agreement. The heating, ventilation, and air conditioning units of schools along the new alignment would be upgraded to a minimum efficiency reporting value of 8 or greater and would remove particulate matter of at least 2.5 to 10 microns. This targeted air quality improvement would enhance the respiratory health and well-being of children. A complete replacement of the heating, ventilation, and air conditioning system would only be required if the air filtration component of an existing system cannot feasibly be upgraded to obtain the minimum efficiency value of 8. This is a proposed new grant program that will be further developed by Caltrans, city of Bakersfield and the San Joaquin Valley Air Pollution Control District.

Caltrans will work with the San Joaquin Valley Air Pollution Control District and the city of Bakersfield to further develop and provide specific details on the type of grant programs to implement, conditions of the grant, and recipients of the grant. Caltrans is proposing the following air quality improvements: school bus diesel engine retrofit; heating, ventilation, air conditioning upgrades to qualified schools; and wood stove replacement for cleaner burning fuels. These measures will reduce emissions along the Preferred Alternative B alignment. The school bus diesel-engine retrofit would be provided for buses operating within the Preferred Alternative B alignment and the wood stove replacement would be offered to environmental justice communities (first priority) and residents within 500 feet of either side of the new freeway (second priority). Schools within 1,500 feet along the Preferred Alternative B alignment meeting the criteria for heating, ventilation, and air conditioning upgrades would be eligible for this measure.

The emissions reductions secured through the voluntary emission reduction agreements are "surplus" to existing regulations, achieving reductions earlier or beyond those required by the regulations. Historically, the San Joaquin Valley Air Pollution Control District's incentive programs have invested over $1 billion in public and private funding for clean air projects reducing more than 100,000 tons of emissions.

With the programs listed above offered to residents near the project alignment, construction emissions within the project area would be reduced by the following in three years:

- Year 1 – 1.9 tons of reactive organic gasses/33.6 tons of nitrous oxides/7.6 tons of particulate matter (PM_{10}).
- Year 2 – 1.45 tons of reactive organic gasses/16.5 tons of nitrous oxides/7.3 tons of particulate matter (PM_{10}).
- Year 3 – 0.4 tons of reactive organic gasses/2.55 tons of nitrous oxides/0.7 tons of particulate matter (PM_{10}).

It should be noted that the reductions mentioned above will be implemented mainly within the Year 1 timeframe and the reductions will carry over to future years well beyond the construction years.

With the implementation of the Voluntary Emission Reduction Agreement programs listed above the project area will see operational emission reductions of:

- 5 tons of nitrous oxides
- 73 tons of nitrogen oxides
- 5 tons of particulate matter (PM10).

These emission reductions will be achieved throughout the 20-year design life of the project.

In addition to the Voluntary Emission Reduction Agreement, the Centennial Corridor Project would provide a one-time $200,000 grant to a non-profit organization to plant trees along the Preferred Alternative B alignment. This organization may plant trees at the resident's property. Initially, trees will be offered to environmental justice communities living within 1,000 feet of either side of the new freeway (first priority), and secondly, properties within 500 feet of each side of the Alternative B alignment. If trees are available after the primary and secondary targeted areas, trees would be offered to property owners within 1,500 feet of each side of the alignment. If trees are still available, they may be planted at other locations in consultation with and upon approval by the city of Bakersfield. Planting and maintenance of the trees would be the responsibility of those accepting the trees.

Standard conditions to minimize short-term air quality impacts are noted in Section 3.6, Construction Impacts.

Climate Change

Climate change is analyzed in Chapter 2 under "Climate Change (California Environmental Quality Act)". Neither the Environmental Protection Agency nor Federal Highway Administration has promulgated explicit guidance or methodology to conduct project-level greenhouse gas analysis. As stated on Federal Highway Administration's climate change website (http://www.fhwa.dot.gov/hep/climate/index.htm), climate change considerations should be integrated throughout the transportation decision-making process–from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will facilitate decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project level decision-making. Climate change considerations can easily be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

Because there have been more requirements set forth in California legislation and executive orders regarding climate change, the issue is addressed in the California Environmental Quality Act chapter of this environmental document and may be used to inform the National Environmental Policy Act decision. The four strategies set forth by Federal Highway Administration to lessen climate change impacts do correlate with efforts that the State has undertaken and is undertaking to deal with transportation and climate change; the strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and reduction in the growth of vehicle hours travelled.

3.2.7 Noise

This section evaluates potential noise impacts on nearby frequent outdoor use areas as a result of Segment 1 alternative implementation pursuant to the National Environmental Policy Act requirements. Noise impacts pursuant to the California Environmental Quality Act are presented in Chapter 4 of this environmental document. Detailed cost analysis, including input and output data, is contained in the *Noise Study Report* (March 2014). Noise abatement in terms of sound walls at various locations affected or impacted by traffic noise levels is also provided with detailed analysis in the *Noise Abatement Decision Report* (March 2014) for this project. Construction noise and vibration impacts are discussed in Section 3.6 of this document.

At the time of the noise study analysis, Segment 2 of the Centennial Corridor Project (Westside Parkway) was under construction. The Westside Parkway traffic noise impact analysis was done, and a *Noise Study Report* was issued in 2010. However, in anticipation of the Centennial Corridor Project, truck percentages associated with the Centennial Corridor Project were used in the traffic noise impact analysis for the Westside Parkway. Further details about Segment 2 are provided in the Westside Parkway sub-section of the *Environmental Consequences Under the National Environmental Policy Act*.

The Centennial Corridor Project proposed no improvement within Segment 3 except for changes to one intersection. The Centennial Corridor Project is proposing to widen and add signals to the Stockdale Highway and State Route 43 intersection. Besides five single-family residences along Stockdale Highway east of State Route 43 (Enos Lane), surrounding areas of this intersection consist of farmlands and open spaces. Proposed changes to the Stockdale Highway in front of these five single-family homes would be minimal, and there would be no noticeable change to the traffic noise levels at the frequent outdoor use areas associated with these houses. Therefore, traffic noise impacts were not evaluated for Segment 3.

Regulatory Setting

The National Environmental Policy Act and the California Environmental Quality Act provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and foster a healthy environment. However, the requirements for noise analysis and consideration of noise abatement and/or mitigation differ between the California Environmental Quality Act and the National Environmental Policy Act.

California Environmental Quality Act

The California Environmental Quality Act requires a strictly baseline-versus-build analysis to assess whether a project will have a noise impact. If a proposed project is determined to have a significant noise impact under the California Environmental Quality Act, then the act dictates that mitigation measures must be incorporated into the project unless such measures are not feasible. See Chapter 4 of this document for further information on noise analysis under the California Environmental Quality Act.

The rest of this section will focus on the National Environmental Policy Act and 23 Code and Federal Regulations 772 noise analysis.

National Environmental Policy Act and 23 Code of Regulations 772 Analysis

For highway transportation projects with Federal Highway Administration (Caltrans, as assigned) involvement, the Federal-Aid Highway Act of 1970 and the associated implementing regulations (23 Code of Federal Regulations 772) govern the analysis and abatement of traffic noise impacts. Regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations include noise abatement criteria that are used to determine when a traffic noise impact would occur. The noise abatement criteria differ depending on the type of land use under analysis. For example, the noise abatement criterion for residences (67 dBA) is lower than the noise abatement criterion for commercial areas (72 dBA). Table 3.32 lists the noise abatement criteria for use in the National Environmental Policy Act 23 Code of Federal Regulations 772 analysis.

Table 3.32 Noise Abatement Criteria

Activity Category	Noise Abatement Criteria, Hourly A-Weighted Noise Level, $L_{eq(h)}$	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[1]	67 (Exterior)	Residential.
C[1]	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F.
F	No Noise Abatement Criteria (reporting only)	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical, etc.), and warehousing.
G	No Noise Abatement Criteria (reporting only)	Undeveloped lands that are not permitted.

L_{eq}: Sound Equivalent Noise Level

[1] Includes undeveloped lands permitted for this activity category.

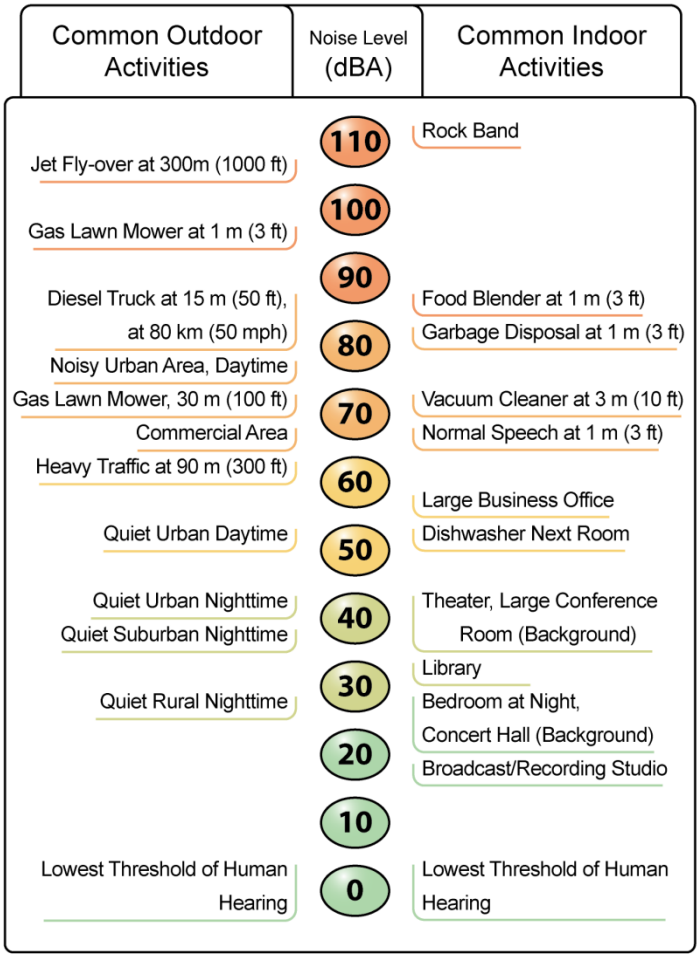
Source: *23 Code of Federal Regulations 772,* 2011.

Figure 3-33 shows a range of noise levels for common activities so that a comparison can be made between the predicted traffic noise levels discussed in this section with common activities.

According to Caltrans' *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, May 2011*, a noise impact occurs when the predicted future noise level with the project substantially exceeds the existing noise level (defined as a 12-decibel or more increase) or when the future noise level with the project approaches or exceeds the noise abatement criteria. Approaching the noise abatement criteria is defined as coming within 1 decibel of noise abatement criteria.

If it is determined that the project will have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated into the project.

Figure 3-33 Noise Levels of Common Activities



Caltrans' *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. A minimum 5-decibel reduction in the future noise level must be achieved for an abatement measure to be considered feasible. Other considerations include topography, access requirements, other noise sources, and safety considerations. The reasonableness determination is based on three factors, including the noise reduction design goal (7-decibel reduction at least at one receiver), the cost of noise abatement, and the viewpoints of benefitted land use (including property owners and residents of the benefitted land use).

Affected Environment

Information in this section is from the *Noise Study Report, Centennial Corridor Project* (March 2014) and the *Noise Abatement Decision Report, Centennial Corridor Project* (May 2013). In the *Noise Study Report*, the project corridor area was divided into six general segments for traffic noise impacts analysis:

1) Centennial Corridor west of State Route 99 – Alternative A
2) Centennial Corridor west of State Route 99 – Alternative B
3) State Route 58 east of State Route 99 – Alternatives A, B, and C
4) State Route 99 south of State Route 58 – Alternatives A, B, and C
5) Centennial Corridor/State Route 99 north of State Route 58 – Alternative C
6) Westside Parkway – Calloway Drive to Coffee Road

The six segments were divided further into 32 distinct areas based on major local interchanges and direction of travel (westbound, eastbound, northbound, and southbound), as well as which freeway the project follows (Centennial Corridor Alternatives A, B, and C, existing segment of State Route 58, and State Route 99). The areas are shown in Figures 3-34 through 3-47, provided in Volume 2. No analysis was done in regions that lacked areas with frequent outdoor use. Mapping in Volume 2 shows the locations that were analyzed as well as receiver and sound wall locations. The following land uses occur along the Centennial Corridor:

- Category B – single-family and multi-family residences
- Category C (exterior) – Stockdale Christian School; Centennial Park; Saunders Park; Yokuts Park; Beach Park; Central Bakersfield Community Center/Clinica Sierra Vista; Montessori Children's Center; Camelot Park Family Fun Center; and six places of worship
- Category D (interior) – Bakersfield fire station; Stockdale Christian School; Central Bakersfield Community Center/Clinica Sierra Vista; Montessori Children's Center
- Category E – various hotels/motels; Outback restaurant's outside dining area.

Environmental Consequences Under the National Environmental Policy Act

The project is considered a Type I project by 23 Code of Federal Regulations 772 because of the proposed construction that would connect State Route 58 to the Westside Parkway, as well as the improvements along State Route 99 and the existing portion of State Route 58, and because new connections between State Route 99 and State Route 58 will add lanes and change the profile of some parts of different roadway segments.

The following paragraphs explain the steps in predicting traffic noise levels along the project corridor as a result of the proposed changes to the existing freeways and construction of new highway. Results of noise prediction by alternative are also presented.

Existing Noise-Level Measurements

Short-term noise monitoring done at 44 locations in October 2011 lasted 20 minutes at each spot. Long-term noise monitoring was done at two locations in January 2010 and 28 locations in October 2011.

Future Noise-Level Modeling

The Federal Highway Administration's Traffic Noise Model Version 2.5 was used for the noise computations. Receivers, defined as single points, were at frequent outdoor use areas such as residences, schools, and recreational areas.

Results of the traffic noise analysis for each alternative are presented by geographic area. A comparison of current noise levels to the projected noise levels in 2038 under the No-Build Alternative and the build alternatives is provided. Comparison to existing conditions (2008) indicates traffic noise impacts to the receptors; comparison of the build and no-build conditions indicates the direct effect of the project.

Where noise levels met the noise abatement criteria, sound walls were evaluated to determine if they were reasonable and feasible. The criteria for determining when an abatement measure is reasonable and feasible are provided above in the Regulatory Setting.

Reasonableness of noise abatement (for each noise barrier found to be acoustically feasible) must then be determined based on the cost allowance calculation procedure identified in the *Caltrans Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects.* A sound wall is considered reasonable if it costs less than the reasonable allowance for that barrier (described in more detail in the March 2014 *Noise Abatement Decision Report, Centennial Corridor Project*), meets the design goal, and the viewpoints of benefitted receivers have been taken into consideration. The preliminary determination of reasonableness is discussed later in this section.

Alternative A

Tables 3.33 through 3.35 show the results of the traffic noise analysis for the project in 2038 with implementation of Alternative A. The analysis indicated that 532 outdoor use areas would be impacted by traffic noise levels. Figure 3-34, provided in Volume 2, provides a key map for noise measurement and sound wall locations. Figures 3-35 to 3-38, provided in Volume 2, show receiver locations.

Table 3.33 Traffic Noise Impact Analysis – Alternative A Centennial Corridor West of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
RA-1	73	73	75	Yes	74	73	73	73	73	No
RA-2	60	60	68	Yes	66	66	65	65	65	No
RA-3	60	60	67	Yes	64	64	62	61	61	No
RA-4	73	73	74	Yes	73	73	73	73	73	No
RA-6	52	52	71	Yes	68	66	65	64	64	Yes
RA-7	52	52	69	Yes	67	64	63	62	62	Yes
RA-8	52	52	66	Yes	64	64	61	61	60	Yes
RA-9	52	52	63	No	62	61	60	59	59	No
RA-10	52	52	62	No	61	61	59	59	58	No
RA-11	52	52	64	Yes	63	63	60	59	58	Yes
RA-12	52	52	72	Yes	69	66	64	62	61	Yes
RA-12A	52	52	72	Yes	70	66	64	64	63	Yes
RA-13	52	52	71	Yes	69	69	67	66	66	Yes
RA-13A	52	52	74	Yes	72	68	66	66	65	Yes
RA-14	52	52	73	Yes	71	69	66	65	64	Yes
RA-15	52	52	69	Yes	67	67	63	61	60	Yes
RA-16	52	52	68	Yes	66	66	62	61	59	Yes
RA-17	52	52	71	Yes	68	68	63	62	61	Yes
RA-18	52	52	69	Yes	67	64	62	61	60	Yes
RA-18A	52	52	73	Yes	69	67	66	65	64	Yes
RA-19	52	52	66	Yes	64	64	61	59	58	Yes
RA-20	52	52	69	Yes	67	65	63	61	61	Yes
RA-21	52	52	69	Yes	67	66	63	61	60	Yes
RA-22	50	50	67	Yes	65	65	62	59	58	Yes
RA-23	50	50	68	Yes	66	63	63	60	59	Yes
RA-24	50	50	65	Yes	63	62	59	57	56	Yes
RA-25	50	50	62	Yes	60	60	57	55	55	Yes
RA-26	50	50	61	No	59	59	57	55	55	No
RA-27	50	50	62	Yes	61	60	61	59	58	No
RA-28	54	54	66	Yes	65	63	62	61	61	Yes
RA-29	54	54	70	Yes	65	64	62	62	61	Yes
RA-30	54	54	67	Yes	66	62	60	60	59	Yes
RA-31	54	54	69	Yes	65	64	64	63	63	Yes
RA-32	54	54	67	Yes	65	62	60	59	59	Yes
RA-33	54	54	65	No	64	64	60	59	59	Yes
RA-34	54	54	63	No	62	59	57	56	55	Yes
RA-35	54	54	62	No	60	58	56	56	56	Yes

Table 3.33 Traffic Noise Impact Analysis – Alternative A Centennial Corridor West of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
RA-36	52	52	72	Yes	65	64	64	63	62	Yes
RA-37	52	52	68	Yes	67	63	61	61	60	Yes
RA-38	52	52	69	Yes	66	66	62	61	60	Yes
RA-39	52	52	68	Yes	65	65	62	61	61	Yes
RA-40	71	71	70	No	--	--	--	--	--	--
RA-41	63	63	70	Yes	68	67	65	63	62	Yes
RA-42	63	63	71	Yes	68	67	65	63	62	Yes
RA-43	63	63	70	Yes	67	67	64	62	62	Yes
RA-44	59	59	70	Yes	67	65	63	62	61	Yes
RA-45	59	59	69	Yes	67	64	63	62	61	Yes
RA-46	63	63	69	Yes	66	64	63	62	61	Yes
RA-47	63	63	69	Yes	66	64	63	62	62	Yes
RA-49	63	63	70	Yes	65	65	64	63	63	Yes
RA-50	53	53	66	Yes	64	61	60	60	59	Yes
RA-51	53	53	68	Yes	64	62	61	60	60	Yes
RA-53	53	53	59	No	58	56	55	54	53	No
RA-54	53	53	69	Yes	64	62	61	60	59	Yes
RA-55	53	53	64	No	62	59	57	56	56	Yes
RA-56	53	53	62	No	61	58	57	56	56	No
RA-57	53	53	69	Yes	67	63	62	61	60	Yes
RA-58	53	53	68	Yes	66	63	61	60	59	Yes
RA-59	53	53	68	Yes	65	64	63	59	59	Yes
RA-60	56	56	69	Yes	67	63	62	61	61	Yes
RA-61	56	56	69	Yes	67	63	63	61	60	Yes
RA-62	56	56	69	Yes	67	63	62	61	60	Yes
RA-64	56	56	67	Yes	64	62	61	60	59	Yes
RA-65	52	52	70	Yes	67	64	63	62	61	Yes
RA-66	52	52	70	Yes	67	64	63	62	61	Yes
RA-67	52	52	69	Yes	66	63	63	62	61	Yes
RA-69	52	52	69	Yes	66	65	64	62	62	Yes
RA-70	52	52	69	Yes	66	65	64	64	63	Yes
RA-71	52	52	71	Yes	70	69	68	67	66	Yes
RA-72	52	52	72	Yes	71	70	68	67	67	Yes
RA-73	52	52	72	Yes	70	69	69	67	66	Yes
RA-74	52	52	72	Yes	70	69	68	67	66	Yes
RA-75	52	52	72	Yes	69	68	67	66	65	Yes
RA-76	52	52	68	Yes	64	64	63	62	61	Yes
RA-77	52	52	64	Yes	62	61	61	60	60	No

dBA: A-weighted decibels.
--: Not Evaluated
[1] - Receivers that are noise measurement sites that are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.
Source: Developed from the *Noise Study Report* 2014.

Table 3.34 Traffic Noise Impact Analysis – Alternative A State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-1	70	73	76	Yes	71	69	68	67	66	Yes
R58-2	68	71	75	Yes	70	68	67	66	65	Yes
R58-4	67	70	74	Yes	68	66	65	64	63	Yes
R58-5	60	63	67	Yes	64	63	62	62	61	Yes
R58-6	58	61	65	No	61	60	59	58	57	Yes
R58-7	67	70	74	Yes	68	67	66	65	64	Yes
R58-7A	61	64	67	Yes	64	63	62	62	61	Yes
R58-8	68	71	75	Yes	68	67	66	65	64	Yes
R58-9	65	70	75	Yes	67	65	64	62	62	Yes
R58-10	65	70	74	Yes	66	65	64	63	62	Yes
R58-11	67	70	70	Yes	68	68	65	65	65	Yes
R58-12	65	68	68	Yes	67	65	62	61	60	Yes
R58-13	65	66	67	Yes	65	64	61	60	60	Yes
R58-15	69	70	70	Yes	68	65	63	62	61	Yes
R58-16	71	72	73	Yes	69	68	65	63	62	Yes
R58-17	66	67	68	Yes	66	66	63	61	60	Yes
R58-18	67	70	74	Yes	68	66	65	64	63	Yes
R58-19	57	60	64	No	61	60	59	58	58	No
R58-20	62	65	71	Yes	64	64	63	62	62	Yes
R58-20A	65	68	75	Yes	67	67	65	64	64	Yes
R58-21	66	69	75	Yes	67	65	64	63	63	Yes
R58-22	59	62	66	Yes	63	62	61	60	60	Yes
R58-23	52	55	57	No	57	56	55	54	54	No
R58-24	56	59	61	No	60	60	59	59	58	No
R58-24A	65	68	71	Yes	66	65	65	64	63	Yes
R58-25	57	60	63	No	61	61	61	60	60	No
R58-26	57	60	63	No	61	61	60	60	60	No
R58-27	57	60	63	No	61	61	60	60	59	No
R58-28	66	69	71	Yes	66	65	65	64	63	No
R58-29	59	62	65	No	61	61	60	60	59	No
R58-30	58	61	62	No	58	57	57	56	56	No
R58-32	59	62	64	No	60	59	59	59	58	No
R58-33	71	74	76	Yes	68	67	67	66	66	Yes
R58-34	66	70	73	Yes	67	66	66	65	64	Yes
R58-35	66	70	74	Yes	67	66	66	65	64	Yes
R58-36	68	72	76	Yes	67	66	65	63	62	Yes
R58-37	58	58	59	No	56	55	54	54	53	No
R58-37A	71	71	74	Yes	67	66	65	65	64	Yes
R58-37B	69	69	71	Yes	66	65	64	63	63	Yes
R58-38	57	57	58	No	56	56	56	56	55	No

Table 3.34 Traffic Noise Impact Analysis – Alternative A State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-39	63	63	65	No	60	59	59	59	59	Yes
R58-40	72	72	76	Yes	70	69	68	67	66	Yes
R58-41	68	68	71	Yes	66	65	65	64	64	Yes
R58-42	62	62	65	No	62	62	61	61	61	No
R58-42A	58	58	61	No	60	60	60	59	59	No
R58-43	62	65	66	Yes	64	63	63	63	63	No
R58-44	62	65	67	Yes	64	64	64	64	64	No
R58-45	63	62	64	No	61	60	60	59	59	Yes
R58-46	65	64	66	Yes	62	61	61	60	59	Yes
R58-47	61	60	62	No	61	61	60	60	60	No
R58-48	65	64	66	Yes	63	62	61	61	60	Yes
R58-49	69	72	73	Yes	67	65	65	64	63	Yes
R58-50	68	71	71	Yes	68	67	66	65	65	Yes
R58-51	60	63	64	No	62	60	59	58	57	Yes
R58-52	65	68	68	Yes	66	63	62	61	60	Yes
R58-54	69	72	72	Yes	68	67	66	65	64	Yes
R58-55	64	67	67	Yes	65	62	61	60	59	Yes
R58-56	70	72	72	Yes	68	67	66	65	64	Yes
R58-57	70	72	73	Yes	68	67	66	65	65	Yes
R58-58	62	64	65	No	63	61	60	59	58	No
R58-59	69	71	72	Yes	67	66	65	64	64	Yes
R58-60	66	69	70	Yes	66	65	64	63	63	Yes
R58-61	71	71	73	Yes	68	67	66	65	64	Yes
R58-62	71	71	73	Yes	68	67	66	65	65	Yes
R58-63	72	72	73	Yes	69	67	67	66	65	Yes
R58-64	63	66	68	Yes	66	64	63	62	62	Yes
R58-65	67	70	72	Yes	69	67	66	65	65	Yes
R58-66	67	70	72	Yes	69	66	65	65	64	Yes
R58-67	66	68	70	--	--	--	--	--	--	--
R58-68[2]	43	45	46	No	--	--	--	--	--	--
R58-69	62	65	68	Yes	66	66	65	65	65	No
R58-71	61	64	67	Yes	64	64	64	64	64	No
R58-73	68	71	73	Yes	68	67	66	65	64	Yes
R58-74	67	70	73	Yes	70	68	66	64	63	Yes
R58-75	73	76	79	Yes	74	70	69	68	67	Yes
R58-76	69	72	74	Yes	71	68	66	65	64	Yes
R58-77	65	68	68	Yes	66	63	62	61	60	Yes
R58-78	66	69	69	Yes	66	65	63	61	60	Yes
R58-79	63	66	67	Yes	65	64	62	61	60	Yes
R58-80	70	70	70	Yes	68	65	64	63	62	Yes

Table 3.34 Traffic Noise Impact Analysis – Alternative A State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-81	73	73	73	Yes	69	67	66	66	65	Yes
R58-82	64	64	65	No	63	60	59	59	58	Yes
R58-84	72	72	73	Yes	68	67	66	65	65	Yes
R58-85	72	72	73	Yes	68	67	66	65	64	Yes
R58-86	64	64	66	Yes	64	61	60	59	59	Yes
R58-87	71	71	73	Yes	68	66	66	65	64	Yes
R58-88	68	68	70	Yes	65	63	62	61	60	Yes
R58-89	66	66	67	Yes	64	62	61	60	60	Yes
R58-90	67	67	68	Yes	67	64	63	62	61	Yes
R58-91	67	67	68	Yes	66	64	62	61	60	Yes
R58-92	71	71	73	Yes	67	66	65	65	64	Yes
R58-93	70	70	72	Yes	67	66	65	64	63	Yes
R58-94	69	69	70	Yes	68	65	63	62	61	Yes
R58-95	67	67	68	Yes	67	63	62	61	60	Yes
R58-96	72	72	73	Yes	68	67	66	65	64	Yes
R58-97	69	69	69	Yes	66	64	63	62	61	Yes
R58-98	74	74	74	Yes	70	68	67	66	65	Yes
R58-99	67	67	69	Yes	67	65	64	63	63	Yes
R58-100	66	66	67	Yes	65	64	63	62	62	Yes
R58-101	62	66	68	Yes	64	63	62	61	60	Yes
R58-102	70	74	77	Yes	69	67	66	65	64	Yes
R58-103	59	63	65	No	62	61	60	58	57	No
R58-104	62	66	68	Yes	64	63	62	61	60	Yes
R58-105	59	63	64	No	63	62	61	60	58	No
R58-106	75	78	79	Yes	72	70	67	65	64	Yes
R58-107	67	71	73	Yes	70	69	66	64	62	Yes
R58-108	72	75	77	Yes	72	72	68	66	65	Yes
R58-109	72	75	77	Yes	72	71	67	66	65	Yes
R58-110	66	70	72	Yes	70	69	66	64	62	Yes
R58-111	73	76	77	Yes	74	71	69	68	67	Yes
R58-112	72	75	77	Yes	71	69	68	67	66	Yes
R58-113	71	74	75	Yes	72	71	67	65	65	Yes
R58-114	70	73	75	Yes	73	69	67	66	65	Yes
R58-115	71	74	76	Yes	71	69	68	67	66	Yes
R58-116	70	73	75	Yes	73	69	67	66	65	Yes
R58-117	67	70	72	Yes	70	66	64	63	62	Yes
R58-118	70	73	75	Yes	70	68	67	66	65	Yes
R58-119	66	69	71	Yes	69	65	63	62	61	Yes
R58-120	66	69	72	Yes	69	65	63	62	62	Yes
R58-121	67	70	72	Yes	70	66	64	63	62	Yes

Table 3.34 Traffic Noise Impact Analysis – Alternative A State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-122	70	73	74	Yes	70	68	67	66	65	Yes
R58-123	65	68	70	Yes	68	67	63	62	61	Yes
R58-124	66	69	71	Yes	69	68	64	63	62	Yes
R58-125	67	70	71	Yes	67	66	65	65	65	Yes
R58-126	65	68	70	Yes	69	64	63	63	62	Yes
R58-127	66	69	71	Yes	69	66	65	65	65	Yes
R58-128	65	69	70	Yes	67	66	65	64	63	Yes
R58-129	59	63	64	No	64	63	63	63	63	No
R58-131	65	69	70	Yes	65	64	63	62	61	Yes
R58-132	57	61	62	No	59	58	58	56	56	No
R58-133	69	73	75	Yes	68	67	66	65	64	Yes
R58-134	70	74	75	Yes	69	69	67	66	65	Yes
R58-135	58	62	63	No	61	60	59	57	57	No
R58-136	70	72	74	Yes	68	66	65	64	63	Yes
R58-137	58	60	61	No	59	58	57	56	54	No
R58-138	63	65	67	Yes	65	64	61	62	58	Yes
R58-139	70	72	74	Yes	68	66	64	63	61	Yes
R58-140	74	76	78	Yes	72	70	67	65	64	Yes
R58-141	67	69	71	Yes	68	67	63	61	60	Yes
R58-142	66	68	70	Yes	68	67	64	62	61	Yes
R58-143	73	75	77	Yes	71	67	65	64	63	Yes
R58-144	70	72	73	Yes	70	69	65	63	62	Yes
R58-145	67	70	71	Yes	69	68	64	62	61	Yes
R58-146	64	67	69	Yes	67	66	63	61	60	Yes
R58-147	68	71	72	Yes	69	68	64	62	61	Yes
R58-148	70	72	73	Yes	71	67	65	64	63	Yes
R58-149	69	71	73	Yes	71	66	65	64	63	Yes
R58-150	67	69	71	Yes	69	67	63	62	61	Yes
R58-151	65	68	70	Yes	67	67	63	62	61	Yes
R58-152	69	71	72	Yes	68	66	65	64	63	Yes
R58-153	69	71	73	Yes	68	66	65	64	63	Yes
R58-154	69	71	73	Yes	67	66	65	64	63	Yes
R58-155	64	67	70	Yes	67	67	63	62	61	Yes
R58-156	65	68	70	Yes	66	65	62	61	60	Yes
R58-157	68	70	72	Yes	66	65	63	63	62	Yes
R58-158	67	69	70	Yes	69	64	63	62	61	Yes
R58-159	69	71	72	Yes	67	65	64	63	62	Yes
R58-160	65	68	70	Yes	67	66	62	61	60	Yes
R58-161	65	68	70	Yes	66	66	62	61	60	Yes
R58-162	65	68	69	Yes	66	66	62	61	60	Yes
R58-163	62	65	67	Yes	64	63	60	58	58	Yes
R58-164	68	70	72	Yes	67	65	64	63	62	Yes

Table 3.34 Traffic Noise Impact Analysis – Alternative A State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-165	68	70	72	Yes	67	65	64	63	62	Yes
R58-166	63	66	68	Yes	65	63	61	60	59	Yes
R58-167	66	68	70	Yes	67	63	63	62	61	Yes
R58-168	66	68	70	Yes	66	63	63	62	61	Yes
R58-169	66	68	70	Yes	66	64	63	62	61	Yes
R58-170	66	68	70	Yes	66	64	63	62	61	Yes
R58-171	67	69	70	Yes	68	65	64	63	62	Yes
R58-172	67	69	70	Yes	69	66	65	64	64	Yes

dBA: A-weighted decibels.
--: Not evaluated

Notes:
1 – Receivers that are noise measurement sites that are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.
2 – Representative of an interior noise level since there were no exterior outdoor use areas.

Source: Developed from the *Noise Study Report* 2014.

Table 3.35 Traffic Noise Impact Analysis – Alternative A State Route 99 South of State Route 58

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R99-1	59	63	63	No	62	62	62	62	62	No
R99-2	66	67	68	Yes	67	67	67	67	66	No
R99-3	58	59	59	No	57	56	56	56	56	No
R99-4	66	67	67	Yes	--	--	67	66	66	No
R99-5	65	66	66	Yes	--	--	66	65	65	No
R99-6	65	66	67	Yes	--	--	66	65	65	No
R99-7	66	67	67	Yes	--	--	66	64	64	No
R99-8	64	65	66	Yes	--	--	65	64	63	No
R99-9	62	63	63	No	--	--	--	--	--	--
R99-10	59	60	60	No	--	--	--	--	--	--
R99-10A	57	58	58	No	--	--	--	--	--	--
R99-11	60	63	67	Yes	62	62	62	62	61	No
R99-12	70	73	74	Yes	70	69	69	69	68	No
R99-13	68	71	74	Yes	69	69	68	68	68	No
R99-14	69	72	73	Yes	--	--	71	70	70	No

Table 3.35 Traffic Noise Impact Analysis – Alternative A State Route 99 South of State Route 58

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R99-15	62	65	68	Yes	--	--	68	68	68	No
R99-16	60	64	64	No	--	--	64	63	63	No
R99-17	64	68	68	Yes	--	--	67	66	65	No
R99-18	65	69	69	Yes	--	--	68	67	66	No
R99-19	65	68	69	Yes	--	--	68	67	66	No
R99-20	56	59	59	No	--	--	59	59	59	No
R99-20A	62	65	65	No	--	--	64	63	63	No
R99-21	58	61	62	No	--	--	--	61	60	No
R99-21A	61	64	67	Yes	--	--	--	64	64	No
R99-21B	65	68	69	Yes	--	--	--	67	67	No
R99-21C	61	64	65	No	--	--	--	64	64	No
R99-22	60	63	65	No	--	--	--	63	63	No
R99-23	62	65	72	Yes	68	68	67	67	67	No
R99-25	64	67	74	Yes	70	70	69	69	69	No
R99-26	61	66	68	Yes	--	--	68	68	68	No
R99-27	60	65	68	Yes	--	--	68	67	67	No
R99-28	61	66	66	Yes	--	--	66	65	65	No
R99-29	56	61	61	No	--	--	61	61	61	No
R99-30	57	62	62	No	62	62	61	61	60	No
R99-31	68	73	73	Yes	66	65	64	63	63	Yes
R99-32	68	73	71	Yes	66	65	64	63	62	Yes
R99-33	70	75	75	Yes	66	64	63	62	61	Yes
R99-34	62	67	67	Yes	63	62	61	60	59	Yes
R99-36	64	69	70	Yes	65	64	64	63	61	Yes
R99-37	68	73	74	Yes	67	65	64	63	62	Yes
R99-40	59	63	71	Yes	68	67	67	67	66	No
R99-41	58	62	70	Yes	66	66	65	65	65	No
R99-43	60	64	72	Yes	66	65	64	63	63	No
R99-43A	57	61	67	Yes	63	62	62	62	62	No

dBA: A-weighted decibels.

--: Not Evaluated

[1] - Receivers that are noise measurement sites that are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: Developed from the *Noise Study Report* 2014.

Alternative B (Preferred Alternative)

Tables 3.36 through 3.38 show the results of the traffic noise analysis for the project in 2038 with implementation of Alternative B. The analysis concluded that 484 outdoor use areas would be impacted by traffic noise levels. Figures 3-39 to 3-42, provided in Volume 2, show receiver locations.

Table 3.36 Traffic Noise Impact Analysis – Alternative B (Preferred Alternative) Centennial Corridor West of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
RB-1	58	58	65	No	--	--	--	--	--	--
RB-2	58	58	62	No	--	--	--	--	--	--
RB-3	58	58	64	No	--	--	--	--	--	--
RB-4	58	58	63	No	--	--	--	--	--	--
RB-5	58	58	75	Yes	70	70	67	66	66	Yes
RB-6	58	58	63	No	61	61	59	58	58	No
RB-7	53	53	66	Yes	62	61	60	59	58	Yes
RB-8	53	53	74	Yes	69	68	67	65	64	Yes
RB-9	53	53	62	No	60	59	58	57	56	No
RB-10	53	53	68	Yes	64	63	62	61	61	Yes
RB-11	53	53	75	Yes	69	68	66	65	66	Yes
RB-12	53	53	63	No	59	59	58	57	57	Yes
RB-13	53	53	60	No	58	58	58	57	57	No
RB-14	53	53	61	No	60	59	59	58	58	No
RB-15	53	53	66	Yes	63	63	62	62	61	Yes
RB-16	53	53	68	Yes	65	65	64	64	64	No
RB-17	53	53	63	No	62	62	62	61	61	No
RB-18	53	53	60	No	59	59	59	58	58	No
RB-19	51	51	65	Yes	60	59	58	58	57	Yes
RB-19A	53	53	65	Yes	61	61	60	60	59	Yes
RB-20	51	51	65	Yes	59	58	58	57	56	Yes
RB-21	51	51	62	No	60	60	59	58	58	No
RB-22	51	51	65	Yes	63	61	61	60	59	Yes
RB-23	51	51	72	Yes	67	65	64	63	62	Yes
RB-24	51	51	76	Yes	68	67	66	64	64	Yes
RB-25	51	51	67	--	66	65	63	61	60	--
RB-26	51	51	77	Yes	71	69	65	64	63	Yes
RB-27	51	51	73	Yes	70	69	66	64	63	Yes
RB-28	51	51	75	Yes	72	69	67	66	65	Yes
RB-30	51	51	68	Yes	66	66	63	63	63	Yes
RB-31	51	51	70	Yes	67	67	65	64	63	Yes
RB-32	51	51	72	Yes	70	67	65	65	64	Yes
RB-34	67	67	67	Yes	66	66	65	65	65	No
RB-35	69	69	70	Yes	69	69	69	69	69	No
RB-36	52	52	66	Yes	63	60	59	57	56	Yes

Table 3.36 Traffic Noise Impact Analysis – Alternative B (Preferred Alternative) Centennial Corridor West of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
RB-37	52	52	64	Yes	62	62	59	58	58	Yes
RB-38	52	52	58	No	57	57	57	55	54	No
RB-39	52	52	74	Yes	69	68	64	63	61	Yes
RB-39A	52	52	76	Yes	70	70	66	65	64	Yes
RB-40	52	52	68	Yes	65	64	62	60	58	Yes
RB-41	52	52	64	Yes	62	61	60	59	59	Yes
RB-42	52	52	72	Yes	67	65	65	64	63	Yes
RB-43	52	52	61	No	60	60	59	59	58	No
RB-44	52	52	70	Yes	65	65	64	63	63	Yes
RB-45	53	53	63	No	62	62	62	62	62	No
RB-46	53	53	67	Yes	66	66	66	66	66	No
RB-47	53	53	61	No	60	60	60	60	60	No
RB-48	51	51	62	No	61	61	60	60	60	No
RB-49	51	51	69	Yes	65	64	64	63	63	No
RB-50	51	51	66	Yes	62	62	61	61	60	No
RB-51	51	51	62	No	59	59	59	58	58	No
RB-52	51	51	62	No	60	59	59	58	57	No
RB-53	51	51	69	Yes	65	64	63	61	61	Yes
RB-54	51	51	76	Yes	69	68	67	65	64	Yes
RB-55	51	51	70	Yes	67	66	63	61	60	Yes
RB-57	51	51	67	Yes	65	64	62	61	60	Yes
RB-58	51	51	58	No	56	54	54	53	53	No
RB-59	51	51	71	Yes	66	64	63	62	62	Yes
RB-59A	51	51	74	Yes	69	67	66	65	65	Yes
RB-60	51	51	69	Yes	64	62	62	61	60	Yes
RB-61	62	62	66	Yes	61	60	59	59	58	Yes
RB-62	62	62	62	No	60	59	58	58	58	No
RB-63	62	62	64	No	63	63	63	62	62	No
RB-64	62	62	72	Yes	65	64	64	64	63	Yes
RB-65	62	62	71	Yes	68	68	68	67	67	No
RB-66	63	63	65	No	65	64	64	64	64	No
RB-67	63	63	66	Yes	65	65	65	65	65	No
RB-69	63	63	70	Yes	67	66	66	66	66	No
RB-70	63	63	68	Yes	64	64	63	63	63	Yes
RB-71	63	63	67	Yes	64	63	63	63	62	Yes
RB-73	63	63	69	Yes	64	63	63	62	62	Yes
RB-74	63	63	66	Yes	62	61	60	59	60	Yes
RB-75	52	52	65	Yes	61	59	59	58	58	Yes
RB-76	52	52	66	Yes	61	60	60	59	58	Yes
RB-77	52	52	65	Yes	61	60	60	59	58	Yes
RB-79	52	52	65	Yes	61	60	59	59	58	Yes
RB-80	52	52	65	Yes	61	60	60	59	59	Yes

Table 3.36 Traffic Noise Impact Analysis – Alternative B (Preferred Alternative) Centennial Corridor West of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
RB-81	52	52	70	Yes	67	66	65	64	64	Yes
RB-82	52	52	71	Yes	66	65	65	63	63	Yes
RB-83	52	52	71	--	68	67	66	64	63	--
RB-84	52	52	71	Yes	69	67	66	65	63	Yes
RB-85	52	52	72	Yes	68	66	65	64	63	Yes
RB-86	52	52	70	Yes	66	65	64	63	62	Yes
RB-87	52	52	66	Yes	63	63	63	62	61	Yes

dBA: A-weighted decibels.

--: Not Evaluated

[1] - Receivers that are noise measurement sites that are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: Developed from the *Noise Study Report* 2014.

Table 3.37 Traffic Noise Impact Analysis – Alternative B (Preferred Alternative) State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-1	70	73	76	Yes	72	69	68	67	66	Yes
R58-2	68	71	75	Yes	70	68	67	66	65	Yes
R58-4	67	70	74	Yes	68	67	65	64	63	Yes
R58-5	60	63	67	Yes	65	64	63	62	61	Yes
R58-6	58	61	65	No	61	60	59	59	58	Yes
R58-7	67	70	74	Yes	68	67	66	65	65	Yes
R58-7A	61	64	68	Yes	65	64	63	62	62	Yes
R58-8	68	71	75	Yes	69	67	66	65	64	Yes
R58-9	65	70	75	Yes	67	66	64	63	62	Yes
R58-10	65	70	74	Yes	66	65	64	63	62	Yes
R58-11	67	70	69	Yes	68	66	64	63	63	Yes
R58-12	65	68	69	Yes	66	64	62	61	60	Yes
R58-13	65	66	67	Yes	65	64	61	60	60	Yes
R58-15	69	70	70	Yes	67	64	63	62	61	Yes
R58-16	71	72	71	Yes	68	65	63	62	62	Yes
R58-17	66	67	68	Yes	66	65	62	61	60	Yes
R58-18	67	70	73	Yes	70	69	67	65	64	Yes
R58-19	57	60	65	No	62	61	60	59	58	Yes
R58-20	62	65	72	Yes	66	65	64	63	62	Yes
R58-20A	65	68	76	Yes	69	67	66	65	64	Yes

Table 3.37 Traffic Noise Impact Analysis – Alternative B (Preferred Alternative) State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-21	66	69	76	Yes	67	66	65	64	63	Yes
R58-22	59	62	66	Yes	63	63	62	61	60	Yes
R58-23	52	55	58	No	57	56	56	55	55	No
R58-24	56	59	61	No	60	60	60	59	58	No
R58-24A	65	68	71	Yes	66	66	65	65	64	Yes
R58-25	57	60	63	No	61	61	61	60	60	No
R58-26	57	60	63	No	61	61	60	60	60	No
R58-27	57	60	63	No	61	61	60	60	59	No
R58-28	66	69	71	Yes	66	65	65	64	63	No
R58-29	59	62	65	No	62	61	61	60	60	No
R58-30	58	61	62	No	58	57	57	57	56	No
R58-32	59	62	64	No	60	59	59	59	58	No
R58-33	71	74	76	Yes	68	67	67	66	66	Yes
R58-34	66	70	73	Yes	68	67	66	65	65	Yes
R58-35	66	70	74	Yes	68	67	66	65	65	Yes
R58-36	68	72	76	Yes	68	67	65	64	63	Yes
R58-37	58	58	59	No	56	55	55	54	54	No
R58-37A	71	71	74	Yes	67	66	66	65	64	Yes
R58-37B	69	69	71	Yes	66	65	64	64	63	Yes
R58-38	57	57	59	No	56	56	56	56	55	No
R58-39	63	63	65	No	60	60	60	60	60	Yes
R58-40	72	72	76	Yes	70	69	68	67	66	Yes
R58-41	68	68	71	Yes	66	65	65	64	64	Yes
R58-42	62	62	65	No	62	62	61	61	61	No
R58-42A	58	58	61	No	60	60	60	59	59	No
R58-43	62	65	66	Yes	64	63	63	63	62	No
R58-44	62	65	67	Yes	64	64	64	64	64	No
R58-45	63	62	64	No	61	60	60	59	59	Yes
R58-46	65	64	66	Yes	62	61	61	60	59	Yes
R58-47	61	60	62	No	61	61	60	60	59	No
R58-48	65	64	66	Yes	63	62	61	61	60	Yes
R58-49	69	72	73	Yes	67	65	65	64	63	Yes
R58-50	68	71	71	Yes	68	67	66	65	65	Yes
R58-51	60	63	64	No	62	60	59	58	57	Yes
R58-52	65	68	68	Yes	66	63	62	61	60	Yes
R58-54	69	72	72	Yes	68	67	66	65	64	Yes
R58-55	64	67	67	Yes	65	62	61	60	59	Yes
R58-56	70	72	72	Yes	68	67	66	65	64	Yes
R58-57	70	72	73	Yes	68	67	66	65	65	Yes
R58-58	62	64	65	No	63	61	60	59	58	No
R58-59	69	71	72	Yes	67	66	65	64	64	Yes
R58-60	66	69	70	Yes	66	65	64	63	63	Yes

Table 3.37 Traffic Noise Impact Analysis – Alternative B (Preferred Alternative) State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-61	71	71	73	Yes	68	67	66	65	64	Yes
R58-62	71	71	73	Yes	68	67	66	65	65	Yes
R58-63	72	72	73	Yes	69	67	67	66	65	Yes
R58-64	63	66	68	Yes	66	64	63	62	62	Yes
R58-65	67	70	72	Yes	69	67	66	65	65	Yes
R58-66	67	70	72	Yes	69	66	65	65	64	Yes
R58-67	66	68	70	--	--	--	--	--	--	--
R58-68[2]	43	45	46	No	--	--	--	--	--	--
R58-69	62	65	68	Yes	66	66	65	65	65	No
R58-71	61	64	67	Yes	64	64	64	64	64	No
R58-73	68	71	73	Yes	68	67	66	65	64	Yes
R58-74	67	70	73	Yes	70	68	66	64	63	Yes
R58-75	73	76	79	Yes	74	70	69	68	67	Yes
R58-76	69	72	74	Yes	71	68	66	65	64	Yes
R58-77	65	68	68	Yes	66	63	62	61	60	Yes
R58-78	66	69	69	Yes	66	65	63	61	60	Yes
R58-79	63	66	67	Yes	65	64	62	61	60	Yes
R58-80	70	70	70	Yes	68	65	64	63	62	Yes
R58-81	73	73	73	Yes	69	67	66	66	65	Yes
R58-82	64	64	65	No	63	60	59	59	58	Yes
R58-84	72	72	73	Yes	68	67	66	65	65	Yes
R58-85	72	72	73	Yes	68	67	66	65	64	Yes
R58-86	64	64	66	Yes	64	61	60	59	59	Yes
R58-87	71	71	73	Yes	68	66	66	65	64	Yes
R58-88	68	68	70	Yes	65	63	62	61	60	Yes
R58-89	66	66	67	Yes	64	62	61	60	60	Yes
R58-90	67	67	68	Yes	67	64	63	62	61	Yes
R58-91	67	67	68	Yes	66	64	62	61	60	Yes
R58-92	71	71	73	Yes	67	66	65	65	64	Yes
R58-93	70	70	72	Yes	67	66	65	64	63	Yes
R58-94	69	69	70	Yes	68	65	63	62	61	Yes
R58-95	67	67	68	Yes	67	63	62	61	60	Yes
R58-96	72	72	73	Yes	68	67	66	65	64	Yes
R58-97	69	69	69	Yes	66	64	63	62	61	Yes
R58-98	74	74	74	Yes	70	68	67	66	65	Yes
R58-99	67	67	69	Yes	67	65	64	63	63	Yes
R58-100	66	66	67	Yes	65	64	63	62	62	Yes
R58-101	62	66	68	Yes	64	63	62	61	60	Yes
R58-102	70	74	77	Yes	69	67	66	65	64	Yes
R58-103	59	63	65	No	62	61	60	58	57	No
R58-104	62	66	68	Yes	64	63	62	61	60	Yes
R58-105	59	63	64	No	63	62	61	60	58	No

Table 3.37 Traffic Noise Impact Analysis – Alternative B (Preferred Alternative) State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-106	75	78	79	Yes	72	70	67	65	64	Yes
R58-107	67	71	73	Yes	70	69	66	64	62	Yes
R58-108	72	75	77	Yes	72	72	67	66	65	Yes
R58-109	72	75	77	Yes	72	71	67	66	65	Yes
R58-110	66	70	72	Yes	70	69	66	64	62	Yes
R58-111	73	76	77	Yes	74	71	69	68	67	Yes
R58-112	72	75	77	Yes	71	69	68	67	66	Yes
R58-113	71	74	75	Yes	72	71	67	65	65	Yes
R58-114	70	73	75	Yes	73	69	67	66	65	Yes
R58-115	71	74	76	Yes	71	69	68	67	66	Yes
R58-116	70	73	75	Yes	73	69	67	66	65	Yes
R58-117	67	70	72	Yes	70	66	64	63	62	Yes
R58-118	70	73	75	Yes	70	68	67	66	65	Yes
R58-119	66	69	71	Yes	69	65	63	62	61	Yes
R58-120	66	69	72	Yes	69	65	63	62	62	Yes
R58-121	67	70	72	Yes	70	66	64	63	62	Yes
R58-122	70	73	74	Yes	70	68	67	66	65	Yes
R58-123	65	68	70	Yes	68	67	63	62	61	Yes
R58-124	66	69	71	Yes	69	68	64	63	62	Yes
R58-125	67	70	71	Yes	67	66	65	65	65	Yes
R58-126	65	68	70	Yes	69	64	63	63	62	Yes
R58-127	66	69	71	Yes	69	66	65	65	65	Yes
R58-128	65	69	70	Yes	67	66	65	64	63	Yes
R58-129	59	63	64	No	64	63	63	63	63	No
R58-131	65	69	70	Yes	65	64	63	62	61	Yes
R58-132	57	61	62	No	59	58	58	56	56	No
R58-133	69	73	75	Yes	68	67	66	65	64	Yes
R58-134	70	74	75	Yes	69	69	67	66	65	Yes
R58-135	58	62	63	No	61	60	59	57	57	No
R58-136	70	72	74	Yes	68	66	65	64	63	Yes
R58-137	58	60	61	No	59	58	57	56	54	No
R58-138	63	65	67	Yes	65	64	61	62	58	Yes
R58-139	70	72	74	Yes	68	66	64	63	61	Yes
R58-140	74	76	78	Yes	72	70	67	65	64	Yes
R58-141	67	69	71	Yes	68	67	63	61	60	Yes
R58-142	66	68	70	Yes	68	67	64	62	61	Yes
R58-143	73	75	77	Yes	71	67	65	64	63	Yes
R58-144	70	72	73	Yes	70	69	65	63	62	Yes
R58-145	67	70	71	Yes	69	68	64	62	61	Yes
R58-146	64	67	69	Yes	67	66	63	61	60	Yes
R58-147	68	71	72	Yes	69	68	64	62	61	Yes
R58-148	70	72	73	Yes	71	67	65	64	63	Yes

Table 3.37 Traffic Noise Impact Analysis – Alternative B (Preferred Alternative) State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-149	69	71	73	Yes	71	66	65	64	63	Yes
R58-150	67	69	71	Yes	69	67	63	62	61	Yes
R58-151	65	68	70	Yes	67	67	63	62	61	Yes
R58-152	69	71	72	Yes	68	66	65	64	63	Yes
R58-153	69	71	73	Yes	68	66	65	64	63	Yes
R58-154	69	71	73	Yes	67	66	65	64	63	Yes
R58-155	64	67	70	Yes	67	67	63	62	61	Yes
R58-156	65	68	70	Yes	66	65	62	61	60	Yes
R58-157	68	70	72	Yes	66	65	63	63	62	Yes
R58-158	67	69	70	Yes	69	64	63	62	61	Yes
R58-159	69	71	72	Yes	67	65	64	63	62	Yes
R58-160	65	68	70	Yes	67	66	62	61	60	Yes
R58-161	65	68	70	Yes	66	66	62	61	60	Yes
R58-162	65	68	69	Yes	66	66	62	61	60	Yes
R58-163	62	65	67	Yes	64	63	60	58	58	Yes
R58-164	68	70	72	Yes	67	65	64	63	62	Yes
R58-165	68	70	72	Yes	67	65	64	63	62	Yes
R58-166	63	66	68	Yes	65	63	61	60	59	Yes
R58-167	66	68	70	Yes	67	63	63	62	61	Yes
R58-168	66	68	70	Yes	66	63	63	62	61	Yes
R58-169	66	68	70	Yes	66	64	63	62	61	Yes
R58-170	66	68	70	Yes	66	64	63	62	61	Yes
R58-171	67	69	70	Yes	68	65	64	63	62	Yes
R58-172	67	69	70	Yes	69	66	65	64	64	Yes

dBA: A-weighted decibels.

--: Not evaluated

Notes:

1 – Receivers that are noise measurement sites that are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

2 – Representative of an interior noise level since there were no exterior outdoor use areas.

Source: Developed from the *Noise Study Report* 2014.

Table 3.38 Traffic Noise Impact Analysis – Alternative B (Preferred Alternative) State Route 99 South of State Route 58

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R99-1	59	63	63	No	62	62	62	62	62	No
R99-2	67	68	68	Yes	67	67	67	66	66	No
R99-3	58	59	59	No	57	56	56	56	56	No
R99-4	66	67	67	Yes	--	--	67	66	66	No
R99-5	65	66	66	Yes	--	--	66	65	65	No
R99-6	66	67	67	Yes	--	--	66	65	65	No
R99-7	66	67	67	Yes	--	--	66	64	64	No
R99-8	65	66	66	Yes	--	--	65	64	63	No
R99-9	62	63	63	No	--	--	--	--	--	--
R99-10	59	60	60	No	--	--	--	--	--	--
R99-10A	57	58	58	No	--	--	--	-	--	--
R99-11	60	63	67	Yes	62	62	62	62	61	No
R99-12	70	73	74	Yes	70	69	69	69	69	No
R99-13	68	71	74	Yes	69	69	68	68	68	No
R99-14	69	72	73	Yes	--	--	71	70	70	No
R99-15	62	65	69	Yes	--	--	68	68	68	No
R99-16	60	64	64	No	--	--	64	63	63	No
R99-17	64	68	68	Yes	--	--	67	66	65	No
R99-18	65	69	69	Yes	--	--	68	67	66	No
R99-19	65	68	69	Yes	--	--	68	67	67	No
R99-20	56	59	59	No	--	--	59	59	59	No
R99-20A	62	65	65	No	--	--	64	64	63	No
R99-21	58	61	62	No	--	--	--	61	60	No
R99-21A	61	64	67	Yes	--	--	--	65	64	No
R99-21B	65	68	69	Yes	--	--	--	67	67	No
R99-21C	61	64	65	No	--	--	--	64	64	No
R99-22	60	63	64	No	--	--	--	63	63	No
R99-23	62	65	72	Yes	69	68	68	67	67	No
R99-25	64	67	75	Yes	71	70	70	70	69	No
R99-26	61	66	69	Yes	--	--	68	68	68	No
R99-27	60	65	68	Yes	--	--	68	67	67	No
R99-28	61	66	66	Yes	--	--	66	65	65	No
R99-29	56	61	61	No	--	--	61	61	61	No
R99-30	57	62	62	No	62	61	61	61	60	No
R99-31	68	73	73	Yes	66	65	64	63	63	Yes
R99-32	68	73	70	Yes	65	64	63	63	62	Yes
R99-33	70	75	72	Yes	65	63	62	61	60	Yes
R99-34	62	67	62	No	61	60	60	58	57	No
R99-36	64	69	67	Yes	64	63	63	62	60	Yes

Table 3.38 Traffic Noise Impact Analysis – Alternative B (Preferred Alternative) State Route 99 South of State Route 58

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R99-37	68	73	72	Yes	66	64	63	62	61	Yes
R99-40	59	63	72	Yes	68	67	67	67	66	No
R99-41	58	62	73	Yes	68	67	66	66	65	No
R99-43C	58	62	75	Yes	68	67	66	65	65	No
R99-43A	57	61	70	Yes	65	65	64	64	63	No

dBA: A-weighted decibels.
–: .Not evaluated
[1] - Receivers that are noise measurement sites that are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.
Source: Developed from the *Noise Study Report* 2014.

Alternative C

Tables 3.39 through 3.41 show the results of traffic noise analysis for the project in 2038 with implementation of Alternative C. The analysis concluded that 401 outdoor use areas would be impacted by traffic noise levels. Figures 3-43 to 3-46, provided in Volume 2, show receiver locations.

Table 3.39 Traffic Noise Impact Analysis – Alternative C State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative C (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-4	67	70	74	Yes	73	71	70	68	67	Yes
R58-5	60	63	70	Yes	69	68	68	67	67	No
R58-6	58	61	68	Yes	63	63	62	61	60	Yes
R58-7	67	70	76	Yes	69	67	66	65	64	Yes
R58-7A	61	64	70	Yes	66	65	64	63	62	Yes
R58-8	68	71	76	Yes	69	68	66	65	64	Yes
R58-9	65	70	74	Yes	67	65	64	62	61	Yes
R58-10	65	70	74	Yes	66	65	64	63	62	Yes
R58-11	67	70	70	Yes	68	65	64	63	63	Yes
R58-12	65	68	68	Yes	66	66	61	60	59	Yes
R58-13	65	66	66	Yes	65	64	62	61	59	Yes
R58-15	69	70	68	Yes	67	65	62	61	60	Yes
R58-16	71	72	70	Yes	67	65	63	62	61	Yes
R58-17	66	67	66	Yes	65	64	63	61	59	Yes
R58-18	67	70	69	Yes	65	64	63	63	62	Yes
R58-19	57	60	59	No	59	59	58	58	58	No

Table 3.39 Traffic Noise Impact Analysis – Alternative C State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative C (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-20	62	65	63	No	62	62	61	61	61	No
R58-20A	65	68	65	No	64	64	63	63	63	No
R58-21	66	69	72	Yes	66	65	65	64	64	Yes
R58-22	59	62	64	No	63	62	62	61	61	No
R58-23	52	55	57	No	56	56	55	55	55	No
R58-24	56	59	61	No	60	60	59	59	58	No
R58-24A	65	68	71	Yes	67	66	65	65	64	Yes
R58-25	57	60	63	No	61	61	60	60	60	No
R58-26	57	60	62	No	61	60	60	60	59	No
R58-27	57	60	63	No	61	60	60	59	59	No
R58-28	66	69	72	Yes	66	65	64	63	63	No
R58-29	59	62	65	No	61	61	60	60	59	No
R58-30	58	61	62	No	58	57	56	56	56	No
R58-32	59	62	63	No	59	58	57	57	57	No
R58-33	71	74	76	Yes	67	66	65	64	64	Yes
R58-34	66	70	73	Yes	67	67	66	65	65	Yes
R58-35	66	70	73	Yes	68	67	66	65	65	Yes
R58-36	68	72	76	Yes	68	66	65	64	63	Yes
R58-37	58	58	59	No	56	55	55	54	54	No
R58-37A	71	71	74	Yes	67	66	65	65	64	Yes
R58-37B	69	69	71	Yes	65	65	64	63	63	Yes
R58-38	57	57	58	No	56	55	55	55	55	No
R58-39	63	63	65	No	60	59	59	60	61	Yes
R58-40	72	72	74	Yes	70	69	67	66	65	Yes
R58-41	68	68	70	Yes	65	65	64	63	63	Yes
R58-42	62	62	64	No	62	61	60	60	59	No
R58-42A	58	58	60	No	59	59	59	59	58	No
R58-43	62	65	66	Yes	64	63	63	63	63	No
R58-44	62	65	67	Yes	65	64	64	64	64	No
R58-45	63	62	64	No	61	60	60	59	59	Yes
R58-46	65	64	66	Yes	62	61	61	60	59	Yes
R58-47	61	60	62	No	61	60	60	60	59	No
R58-48	65	64	66	Yes	63	62	61	60	60	Yes
R58-49	69	72	74	Yes	68	66	65	64	63	Yes
R58-50	68	71	73	Yes	68	66	65	64	63	Yes
R58-51	60	63	65	No	62	60	58	57	56	Yes
R58-52	65	68	70	Yes	66	63	62	61	60	Yes
R58-54	69	72	74	Yes	69	67	66	65	64	Yes
R58-55	64	67	68	Yes	65	62	61	59	59	Yes
R58-56	70	72	73	Yes	71	67	66	65	64	Yes
R58-57	70	72	73	Yes	69	67	66	65	64	Yes
R58-58	62	64	66	Yes	63	62	61	59	58	Yes

Table 3.39 Traffic Noise Impact Analysis – Alternative C State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative C (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-59	69	71	72	Yes	69	66	65	64	63	Yes
R58-60	66	69	70	Yes	68	64	63	62	62	Yes
R58-61	71	71	73	Yes	68	67	66	65	64	Yes
R58-62	71	71	73	Yes	71	67	66	65	64	Yes
R58-63	72	72	74	Yes	72	67	66	65	64	Yes
R58-64	63	66	68	Yes	66	63	63	61	60	Yes
R58-65	67	70	72	Yes	69	68	66	63	62	Yes
R58-66	67	70	72	Yes	68	68	65	62	61	Yes
R58-67	66	68	70	--	--	--	--	--	--	--
R58-68[2]	43	45	47	No	--	--	--	--	--	--
R58-69	62	65	67	Yes	65	65	65	64	64	No
R58-71	61	64	66	Yes	64	64	64	64	64	No
R58-73	68	71	73	Yes	69	68	66	65	64	Yes
R58-74	67	70	72	Yes	70	69	66	64	63	Yes
R58-75	73	76	78	Yes	73	70	68	67	66	Yes
R58-76	69	72	74	Yes	70	69	66	64	63	Yes
R58-77	65	68	70	Yes	66	64	62	61	60	Yes
R58-78	66	69	69	Yes	67	65	63	63	60	Yes
R58-79	63	66	67	Yes	65	64	63	61	59	Yes
R58-80	70	70	70	Yes	68	65	64	62	62	Yes
R58-81	73	73	73	Yes	69	67	66	65	65	Yes
R58-82	64	64	64	No	62	60	59	58	57	No
R58-84	72	72	73	Yes	68	67	66	65	64	Yes
R58-85	72	72	73	Yes	68	66	66	65	64	Yes
R58-86	64	64	65	No	63	61	60	59	58	No
R58-87	71	71	73	Yes	68	66	65	65	64	Yes
R58-88	68	68	69	Yes	64	63	62	61	60	Yes
R58-89	66	66	67	Yes	64	62	61	60	59	Yes
R58-90	67	67	68	Yes	67	63	62	61	60	Yes
R58-91	67	67	68	Yes	66	64	62	61	60	Yes
R58-92	71	71	73	Yes	68	66	65	64	64	Yes
R58-93	70	70	72	Yes	67	65	64	63	62	Yes
R58-94	69	69	69	Yes	68	65	63	62	61	Yes
R58-95	67	67	68	Yes	66	63	62	61	60	Yes
R58-96	72	72	73	Yes	68	67	66	65	64	Yes
R58-97	69	69	69	Yes	65	64	62	61	61	Yes
R58-98	74	74	75	Yes	70	68	67	66	65	Yes
R58-99	67	67	69	Yes	67	65	64	63	62	Yes
R58-100	66	66	68	Yes	65	64	63	62	62	Yes
R58-101	62	66	68	Yes	64	63	62	61	60	Yes
R58-102	70	74	77	Yes	69	67	66	65	64	Yes
R58-103	59	63	65	No	62	61	60	58	57	No

Table 3.39 Traffic Noise Impact Analysis – Alternative C State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative C (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-104	62	66	68	Yes	64	63	62	61	60	Yes
R58-105	59	63	64	No	63	62	61	59	58	No
R58-106	75	78	79	Yes	72	70	67	65	64	Yes
R58-107	67	71	73	Yes	70	69	66	64	62	Yes
R58-108	72	75	77	Yes	72	72	67	66	65	Yes
R58-109	72	75	77	Yes	72	71	67	66	65	Yes
R58-110	66	70	72	Yes	70	69	66	64	62	Yes
R58-111	73	76	77	Yes	74	71	69	68	67	Yes
R58-112	72	75	77	Yes	71	69	68	67	66	Yes
R58-113	71	74	75	Yes	72	71	67	65	65	Yes
R58-114	70	73	75	Yes	73	69	67	66	65	Yes
R58-115	71	74	76	Yes	71	69	68	67	66	Yes
R58-116	70	73	75	Yes	73	69	67	66	65	Yes
R58-117	67	70	72	Yes	70	66	64	63	62	Yes
R58-118	70	73	75	Yes	70	68	67	66	65	Yes
R58-119	66	69	71	Yes	69	65	63	62	61	Yes
R58-120	66	69	72	Yes	69	65	63	62	62	Yes
R58-121	67	70	72	Yes	70	66	64	63	62	Yes
R58-122	70	73	74	Yes	70	68	67	66	65	Yes
R58-123	65	68	70	Yes	68	67	63	62	61	Yes
R58-124	66	69	71	Yes	69	68	64	63	62	Yes
R58-125	67	70	71	Yes	67	66	65	65	64	Yes
R58-126	65	68	70	Yes	69	64	63	62	62	Yes
R58-127	66	69	71	Yes	69	66	65	65	65	Yes
R58-128	65	69	70	Yes	67	66	65	64	63	Yes
R58-129	59	63	64	No	64	63	63	63	63	No
R58-131	65	69	70	Yes	65	64	63	62	61	Yes
R58-132	57	61	62	No	59	58	58	56	56	No
R58-133	69	73	75	Yes	68	67	66	65	64	Yes
R58-134	70	74	75	Yes	69	69	67	66	65	Yes
R58-135	58	62	63	No	61	60	59	57	57	No
R58-136	70	72	74	Yes	68	66	65	64	63	Yes
R58-137	58	60	61	No	59	58	57	56	54	No
R58-138	63	65	67	Yes	65	64	61	62	58	Yes
R58-139	70	72	74	Yes	68	66	64	63	61	Yes
R58-140	74	76	78	Yes	72	70	67	65	64	Yes
R58-141	67	69	71	Yes	68	67	63	61	60	Yes
R58-142	66	68	70	Yes	68	67	64	62	61	Yes
R58-143	73	75	77	Yes	71	67	65	64	63	Yes
R58-144	70	72	73	Yes	70	69	65	63	62	Yes
R58-145	67	70	71	Yes	69	68	64	62	61	Yes
R58-146	64	67	69	Yes	67	66	63	61	60	Yes

Table 3.39 Traffic Noise Impact Analysis – Alternative C State Route 58 East of State Route 99

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative C (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R58-147	68	71	72	Yes	69	68	64	62	61	Yes
R58-148	70	72	73	Yes	71	67	65	64	63	Yes
R58-149	69	71	73	Yes	71	66	65	64	63	Yes
R58-150	67	69	71	Yes	69	67	63	62	61	Yes
R58-151	65	68	70	Yes	67	67	63	62	61	Yes
R58-152	69	71	72	Yes	68	66	65	64	63	Yes
R58-153	69	71	73	Yes	68	66	65	64	63	Yes
R58-154	69	71	73	Yes	67	66	65	64	63	Yes
R58-155	64	67	70	Yes	67	67	63	62	61	Yes
R58-156	65	68	70	Yes	66	65	62	61	60	Yes
R58-157	68	70	72	Yes	66	65	63	63	62	Yes
R58-158	67	69	70	Yes	69	64	63	62	61	Yes
R58-159	69	71	72	Yes	67	65	64	63	62	Yes
R58-160	65	68	70	Yes	67	66	62	61	60	Yes
R58-161	65	68	70	Yes	66	66	62	61	60	Yes
R58-162	65	68	69	Yes	66	66	62	61	60	Yes
R58-163	62	65	67	Yes	64	63	60	58	58	Yes
R58-164	68	70	72	Yes	67	65	64	63	62	Yes
R58-165	68	70	72	Yes	67	65	64	63	62	Yes
R58-166	63	66	68	Yes	65	63	61	60	59	Yes
R58-167	66	68	70	Yes	67	63	63	62	61	Yes
R58-168	66	68	70	Yes	66	63	63	62	61	Yes
R58-169	66	68	70	Yes	66	64	63	62	61	Yes
R58-170	66	68	70	Yes	66	64	63	62	61	Yes
R58-171	67	69	70	Yes	68	65	64	63	62	Yes
R58-172	67	69	70	Yes	69	66	65	64	64	Yes

dBA: A-weighted decibels.
--: Not evaluated

Notes:
1 – Receivers that are noise measurement sites that are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.
2 – Representative of an interior noise level since there were no exterior outdoor use areas.

Source: Developed from the *Noise Study Report* 2014.

Table 3.40 Traffic Noise Impact Analysis – Alternative C State Route 99 South of State Route 58

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative C (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R99-1	59	63	63	No	62	62	62	62	62	No
R99-2	67	68	67	Yes	67	67	67	66	66	No
R99-3	58	59	59	No	56	56	56	55	55	No
R99-4	66	67	67	Yes	--	--	67	66	66	No
R99-5	65	66	66	Yes	--	--	66	65	64	No
R99-6	66	67	66	Yes	--	--	66	65	64	No
R99-7	66	67	67	Yes	--	--	65	64	63	No
R99-8	65	66	66	Yes	--	--	65	63	63	No
R99-9	62	63	63	No	--	--	--	--	--	--
R99-10	59	60	60	No	--	--	--	--	--	--
R99-10A	57	58	58	No	--	--	--	--	--	--
R99-11	60	63	64	No	62	62	61	61	61	No
R99-12	70	73	73	Yes	69	69	69	69	69	No
R99-13	68	71	72	Yes	69	68	68	68	68	No
R99-14	69	72	72	Yes	--	--	70	70	70	No
R99-15	62	65	66	Yes	--	--	66	66	66	No
R99-16	60	64	64	No	--	--	63	63	62	No
R99-17	64	68	68	Yes	--	--	67	66	65	No
R99-18	65	69	69	Yes	--	--	68	67	66	No
R99-19	65	68	68	Yes	--	--	67	67	66	No
R99-20	56	59	59	No	--	--	58	58	58	No
R99-20A	62	65	65	No	--	--	64	63	62	No
R99-21	58	61	61	No	--	--	--	59	59	No
R99-21A	61	64	67	Yes	--	--	--	64	64	No
R99-21B	65	68	68	Yes	--	--	--	67	66	No
R99-21C	61	64	64	No	--	--	--	63	63	No
R99-22	60	63	64	No	--	--	--	62	62	No
R99-23	62	65	73	Yes	68	68	67	67	67	No
R99-25A	64	67	72	Yes	68	68	67	67	66	No
R99-26	61	66	69	Yes	--	--	67	67	67	No
R99-27	60	65	69	Yes	--	--	67	67	67	No
R99-28	61	66	69	Yes	--	--	67	67	67	No
R99-29	56	61	61	No	--	--	61	61	61	No
R99-30	57	62	65	No	64	64	63	63	62	No
R99-31	68	73	73	Yes	67	66	65	64	64	Yes
R99-32	68	73	73	Yes	66	66	65	64	63	Yes
R99-33	70	75	75	Yes	67	65	63	62	61	Yes
R99-34	62	67	68	Yes	63	63	62	62	61	Yes
R99-36	64	69	68	Yes	64	63	63	61	60	Yes
R99-37	68	73	73	Yes	67	65	64	63	62	Yes
R99-40A	59	63	67	Yes	65	64	64	64	64	No
R99-41A	58	62	68	Yes	65	64	64	63	63	No

Table 3.40 Traffic Noise Impact Analysis – Alternative C State Route 99 South of State Route 58

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative C (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R99-43B	60	64	77	Yes	69	68	67	66	65	No
R99-43A	57	61	67	Yes	64	63	62	62	61	No
R99-69	61	65	74	Yes	67	66	65	64	64	Yes
R99-70	59	63	66	Yes	63	63	62	62	61	Yes
R99-71	60	64	71	Yes	66	65	65	64	64	Yes

dBA: A-weighted decibels.
–: Not evaluated.

[1] - Receivers that are noise measurement sites that are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: Developed from the *Noise Study Report* 2014.

Table 3.41 Traffic Noise Impact Analysis – Alternative C State Route 99 North of State Route 58

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative C (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R99-44	60	64	69	Yes	67	65	64	61	61	Yes
R99-45	60	64	69	Yes	66	64	64	62	61	Yes
R99-46	62	64	70	Yes	68	66	64	62	61	Yes
R99-47	61	63	71	Yes	68	65	64	63	62	Yes
R99-48	59	61	69	Yes	67	65	63	62	61	Yes
R99-49	60	62	72	Yes	68	65	64	63	63	Yes
R99-50	60	62	71	Yes	68	66	64	63	62	Yes
R99-51	59	61	69	Yes	67	65	64	61	60	Yes
R99-53	60	59	69	Yes	66	64	63	62	61	Yes
R99-54	60	59	68	Yes	64	63	63	62	61	Yes
R99-55	61	60	69	Yes	67	65	63	62	62	Yes
R99-56	60	59	69	Yes	67	66	65	65	64	Yes
R99-57	57	61	68	Yes	66	65	64	64	63	Yes
R99-58	56	60	66	Yes	--	--	--	--	64	No
R99-59	57	61	65	No	--	--	--	--	65	No
R99-60	59	63	63	No	--	--	--	--	--	--
R99-61	67	70	70	No	--	--	--	--	--	--
R99-62	64	67	71	Yes	71	71	71	71	70	No
R99-63	57	60	66	Yes	66	66	66	66	66	No
R99-64	59	62	68	Yes	68	68	68	68	68	No
R99-65	61	64	67	Yes	66	66	66	66	66	No
R99-66	62	65	70	Yes	70	69	69	69	69	No

Table 3.41 Traffic Noise Impact Analysis – Alternative C State Route 99 North of State Route 58

Noise Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative C (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Reasonable and Feasible?
					8-foot Wall	10-foot Wall	12-foot Wall	14-foot Wall	16-foot Wall	
R99-67	57	60	64	No	64	64	64	64	64	No
R99-68	60	63	68	Yes	68	68	68	68	68	No
R99-72	63	70	66	No	--	--	--	--	--	--
R99-73	68	74	74	Yes	68	68	66	65	65	No
R99-74	70	76	75	Yes	68	68	67	66	66	No
R99-75	69	75	75	Yes	69	68	68	68	67	No

dBA: A-weighted decibels.
--: Not evaluated

[1] - Receivers that are noise measurement sites that are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: Developed from the *Noise Study Report* 2014.

Westside Parkway (Segment 2)

A detailed noise study was done for Segment 2 of the Centennial Corridor Project (Westside Parkway) in 2009, and a Noise Study Report was prepared in 2010. At the time of the traffic noise study analysis for Segment 1 of the Centennial Corridor Project, Segment 2 was under construction.

Traffic noise impact analysis for Westside Parkway used level-of-service C traffic volumes for each lane to predict the worst-case traffic noise impacts. In anticipation of the Centennial Corridor Project, truck percentages from the Centennial Corridor Project were used for the traffic noise impact analysis for Westside Parkway. There is the possibility that traffic noise would be slightly higher at some areas along the Westside Parkway due to the proposed Centennial Corridor alignment where an auxiliary lane would be added. Therefore, recommended heights of some of the sound walls were raised by approximately 2 feet to provide additional traffic noise abatement for these areas. However, at locations where sound walls were already 16 feet high, they were kept at that height. Sound walls S335 and S314 were also extended 330 and 1,357 feet respectively to cover additional residences that were not impacted by traffic noise levels under the Westside Parkway project due to existing property walls.

The Westside Parkway traffic noise analysis used three general lanes in the westbound direction from Coffee Road to Calloway Drive. As part of the Centennial Corridor Project, an auxiliary lane would be added to the westbound travel lanes of Westside Parkway from Coffee Road to Calloway Drive. Because sound wall s in this area were built at least 2 feet higher than what was needed to provide feasible abatement for the three general lanes, they would also be effective in providing abatement when an auxiliary lane is added as part of the Centennial Corridor Project.

Figure 3-47 in Volume 2 shows the area between Coffee Road to Calloway Drive where a new auxiliary lane would be added and shows where sound walls are being built as part of the Westside Parkway project.

No-Build Alternative

Traffic noise impacts would occur along the various roadways even without project implementation, as shown in Tables 3.33 to 3.41 ("Predicted Noise Level with the No-Build Alternative" column) because traffic noise levels would approach or exceed Noise Abatement Criteria. However, no noise abatement would be considered without the project.

Avoidance, Minimization, and/or Noise Abatement Measures

Noise abatement is considered for locations where traffic noise levels would approach or exceed the noise abatement criterion or there is a noise level increase of 12 dB. A barrier must meet both the feasible and reasonable criteria to be built. Feasibility of noise abatement is an engineering concern. A minimum 5-decibel reduction in the future noise level must be achieved for an abatement measure to be considered feasible. The preliminary reasonableness determination is made first by achieving the noise reduction design goal. The design goal is that a barrier must be predicted to provide at least 7 decibels of noise reduction at one or more benefited receptors for the barrier to be considered reasonable. Second, for a barrier to be considered reasonable, construction cost must be within the established allowance per benefited receptor. Finally, the viewpoints of benefitted receptors (including property owners and residents of the benefitted receptors) must be taken into account for a barrier to be considered reasonable.

There are six existing sound walls along State Route 99 that are within the project limits. For areas where space is needed for the expansion of traffic lanes, in-kind replacement of some of the existing sound walls would be required. In-kind replacement occurs when an existing sound wall must be removed, relocated, and replaced in-kind along the project alignment where space is needed for the proposed project's additional lanes and/or required safety features; such replacement (construction) is done regardless of cost. Existing sound walls could be replaced only by higher sound walls if an additional 5-decibel noise reduction can be achieved. In most cases, increasing the height of a 10- or 12-foot-high sound wall to the maximum height of 16 feet would not provide an additional 5-decibel noise reduction. This is the main reason the heights of some existing sound walls were not increased but were replaced in-kind at a new location at the original height.

Based on the noise abatement study, 23 sound wall s identified under Alternative A would provide feasible abatement for 496 frequent outdoor use areas. Under Alternative B, 25 sound walls would provide feasible abatement for 445 frequent outdoor use areas. Under Alternative C, 22 sound walls would provide feasible abatement for 330 frequent outdoor use areas.

The following noise abatement would apply to the project:

N-1 Based on the studies completed, Caltrans intends to incorporate noise abatement in the form of sound walls that meet the criteria for reasonableness and feasibility. The recommended sound walls would reduce the traffic noise levels by at least 5 decibels at the impacted receivers, would meet the design goal by providing a 7-decibel reduction for at least one receiver, and would cost less than the reasonableness cost allowance. If during final design, conditions have substantially changed, noise abatement may not be necessary. The final decision of the noise abatement will be made upon completion of the project design and the public involvement processes.

During the circulation of the draft environmental document, sound wall surveys were conducted with all property owners and residents of benefited receptors located within the footprint of Alternative B (Preferred Alternative). If more than 50 percent of the responding benefitted receptors oppose the sound wall, then the sound wall would not be constructed. Less than 50 percent of responding property owners and residents opposed the construction of any of the sound walls. Therefore, all 25 sound walls will be constructed.

The *Noise Abatement Decision Report* (March 2014determines the reasonableness of the feasible sound walls presented in the *Noise Study Report*. When cost allows during the reasonableness determination, the minimum heights shown in the *Noise Study Report* may be raised. Raising the heights of sound walls may increase the number of benefited receivers. All benefited areas, even non-impacted areas, with feasible abatement contribute to the calculation of the reasonableness allowance of a feasible sound wall. Sound walls that are reasonable are recommended for the project.

Based on the studies completed to date, Caltrans intends to incorporate noise abatement in the form of sound walls ranging in height from 8 to 16 feet at 25 locations for Alternative B (Preferred Alternative) for a total length of 30,696 feet. Calculations based on preliminary design data indicate that the proposed sound walls would reduce noise levels by at least 5 decibels and would meet the design goal of a 7-decibel reduction at least at one receiver per sound wall. The estimated cost of sound walls for Alternative B is $13,123,500. If conditions have substantially changed during final design, noise abatement may be changed or eliminated from the final project if appropriate. The final decision concerning noise abatement will be made upon completion of the project design and the public involvement processes.

Sound walls Unique to Each Build Alternative

Alternative A

Centennial Corridor West of State Route 99

Sound wall S469 (Alternative A–Area 1). Sound wall S469 is on the shoulder of westbound Centennial Corridor and would provide feasible traffic noise abatement

for eight multi-family residences and one recreational area in the Creek Side Apartments complex in Alternative A-Area 1 (see Figure 3-35 in Volume 2; Receivers RA-1 through RA-4). Measurements taken in this area indicate that the existing noise levels are between 60 and 73 dBA. The future noise levels at these receivers without the project are predicted to be the same as the existing noise levels. The future traffic noise levels at these receivers with the project are predicted to be between 67 and 75 dBA. Since the predicted future noise levels exceed 67 dBA, the noise abatement criterion for residential uses, the multi-family residences represented by these receivers would be impacted by traffic noise levels. A 12-foot-high sound wall would provide a 5-decibel reduction in traffic noise levels; however, the design goal of a 7-decibel reduction in traffic noise levels would not be achieved by this sound wall. Since Sound wall S469 does not meet the design goal at any of the receivers, this sound wall is determined not reasonable and therefore not recommended.

Sound Wall S474 (Alternative A–Area 2). Sound Wall S474 is on the shoulder along eastbound Centennial Corridor and would provide feasible traffic noise abatement for nine single-family residences, 62 multi-family residences, and one recreational area between Truxtun and Lennox Avenues (see Figure 3-35 in Volume 2; Receivers RA-6 through RA-27) in Alternative A-Area 2. The existing noise levels in this area range from 50 to 52 dBA. The future noise levels at these locations without the project are predicted to be the same as the existing noise levels. The future traffic noise level at these locations with the project is predicted to range from 61 to 74 dBA. The predicted future traffic noise levels for all receivers except for Receivers RA-9, RA-10, and RA-26 substantially exceed existing worst-hour noise levels with an increase of at least 12 dB; therefore, these receivers would be impacted by traffic noise levels. A 14-foot-high sound wall would be needed to achieve feasible and reasonable traffic noise abatement at Receivers RA-6 through RA-8 and RA-11 through RA-25. The total cost allowance for this sound wall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $3,960,000. The current estimated cost of the sound wall is $726,000. Therefore, this sound wall is recommended.

Sound Wall S499 (Alternative A–Area 3). Sound Wall S499 is on the shoulder along eastbound Centennial Corridor and would provide feasible traffic noise abatement for three single-family residences and 51 multi-family residences between California Avenue and Stockdale Highway (see Figure 3-35 in Volume 2; Receivers RA-28 through RA-39) in Alternative A-Area 3. The existing noise levels in this area range from 52 to 54 dBA. The future noise levels at these locations without the project are predicted to be the same as the existing noise levels. The future traffic noise level at these locations with the project is predicted to range from 62 to 72 dBA. The predicted future traffic noise levels for all receivers except for Receivers RA-33 through RA-35 substantially exceed existing worst-hour noise levels (increase of 12 dB or more); therefore, these receivers would be impacted by traffic noise levels. A 14-foot-high sound wall would be needed to achieve feasible and reasonable traffic noise abatement at Receivers RA-28 through RA32 and RA-36 through RA-39. The total cost allowance for this sound wall, calculated in accordance with the Caltrans

Traffic Noise Analysis Protocol, is $2,970,000. The current estimated cost of the sound wall is $400,000; therefore, this sound wall is recommended.

Sound Wall S526 (Alternative A–Area 5). Sound Wall S526 is on the shoulder along eastbound Centennial Corridor, the right-of-way line along the connector to southbound State Route 99, and between the existing infiltration basin and the residences it protects (see Figure 3-35 in Volume 2). Sound Wall S526 would provide feasible traffic noise abatement for 43 single-family residences and three multi-family residences between Stockdale Highway and State Route 99 (Receivers RA-50 through RA-77) in Alternative A-Area 5. The existing noise levels in this area range from 52 to 56 dBA. The future noise levels at these locations without the project are predicted to be the same as the existing noise levels. The future traffic noise level at these locations with the project is predicted to range from 62 to 72 dBA. The predicted future traffic noise levels for all receivers except for Receivers RA-53, RA-55, and RA-56 either approach 67 dBA, the noise abatement criterion for residential uses, or substantially exceed the existing noise levels (increase of 12 dB or more). Therefore, these receivers would be impacted by traffic noise levels. A sound wall varying in height from 10 to 16 feet would be needed to achieve feasible and reasonable traffic noise abatement at the impacted receivers. The total cost allowance for this sound wall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $2,530,000. The current estimated cost of the sound wall is $1,752,000. Therefore, this sound wall is recommended.

Sound Wall S531 (Alternative A–Area 4). Sound Wall S531 is on the shoulder along westbound Centennial Corridor and would provide feasible traffic noise abatement for 11 single-family residences between Montclair Street and Stine Road in Alternative A-Area 4 (see Figure 3-35 in Volume 2; Receivers RA-41 through RA-49). The existing noise levels in this area range from 59 to 63 dBA. The future noise levels at these locations without the project are predicted to be the same as the existing noise levels. The future traffic noise level at these locations with the project is predicted to range from 69 to 71 dBA. Since the predicted future traffic noise levels for all receivers exceed 67 dBA, the noise abatement criterion for residential uses, these receivers would be impacted by traffic noise levels. A 12-foot-high sound wall would be needed to achieve feasible and reasonable traffic noise abatement at Receivers RA-41 through RA-47 and RA-49. The total cost allowance for this sound wall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $605,000. The current estimated cost of the sound wall is $497,000. Therefore, this sound wall is recommended.

State Route 99 South of State Route 58

Sound Wall S656 (State Route 99–Area 3). Sound Wall S656 is on the right-of-way line west of Wible Road and would provide feasible traffic noise abatement for two single-family residences and one motel between Belle Terrace and Ming Avenue in State Route 99-Area 3 (see Figure 3-36 in Volume 2; Receivers R99-11 through R99-13). Measurements taken in this area indicate that the existing traffic noise level at this location is between 60 and 70 dBA. The future traffic noise levels at these receivers without the project are predicted to be between 63 and 73 dBA. The future

traffic noise levels at these receivers with the project are predicted to be between 67 and 74 dBA. Since the predicted future traffic noise level exceeds 67 dBA, the noise abatement criterion for residential uses and 72 dBA, the noise abatement criterion for motels, the single-family residences and motel represented by these receivers would be impacted by traffic noise levels. A 10-foot-high sound wall would provide a 5-decibel reduction in traffic noise levels; however, the design goal of a 7-decibel reduction in traffic noise levels would not be achieved by this sound wall. Since Sound Wall S656 does not meet the design goal at any of the receivers, the sound wall is determined not reasonable. Therefore, it is not recommended.

Receivers R99-17 through R99-19. Traffic noise impacts would occur at outdoor use areas associated with five single-family residences along southbound State Route 99 north of Ming Avenue represented by Receivers R99-17 through R99-19 (State Route 99-Area 4; see Figure 3-36 in Volume 2). The portion of existing Sound Wall SW2 in front of these residences would remain under Alternative A. The sound wall analysis from the *Noise Study Report* demonstrates that raising the height of the existing sound wall in this area would not provide an additional 5-decibel or more of noise reduction at any of the impacted receivers, so a heightened sound wall would not provide feasible traffic noise abatement. Feasible traffic noise abatement cannot be attained because the existing sound wall already provides much of the noise reduction potential of a sound wall.

State Route 58 East of State Route 99

Sound Wall S88 (State Route 58–Area 2). Sound Wall S88 is on the edge of the shoulder along the State Route 99/State Route 58 northbound to eastbound connector and would provide feasible traffic noise abatement for 12 single-family residences near Stephens Drive in State Route 58-Area 2 (see Figures 3-36 and 3-37 in Volume 2; Receivers R58-11 through R58-17). The existing traffic noise levels in this area range from 65 to 71 dBA. The future traffic noise level at these locations without the project is predicted to range from 67 to 72 dBA. The future traffic noise level at these locations with the project is predicted to range from 67 to 73 dBA. Since the predicted future traffic noise levels at all receivers meet or exceed 67 dBA, the noise abatement criterion for residential uses, these receivers would be impacted by traffic noise levels. A 12-foot-high sound wall would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-11 through R58-17. The total cost allowance for this sound wall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $660,000. The current estimated cost of the sound wall is $435,000. Therefore, this sound wall is recommended.

Sound Wall S106 (State Route 58–Area 2). Sound Wall S106 is on the existing right-of- way along eastbound State Route 58 and would provide feasible traffic noise abatement for eight single-family residences and a recreational area near Hughes Lane in State Route 58-Area 2 (see Figure 3-37 in Volume 2; Receivers R58-18 through R58-24A). The existing traffic noise levels in this area range from 52 to 67 dBA. The future traffic noise level at these locations without the project is predicted to range from 55 to 70 dBA. The future traffic noise level at these locations with the project is predicted to range from 57 to 75 dBA, approaching or exceeding

67 dBA, the noise abatement criterion for residential uses. So, the receivers would be impacted by traffic noise levels. A sound wall varying in height from 8 to 12 feet would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-18 through R58-24A. The total cost allowance for this sound wall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $495,000. The current estimated cost of the sound wall is $471,000. Therefore, this sound wall is recommended.

Alternative B (Preferred Alternative)

Centennial Corridor West of State Route 99

Sound Walls S509 and S519 (Alternative B–Area 2). Sound Walls S509 and S519, working as a system, would be placed on the shoulder and right-of-way line, respectively, along the eastbound Centennial Corridor. Sound walls in Alternative B-Area 2 would provide feasible traffic noise abatement for 14 single-family residences, 15 multi-family residences, and Stockdale Christian School between California Avenue and Marella Way (see Figure 3-39 in Volume 2; Receivers RB-36 through RB-44). The existing noise level in this area is 52 dBA. Future traffic noise levels at these locations, with the project, are predicted to range from 61 to 76 dBA. The predicted future traffic noise levels, with an increase of at least 12 dB for all receivers except Receivers RB-38 and RB-43, substantially exceed the existing worst-hour noise levels. So, these receivers would be impacted by traffic noise levels. A 14-foot-high sound wall would be needed to achieve feasible and reasonable traffic noise abatement for the effected receivers. The total cost allowance for this sound wall system, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $1,650,000. The current estimated cost of this sound wall system is $643,000. Therefore, this sound wall system is recommended.

Sound Wall S518 (Alternative B–Area 1). Sound Wall S518 is in the shoulder and on the right-of-way line along the westbound Centennial Corridor, and would provide feasible traffic noise abatement for 19 single-family residences between California Avenue and Marella Way in Alternative B-Area 1 (see Figure 3-39 in Volume 2; Receivers RB-5 through RB-18). Existing noise levels in this area range from 53 to 58 dBA. Future traffic noise levels at these locations, without the project, are predicted to range from 53 to 58 dBA. Future traffic noise levels at these locations, with the project, are predicted to range from 60 to 75 dBA. Predicted future traffic noise levels, with an increase of at least 12 dB, substantially exceed the existing worst-hour noise levels. A sound wall varying in height from 14 to 16 feet would be needed to achieve feasible and reasonable traffic noise abatement for the impacted receivers, except for two single-family residences represented by Receiver RB-16. The existing noise level at Receiver RB-16 is 53 dBA and would be 68 dBA with Sound Wall S518. Failure to achieve 5 dBA in noise reduction at Receiver RB-16 is attributed to the absence of abatement at the Marella Way overcrossing, exposing the receiver to Centennial Corridor traffic. Total cost allowance for this sound wall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $1,045,000. The current estimated cost of the sound wall is $667,000. Therefore; this sound wall is recommended.

Sound Wall S529 (Alternative B–Area 4). Sound Wall S529 is on right-of-way line of the eastbound Centennial Corridor between Marella Way to La Mirada Drive in Alternative B-Area 4 and would provide feasible traffic noise abatement for three single-family residences and Centennial Park (see Figure 3-39 in Volume 2; Receivers RB-45 through RB-51). Measurements taken indicate that the existing noise level ranges from 51 to 53 dBA. Future traffic noise levels at these locations, without the project, are predicted to range from 51 to 53 dBA. Future traffic noise levels at these locations, with the project, are predicted to range from 61 to 69 dBA. Receivers for which the predicted future traffic noise level approaches or exceeds 67 dBA, the noise abatement criterion for residential and recreational uses, would be impacted by traffic noise levels. Receivers RB-45, RB-47, RB-48, and RB-51 are below the noise abatement criterion. To achieve a 5-decibel reduction at Receivers RB-46, RB-49, and RB-50, a sound wall varying in height from 8 to 12 feet would be needed. A 5-decibel reduction could not be achieved for RB-46.

Compared to the existing noise levels, with the proposed project, Centennial Park (represented by Receivers RB-45 to RB-47) would experience noise increases of 8 to 14 dB under Alternative B by 2038. The existing noise level at the park is 53 dBA (equal to a quiet urban daytime setting) and future predicted traffic noise levels would range from 61 to 67 dBA (similar to heavy traffic 300 feet away). Sound Wall S529, with a height combination of 8 to 12 feet, was considered on the south side of the proposed Centennial freeway between Marella Way and La Mirada Drive to provide traffic noise abatement for the park and several residences. This sound wall would provide a feasible 5-decibel noise reduction for three houses, but, due to the gap in the Marella Way sound wall, only a 1-decibel noise reduction at Centennial Park.

Even though Sound Wall S529 was considered feasible, it was not considered reasonable under Caltrans noise abatement guidance. The wall could not provide a 7-decibel noise reduction for at least one receiver, a sound wall design goal. In addition, its construction cost would be more than the reasonable allowance, as established by Caltrans procedures. Based on these reasons, Sound Wall S529 would have not been recommended. However, the Caltrans Highway Design Manual, May 2012, Section 1102.4[2], Gap Closures, notes that when short gaps exist between areas qualifying for a noise barrier, the closure of these gaps should be considered on a project-by-project basis. Not recommending Sound Wall S529 at Centennial Park would create a 950-foot-wide gap south of the proposed freeway between Marella Way and La Mirada Drive. This is the only area along Alignment B where no traffic noise abatement would be provided for a frequent outdoor use area. The following areas would not receive noise abatement: about 1,700 feet north of the gap; about 4,200 feet south of the gap; and about 4,000 feet on the opposite side of the proposed freeway with no gaps but the street crossings.

The total cost allowance for this sound wall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $165,000. The current estimated cost of the sound wall is $328,000. Therefore, this sound wall was determined not reasonable. Considering that traffic noise abatement is recommended, however, for all the impacted frequent outdoor use areas along Alternative B west of State Route

99, with the exception of this area, it is recommended that Sound Wall S529 be built to close the 950-foot gap. The gap closure would ensure sound wall continuity and minimize traffic noise impacts to frequent outdoor use areas at Centennial Park.

Sound Wall S530 (Alternative B–Area 3). Sound Wall S530 on the right-of-way line along the westbound Centennial Corridor and would provide feasible traffic noise abatement for eight single-family residences between Marella Way and La Mirada Drive in Alternative B-Area 3 (see Figure 3-39 in Volume 2; Receivers RB-19 through RB-20). The existing noise levels in this area range from 51 to 53 dBA. Future traffic noise levels at these locations with the project are predicted to be 65 dBA. With an increase of at least 12 dB, predicted future traffic noise levels would substantially exceed the existing worst-hour noise levels, adversely impacting the receivers. A sound wall varying in height from 10 to 12 feet would be needed to achieve feasible and reasonable traffic noise abatement at Receivers RB-19 through RB-20. The total cost allowance for this sound wall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $440,000. The current estimated cost of the sound wall is $379,000. Therefore, this sound wall is recommended.

Sound Walls S536, S544, and S552 (Alternative B–Area 3). Sound Walls S536, S544, and S552, working as a system, would be on the right-of-way line and shoulder along the westbound Centennial Corridor. The walls would provide feasible traffic noise abatement for 19 single-family residences between La Mirada Drive and Stockdale Highway in Alternative B-Area 3 (see Figure 3-39 in Volume 2; Receivers RB-21 through RB-32). The existing noise level in this area is 51 dBA. Future traffic noise levels at these locations, without the project, are predicted to be the same as the existing noise level. Future traffic noise levels at these locations, with the project, are predicted to range from 62 to 77 dBA. With at least a 12-decibel increase, predicted future traffic noise levels for all receivers, except Receiver RB-21, substantially exceed existing worst-hour noise levels. A sound wall varying in height from 12 to 14 feet would be needed to achieve feasible and reasonable traffic noise abatement at Receivers RB-22 through RB-32. Total cost allowance for this sound wall system, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $1,045,000. The current estimated cost of the sound wall system is $616,000. Therefore, this sound wall system is recommended.

Sound Walls S537 and S555 (Alternative B–Area 4 and Area 5). Sound Walls S537 and S555 would work as a system. Sound Wall S537 would be on the right-of-way line. Sound Wall S555 would be partially on the shoulder along the eastbound Centennial Corridor, the right-of-way line along the connector to southbound State Route 99, as well as between the existing infiltration basin and residences the wall protects. Sound Walls S537 and S555 would provide feasible traffic noise abatement for 51 single-family residences between Stockdale Highway and State Route 99 in Alternative B-Area 4 and Area 5 (see Figure 3-39 in Volume 2; Receivers RB-52 through RB-87). Existing noise levels in this area range between 51 and 63 dBA. Future traffic noise levels at these locations, without the project, are predicted to range from 51 to 73 dBA. Future traffic noise levels at these locations, with the project, are predicted to range from 58 to 76 dBA. Receivers would be impacted by

traffic noise levels when predicted future traffic noise levels either approach or exceed 67 dBA, the noise abatement criterion for residential uses, or exceed existing worst-hour noise levels with an increase of at least 12 dB. A sound wall varying in height from 12 to 16 feet would be needed to achieve feasible and reasonable traffic noise abatement at the impacted receivers, except for six single-family residences represented by Receivers RB-65, RB-67, and RB-69. Sound Wall S555 on the edge of the shoulder would not provide 5 dB or more of traffic noise reduction at these receivers. The failure to achieve a 5-dB noise reduction at those receivers is attributed to their exposure to the high traffic volume on Stockdale Highway which hinders the efficiency of the shoulder sound wall. The total cost allowance for this sound wall system, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $2,805,000. The current estimated cost of the sound wall system is $1,774,000; therefore, this sound wall system is recommended.

Receivers RB-34 and RB-35. Traffic noise impacts would occur at the frequent outdoor use areas of four first-row single-family residences along the northbound side of the Centennial Corridor just north of Stockdale Highway in Alternative B-Area 3 (see Figure 3-40 in Volume 2). These impacts would occur despite the addition of Sound Walls S544 and S552 along the northbound shoulder of the Centennial Corridor and shoulder of the northbound State Route 99 connector. Because of high traffic volume on Stockdale Highway, the S544 and S552 sound wall system would not provide 5 dB or more of traffic noise reduction for these single-family residences. Therefore, these sound walls are not feasible.

State Route 99 South of State Route 58

Sound Wall S656 (State Route 99–Area 3). Sound Wall S656 is on the right-of-way line west of Wible Road by two single-family residences and one motel between Belle Terrace and Ming Avenue in State Route 99-Area 3 (see Figure 3-40 in Volume 2; Receivers R99-11 through R99-13). Measurements taken indicate that existing traffic noise levels at this location are 60 to 70 dBA. Future traffic noise levels at these receivers, without the project, are predicted to be 63 to 73 dBA. Future traffic noise levels at these receivers, with the project, are predicted to be 67 to 74 dBA. Since the predicted future traffic noise levels for receivers in this area exceed the noise abatement criteria (67 dBA for single-family residences and 72 dBA for motels), the single-family residences and motel represented by these receivers would be impacted by traffic noise levels. A 10-foot-high sound wall would provide a 5-decibel reduction in traffic noise levels; however, the design goal of a 7-decibel reduction in traffic noise levels would not be achieved by this sound wall. Since Sound Wall S656 does not meet the design goal at any of the receivers, the sound wall is determined not reasonable. Therefore, this sound wall is not recommended.

Receivers R99-17 through R99-19. Traffic noise impacts would occur at outdoor use areas associated with five single-family residences along southbound State Route 99 north of Ming Avenue represented by Receivers R99-17 through R99-19 in State Route 99-Area 4 (see Figure 3-40 in Volume 2). The portion of existing Sound Wall SW2 in front of these residences would remain under Alternative B. The sound wall analysis from the *Noise Study Report* indicates that raising the height of the existing

sound wall in this area would not provide an additional 5 dB or more of noise reduction at any of the impacted receivers, so a higher sound wall would not provide feasible traffic noise abatement. Because the existing sound wall already achieves much of the noise reduction potential of a sound wall, feasible traffic noise abatement cannot be attained.

State Route 58 East of State Route 99

Sound Wall S194 (State Route 58–Area 2). Sound Wall S194 is on the edge of the shoulder along the State Route 99/State Route 58 northbound to eastbound connector and would provide feasible traffic noise abatement for 12 single-family residences near Stephens Drive in State Route 58-Area 2 (see Figure 3-41 in Volume 2; Receivers R58-11 through R58-17). Existing traffic noise levels in this area are 65 to 71 dBA. Future traffic noise levels at these locations, without the project, are predicted to be 66 to 72 dBA. Future traffic noise levels at these locations, with the project, are predicted to be 67 to 71 dBA. Since all predicted future traffic noise levels meet or exceed 67 dBA, the noise abatement criterion for residential uses, receivers in this area would be impacted by traffic noise levels. A 12-foot-high sound wall would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-11 through R58-17. The total cost allowance for this sound wall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $660,000. The current estimated cost of the sound wall is $447,000; therefore, this sound wall is recommended.

Sound Wall S106 (State Route 58–Area 2). Sound Wall S106 is on the existing right-of- way along eastbound State Route 58 and would provide feasible traffic noise abatement for 15 single-family residences and a recreational area near Hughes Lane in State Route 58-Area 2 (see Figure 3-41 in Volume 2; Receivers R58-18 through R58-24A). Existing traffic noise levels in this area are 52 to 66 dBA. Future traffic noise levels at these locations, without the project, are predicted to be 55 to 69 dBA. Future traffic noise levels, with the project, are predicted to be 58 to 76 dBA. Receivers in this area for which the predicted future traffic noise level approaches or exceeds 67 dBA, the noise abatement criterion for residential uses, would be impacted by traffic noise levels. A 14-foot-high sound wall would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-18 through R58-24A. The total cost allowance for this sound wall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $880,000. The current estimated cost of the sound wall is $628,000. The sound wall, therefore, is recommended.

The design of sound walls presented in this section is preliminary and has been developed to a level appropriate for environmental review. If conditions have substantially changed during final design, noise abatement may be changed or eliminated from the final project as appropriate. If significant changes to the design plans are implemented during the final design phase of the project, sound wall designs may be modified to address additional noise impacts. A final decision on the construction of the noise abatement would be made on completion of the project design and public input.

Sound wall Voting

For sound walls determined to be feasible and reasonable, the affected property owners were given an opportunity to decide whether they were in favor of construction of the feasible sound walls at the proposed locations within the project. The process of surveying the viewpoints of the benefited frequent outdoor use areas is the last of three reasonableness criteria that must be satisfied for a given sound wall to be wholly classified as feasible and reasonable. Input from the affected property owners and renters was obtained through a citizen survey via certified mail and door-to-door surveys. Of the votes tallied, more than 50 percent must be opposed to a proposed sound wall in order for the abatement to not be considered reasonable. Upon completion of the voting process, Caltrans made recommendations and approved barriers will be incorporated into the final road project plans.

Property owners and residents living within the proximity of the 10 sound walls west of State Route 99 along the Preferred Alternative B were surveyed as part of the Centennial Corridor Project. Property owners and residents living within the proximity of the fifteen sound walls located along State Route 58 and State Route 99 were surveyed as part of the Beltway Operational Improvements Project which preceded the Centennial Corridor Project. The voting process concluded with the result that all sound walls were feasible and reasonable for both voting periods.

Alternative C

Centennial Corridor West of State Route 99

Sound Wall S561 (State Route 99–Area 7). Sound Wall S561 is on the shoulder along the eastbound Centennial Corridor and would provide feasible traffic noise abatement for 21 single-family residences, four multi-family residences, and Saunders Park with three outdoor use areas between existing State Route 58 and California Avenue in State Route 99-Area 7 (see Figures 3-43 and 3-44 in Volume 2; Receivers R99-44 through R99-57). Existing traffic noise levels in this area are 57 to 62 dBA. Future traffic noise levels, without the project, are predicted to be 58 to 64 dBA. Future traffic noise levels, with the project, are predicted to be 68 to 72 dBA. Since predicted future traffic noise levels exceed 67 dBA, the noise abatement criterion for residential uses, receivers in this area would be impacted by traffic noise levels. A sound wall varying in height from 10 to 16 feet would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R99-44 through R99-57. Total cost allowance for this sound wall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $1,540,000. The current estimated cost of the sound wall is $1,017,000; therefore, this sound wall is recommended.

Sound Wall S683 (State Route 99–Area 6). Sound Wall S683 is on the right-of-way line along southbound State Route 99 and northern property line of an existing infiltration basin. This sound wall would provide feasible traffic noise abatement for one single-family residence and seven multi-family residences between Belle Terrace and existing State Route 58 in State Route 99-Area 6 (see Figure 3-44 in Volume 2; Receivers R99-69 through R99-71). Existing traffic noise levels in this area are 59 to 61 dBA. Future traffic noise levels, without the project, are predicted to be 63 to

65 dBA. Future traffic noise levels, with the project, are predicted to be 66 to 74 dBA. Since all predicted future traffic noise levels either approach or exceed 67 dBA, the noise abatement criterion for residential uses, receivers in this area would be impacted by traffic noise levels. A 16-foot-high sound wall would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R99-69 through R99-71. The total cost allowance for this sound wall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $440,000. The current estimated cost of the sound wall is $366,000. The sound wall, therefore, is recommended.

Receivers R99-11 through R99-13. Traffic noise impacts would occur at outdoor use areas associated with two single-family residences and one motel along northbound State Route 99 between Ming Avenue and Belle Terrace (Receivers R99-11 through R99-13; see Figure 3-44 in Volume 2). The sound wall analysis from the Noise Study Report demonstrates that a sound wall at the right-of-way line would not provide feasible traffic noise abatement under Alternative C. Feasible traffic noise abatement cannot be achieved because a prospective sound wall could not provide at least 5 dB of noise reduction. The sound wall, therefore, is not feasible.

Receivers R99-17 through R99-19. Traffic noise impacts would occur at outdoor use areas associated with five single-family residences along southbound State Route 99 north of Ming Avenue in State Route 99-Area 4 (Receivers R99-17 through R99-19; see Figure 3-44 in Volume 2). Existing Sound Wall SW2 in front of these residences would remain under Alternative C. The sound wall analysis from the *Noise Study Report* found that raising the height of the existing sound wall in this area would not provide an additional 5-decibel or more of noise reduction at any of the impacted receivers. Because the existing sound wall already achieves much of the noise reduction potential of a sound wall, a heightened sound wall would not provide feasible traffic noise abatement.

State Route 99 South of State Route 58

Sound Wall S610 (State Route 58–Area 2). Sound Wall S610 would be on the right-of- way line along eastbound State Route 58 between Dixon Avenue and Hughes Lane in State Route 58-Area 2 (Receivers R58-21 through R58-24A; see Figure 3-45 in Volume 2). Existing traffic noise levels in this area are 52 to 66 dBA. Future traffic noise levels, without the project, are predicted to be 55 to 69 dBA. Future traffic noise levels, with the project, are predicted to be 57 to 72 dBA. Since predicted future traffic noise levels exceed 67 dBA, the noise abatement criterion for residential uses, receivers in this area would be impacted by traffic noise levels. A 10-foot-high sound wall would be needed to achieve feasible and reasonable traffic noise abatement for three impacted single-family residences and the pool at The Villas at Hughes Lane Apartments. The total cost allowance for this sound wall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $220,000. The current estimated cost of the sound wall is $286,000. The sound wall was determined not reasonable and therefore not recommended.

State Route 99 North of State Route 58

Sound Wall S815 (State Route 99–Area 11). Sound Wall S815 is on the shoulder along southbound State Route 99 and the Rosedale Highway off-ramp and would provide feasible traffic noise abatement for two single-family residences between Rosedale Highway and Gilmore Avenue in State Route 99-Area 11 (Receivers R99-73 and R99-74; see Figure 3-43 in Volume 2). Measurements taken within this area indicate that existing traffic noise levels are 68 to 70 dBA. Future traffic noise levels, without the project, are predicted to be 74 to 76 dBA. Future traffic noise levels at these locations, with the project, are predicted to be 74 to 75 dBA. Since the predicted future traffic noise levels exceed 67 dBA, the noise abatement criterion for residential uses, receivers in this area would be impacted by traffic noise levels. To achieve a 5-decibel reduction at Receivers R99-73 and R99-74, a 10-foot-high sound wall would be needed. Total cost allowance for this sound wall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $110,000. The current estimated cost of the sound wall is $206,000. This sound wall was determined not reasonable and therefore not recommended.

Sound Wall S818 (State Route 99–Area 11). Sound Wall S818 is on the shoulder of the Rosedale Highway northbound on-ramp by a motel between Rosedale Highway and Gilmore Avenue in State Route 99-Area 11 (Receiver R99-75; see Figure 3-43 in Volume 2). A measurement taken within this area indicates that the existing traffic noise level is 69 dBA. The future traffic noise level, without the project, is predicted to be 75 dBA. The future traffic noise level, with the project, is predicted to be 75 dBA. Since the predicted future traffic noise level exceeds 72 dBA, the noise abatement criterion for hotel uses, this receiver would be impacted by traffic noise levels. To achieve a 5-decibel reduction at Receiver R99-75, a 10-foot-high sound wall would be needed. Total cost allowance for this sound wall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $55,000. The current estimated cost of the sound wall is $203,000. This sound wall was determined not reasonable and therefore not recommended.

Receivers R99-62 to R99-66 and R99-68. Traffic noise impacts would occur at outdoor use areas associated with seven single-family residences and one motel along the northbound side of State Route 99 between Verde and Palm Streets in State Route 99-Area 8 (see Figures 3-43 and 3-44 in Volume 2). The Econolodge and various commercial properties along the east side of Oak Street depend on vehicular access and visibility from that street. The only potential location for a sound wall would be along the proposed retaining wall west of Oak Street under Alternative C. Because of the unabated influence of noise from Oak Street traffic, even with the considered sound wall, the *Noise Study Report* concluded that a sound wall would not provide feasible traffic noise abatement.

State Route 58 East of State Route 99

Sound Wall S90 (State Route 58–Area 2). Sound Wall S90 on the shoulder edge and existing right-of-way line along the State Route 99/State Route 58 northbound-to-eastbound connector would provide feasible traffic noise abatement for 13

single-family residences in State Route 58-Area 2 (see Figure 3-45 in Volume 2; Receivers R58-11 through R58-18). Existing traffic noise levels in this area are 65 to 71 dBA. Future traffic noise levels, without the project, are predicted to be 67 to 73 dBA. Future traffic noise levels, with the project, are predicted to be 66 to 70 dBA. Since predicted future traffic noise levels meet or exceed 67 dBA, the noise abatement criterion for residential uses, receivers in this area would be impacted by traffic noise levels. A 12- to 14-foot-high sound wall would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-11 through R58-18. Total cost allowance for this sound wall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $715,000. The current estimated cost of the sound wall is $639,000. The sound wall, therefore, is recommended.

Sound Walls Common to All Build Alternatives

Sound Wall S661 (State Route 99–Area 4). In Alternatives A and B, Sound Wall S661 is on the new right-of-way line and would provide feasible traffic noise abatement for two single-family residences between Belle Terrace and Ming Avenue in State Route 99-Area 4 (see Figure 3-36 in Volume 2; Receivers R99-23 and R99-25). In Alternative C, this sound wall is on the right-of-way line. Measurements taken indicate that the existing traffic noise levels in this area are between 62 and 66 dBA for Alternative A. The future traffic noise levels at these receivers without the project are predicted to be between 65 and 69 dBA for Alternative A. The future traffic noise levels at these receivers with the project are predicted to be between 72 and 74 dBA. Measurements taken indicate that existing traffic noise levels at this location are 62 to 66 dBA for Alternative B. Future traffic noise levels at these receivers, without the project, are predicted to be 65 to 69 dBA. Future traffic noise levels at these receivers, with the project, are predicted to be 72 to 75 dBA. Measurements taken in this area indicate that existing traffic noise levels are 62 to 66 dBA for Alternative C. Future traffic noise levels at these receivers, without the project, are predicted to be 65 to 69 dBA. Future traffic noise levels at these receivers, with the project, are predicted to be 72 to 73 dBA.

Since the predicted future traffic noise level exceeds 67 dBA, the noise abatement criterion for residential uses, the single-family residences represented by these receivers would be impacted by traffic noise levels. A 12-foot-high sound wall would provide a 5-decibel reduction in traffic noise levels, but the design goal of a 7-decibel reduction in traffic noise levels would not be achieved by this sound wall. Since Sound Wall S661 does not meet the design goal at any of the receivers, the sound wall is determined not reasonable and is not recommended.

Sound Wall S676 (State Route 99–Area 5). Sound Wall S676 is on the right-of-way line along northbound Wible Road and under Alternatives A and C would provide feasible traffic noise abatement for 13 single-family residences between Belle Terrace and State Route 58 in State Route 99-Area 5 (Receivers R99-30 through R99-37). Under Alternative B, nine single-family residences benefit (Receivers R99-30 through R99-37). For Alternative A, the existing traffic noise levels in this area range from 57 to 70 dBA. The future noise levels at these locations without the project are predicted to range from 62 to 75 dBA. The future traffic noise level at these locations

with the project is predicted to range from 62 to 75 dBA. For Alternative B, existing traffic noise levels in this area are 57 to 70 dBA. Future traffic noise levels at these locations, without the project, are predicted to be 62 to 75 dBA. Future traffic noise levels at these locations, with the project, are predicted to be 62 to 73 dBA. Since all the predicted future traffic noise levels except for Receiver R99-30 approach or exceed 67 dBA, the noise abatement criterion for residential uses, these receivers would be impacted by traffic noise levels. For Alternative C, existing traffic noise levels are 57 to 70 dBA. Future traffic noise levels, without the project, are predicted to be 62 to 75 dBA. Future traffic noise levels, with the project, are predicted to be 65 to 75 dBA. Except for Receiver R99-30, all predicted future traffic noise levels approach or exceed 67 dBA, the noise abatement criterion for residential uses.

In Alternatives A and C, a 10-foot-high sound wall would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R99-31 through R99-37. Predicted future traffic noise levels for all receivers in Alternative B, except for Receivers R99-30 and R99-34, approach or exceed 67 dBA, the noise abatement criterion for residential uses. Therefore, these receivers would be impacted by traffic noise levels. A 12- to 14-foot-high sound wall would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R99-31 through R99-33 and R99-35 through R99-37.

The total cost allowance for this sound wall under Alternative A, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $715,000. The current estimated cost of the sound wall is $370,000. Under Alternative B, the total cost allowance for this sound wall is $495,000. The current estimated cost of the sound wall is $426,000. Under Alternative C, the total cost allowance for this sound wall is $715,000. The current estimated cost of the sound wall is $375,000.Therefore, this sound wall is recommended.

Sound Wall S669 (State Route 99–Area 6). Sound Wall S669 is on the right-of-way line of southbound State Route 99 between Belle Terrace and State Route 99 in State Route 99-Area 6 (see Figure 3-36 in Volume 2; Receivers R99-40 through R99-43A). Measurements taken within this area indicate that the existing traffic noise levels range from 57 to 60 dBA for Alternative A. The future noise levels at these locations without the project are predicted to range from 61 to 64 dBA. The future traffic noise level at these locations with the project is predicted to range from 67 to 72 dBA. For Alternative B, existing traffic noise levels are 57 to 59 dBA. Future traffic noise levels, without the project, are predicted to be 61 to 63 dBA. Future traffic noise levels, with the project, are predicted to be 70 to 75 dBA. For Alternative C, existing traffic noise levels are 57 to 60 dBA. Future traffic noise levels, without the project, are predicted to be 61 to 64 dBA. Future traffic noise levels, with the project, are predicted to be 67 to 77 dBA. Since the predicted future traffic noise levels exceed 67 dBA, the noise abatement criterion for residential uses, these receivers would be impacted by traffic noise levels. To achieve a 5-decibel reduction at Receivers R99-40 through R99-43A, which represent a daycare center and four single-family residences, a sound wall varying in height from 10 to 16 feet would be needed. The design goal of a 7-decibel reduction is achieved at Receiver R99-43 by Sound Wall

S669. The total cost allowance for this sound wall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $275,000 for Alternative A. The current estimated cost of the sound wall is $441,000. For Alternative B, the total cost allowance for this sound wall is $275,000. The current estimated cost of the sound wall is $312,000. For Alternative C, the total cost allowance for this sound wall is $165,000. The current estimated cost of the sound wall is $420,000. Therefore, this sound wall is not reasonable and therefore is not recommended.

Receiver R99-2. Traffic noise impacts would occur at an outdoor use area associated with one single-family residence along the northbound side of State Route 99 north of Wilson Road (State Route 99-Area 1; see Figure 3-36 in Volume 2). The sound wall analysis from the *Noise Study Report* found that a sound wall along the right-of-way line would not provide feasible traffic noise abatement because a prospective sound wall could not provide at least 5 dB of additional noise reduction beyond that already provided by the top of the cut along the northbound side of the freeway. The sound wall, therefore, is not feasible.

Receivers R99-4 through R99-8. Traffic noise impacts would occur at outdoor use areas associated with eight single-family residences, 14 multi-family units, and one shared recreation area within the same multi-family development along the southbound side of State Route 99 between Wilson Road and Ming Avenue (State Route 99-Area 2; see Figure 3-36 in Volume 2). The sound wall analysis from the *Noise Study Report* found that raising the height of the existing sound wall in this area would not provide an additional 5 dB or more of noise reduction at any of the impacted receivers; a heightened sound wall would not provide feasible traffic noise abatement because the existing sound wall already provides much of the noise reduction potential of a sound wall.

State Route 58 East of State Route 99

Sound Wall S45 (State Route 58–Area 1). Sound Wall S45 (also known as Sound Walls S103 and 109 in Alternative C) is on the right-of-way line along westbound State Route 58 and would provide feasible traffic noise abatement for 17 single-family residences and five multi-family residences in Alternatives A and B, and 14 single-family homes between Hughes Lane and State Route 99 in State Route 58-Area 1 (see Figures 3-36 and 3-37 in Volume 2; Receivers R58-1 through R58-10). The existing traffic noise levels for Alternatives A and B in this area range from 58 to 70 dBA. The future traffic noise level at these locations without the project is predicted to range from 61 to 73 dBA. The future traffic noise level at these locations with the project is predicted to range from 65 to 77 dBA. In Alternative C, existing traffic noise levels in this area are 58 to 68 dBA. Future traffic noise levels, without the project, are predicted to be 63 to 73 dBA. Future traffic noise levels, with the project, are predicted to be 68 to 76 dBA. Since all but one of the predicted future traffic noise levels approach or exceed 67 dBA, the noise abatement criterion for residential uses, these receivers, except Receiver R58-6, would be impacted by traffic noise levels.

A 12-foot-high sound wall would be needed to achieve feasible and reasonable traffic noise abatement in Alternative A at Receivers R58-1 through R58-10. Under Alternative B, a sound wall varying in height from 12 to 14 feet would be needed to achieve feasible and reasonable traffic noise abatement. Under Alternative C, Sound Wall S109 with a height of 10 feet and Sound Wall S013 with heights of 10 to 14 feet would be needed to achieve feasible and reasonable traffic noise abatement. The total cost allowance for this sound wall under Alternative A, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $1,210,000. The current estimated cost is $978,000. In Alternative B, the total cost allowance for this sound wall is $1,210,000. The current estimated cost is $994,000. In Alternative C, the total cost allowance for this sound wall system is $770,000. The current estimated cost is $492,000. Therefore, this sound wall is recommended.

Sound Wall S68 (State Route 58–Area 4). Sound Wall S68 (also known as Sound Wall S624 in Alternative C) is on the right-of-way line along eastbound State Route 58 and would provide feasible traffic noise abatement for 11 single-family residences and four multi-family residences between Hughes Lane and H Street in State Route 58-Area 4 (see Figure 3-37 in Volume 2; Receivers R58-34 through R58-42A). The existing traffic noise levels in this area under Alternatives A, B, and C range from 58 to 72 dBA. The future traffic noise level at these locations without the project is predicted to range from 58 to 72 dBA. The future traffic noise level at these locations with the project is predicted to range from 59 to 76 dBA. Receivers with predicted future traffic noise levels that approach or exceed 67 dBA, the noise abatement criterion for residential uses, would be impacted by traffic noise levels. An 8- to 10-foot-high sound wall would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-34 through R58-42A. The total cost allowance for this sound wall for all alternatives, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $825,000. The current estimated cost of the sound wall is $739,000. Therefore, this sound wall is recommended.

Sound Wall S71A (State Route 58–Area 3). Sound Wall S71A under Alternatives A and B, (also known as Sound Wall S629A in Alternative C) is on the right-of-way line along westbound State Route 58 and would provide feasible traffic noise abatement for two single-family residences between Hughes Lane and H Street in State Route 58-Area 3 (see Figure 3-37 in Volume 2; Receivers R58-25 through R58-33). The existing traffic noise levels in this area for Alternatives A, B, and C range from 57 to 71 dBA. The future traffic noise level at these locations without the project is predicted to range from 60 to 74 dBA. The future traffic noise level at these locations with the project is predicted to range from 63 to 76 dBA. Predicted future traffic noise levels at Receiver R58-33 approach or exceed 67 dBA, the noise abatement criterion for residential uses, so the receivers would be impacted by traffic noise levels. An 8-foot-high sound wall would be needed to achieve feasible and reasonable traffic noise abatement at Receiver R58-33. The total cost allowance for this sound wall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $110,000. The current estimated cost of the sound wall is $54,000. Therefore, this sound wall is recommended.

Sound Wall S93 (State Route 58–Area 5). Sound Wall S93 (also known as Sound Wall S649 in Alternative C) is on the right-of-way line along westbound State Route 58 and would provide feasible traffic noise abatement for seven single-family residences between Chester Avenue and Vernal Place in State Route 58-Area 5 (see Figure 3-37 in Volume 2; Receivers R58-45 through R58-48). The existing traffic noise levels under all the alternatives in this area range from 61 to 65 dBA. The future traffic noise level at these locations without the project is predicted to range from 60 to 64 dBA. The future traffic noise level at these locations with the project is predicted to range from 62 to 66 dBA. Predicted future traffic noise levels at Receivers R58-46 and R58-48 approach or exceed 67 dBA, which is the noise abatement criterion for residential uses, so the receivers would be impacted by traffic noise levels. A 16-foot-high sound wall would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-46 and R58-48. The total cost allowance for this sound wall under Alternatives A and B, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $385,000. The current estimated cost of the sound wall is $345,000. In Alternative C, the total cost allowance is $385,000. The current estimated cost is $192,000. Therefore, this sound wall is recommended.

Sound Wall S107 (State Route 58–Area 5). Sound Wall S107 (also known as Sound Wall S663 in Alternative C) is on top of a retaining wall at the edge of the shoulder along the westbound State Route 58 and westbound Chester Avenue off-ramp and would provide feasible traffic noise abatement for 18 single-family residences in Alternatives A and B and 20 single-family homes in Alternative C between Vernal Place and P Street in State Route 58-Area 5 (see Figure 3-37 in Volume 2; Receivers R58-49 through R58-59). The existing traffic noise levels in this area in Alternatives A and B range from 60 to 70 dBA. The future traffic noise level at these locations without the project is predicted to range from 63 to 72 dBA. The future traffic noise level at these locations with the project is predicted to range from 64 to 73 dBA. In Alternative C, existing traffic noise levels in this area are 60 to 70 dBA. Future traffic noise levels, without the project, are predicted to be 63 to 72 dBA. Future traffic noise levels, with the project, are predicted to be 65 to 74 dBA. Receivers where the predicted future traffic noise level approaches or exceeds 67 dBA, the noise abatement criterion for residential uses, would be impacted by traffic noise levels.

A sound wall varying in height from 10 to 12 feet would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-49 through R58-59. Under Alternatives A and B, the total cost allowance for this sound wall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $990,000. The current estimated cost is $421,000. In Alternative C, the total cost allowance for this sound wall is $1,100,000. The current estimated cost of the sound wall is $592,000. Therefore, this sound wall is recommended.

Sound Wall S108 (State Route 58–Area 6). Sound Wall S108 (also known as Sound Wall S664 in Alternative C) is on top of a retaining wall at the edge of the shoulder along the eastbound State Route 58 and eastbound Chester Avenue on-ramp. This sound wall would provide feasible traffic noise abatement for 34 single-family

residences and 24 multi-family residences between Chester Avenue and Union Avenue in State Route 58-Area 6 (see Figures 3-37 and 3-38 in Volume 2; Receivers R58-71 through R58-100). The existing traffic noise levels in this area under Alternative A range from 61 to 74 dBA. The future traffic noise level at these locations without the project is predicted to range from 63 to 74 dBA. The future traffic noise level at these locations with the project is predicted to range from 65 to 79 dBA. In Alternative B, existing traffic noise levels in this area are 61 to 74 dBA. Future traffic noise levels at these locations, without the project, are predicted to be 63 to 76 dBA. Future traffic noise levels at these locations, with the project, are predicted to be 65 to 79 dBA. In Alternative C, existing traffic noise levels in this area are 61 to 74 dBA. Future traffic noise levels, without the project, are predicted to be 63 to 76 dBA. Future traffic noise levels, with the project, are predicted to be 64 to 78 dBA. Except for Receiver R58-82 in Alternatives A and B, all of the predicted future traffic noise levels approach or exceed 67 dBA, the noise abatement criterion for residential uses for receivers in this area. In Alternative C, except for Receivers R58-82 and R58-86, predicted future traffic noise levels approach or exceed 67 dBA, the noise abatement criterion for residential uses, so the receivers would be impacted by traffic noise levels.

Under Alternatives A and B, a sound wall varying in height from 12 to 14 feet would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-71 through R58-100. The total cost allowance for this sound wall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $3,190,000. The current estimated cost of the sound wall is $1,036,000. In Alternative C, a sound wall varying in height from 10 to 14 feet would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-71 through R58-100. Total cost allowance for this sound wall is $3,190,000. The current estimated cost is $1,000,000. Therefore, this sound wall is recommended.

Sound Wall S119 (State Route 58–Area 5). Sound Wall S119 (also known as Sound Wall S667 in Alternative C), on the shoulder along westbound State Route 58, would provide feasible traffic noise abatement for 12 single-family residences between P Street and Union Avenue in State Route 58-Area 5 (see Figures 3-37 and 3-38 in Volume 2; Receivers R58-60 through R58-66). In Alternative A, the existing traffic noise levels in this area range from 63 to 72 dBA. The future traffic noise levels at these locations, without the project, are predicted to range from 65 to 72 dBA. Future traffic noise levels, with the project, are predicted to be 68 to 73 dBA. In Alternative B, existing traffic noise levels are 63 to 72 dBA. Future traffic noise levels at these locations, without the project, are predicted to be 66 to 72 dBA. Future traffic noise levels at these locations, with the project, are predicted to be 68 to 73 dBA. In Alternative C, existing traffic noise levels are 63 to 72 dBA. Future traffic noise levels, without the project, are predicted to be 66 to 72 dBA. Future traffic noise levels, with the project, are predicted to be 68 to 74 dBA. Since all the predicted future traffic noise levels exceed 67 dBA, the noise abatement criterion for residential uses, these receivers would be impacted by traffic noise levels.

A sound wall varying in height from 10 to 12 feet would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-60 through R58-66. The total cost allowance in Alternatives A and B for this sound wall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $660,000. The current estimated cost of the sound wall is $276,000. For Alternative C, the total cost allowance for this sound wall is $660,000. The current estimated cost of the sound wall is $340,000. Therefore, this sound wall is recommended.

Sound Wall S144 (State Route 58–Area 8). Sound Wall S144 (also known as Sound Wall S702 in Alternative C) is on the right-of-way line along the eastbound State Route 58 Union Avenue on-ramp and would provide feasible traffic noise abatement for eight single-family residences between Bliss Street and Union Avenue in State Route 58-Area 8 (see Figure 3-38 in Volume 2; Receivers R58-128 through R58-139). In Alternative A, the existing traffic noise levels in this area range from 57 to 70 dBA. The future traffic noise levels at these locations, without the project, are predicted to range from 60 to 74 dBA. Future traffic noise levels at these locations, with the project, are predicted to range from 61 to 76 dBA. In Alternative B, existing traffic noise levels in this area are 57 to 70 dBA. Future traffic noise levels at these locations, without the project, are predicted to be 60 to 74 dBA. In Alternative C, existing traffic noise levels in this area are 58 to 70 dBA. Future traffic noise levels, without the project, are predicted to be 60 to 74 dBA. Future traffic noise levels, with the project, are predicted to be 61 to 75 dBA. Future traffic noise levels at these locations, with the project, are predicted to be 61 to 75 dBA. Receivers where the predicted future traffic noise levels approach or exceed 67 dBA, the noise abatement criterion for residential uses, would be impacted by traffic noise levels.

A sound wall varying in height from 10 to 12 feet would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-128 through R58-139. The total cost allowance for this sound wall, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $440,000. The current estimated cost of the sound wall is $445,000; however, this sound wall is recommended because the estimated construction cost is only 1 percent higher than the total reasonable allowance, within the margin of error for the calculation.

Sound Walls S147 and S165 (State Route 58–Area 7). Sound Walls S147 and S165 (also known as Sound Walls 703 and 721 in Alternative C), working as a system, are on the right-of-way line on the Union Avenue off-ramp and the shoulder along westbound State Route 58. These sound wall s would provide feasible traffic noise abatement for 31 single-family residences, 10 multi-family residences, and 22 mobile homes between Liggett Street and Cottonwood Road in State Route 58-Area 7 (see Figure 3-38 in Volume 2; Receivers R58-101 through R58-127). In Alternatives A, B, and C, the existing traffic noise levels in this area range from 59 to 75 dBA. The future traffic noise levels at these locations, without the project, are predicted to range from 63 to 78 dBA. Future traffic noise levels at these locations, with the project, are predicted to range from 64 to 79 dBA. Except for Receivers R58-103 and R58-105, all predicted future traffic noise levels for the remaining receivers in this area exceed 67 dBA, the noise abatement criterion for residential uses, so the receivers would be

impacted by traffic noise levels. A 10-foot-high sound wall (S147) and 12-foot-high sound wall (S165) would be needed to achieve feasible and reasonable traffic noise abatement for the affected receivers. The total cost allowance for this sound wall system for all alternatives, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $3,465,000. The current estimated cost of the sound wall is $1,540,500. Therefore, this sound wall system is recommended.

Sound Walls S164 and S184 (State Route 58–Area 8). Sound Walls S164 and S184 (also known as Sound Walls S722 and S742 in Alternative C), work as a system on the shoulder and right-of-way line, respectively, along eastbound State Route 58. These sound walls would provide feasible traffic noise abatement for 67 single-family residences and four multi-family residences between Bliss Street and Cottonwood Road in State Route 58-Area 8 (see Figure 3-38 in Volume 2; Receivers R58-140 through R58-172). Under all alternatives, the existing traffic noise levels in this area range from 62 to 74 dBA. The future traffic noise levels at these locations, without the project, are predicted to range from 65 to 76 dBA. Future traffic noise levels at these locations, with the project, are predicted to range from 67 to 78 dBA. Since all the predicted future traffic noise levels exceed 67 dBA, the noise abatement criterion for residential uses, the receivers in this area would be impacted by traffic noise levels. In Alternatives A and B, a sound wall varying in height from 10 to 14 feet (S164) and a 12-foot-high sound wall (S184) would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-144 through R58-172. In Alternative C, a sound wall varying in height from 12 to 14 feet (S722) and a 12-foot-high sound wall (S742) would be needed to achieve feasible and reasonable traffic noise abatement at Receivers R58-144 through R58-172. The total cost allowance for this sound wall system under all alternatives, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $3,905,000. The current estimated cost of the sound wall is $1,365,000. Therefore, this sound wall system is recommended.

Receivers R58-43 and R58-44. Traffic noise impacts would occur at the frequent outdoor use areas of one single-family residence and two multi-family residential units along westbound State Route 58 (State Route 58-Area 5; see Figure 3-37 in Volume 2). Because of local traffic contributions from the frontage road between South Chester Avenue and H Street, a sound wall placed in the right-of-way would not provide a 5-decibel or more traffic noise reduction at these residences. The sound wall, therefore, would not be feasible.

Receiver R58-69. Traffic noise impacts would occur at the frequent outdoor use areas of one single-family residence along eastbound State Route 58 (State Route 58-Area 6; see Figure 3-37 in Volume 2). Because of local traffic noise contributions from the frontage road between H Street and South Chester Avenue, a sound wall placed in the right-of way would not provide a 5-decibel or more of traffic noise reduction at this residence. The sound wall, therefore, would not be feasible.

Areas with Feasible but not Reasonable Abatement

Several sound walls meet feasibility requirements, but were not reasonable, so they were not recommended as part of the project. Below is a list of these sound walls and associated receivers:

- Sound Wall S469 (Alternative A) – Located along the shoulder of westbound Centennial Corridor east of Truxtun Avenue. Receivers RA-1 through RA-4.
- Sound Wall S610 (Alternative C) – Located on the right-of-way line along eastbound State Route 58 between Dixon Avenue and Hughes Lane. Receivers R58-21 through R58-24A.
- Sound Wall S71 (Alternatives A, B) – Located on the right-of-way of westbound State Route 58 between Hughes Lane and H Street. Receiver R58-28.
- Sound Wall S629 (Alternative C) – Located on the right-of-way of westbound State Route 58 between Hughes Lane and H Street. Receiver R58-28.
- Sound Wall S656 (Alternatives A and B) – Located on the right-of-way of northbound State Route 99 between Belle Terrace and Ming Avenue. Receivers R99-11 through R99-13.
- Sound Wall S661 (Alternatives A and B) – Located on the right-of-way of southbound State Route 99 between Belle Terrace and Ming Avenue. Receivers R99-23 and R99-25.
- Sound Wall S669 (Alternatives A, B, and C) – Located on the right-of-way of southbound State Route 99 between Belle Terrace and State Route 99. Receivers R99-40 through R99-43A.
- Sound Wall S815 (Alternative C) – Located on the shoulder along southbound State Route 99 and Rosedale Highway off-ramp. Receivers R99-73 and R99-74.
- Sound Wall S818 (Alternative C) – Located on the shoulder of Rosedale Highway northbound on-ramp. Receiver R99-75.

Areas without Feasible or Reasonable Abatement

There were locations where it was not possible to provide feasible traffic noise abatement (a 5-decibel reduction). Most of these areas are located behind existing sound walls. Below is a list of the receivers at these locations:

- Receivers RB-34 and RB-35 (Alternative B) – Four single-family residences along the northbound side of the Centennial Corridor just north of Stockdale Highway.
- Receiver R99-2 (Alternative A, B, and C) – One single-family residence along the northbound side of State Route 99 north of Wilson Road.
- Receivers R99-4 through R99-8 (Alternatives A, B, and C) – Eight single-family residences, 14 multi-family units, and one shared recreation area within the same

multi-family development along the southbound side of State Route 99 between Wilson Road and Ming Avenue.

- Receivers R99-11 through R99-13 (Alternative C) – Two single-family residences and one motel along northbound State Route 99 between Ming Avenue and Belle Terrace.
- Receivers R99-17 through R99-19 (Alternatives A, B, and C) – Five single-family residences along southbound State Route 99 north of Ming Avenue.
- Receivers R99-62 to R99-66 and R99-68 (Alternative C) – Seven single-family residences and one motel along the northbound side of State Route 99 between Verde and Palm Streets.
- Receivers R58-43 and R58-44 (Alternatives A, B, and C) – One single-family residence and two multi-family residential units along westbound State Route 58 between South Chester Avenue and H Street.
- Receiver R58-69 (Alternatives A, B, and C) – One single-family residence along eastbound State Route 58 between H Street and South Chester Avenue.

Existing Sound Walls

Six existing sound walls along State Route 99 are within the project limits:

- Sound Wall SW1 (Receivers R99-4 through R99-10A) – Located on the right-of-way line of southbound State Route 99 and eastbound Ming Avenue on-ramp. Sound Wall SW1 would remain as-is under all alternatives.
- Sound Wall SW2 (Receivers R99-16 through R99-22) – Located on the shoulder of southbound State Route 99 between Wood Lane and Ming Avenue. Most of existing Sound Wall SW2 would be demolished under all three alternatives because of widening along the southbound side of State Route 99. A portion of this sound wall would be rebuilt on top of a proposed retaining wall and would be considered a replacement in kind. However, the northern portion of the wall demolition would accommodate a substantial widening of the existing cut. As a result, houses now protected by the existing sound wall would be acquired. Therefore, an in-kind replacement sound wall cannot be considered for this area, so a new sound wall has been analyzed in this area. The portion of Sound Wall SW2 that would be replaced in kind extends from Laverne Avenue (Alternative A) or north of Laverne Avenue (Alternatives B and C) to Wood Lane.
- Sound Wall SW3 (Receivers R99-14 and R99-15) – Located along the west side of Wible Road south of Belle Terrace. Sound Wall SW3 would be replaced in kind under Alternatives A and B because of widening along the northbound side of State Route 99. The existing sound wall would remain under Alternative C.
- Sound Wall SW4 (Receivers RA-72 through RA-77) – Located within the southwest corner of the Centennial Corridor and State Route 99 interchange. Sound Wall SW4 would be demolished under all alternatives because of the eastbound Centennial Corridor connector to southbound State Route 99.

- Sound Wall SW5 (Receivers R99-26 through R99-29) – Located along the west side of Wible Road north of Belle Terrace. Sound Wall SW5 would be replaced in kind under Alternatives A and B because of widening along the northbound side of State Route 99. The existing sound wall would remain under Alternative C.
- Sound Wall SW6 (Receivers R99-58 through R99-60) – Located along the top of the retaining wall from the cul-de-sac at the south end of Oakdale Drive northward to just south of Verde Street. Sound Wall SW6 would be replaced in kind under Alternative C because of encroachment by the eastbound Centennial Corridor to the southbound State Route 99 connector and construction of a retaining wall. The existing sound wall would remain under Alternatives A and B.

3.2.8 Energy

Regulatory Setting

The National Environmental Policy Act (42 U.S. Code Part 4332) requires the identification of all potentially significant impacts to the environment, including energy impacts.

The California Environmental Quality Act Guidelines, Appendix F, Energy Conservation, state that environmental impact reports are required to include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy.

Affected Environment

Energy consumption associated with vehicular movement is almost entirely confined to the consumption of fossil fuel (gasoline and diesel). According to the California Energy Commission, California is the tenth largest worldwide energy consumer, and the state is ranked second in consumption in the United States. Of the overall energy consumed in the state, the transportation sector represents the largest portion at 46 percent, followed by the industrial sector at 31 percent, residential sector at 13 percent, and commercial sector at 10 percent. Petroleum (excluding natural gas) satisfies 54 percent of California's energy demand; natural gas, 33 percent; and electricity, 13 percent. Electric power and natural gas in California are generally consumed by stationary users, whereas gasoline and diesel consumption is generally accounted for by transportation-related energy use (U.S. Department of Transportation, 2008). Existing energy resources pertinent to this project and market conditions are described below.

Petroleum

Vehicles traversing the study area are primarily powered by gasoline and diesel fuel, with natural gas- and electric-powered vehicles representing a very small percentage of overall vehicular operations. Fuel is distributed across metropolitan Bakersfield by many methods, including pipelines, railroads, and trucks.

California's gasoline and diesel markets are characterized by increasing demands. As of 2012, California imports more than 60 percent of its crude oil. The state's dependence on this increasingly expensive energy resource continues to grow.

Energy consumption in California continues to be dominated by growth in passenger vehicles. According to the *Indicators of Climate Change in California*, published by the California Environmental Protection Agency, Office of Environmental Hazard Health Assessment (April 2009), California is the second largest consumer of transportation fuels in the world (behind the United States as a whole). More than 16 billion gallons of gasoline and 4 billion gallons of diesel fuel are consumed each year (California Environmental Protection Agency, 2009). California's rapid population growth, with a projected population of more than 44 million by 2020, is expected to result in substantial increases in transportation fuel demand.

Environmental Consequences

This section addresses potential energy impacts during long-term operation of the Centennial Corridor Project. Short-term energy impacts associated with construction of the project are addressed in Section 3.6, Construction Impacts.

Transportation energy consumption reflects the types and number of vehicles in use, the extent of their use (vehicle miles traveled), and their fuel economy (miles per gallon). Energy consumed in the operation of transportation systems is typically referred to as direct energy, which includes the fuel required for passenger vehicles (automobiles, vans, and light trucks), heavy trucks (three or more axles), and transit buses. Energy used to operate facilities such as gas stations and station amenities, maintenance shops, and yards is also a part of direct energy, but is a small percentage compared to the overall fuel consumption by automobiles.

Energy consumed in construction and maintenance is referred to as indirect energy. Indirect energy consumption includes three main components: (1) energy required to build the project; (2) energy required to manufacture vehicles that use the roads; and (3) energy required for maintenance/periodic rehabilitation of the infrastructure.

This analysis compares the energy consumption associated with the project in design year 2038 with the energy consumption for the No-Build Alternative in 2038. This comparison generally allows for an analysis of the relative impact of the project on energy consumption based on like assumptions about technology, fuels and vehicles.

Common to All Build Alternatives

The *Traffic Study Report for Centennial Corridor* analyzed life-cycle cost benefits of the build alternatives compared to the No-Build Alternative using a computer software product developed for the Federal Highway Administration, called Surface Transportation Efficiency Analysis Model (STEAM, version 2.0). Among other things, the analysis provided a quantitative measurement of energy usage (presented in British thermal units or Btu) and gallons of fuel used for each of the alternatives. Information for 2038 is shown in Table 3.42. Though some variation in the benefit between the alternatives is shown in Table 3.42, some fuel use reduction under each

build alternative compared to the No-Build Alternative is also shown. These benefits come from motorists being able to shift routes to higher-speed facilities with less congestion and the benefit of increased network capacity. Fuel consumption decreases as a result of vehicles traveling at higher speeds.

Maintenance of the Build Alternatives can potentially generate indirect energy impacts within the proposed project corridor. However, in comparison to the No Build Alternative the operation of the Build Alternatives will result in high energy savings for the project corridor. These high energy savings from the operation of any of the Build Alternatives will offset the potential indirect energy impacts generated from the maintenance of the improved facility.

Table 3.42 Centennial Corridor 2038 Energy Usage Data

Energy Use	No-Build Alternative	Alternative A	Alternative B (Preferred Alternative)	Alternative C
Annual vehicle miles traveled[a] (in millions miles)	9,951.4	9,994.3	10,004.0	10,006.8
Annual gallons of fuel used (in 1,000 gallons)[b]	490,911.3	488,715.5	489,141.6	488,885.5
Annual energy use (in million Btu)[c]	62,185,713	61,907,562	61,961.538	61,929,097

BTU: British thermal units

[a] Projection of total combined vehicles annually through the project limits.

[b] Fuel consumption based on estimates of average fuel consumption for the Year 2007 obtained from the California Air Resources Board's Motor Vehicle Emission Inventory models.

[c] Annual energy use estimated utilizing FHWAs Surface Transportation Efficiency Analysis Model (STEAM, version 2.0)

Source: *Traffic Study Report for the Centennial Corridor* (Volume I, Table 3-17) 2012.

No-Build Alternative

As shown in Table 3.42, the No-Build Alternative would result in fewer vehicle miles traveled, but due to stop-and-start conditions and frequent idling typically associated with driving on surface streets, it would increase long-term operational energy demand compared to the build alternatives. This is because motorists take the most direct and timely travel choice under both the no-build and build conditions. With the No-Build Alternative, the route is shorter. With the build alternatives, the route is more convenient, though typically a little bit longer, and faster. The end result is that, with the No-Build Alternative, the vehicle miles traveled are fewer, but the vehicle hours traveled and fuel usage are greater.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation is required.

3.3 Biological Environment

3.3.1 Natural Communities

This section of the document discusses natural biological communities of concern. The focus of this section is not on individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed in the Threatened and Endangered Species Section 3.3.5. Wetlands and other waters are discussed in Section 3.3.2.

Affected Environment

Information in this section comes from the *Natural Environment Study* (April 2015) for the project.

The following vegetation types occur in the biological study area: non-native grassland, riparian woodland/Great Valley cottonwood riparian forest, waterways, detention basin, agriculture, disturbed/ruderal, and developed/ornamental (see Figures 3-48 through 3-50 in Volume 2 and Figure 3-51 below). A description of each of these vegetation types is included in the *Natural Environment Study*.

Riparian woodland/Great Valley cottonwood riparian forest is the only natural community of concern that occurs in Segment 1 of the biological study area. Other vegetation types that could be affected are not discussed in this section because they are not natural communities of special concern.

Riparian woodland/Great Valley cottonwood riparian forest occurs along the banks of the Kern River. This vegetation type consists of an overstory of willows (*Salix* spp.) with occasional Fremont cottonwood (*Populus fremontii* ssp. *fremontii*). It is generally limited in extent. This community has a high potential to support special-status plant and wildlife species.

The Kern River is a regional wildlife corridor in the biological study area. It provides for wildlife movement through the Metropolitan Bakersfield Habitat Conservation Plan area and connects areas of open space between the northeastern reserve, the southwestern reserve, and the Kern Water Bank Habitat Conservation Plan reserve. Canals in the biological study area (e.g., Cross Valley Canal, Carrier Canal, and Friant-Kern Canal) are also used for wildlife movement, especially in the highly urbanized portions.

Environmental Consequences

Common to All Build Alternatives

Riparian Woodland/Great Valley Cottonwood Riparian Forest

In total, 39.92 acres of riparian woodland/Great Valley cottonwood riparian forest occur in the biological study area. Some of these areas are under the jurisdiction of the U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and/or Regional Water Quality Control Board (see discussion of Wetlands and Other Waters, Section 3.3.2). The following analysis discusses impacts related to Segment 1.

The nature of the impacts for all three build alternatives is the same. What distinguishes the alternatives is the amount of impact, although the range of impacts is similar (ranging from 1.42 to 3.19 total acres of riparian woodland/Great Valley cottonwood riparian forest impact). These impact estimates are shown in Table 3.43. The riparian woodland/Great Valley cottonwood riparian forest that would be permanently and temporarily affected is shown in Figures 3-48 through 3-50 in Volume 2 and Figure 3-51 below.

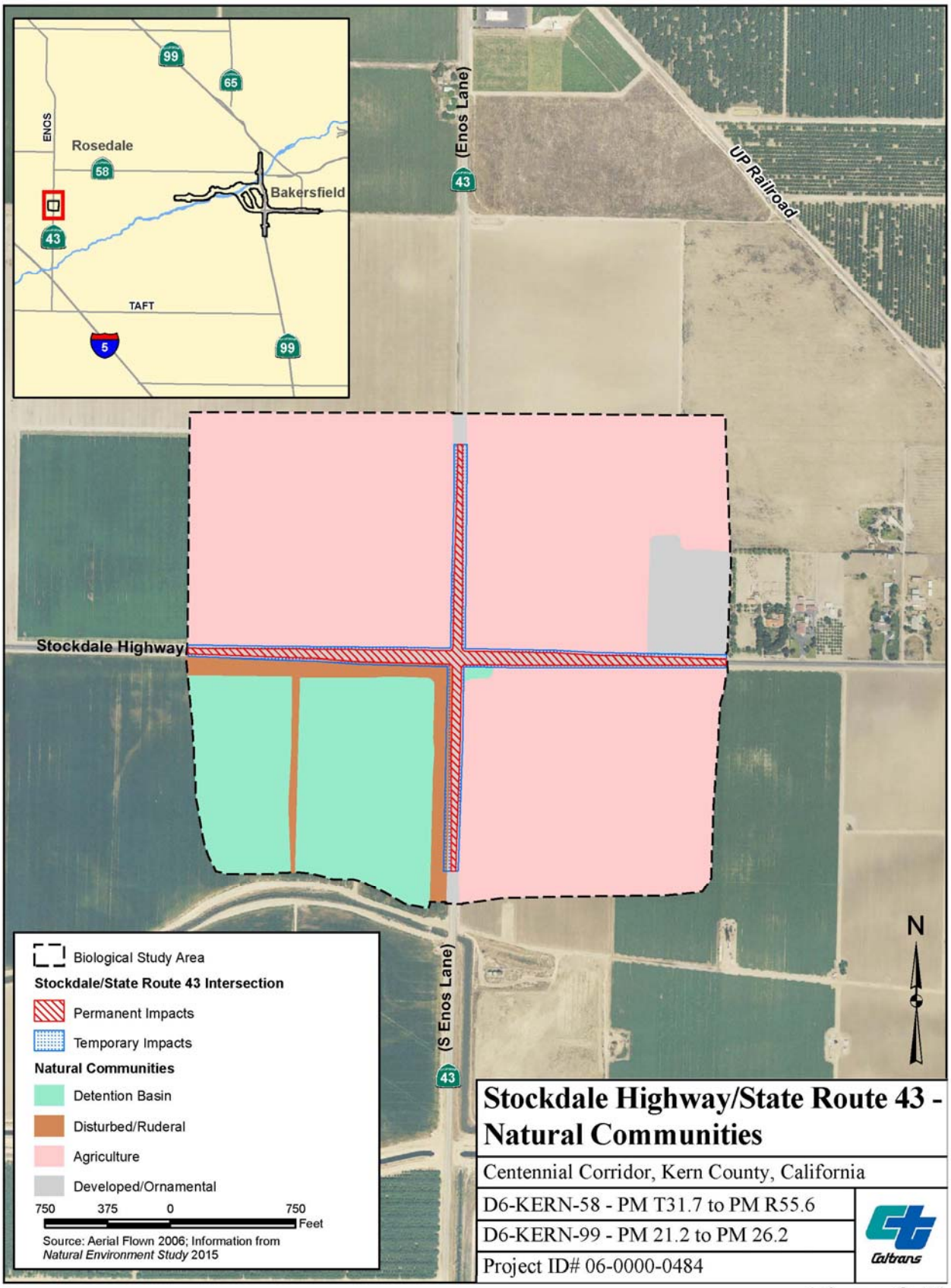

99
65
ENOS
Rosedale
58
Bakersfield
43
TAFT
5
99
(Enos Lane)
43
UP Railroad
Stockdale Highway
(S Enos Lane)
43
N
Biological Study Area
Stockdale/State Route 43 Intersection
Permanent Impacts
Temporary Impacts
Natural Communities
Detention Basin
Disturbed/Ruderal
Agriculture
Developed/Ornamental
750 375 0 750
Feet
Source: Aerial Flown 2006; Information from Natural Environment Study 2015
Stockdale Highway/State Route 43 - Natural Communities
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-51

Table 3.43 Acres of Vegetation Types and Other Areas that Would be Affected by the Project

Vegetation Types and Other Areas	Existing	Alternative A		Alternative B		Alternative C	
		Perm	Temp	Perm	Temp	Perm	Temp
Non-Native Grassland	405.41	19.19	46.91	5.70	47.63	4.73	40.44
Riparian Woodland/Great Valley Cottonwood Riparian Forest	39.92	0.35	3.19	0.00	1.84	0.00	1.42
Waterways	102.89	1.11	6.54	0.36	4.94	0.76	4.93
Detention Basin	47.32	0.64	0.08	0.84	0.01	0.00	0.75
Disturbed/Ruderal	151.84	3.09	13.42	3.36	13.44	4.69	13.91
Agriculture	143.81	0.06	0.80	0.00	0.00	0.06	0.80
Total	**891.19**	**24.44**	**70.94**	**10.26**	**67.86**	**10.24**	**62.25**

Note: All alternatives include the improvements at Stockdale Highway and State Route 43.
Perm=permanent; Temp=temporary
Source: *Natural Environment Study* 2015.

Wildlife Movement

The Kern River is a regional wildlife corridor that provides for wildlife movement through the Metropolitan Bakersfield Habitat Conservation Plan area. The project would bridge the Kern River and, therefore, maintain this regional wildlife movement corridor.

Canals are used for wildlife movement, especially in the urbanized portions of the biological study area. The Friant-Kern Canal would be avoided by Alternative B (Preferred Alternative) and would be bridged by Alternatives A and C of the project, and wildlife movement would be maintained. The Carrier Canal would be bridged under Alternative B; thus, wildlife movement would be maintained. However, the Cross Valley Canal and Carrier Canal would be converted from open channels to box culverts under Alternatives A and C. This could disrupt wildlife movement when the canal is full of water. Animals may be forced to move out of the corridor and into developed areas to go around the box culvert.

Increased movement through developed areas could increase the number of animals killed on the roadways near these canals. Although animals are exposed to the traffic along existing roads, crossing a new road may increase the number of animals killed on the roadway. Urbanized areas contain limited wildlife habitat, and animals that are present are tolerant of the urban setting. Therefore, for most wildlife occurring in the biological study area, impacts on wildlife movement would be considered less than substantial. An option of providing a bicycle, pedestrian, and vehicle traffic bridge over the Carrier Canal instead of converting to a box culvert was selected for Alternative B (Preferred Alternative). This would reduce potential limitations to the wildlife movement by providing greater openness, which would be more attractive to kit fox movement than a box culvert.

The intersection improvement at Stockdale Highway and State Route 43 would have limited effects on wildlife movement because it would not substantially change the

nature of the roadway. Similarly, interim use of Stockdale Highway to connect with Interstate 5 would not alter wildlife movement because no changes to the existing facility are proposed.

No-Build Alternative

The No-Build Alternative would not change existing conditions, so there would be no effect on sensitive habitat or wildlife movement.

Avoidance, Minimization, and/or Mitigation Measures

The only sensitive natural community in the study area is riparian woodland/Great Valley cottonwood riparian forest, which is also considered Wetlands and Other Waters (discussed in Section 3.3.2). Applicable measures are included in that section. In addition, minimization measures have been included in Section 3.6, Construction Impacts, to reduce potential impacts on biological resources associated with construction. No additional measures are required for the portion of the project proposed for construction.

3.3.2 Wetlands and Other Waters

Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (33 U.S. Code 1344), is the main law regulating wetlands and surface waters. One purpose of the Clean Water Act is to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the Clean Water Act, a three-parameter approach is used that includes the presence of: hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the Clean Water Act.

Section 404 of the Clean Water Act establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers with oversight by the U.S. Environmental Protection Agency.

The U.S. Army Corps of Engineers issues two types of 404 permits: General and Standard permits. There are two types of General Permits: Regional permits and Nationwide permits. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effects. Nationwide permits are issued to authorize a variety of minor project activities with no more than minimal effects.

There are two types of Standard permits: Individual permits and Letters of Permission. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of the U.S. Army Corps of Engineers' Standard permits. For Standard permits, the U.S. Army Corps of Engineers' decision to approve is based on compliance with U.S. Environmental Protection Agency's Section 404(b)(1) guidelines (U.S. Environmental Protection Agency 40 Code of Federal Regulations Part 230), and whether permit approval is in the public interest. The Section 404(b)(1) guidelines were developed by the U.S. Environmental Protection Agency in conjunction with the U.S. Army Corps of Engineers and allow the discharge of dredged or fill material into the aquatic system (waters of the United States) only if there is no practicable alternative that would have less adverse effect. The guidelines state that the U.S. Army Corps of Engineers may not issue a permit if there is a least environmentally damaging practicable alternative to the proposed discharge that would have lesser effects on waters of the United States, and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, Executive Order 11990 states that a federal agency, such as the Federal Highway Administration and/or Caltrans, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: (1) that there is no practicable alternative to the construction and (2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated primarily by the California Department of Fish and Wildlife, the State Water Resources Control Board and the Regional Water Quality Control Board. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify the California Department of Fish and Wildlife before beginning construction. If the California Department of Fish and Wildlife determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. California Department of Fish and Wildlife jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the U.S. Army Corps of Engineers may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the California Department of Fish and Wildlife.

Regional Water Quality Control Boards were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The Regional Water Quality Control Boards also issue water quality certifications for impacts to wetlands and waters in compliance with Section 401 of the Clean Water Act. See the Water Quality section for more details.

Affected Environment

Information in this section comes from the *Natural Environment Study* (April 2015), which includes a *Jurisdictional Delineation* (Appendix E of the *Natural Environment Study*, April 2015). A preliminary jurisdictional determination (JD) was received from the U.S. Army Corps of Engineers (March 24, 2015) (see Appendix M in Volume 2). The U.S. Army Corps of Engineers concurred with the amount and location of wetlands and other water bodies in the Centennial Corridor Project.

The Kern River is in the biological study area. Areas within the river that consist of open sandy wash with no vegetation or very little vegetation were mapped as waterways. Riparian woodland/Great Valley cottonwood riparian forest occurs along the banks of the Kern River. The main value of the Kern River is its importance as a regional wildlife movement corridor.

Canals in the biological study area (Arvin-Edison Canal, Calloway Canal, Carrier Canal, Central Branch Kern Island Canal, Cross Valley Canal, Friant-Kern Canal, Kern Island Canal, and Stine Canal) were mapped as waterways. The Arvin-Edison Canal, Friant-Kern Canal, and an unnamed canal are lined with concrete; the other canals are unlined with varying amounts of upland vegetation. The canals are within the jurisdiction of the U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and Regional Water Quality Control Board and provide water conveyance and wildlife movement. Canals that are lined with concrete provide no live-in habitat value. Unlined canals either lack vegetation or are vegetated with non-native grasses, providing limited cover for use by wildlife.

A series of fenced, bermed fields generally located on or near established canals function as temporary water-holding areas or detention basins for several Kern County water storage districts. These basins are periodically maintained by mowing or disking. Several smaller basins constructed as flood control or water catchment basins associated with residential developments or other urban infrastructure were mapped as detention basins. Vegetation within these basins varies from a sparse cover of native species common in wetland habitats such as cattail (*Typha* spp.) and wild heliotrope (*Heliotropium curassavicum*) to dense stands of Russian thistle (*Salsola tragus*), a weedy species. At the time of the survey, some basins had standing water and some of them were dry. Detention basins are also within the jurisdiction of the California Department of Fish and Wildlife and provide for water recharge and wildlife habitat. The value of the detention basins varies depending on the type of habitat present (native or weedy) and the level of disturbance (frequency of mowing and disking). Some of the basins are known to be used for denning by kit fox (e.g., the debris basin south of Truxtun Avenue and north of the Carrier Canal) and have a very high habitat value.

The Kern River, various canals, and detention basins show evidence of hydrology sufficient to document that the ordinary high water mark meets the criteria for waters of the United States. In total, 135.763 acres of waters of the United States are present in Segment 1 of the biological study area and the intersection of Stockdale Highway and State Route 43. A portion of the Kern River and a small detention basin at

Stockdale Highway and State Route 43 contained the three parameters (hydrophytic vegetation, hydric soils, and wetland hydrology) needed to be considered wetland-waters of the United States. In total, 0.195 acre of wetland-waters of the United States lies within the biological study area (0.112 acre at the Kern River and 0.083 acre at Stockdale Highway and State Route 43). Figures 3-52a through 3-52c in Volume 2 show the locations of these jurisdictional waters.

The California Department of Fish and Wildlife's jurisdictional limits are defined by the top of the bank or the dripline of riparian vegetation. In total, 182.237 acres under the jurisdiction of California Department of Fish and Wildlife are present in Segment 1 of the biological study area and at the intersection of Stockdale Highway and State Route 43. Figures 3-53a through 3-53c in Volume 2 show the locations of these jurisdictional waters.

Environmental Consequences

Common to All Build Alternatives

The following analysis discusses impacts related to Segment 1 and the improvements at the intersection of Stockdale Highway and State Route 43. No impacts related to the minor improvements in Segment 2 would occur because construction would occur within the existing right-of-way, which was previously disturbed for the construction of the Westside Parkway.

The impacts for all three build alternatives are similar. What distinguishes the alternatives is the amount of impact, although the range of impacts is similar (ranging from 0.009 to 0.913 acre of permanent impact on waters of the United States; 0.189 to 4.182 acres of permanent structural impact on waters under the jurisdiction of the Regional Water Quality Control Board; and 1.619 to 3.108 acres of permanent shade impact on waters under the jurisdiction of the Regional Water Quality Control Board). However, Preferred Alternative B will not have any temporary or permanent impacts to wetlands. These impact estimates are shown in Tables 3.44 and 3.45. Impacts to jurisdictional areas were determined by comparing engineering plans with maps of jurisdictional waters.

Each of the build alternatives includes a bridge over the Kern River, including structures that would be placed in the river. The bridge structure would cause permanent impacts by casting a shadow that could prevent vegetation from growing under the bridge. This effect would not be considered substantial since the river is composed mostly of open sandy wash. The bridge structures would not interrupt its wildlife movement function. Temporary impacts would affect the area needed to build the bridge, including access to and within the construction area and areas for storage of construction equipment.

Alternatives A and C would include a bridge over the Friant-Kern Canal while Alternative B would avoid impacts to this canal. Alternatives A and C would convert portions of the Cross Valley Canal and Carrier Canal from open channels to box culverts where the alignment intersects with the canals. Alternative B would only convert a portion of the Cross Valley Canal to a box culvert where the alignment

intersects with the canal and would construct a bicycle and pedestrian bridge over the Carrier Canal.

Most of the detention basins would be avoided by the project; however, one basin southwest of State Route 58 and State Route 99 would be affected. Some detention basins are within the jurisdiction of the California Department of Fish and Wildlife, provide for water recharge and are considered jurisdictional waters. Therefore, they are discussed in the "Wetlands or other waters" section which describes impacts to jurisdictional waters. Each of the build alternatives would also construct new basins.

The jurisdictional waters that would be permanently and temporarily affected by each alternative are quantified in Tables 3.44 and 3.45. The jurisdictional waters that would be affected by each alternative are shown in Figures 3-52a through 3-52c and 3-53a through 3-53c in Volume 2. Alternative A would affect about 5.725 acres of waters of the United States and 15.174 acres of waters under the jurisdiction of the Regional Water Quality Control Board; Alternative B would affect about 4.432 acres of waters of the United States and 6.049 acres of waters under the jurisdiction of the Regional Water Quality Control Board; and Alternative C would affect about 7.475 acres of waters of the United States and 11.417 acres of waters under the jurisdiction of the Regional Water Quality Control Board. Intersection improvements at Stockdale Highway and State Route 43 would not affect waters of the United States or waters under the jurisdiction of the Regional Water Quality Control Board.

After the circulation of the draft environmental document, a closer review of jurisdictional waters in the area, as well as design changes, resulted in reduction of permanent impacts to 0.009 acre. Because impacts are less than 0.5 acre, an individual permit from the U.S. Army Corps of Engineers is not required and the project is not subject to Section 404(b)(1) conditions. Therefore, a Least Environmentally Damaging Practicable Alternative analysis is not required as part of this final environmental document and the decision to select Alternative B as the Preferred Alternative does not require concurrence from the U.S. Army Corps of Engineers.

The Water Quality Control Plan for the Tulare Lake Basin (Regional Water Quality Control Board 2004) lists the following beneficial uses for the portion of the Kern River below the Southern California Edison Kern River Powerhouse No. 1: municipal and domestic supply; agricultural supply; industrial service supply; industrial process supply; hydropower generation; water contact recreation; non-contact water recreation; warm freshwater habitat; wildlife habitat; rare, threatened, or endangered species habitat; and groundwater recharge. Although the project would affect warm freshwater habitat, wildlife habitat, and rare, threatened or endangered species habitat (kit fox), the project is not expected to substantially alter the functions and values listed above.

Table 3.44 Build Alternatives' Impacts on Waters of the U.S. Under the Jurisdiction of the U.S. Army Corps of Engineers and Regional Water Quality Control Board

Waters of the U.S.	Existing (Acres)	Permanent Structural Impact (Acres)[a]			Temporary Construction Impact (Acres)[b]			Total Impacts (Acres)		
		Alternative A	Alternative B	Alternative C	Alternative A	Alternative B	Alternative C	Alternative A	Alternative B	Alternative C
Kern River										
Wetlands	0.112	0.000	0.000	0.000	0.009	0.000	0.00	0.009	0.000	0.000
Other Waters	68.740	0.144	0.009	0.022	3.541	3.421	5.980	3.685	3.430	6.002
Arvin-Edison Canal										
Other Waters	0.924	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Calloway Canal										
Other Waters	2.312	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Carrier Canal										
Other Waters	6.786	0.365	0.000	0.389	0.051	0.418	0.154	0.416	0.418	0.543
Central Branch Kern Island Canal										
Other Waters	0.938	0.000	0.000	0.000	0.044	0.000	0.044	0.044	0.000	0.044
Cross Valley Canal										
Other Waters	8.977	0.00	0.000	0.00	0.258	0.000	0.195	0.258	0.000	0.195
Friant-Kern Canal										
Other Waters	3.058	0.000	0.000	0.000	0.409	0.000	0.333	0.409	0.000	0.333
Kern Island Canal										
Other Waters	1.051	0.000	0.000	0.000	0.020	0.000	0.020	0.020	0.000	0.020
Stine Canal										
Other Waters	3.251	0.404	0.000	0.127	0.436	0.584	0.211	0.840	0.584	0.338
Unnamed Canal										
Other Waters	0.732	0.000	0.000	0.000	0.044	0.000	0.000	0.044	0.000	0.000
Detention Basins										
Isolated Waters[c]	4.413	0.000	0.009	0.000	0.000	0.000	0.972	0.000	0.009	0.972
Stockdale Highway and State Route 43										
Wetlands	0.083	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other Waters	38.799	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total RWQCB	***140.176***	***0.913***	***0.018***	***0.538***	***4.812***	***4.423***	***7.909***	***5.725***	***4.441***	***8.447***
Total USACE	***135.763***	***0.913***	***0.009***	***0.538***	***4.812***	***4.423***	***6.937***	***5.725***	***4.432***	***7.475***

[a] Temporary impacts refer to construction access and staging areas; the temporary impact includes the areas under the bridges that will be accessed during construction.
[b] Permanent structural impacts are due to proposed structures.
[c] Isolated waters are within the jurisdiction of the Regional Water Quality Control Board but are not under the jurisdiction of the U.S. Army Corps of Engineers.

Source: *Natural Environment Study* 2015.

Table 3.45 Build Alternatives' Impacts on Waters Under the Jurisdiction of the California Department of Fish and Wildlife

Waters under the Jurisdiction of the Regional Water Quality Control Board	Existing (Acres)	Temporary Construction Impact (Acres) [a]			Permanent Structural Impact (Acres) [b]			Permanent Shade Impact (Acres) [c]			Total Impacts (Acres)		
		Alt. A	Alt. B	Alt. C	Alt. A	Alt. B	Alt. C	Alt. A	Alt. B	Alt. C	Alt. A	Alt. B	Alt. C
Kern River	96.054	9.268	4.705	7.881	3.333	0.013	0.032	2.692	1.495	1.619	12.601	4.718	7.913
Arvin-Edison Canal	1.158	0.000	0.000	0.000	0.000	0.000	0.000	N/A	N/A	N/A	0.000	0.000	0.000
Calloway Canal	3.630	0.000	0.000	0.000	0.000	0.000	0.000	N/A	N/A	N/A	0.000	0.000	0.000
Carrier Canal	8.153	0.088	0.454	0.204	0.410	0.000	0.446	N/A	0.352	N/A	0.498	0.454	0.650
Central Branch Kern Island Canal	1.032	0.048	0.000	0.048	0.000	0.000	0.000	N/A	N/A	N/A	0.048	0.000	0.048
Cross Valley Canal	15.251	0.476	0.000	0.316	0.000	0.000	0.000	N/A	N/A	N/A	0.476	0.000	0.316
Friant-Kern Canal	3.265	0.416	0.000	0.334	0.000	0.000	0.000	0.416	N/A	N/A	0.416	0.000	0.334
Kern Island Canal	1.156	0.023	0.000	0.023	0.000	0.000	0.000	N/A	N/A	N/A	0.023	0.000	0.023
Stine Canal	3.956	0.564	0.701	0.254	0.439	0.001	0.152	N/A	0.671	N/A	1.003	0.702	0.406
Unnamed Canal	1.639	0.085	0.000	0.000	0.000	0.000	0.000	N/A	N/A	N/A	0.085	0.000	0.000
Detention Basins	7.852	0.024	0.000	1.727	0.000	0.175	0.000	N/A	N/A	N/A	0.024	0.175	1.727
Stockdale Highway/State Route 43 Detention Basin	39.091	0.000	0.000	0.000	0.000	0.000	0.000	N/A	N/A	N/A	0.000	0.000	0.000
Total	**182.237**	**10.992**	**5.860**	**10.787**	**4.182**	**0.189**	**0.630**	**3.108**	**2.518**	**1.619**	**15.174**	**6.049**	**11.417**

[a] Temporary impacts refer to construction access and staging areas; the temporary impact includes the areas under the bridges that will be accessed during construction.

[b] Permanent structural impacts are due to proposed structures.

[c] Permanent shade impacts are included for the Kern River (All Alternatives), Carrier Canal (Alternative B), Friant Kern Canal (Alternatives A and C), and Stine Canal (Alternative B); this impact is not applicable (N/A) to all other areas (e.g., box culverts). This impact represents the area under the bridge shaded at noon and overlaps with, or is equivalent to, the temporary impacts. Therefore, the "Total Impacts" column is the sum of the Temporary Construction Impact and the Permanent Structural Impact columns.

Source: *Natural Environment Study* 2015.

The project requires the following permits:

- U.S. Army Corps of Engineers Section 404 Permit (Non Reporting)
- Regional Water Quality Control Board Section 401 Water Quality Certification
- California Department of Fish and Wildlife Section 1602 Streambed Alteration Agreement

No-Build Alternative

Since the No-Build Alternative does not propose any improvements, there would be no effects to wetlands and other waters from this alternative.

Avoidance, Minimization, and/or Mitigation Measures

The project was designed to avoid and minimize effects on jurisdictional areas to the extent practicable. The number of columns in the river was minimized in order to minimize the area of jurisdictional waters that would be affected. Additionally, the Kern River bridge crossing was placed in the same location where the Westside Parkway bridge crosses the river so that the footprint of development along the river was minimized; thereby minimizing indirect effects (e.g., traffic noise, night lighting, and human activity) on animals using the river. In addition to the minimization measure listed below, other minimization measures would reduce impacts to wetlands and other waters during construction. The construction measures are discussed in Section 3.6, Construction Impacts.

Mitigation Measure

B-1 Prior to initiation of construction, Caltrans shall coordinate with and obtain necessary permits from the U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and Regional Water Quality Control Board regarding compensation for impact to jurisdictional habitat. The mitigation approach will be negotiated with the resource agencies and will consist of one or a combination of the following: 1) purchase of credits at a jurisdictional waters mitigation bank; 2) enhancement of jurisdictional waters; 3) restoration of jurisdictional waters; or 4) purchase of existing jurisdictional waters and placing a conservation easement over them.

3.3.3 Plant Species

Regulatory Setting

The U.S. Fish and Wildlife Service and California Department of Fish and Wildlife have regulatory responsibility for the protection of special-status plant species. Special-status species are selected for protection because they are rare and/or subject to population and habitat declines. “Special-status” is a general term for species that are afforded varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered

Species Act and/or the California Endangered Species Act. See the Threatened and Endangered Species section (Section 3.3.5) for information on these species.

This section of the document discusses all other special-status plant species, including California Department of Fish and Wildlife species of special concern, U.S. Fish and Wildlife Service candidate species, and California Native Plant Society rare and endangered plants.

Regulatory requirements for the Federal Endangered Species Act can be found at 16 U.S. Code, Section 1531, et seq. See also 50 Code of Federal Regulations Part 402. The regulatory requirements for the California Endangered Species Act can be found at California Fish and Game Code, Section 2050, et seq. Caltrans projects are also subject to the Native Plant Protection Act, found at Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act, Public Resources Code, Sections 2100-21177.

Affected Environment

Twenty-five non-listed special-status plant species are known to occur in the project region and were evaluated in the *Natural Environment Study* (April 2015). A complete list of non-listed special-status plant species can be found in Table 2 of the *Natural Environment Study*.

Ferris' goldfields (*Lasthenia ferrisiae*) was seen in Segment 1 of the biological study area during surveys in 2009. Ferris' goldfields is a California Native Plant Society List 4.2 species (this is a "watch list" for plants that have limited distribution in California and are fairly endangered but have not currently been designated as federally or state threatened or endangered species). Two large populations totaling about 3,500 individuals were seen in a flood-control basin on oil refinery land just north of the Kern River. The remaining 24 non-listed special-status plant species are not expected to occur in Segment 1 of the biological study area because they were not seen during focused surveys. Figure 3-54 in Volume 2 shows the location of Ferris' goldfields in the biological study area.

Surveys in Segment 3 were limited to the intersection improvements at Stockdale Highway and State Route 43 because this is the only location where improvements are proposed.

Environmental Consequences

Common to All Build Alternatives

Improvements at Stockdale Highway and State Route 43 would not affect non-listed special-status plant species. The improvements in Segment 2 would not affect special-status plant species because all construction would be within the right-of-way and no habitat would be affected.

Alternative A

In Segment 1, Alternative A would affect both populations of Ferris' goldfields. This impact would be considered substantial based on the large number of individuals that would be affected.

Alternatives B (Preferred Alternative) and C

In Segment 1, Alternatives B and C would not affect the two populations of Ferris' goldfields.

No-Build Alternative

The No-Build Alternative would not result in any changes from existing conditions, so there would be no effect on plant species.

Avoidance, Minimization, and/or Mitigation Measures

Mitigation Measure

The following measure would apply to Alternative A in Segment 1:

B-2 If Alternative A was selected as the Preferred Alternative and the two populations of Ferris' goldfields cannot be avoided, Caltrans shall develop a mitigation and monitoring program to compensate for the loss of Ferris' goldfields before this species is affected. The mitigation program shall include preservation and/or enhancement of occupied habitat for this species or it shall include seed collection within the impact area and planting within a suitable mitigation site. The mitigation and monitoring plan shall be prepared by a qualified biologist and shall contain appropriate performance criteria.

3.3.4 Animal Species

Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service, the National Oceanic and Atmospheric Administration's National Marine Fisheries Service, and the California Department of Fish and Wildlife are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the state or federal Endangered Species Acts. Species listed or proposed for listing as threatened or endangered are discussed in Section 3.3.5. All other special-status animal species are discussed here, including California Department of Fish and Wildlife fully protected species and species of special concern, and U.S. Fish and Wildlife Service or National Oceanic and Atmospheric Administration Fisheries Service candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act

- Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act
- Sections 1600–1603 of the Fish and Game Code
- Sections 4150 and 4152 of the Fish and Game Code
- Sections 3503, 3503.5, and 3513 of the Fish and Game Code

Affected Environment

Information in this section comes from the *Natural Environment Study* (April 2015). Twenty-one non-listed special-status wildlife species are known to occur in the project region and were evaluated in the *Natural Environment Study*. Listed special-status wildlife species are discussed in Section 3.3.5. Many of these non-listed special-status wildlife species are associated with particular habitat types that are absent from the biological study area.

Habitat for 13 non-listed special-status wildlife species occurs in Segment 1 of the biological study area (see Table 3 in the *Natural Environment Study*).

Habitat for non-listed special-status wildlife species was not evaluated for Segment 2 because there would be no effect on habitat related to improvements to the Westside Parkway.

Habitat for 11 non-listed special-status wildlife species occurs at the intersection of Stockdale Highway and State Route 43 (see Table 3 in the *Natural Environment Study*).

The burrowing owl, a California Species of Special Concern, was not seen along the Kern River during focused surveys, but several burrows that could be used by owls were found. This species was seen during pre-construction surveys for the Westside Parkway north of the Kern River and west of Mohawk Street during the wintering season. An individual was seen on December 10 and 11, 2008, but it was gone during follow-up surveys and considered to be a transient owl. This species may occur throughout the biological study area for foraging and nesting. Figure 3-54 in Volume 2 shows where burrowing owls were seen in the biological study area, as well as potential burrow locations.

The Loggerhead shrike, a California Species of Special Concern, was seen in Segment 1 of the biological study area. This species is expected to occur throughout the biological study area for foraging and nesting.

Environmental Consequences

Common to All Build Alternatives

The following analysis discusses impacts for Segment 1 and the improvements at the intersection of Stockdale Highway and State Route 43. There would be no impacts for Segment 2 because the improvements are within the existing right-of-way or areas previous disturbed by construction of the Westside Parkway and no habitat would be removed.

The nature of the impacts (habitat removal) for all three build alternatives is the same. What distinguishes the alternatives is the amount of impact. Acreage impacts are shown in Table 3.45. Each of the build alternatives would affect habitat that could be used by special-status wildlife species. The project would contribute to the ongoing loss of habitat in the project region (the 10-mile radius surrounding the biological study area). The loss of habitat for non-listed special-status wildlife species would be limited relative to the availability of similar habitat in the region. Therefore, the effect would be considered adverse, but less than substantial. The amount of habitat loss within Segment 1, as well as the intersection improvements at Stockdale Highway and State Route 43, for each special-status wildlife species is quantified in Table 3.46.

Table 3.46 Potential Habitat Affected for Non-listed Animal Species

Species	Suitable Habitat	Alternative A (acres)	Alternative B (acres)	Alternative C (acres)
Western Spadefoot, Western Pond Turtle	Riparian Woodland/Great Valley Cottonwood Riparian Forest, Waterways, Detention Basin	11.91	7.99	7.86
Silvery Legless Lizard	Riparian Woodland/Great Valley Cottonwood Riparian Forest, Waterways, Detention Basin	11.91	7.99	7.86
Coast Horned Lizard	Non-Native Grassland	66.10	53.33	45.17
Golden Eagle, Northern Harrier, White-tailed Kite, American Peregrine Falcon, Burrowing Owl, Loggerhead Shrike, Western Mastiff Bat	Non-Native Grassland, Riparian Woodland/Great Valley Cottonwood Riparian Forest, Waterways, Detention Basin, Disturbed/Ruderal, Agriculture	95.38 (foraging habitat only)	78.12 (foraging habitat only)	72.49 (foraging habitat only)

Table 3.46 Potential Habitat Affected for Non-listed Animal Species

Species	Suitable Habitat	Alternative A (acres)	Alternative B (acres)	Alternative C (acres)
Mountain Plover, Yellow-headed Blackbird	Non-Native Grassland, Waterways, Detention Basin, Disturbed/Ruderal, Agriculture	91.84 (foraging habitat only)	76.28 (foraging habitat only)	71.07 (foraging habitat only)

Source: *Natural Environment Study* 2015.

The project could directly affect nesting birds or raptors if vegetation were removed during the nesting season, and it could indirectly affect nesting raptors if work occurred next to large trees during the raptor nesting season. Although nesting birds and raptors have different nesting seasons, one nesting bird period that encompasses both periods was used rather than two separate time periods to avoid confusion during implementation. Therefore, the peak bird and raptor nesting season is February 1 to August 31.

Night lighting during construction or operation of the project could spill over into the adjacent open space, especially along the Kern River, and could have adverse effects on the foraging activities of nocturnal species (such as the burrowing owl, bats, and other small mammals) and may also increase predation on small mammals.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance or minimization efforts are necessary for the golden eagle, northern harrier, American peregrine falcon, mountain plover, and yellow-headed blackbird because the impacts would be considered less than substantial.

Measures to reduce impacts on other species during construction are discussed in Section 3.6, Construction Impacts.

3.3.5 Threatened and Endangered Species

Regulatory Setting

The main federal law protecting threatened and endangered species is the Federal Endangered Species Act: 16 U.S. Code, Section 1531, et seq. See also 50 Code of Federal Regulations Part 402. This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration, are required to consult with the U.S. Fish and Wildlife Service and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service to ensure that they are not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with

an Incidental Take statement, a Letter of Concurrence, and/or documentation of a no effect finding. Section 3 of the Federal Endangered Species Act defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act, California Fish and Game Code, Section 2050, et seq. The California Endangered Species Act emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Wildlife is the agency responsible for implementing the California Endangered Species Act. Section 2081 of the Fish and Game Code prohibits take of any species determined to be an endangered species or a threatened species. "Take" is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California Endangered Species Act allows for take incidental to otherwise lawful development projects; for these actions, an incidental take permit is issued by the California Department of Fish and Wildlife. For species listed under both the Federal Endangered Species Act and the California Endangered Species Act requiring a Biological Opinion under Section 7 of the Federal Endangered Species Act, the California Department of Fish and Wildlife may also authorize impacts to California Endangered Species Act species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

Affected Environment

Information in this section comes from the *Natural Environment Study* (April 2015), the Biological Assessment (March 2013), and the Biological Opinion (Service file numbers 08ESMF00-2013-F-0373-R001 [December 20, 2013] and 08ESMF00-2013-F-0373 [February 24, 2014]). A species list was obtained from the U.S. Fish and Wildlife Service on September 29, 2015 (see Appendix I, Volume 2).

Twenty-seven threatened or endangered plant and wildlife species are known to occur in the project region and were evaluated in the Natural Environment Study. Many of these listed species are associated with particular habitat types that are absent from the biological study area. The increase to twenty-seven threatened or endangered plant and wildlife species, known to occur in the project region, was due to the change of listing status of tricolored blackbird, to state endangered, prior to the circulation of the draft environmental document.

Plant Species

No threatened or endangered plants were found during focused surveys in Segment 1 of the biological study area. Focused surveys were done at the intersection of Stockdale Highway and State Route 43 in spring/summer 2012. No special-status plant species were seen. Surveys for jewelflower (*Caulanthus californicus*) and San Joaquin woollythreads (*Monolopia congdonii* [*Lembertia c.*]) would be conducted

before construction to confirm their absence from Stockdale Highway and State Route 43.

No critical habitat for threatened or endangered plant species is present in the biological study area. Therefore, there would be no effect on critical habitat.

Wildlife Species

No suitable habitat for any of the following is present along Segment 1 of the biological study area or at the intersection of Stockdale Highway and State Route 43: conservancy fairy shrimp (*Branchinecta conservation*, federally endangered), longhorn fairy shrimp (*Branchinecta longiantenna*, federally endangered), vernal pool fairy shrimp (*Branchinecta lynchi*, federally threatened), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*, federally threatened), delta smelt (*Hypomesus transpacificus*, federally threatened, state endangered), California red-legged frog (*Rana draytonii*, federally threatened), blunt-nosed leopard lizard (*Gambelia sila*, federally endangered, state endangered, fully protected), giant garter snake (*Thamnophis gigas*, federally threatened, state threatened), California condor (*Gymnogyps californianus*, federally endangered, state endangered), western snowy plover (*Charadrius alexandrinus nivosus*, federally threatened), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*, federally threatened, state endangered), southwestern willow flycatcher (*Empidonax traillii extimus*, federally endangered, state endangered), least Bell's vireo (*Vireo bellii pusillus*, federally endangered, state endangered), Buena Vista Lake ornate shrew (*Sorex ornatus relictus, federally endangered*), Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*, federally endangered, state endangered), giant kangaroo rat (*Dipodomys ingens*, federally endangered, state endangered), or Nelson's (San Joaquin) antelope squirrel (*Ammospermophilus nelsoni*, state threatened) is present along Segment 1 of the biological study area or at the intersection of Stockdale Highway and State Route 43.

The Swainson's hawk (*Buteo swainsoni*, state threatened) was not seen during focused surveys of Segment 1 of the biological study area in 2009. Suitable foraging habitat for this species is found throughout the biological study area. This species was not seen nesting, but it has limited potential to nest along the Kern River. No suitable nesting habitat occurs in Segment 3 at the intersection of Stockdale Highway and State Route 43 in the biological study area.

The tricolored blackbird (*Agelaius tricolor*, state endangered) was not observed during general surveys of Segment 1; however, no focused surveys for this species were conducted. Suitable foraging habitat, but no suitable nesting habitat, is present within the biological study area. This species may occur foraging, but it is not expected to occur nesting (detention basins are routinely disturbed by maintenance activities such as mowing).

The San Joaquin kit fox (*Vulpes macrotis mutica*, federally endangered, state threatened) is known to occur throughout the biological study area. Focused surveys for this species were done in Segment 1 of the biological study area. One sighting was

made, and multiple dens were found, including one with fresh tracks and scat. Figure 3-54 shows the location of potential den locations in the biological study area.

Several dens of the San Joaquin kit fox were seen along the Kern River near Mohawk Street and adjacent grasslands, in city Basin 143 during focused surveys of the biological study area in 2008, and during pre-construction surveys for the Westside Parkway in 2009. In addition, kit foxes were documented south of Truxtun Avenue, in the landscaped Kern River Parkway, along the Carrier Canal and BNSF Railway corridor, and in the city maintenance facility and basins (city of Bakersfield and Caltrans 2009). No potential dens were found at Stockdale Highway and State Route 43.

Areas of kit fox activity or movement were reported at the Calloway Canal, Friant-Kern Canal, northwest of State Route 43 and Interstate 5, near Coffee Road, near State Route 99 and State Route 58 (Rosedale Highway), and near Interstate 5 and Rosedale Highway. San Joaquin kit foxes are also known near the biological study area at the Sundale Country Club, Quailwood Park, Seven Oaks Country Club, and the California State University, Bakersfield campus (city of Bakersfield and Caltrans 2009). This species is expected to occur throughout the biological study area.

No critical habitat for threatened or endangered wildlife species is present in the biological study area.

Environmental Consequences

Common to All Build Alternatives

Plant Species

No threatened or endangered plant species occur in Segments 1 and 2; therefore, there would be no effect.

The Stockdale Highway/State Route 43 portion of the project was added to the project limits after project focused surveys were conducted. Focused surveys for this additional area have been attempted the last two springs (2012 and 2013); however, rainfall was not adequate to conduct the surveys that would conclusively determine absence or presence of these species. Assuming adequate rainfall is received in winter 2014-2015 (as verified by blooming plants at the reference populations), the surveys could be conducted in approximately April/May of 2015. Habitat conditions are marginally suitable for 1.07 acres and it is expected that these species are likely absent from this area. Therefore, a no effect determination for these species has been made for Segment 3. As stated above, focused surveys for California jewelflower and San Joaquin woollythreads (in addition to Kern mallow and Bakersfield cactus, as requested by the U.S. Fish and Wildlife Service as a condition of the Biological Opinion [Service file number 08ESMF00-2013-F-0373-R001]) would be repeated to confirm their absence from the project impact areas.

Wildlife Species

No suitable habitat is present along segment 1 of the biological study area or at the intersection of Stockdale Highway and State Route 43 for the following species: conservancy fairy shrimp, longhorn fairy shrimp, vernal pool fairy shrimp, valley elderberry longhorn beetle, delta smelt, California red-legged frog, blunt-nosed leopard lizard, giant garter snake, California condor, western snowy plover, western yellow-billed cuckoo, southwestern willow flycatcher, least Bell's vireo, Buena Vista Lake ornate shrew, Tipton kangaroo rat, giant kangaroo rat, or Nelson's (San Joaquin) antelope squirrel (*Ammospermophilus nelsoni*, state threatened). Therefore, there would be no effect.

The nature of the impacts for all three build alternatives is the same. What distinguishes the alternatives is the amount of acres or number of dens affected (see Table 3.47).

Table 3.47 Potential Habitat Affected for Listed Animal Species

Species	Suitable Habitat	Alternative A (acres)	Alternative B (acres)	Alternative C (acres)
Swainson's Hawk	Non-Native Grassland, Riparian Woodland/Great Valley Cottonwood Riparian Forest, Waterways, Detention Basin, Disturbed/Ruderal, Agriculture	95.38 (foraging habitat only)	78.12 (foraging habitat only)	72.49 (foraging habitat only)
Tricolored blackbird	Non-Native Grassland, Waterways, Detention Basin, Disturbed/Ruderal, Agriculture	95.38 (foraging habitat only)	78.12 (foraging habitat only)	72.49 (foraging habitat only)
San Joaquin Kit Fox	Non-Native Grassland, Riparian Woodland/Great Valley Cottonwood Riparian Forest, Waterways, Detention Basin, Disturbed/Ruderal, Agriculture	95.38 1 active den	78.12 3 potential dens	72.49 1 potential den

Note: Alternatives include the improvements at Stockdale Highway and State Route 43, which have been included in the total acreage.
Source: *Natural Environment Study* 2015.

Swainson's hawk: No Swainson's hawks were seen during the 2009 survey, but this species could forage in undeveloped vegetation types in the biological study area. The project would contribute to the ongoing loss of raptor foraging habitat in the project region (the 10-mile radius surrounding the biological study area). The loss of foraging habitat for this species would be limited relative to the availability of similar habitat in the region. This impact would be considered adverse, but less than substantial.

The Swainson's hawk could nest in trees in the biological study area, most likely along the Kern River. Tree removal and/or nearby construction could adversely affect nesting efforts for this species. Construction during the breeding season could disturb nesting activities, possibly resulting in nest abandonment, loss of young, and reduced health and vigor of eggs and/or nestlings. Direct effects on an active Swainson's hawk nest would be considered a violation of the California Endangered Species Act, the California Fish and Game Code (Sections 3503, 3503.5, and 3513), and the Migratory Bird Treaty Act. Any impact on an active nest (direct or indirect) during the Swainson's hawk breeding season (March 1-July 15) would be considered substantial.

Tricolored Blackbird: No tricolored blackbirds were seen during the 2009 general surveys; however, no focused surveys were conducted for this species (which was only recently emergency listed as state endangered).This species could forage in undeveloped vegetation types in the biological study area. The project would contribute to the ongoing loss of foraging habitat for this species in the project region (the 10-mile radius surrounding the biological study area). The loss of foraging habitat for this species would be limited relative to the availability of similar habitat in the region. This impact would be considered adverse, but less than substantial.

The tricolored blackbird is not expected to nest within the impact area for any of the Build Alternatives because habitat is considered marginally suitable. The areas with highest potential for a colony to nest are the existing detention basins, but those are routinely disturbed by maintenance activities such as mowing, and the size and stature of vegetation in these areas at the time of previous surveys was not suitable to support nesting by this species. Tricolored blackbird is not expected to nest in the biological study area. If the tricolored blackbird did nest within or adjacent to the project, construction during the breeding season could disturb nesting activities, possibly resulting in nest abandonment, loss of young, and reduced health and vigor of eggs and/or nestlings. Direct effects on an active tricolored blackbird nest would be considered a violation of the California Endangered Species Act, the California Fish and Game Code (Sections 3503, 3503.5, and 3513), and the Migratory Bird Treaty Act. Any impact on an active nest (direct or indirect) during the tricolored blackbird breeding season (March 15-August 31) would be considered substantial. Impacts are considered to be substantial if an active nest is removed or if construction activities indirectly impact an active nest and cause the eggs or nestling to die by exposing the nest to predators or causing the parents to abandon the nest.

San Joaquin kit fox: This species could forage and den in undeveloped vegetation in the biological study area. Loss of habitat could also reduce prey availability. The

project would contribute to the ongoing loss of foraging/denning habitat in the project region (the 10-mile radius surrounding the biological study area).

The project would affect a portion of an existing detention basin used by the kit fox adjacent to State Route 99, but new detention basins would be added by the project. Alternative A includes 7 basins. Alternative B would include 8 basins. Alternative C would include 11 basins. The addition of basins in kit fox activity areas may be considered a beneficial impact of the project if they are located in areas that were previously developed.

Night lighting would be used during construction and also during operation of the finished roadway. Spillover of light into the adjacent open space could have an adverse impact on foraging activities by the kit fox, which is a nocturnal species. This may result in reduced health and vigor of kit foxes and/or their young.

Vehicle strikes are considered an indirect effect as a result of the project. Currently, the San Joaquin kit fox is exposed to traffic along existing roadways. Crossing a new larger roadway may result in an unintentional increase in vehicle-related death. Several kit fox road kills have been reported within the biological study area.

Kit foxes in Bakersfield have been found to move along linear habitat features (canals, railway rights-of-way, the Kern River corridor, roads), going from one area of open space to another. Some existing movement corridors along existing linear habitat features, such as the Kern River, Friant-Kern Canal, and Carrier Canal (Alternative B only) would be maintained. Other canals would be converted from open channels to box culverts under the roadway in the project area; the project would extend existing box culverts in some of these locations. In areas of kit fox activity (such as the Carrier Canal [Alternatives A and C] and Cross Valley Canal), this extension of the box culvert could disrupt kit fox movement when the canal is full of water. With a longer culvert to follow, kit foxes may choose to move out of the corridor and into developed areas to go around the box culvert, where they could be struck by cars and killed.

Therefore, all Build Alternatives for this project may affect and are likely to adversely affect this species.

No-Build Alternative

There would be no change from existing conditions with the No-Build Alternative. Therefore, there would be no effects to threatened and endangered species.

Avoidance, Minimization, and/or Mitigation Measures

Kit foxes in Bakersfield have been found to move along linear habitat features (canals, railway rights-of-way, the Kern River corridor, roads), going from one area of open space to another. Maintaining existing movement corridors along existing linear habitat features, such as the Kern River, Friant-Kern Canal, and Carrier Canal would be a minimization measure.

Measures to reduce potential impacts to the Swainson's hawk, tricolored blackbird, and San Joaquin kit fox during construction are discussed in Section 3.6, Construction Impacts. The following mitigation measures would apply to all alternatives.

Mitigation Measures

B-3 Special Status Plant Species: Prior to project groundbreaking, a U.S. Fish and Wildlife Service-approved biologist(s) shall conduct updated protocol-level botanical surveys within the project footprint during the appropriate blooming periods for the following four species: the California jewelflower, the Kern mallow, the San Joaquin woollythreads, and the Bakersfield cactus. Surveys shall be conducted in accordance with the most current protocols accepted by the U.S. Fish and Wildlife Service.

To the greatest extent practicable, efforts shall be made to avoid these species during project design. If one of these species is observed within the impact area at Stockdale Highway and State Route 43 and it cannot be avoided, Caltrans shall initiate formal consultation on those plants with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife to determine any appropriate conservation measures for those species. The mitigation shall include payment to an in-lieu fee program; preservation or enhancement of occupied habitat for the species; or collection of seed within the impact area and planting within a mitigation site with the appropriate microhabitat for this species. A detailed mitigation and monitoring program shall be prepared by a qualified biologist and approved by the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife.

B-4 S*an Joaquin kit fox:* Measures have been developed from standard recommendations described in the *USFWS Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011b), Biological Opinion Service file number 08ESMF00-2013-F-0373 (December 20, 2013), 08ESMF00-2013-F-0373-R001 (February 24, 2015 and amended on July 30, 2015). In addition, project design changes have been identified to reduce impacts on the kit fox and have been incorporated into the design plans for the project. The main objective of project design changes is to maintain opportunities for kit foxes to cross over the road surface while reducing the potential for unintentional vehicle strikes. Construction of the new roadway would also incorporate several features to allow continued kit fox movement, including maintaining existing movement corridors along existing linear habitat features. These features include:

- Permeable fencing shall be installed along the proposed right-of-way in all areas where there is known San Joaquin kit fox activity and lower traffic speeds/volumes. Permanent exclusionary fencing shall be installed along the proposed right-of-way in high-density residential areas and/or in areas with higher traffic speeds/volumes. In areas in

need of new permeable fencing, at least one design option featured below shall be adopted to provide the San Joaquin kit fox with passage and movement opportunities, and to minimize the potential to disrupt species movement and habitat fragmentation of the project area: (1) elevate the bottom of the fence 5 inches above ground to allow unobstructed movement by San Joaquin kit fox under the fence; (2) install ground-level 8-inch- by 8-inch-wide gaps 100 feet apart along the length of the fence to allow for San Joaquin kit fox movement at regular intervals along the right-of-way; and (3) install fencing with a minimum mesh size of 3½ by 7 inches, preferably 5 by 12 inches, to allow unlimited movement through the fence.

- Curbed medians shall be used as part of the project design and their height shall be no greater than ten inches. Either 6-inch-high curbed medians with low vegetation (that is, less than 6 inches) or 10-inch-high unvegetated curbed medians shall be constructed so as not to obstruct the visual field of the San Joaquin kit fox near the roadway. Curbed medians less than 10 inches in height and which require landscaping shall be planted with low-level vegetation (i.e., less than 6 inches tall at maturity), or be mowed frequently to prevent overgrowth and provide an unobstructed line of sight for the species, or shall have gaps installed measuring no less than 4-feet-wide every 12 feet in areas landscaped with trees and shrubs. If required, landscaping shall be designed in conjunction with the curbed median design in order to allow unobstructed visibility to the San Joaquin kit fox and to maintain and/or enhance opportunities for movement across the roadway.

- Median barriers will be required in some areas of the project for the purpose of public safety. Additionally, reinitiated Biological Opinion 08ESMF00-2013-F-0373-R001 was issued by the Fish & Wildlife Service on February 24, 2015 and amended on July 30, 2015. Reinitiated Biological Opinion 08ESMF00-2013-F-0373-R001 (July 30, 2015) removes the requirement to install modified k-rail barrier on State Route 58 from post mile R52.3 to post mile R55.4 and on State Route 99 from post mile 22.1 to post mile 22.7. In other portions of the project, the Caltrans-designed modified median barrier type 60/S shall be used. Caltrans type 60/S design previously has been utilized in other projects (e.g., reinitiated Biological Opinion for the State Route 99 Goshen to Kingsburg 6-Lane Project, in Tulare and Fresno Counties; Service File number 81420-2009-F-0752) and includes 9-inch radius openings (semi-circular openings 9 inches high by 18 inches) spaced every 140-150 feet to allow passage by the San Joaquin kit fox. Maintaining permeability in this manner shall also reduce the potential to disrupt species movement and connectivity in the project area. During final design, Caltrans will verify the distance between k-rail barriers, diameter of hole cases, and dimensions of concrete

wildlife passageways, known as Type L passageways, to minimize the effects to the San Joaquin kit fox.

- No less than 30 but no more than 60 days prior to road construction, a U.S. Fish and Wildlife Service-approved biologist(s) shall conduct pre-construction surveys for San Joaquin kit fox dens both in the project footprint and within 200 feet of the footprint (project footprint plus temporary construction zone), inclusive of any utilities relocations. A report and map of known and potential kit fox dens shall be submitted to the U.S. Fish and Wildlife Service prior to the start of ground disturbance and/or construction activities. Repeat clearance surveys shall be conducted no more than 14 days before construction or after any delays in construction of over 2 weeks. Any new known or potential San Joaquin kit fox dens identified in the interim shall be reported to the U.S. Fish and Wildlife Service in a report and map. If no new known or potential San Joaquin kit fox dens are identified, an internal record shall be maintained that includes the survey date, the designated biologist conducting the survey, and the general survey findings. The records will be submitted to the U.S. Fish and Wildlife Service upon request.
- Disturbance to all San Joaquin kit fox dens shall be avoided to the maximum extent possible. If known or potential dens are identified within the project footprint during 60-day and/or 14-day pre-construction surveys, Caltrans shall request to monitor and excavate those dens that are expected to be affected directly by the project and cannot be avoided. Active dens shall not be excavated during the natal season (January 1–June 30). The U.S. Fish and Wildlife Service-approved biologist(s) shall monitor potential dens for three consecutive nights using tracking medium and/or a remote sensor camera, shall submit monitoring results in a report to the U.S. Fish and Wildlife Service, and also shall oversee the hand excavation of dens that have been determined to be vacant following approval by the U.S. Fish and Wildlife Service. The U.S. Fish and Wildlife Service-approved biologist(s) also shall submit results of the den excavation and exclusion activities in a report to the agencies. The following measures shall be applied to dens that are not excavated:
    - Dens that are identified during pre-construction surveys of the project footprint boundary and a 200-foot area outside of the project footprint shall be monitored and protected by an exclusion zone around dens, as measured outward from the entrance or cluster of entrances of each den. Potential and atypical dens within 50 feet of the project footprint shall be protected with a 50-foot zone delineated by flagged stakes. Known dens within 100 feet of the project footprint shall be protected with a 100-foot zone. To ensure protection, the exclusion zone shall be demarcated by fencing/flagging that does not prevent access to the den by the San

Joaquin kit fox. Acceptable designs shall have openings for San Joaquin kit fox ingress/egress but shall keep humans and equipment out, e.g., wooden posts connected with caution tape; orange construction cones; orange construction fencing with a mesh size less than 2 inches in diameter (to prevent the San Joaquin kit fox from becoming entangled in the fencing) with gaps every 50 feet. Fencing/flagging shall be maintained until all construction-related disturbances have been terminated. At that time, all fencing/flagging shall be removed to avoid attracting subsequent attention at the dens.

- If natal/pupping dens are discovered either within the project footprint or within 200 feet of the project footprint, Caltrans shall immediately notify the U.S. Fish and Wildlife Service.

- The U.S. Fish and Wildlife Service-approved biologist(s) shall conduct a worker environmental awareness program for all construction crews prior to ground-disturbing activities, with the purpose of informing all crew members of the potential for the San Joaquin kit fox to occur on site, the effects on the species from construction activities, how to minimize effects to the species, and the penalties for non-exempted take. The training shall include, at a minimum (1) special-status species identification and a description of suitable habitat for the species; (2) avoidance of environmentally sensitive areas; and (3) measures to implement in the event that this species is found during construction. The training shall be repeated to all new crew members working in San Joaquin kit fox habitat. Crew members shall sign an attendance sheet and confirm that they understand the protection measures and construction restrictions. Training materials and records of attendees shall be submitted to the U.S. Fish and Wildlife Service.
- The U.S. Fish and Wildlife Service-approved biologist(s) shall monitor road construction on a daily basis and shall verify that construction complies with the measures laid out in the Biological Opinion (Service file numbers 08ESMF00-2013-F-0373 [December 20, 2013] and 08ESMF00-2013-F-0373-R001 [February 24, 2015 and amended on July 30, 2015]). The U.S. Fish and Wildlife Service-approved biologist(s) shall maintain a log of daily monitoring notes that can be summarized and transmitted to the U.S. Fish and Wildlife Service by request.
- Upon completion of project construction, all areas subject to temporary ground disturbance, including storage and staging areas, shall be restored to original grade and contour. Appropriate methods and plant species used to revegetate shall be determined on a site-specific basis in consultation with revegetation experts.

- To minimize opportunistic predatory effects to the San Joaquin kit fox, the city and Caltrans shall condition contracts with contractors to require that trash be removed at least once daily from project areas and disposed of off site so as not to attract predator species like coyotes (*Canis latrans*) and bobcats (*Lynx rufus*) to the project area.
- The city and Caltrans shall condition contracts with contractors to require that contained water sources, which are inaccessible to the San Joaquin kit fox (e.g., elevated water trucks), be used for dust control and other construction water activities.
- The U.S. Fish and Wildlife Service-approved biologist shall meet weekly with the resident engineer and contractor to review the week's upcoming ground-disturbing activities, including any possible changes from the project as analyzed in the Biological Opinion (Service file numbers 08ESMF00-2013-F-0373 [December 20, 2013] and 08ESMF00-2013-F-0373-R001 [February 24, 2015 and amended on July 30, 2015]), and the avoidance and minimization measures. These meetings shall be documented and reported to Caltrans every two weeks, Caltrans will in turn report to the U.S. Fish and Wildlife Service every two weeks. Should the incidental take exceed the amount agreed upon in the Biological Opinion (08ESMF00-2013-F-0373 [December 20, 2013] and 08ESMF00-2013-F-0373-R001 [February 24, 2015 and amended on July 30, 2015), Caltrans must immediately reinitiate formal consultation.
- If incidental take in the form of harassment, harm, injury, or death is likely, Caltrans shall immediately contact the U.S. Fish and Wildlife Service to report the encounter. If an injured or dead individual of a listed species is found, Caltrans shall follow the steps outlined in the *Salvage and Disposition of Individuals* section of the Biological Opinion (08ESMF00-2013-F-0373 [December 20, 2013] and 08ESMF00-2013-F-0373-R001 [February 24, 2015 and amended on July 30, 2015).
- A post-construction report detailing compliance with the project design criteria and proposed conservation measures shall be provided to the U.S. Fish and Wildlife Service within 60 calendar days of completion of the project. The report shall include: (1) dates of project groundbreaking and completion; (2) pertinent information concerning success of the project in meeting the conservation measures; (3) an explanation of failure to meet such measures, if any; (4) known project effects on San Joaquin kit fox, if any; (5) observed instances of injury to or mortality of the San Joaquin kit fox, if any; (6) the number of dens lost, if any; and (7) any other pertinent information. Any new sightings of the San Joaquin kit fox or its dens shall be reported to the California Natural Diversity Database.

- In areas of known San Joaquin kit fox activity and high traffic volumes and/or speeds, existing San Joaquin kit fox movement corridors like the canal channels and the Kern River, as well as railroad right-of-ways (e.g., BNSF), shall be preserved through the use of bridges and/or culverts to facilitate crossings. Some segments of the canals under the new roadways shall be converted from trapezoidal channels to box culverts; other segments of the canals with existing box culverts shall be extended. Toe-of-road fill and bridge support walls shall be maintained and new walls will be designed no less than 20 feet from the centerlines of canal access roads and railroad.
    - An elevated bridge currently exists where the Westside Parkway crosses the trapezoidal channel of the Friant-Kern Canal. Species access will continue to be provided along an elevated access road located parallel to the canal.
    - An above-grade bridge will be constructed over the trapezoidal channel of the Stine Canal. This will allow the species to move freely below the roadway.
    - An above-grade bridge (westbound Mohawk Street off-ramp) will be constructed over the Cross Valley Canal, which exists as a double box culvert. The Kern River corridor is located proximate to the canal and so it provides existing access for the species in the area; no additional crossing features are proposed at this canal site.
    - Two design options are proposed for the location where the new roadway will cross the Carrier Canal: (1) box culvert – if this design is chosen, a crossing structure (with proposed 5 x 5-inch mesh size and 10-inch diameter escape pipes within a 60-inch diameter crossing culvert) will be installed to connect the access roads on the north side of the canal; (2) bridge – if this design is chosen, no additional crossing features will be necessary since the elevated bridge above the trapezoidal canal will allow the species to move freely below the roadway.
- Caltrans shall verify that the city compensates for the permanent loss of 10.26 acres and temporary disturbance to 67.86 acres of habitat consisting of non-native grassland, riparian woodland/Great Valley cottonwood riparian forest, ruderal/disturbed areas, desiccated waterways, detention basins, and agricultural land suitable for the San Joaquin kit fox by purchasing 105.43 acres (using a 3:1 compensation ratio for permanent effects and 1.1:1 compensation ratio for temporary effects) through the Metropolitan Bakersfield Habitat Conservation Plan. Prior to construction, the limits of affected habitat acreage by vegetation type shall be verified and delineated on a map, and submitted for approval to the U.S. Fish and Wildlife Service. This shall be done prior to its submittal to the city Planning Department for fee payment.

According to the Biological Opinion 08ESMF00-2013-F-0373-R001 (February 24, 2015), Avoidance and Minimization Measures to minimize the effects on San Joaquin kit fox from the installation of k-rail on-site included:

- Caltrans will install modified k-rail barriers that facilitate San Joaquin kit fox movement and passage across the roadways. Openings in the barriers will be spaced every seven segments of k-rail; segments are 20-ft. long, so intervals will be spaced approximately every 140-150 feet. One, or a combination of the following, of two design options will be implemented. Designs include:
    - A Modified Type K segment may include a minimum 8-inch diameter hole case or bored into a typical rail segment.
    - A Type L passageway that offsets a segment of k-rail via a gap measuring between 8-inches and 5-feet.

- Caltrans acknowledges that the aforementioned designs are only temporary solutions for addressing the issues of roadway permeability and wildlife passage; over the long-term. Additionally, k-rail will only be placed in portions of the project. Reinitiated Biological Opinion 08ESMF00-2013-F-0373-R001 was issued by the Fish & Wildlife Service on February 24, 2015 and amended on July 30, 2015. Reinitiated Biological Opinion 08ESMF00-2013-F-0373-R001 (July 20, 2015) removes the requirement to install modified k-rail barrier on State Route 58 from post mile R52.3 to post mile R55.4 and on State Route 99 from post mile 22.1 to post mile 22.7.

During final design, Caltrans will verify the distance between k-rail barriers, diameter of hole case, and dimensions of Type L passageway, to minimize the effects to the San Joaquin kit fox.

Caltrans will commit to conducting crash-test and safety studies on alternative design options in order to provide the most effective solutions for addressing San Joaquin kit fox movement across the roadscape.

Project design changes, when implemented together, are expected to reduce the potential for adverse effects on the kit fox. Project design shall be re-evaluated and adjusted as appropriate during the final project design phase and, if changes are made, plans shall be submitted for review and approval to the U.S. Fish and Wildlife Service.

- Caltrans shall include Species Provisions that include avoidance and minimization measures of the Biological Opinion (Service file numbers 08ESMF00-2013-F-0373 [December 20, 2013] and 08ESMF00-2013-F-0373-R001 [February 24, 2015 and amended on July 30, 2015), when soliciting contractor bid packages.

The actions to be applied during construction are identified in Section 3.6, Construction Impacts, as part of Mitigation Measure CI-24. Mitigation CUM-1, provided in the Cumulative Impacts discussion, also addresses the San Joaquin kit fox.

3.3.6 Invasive Species

Regulatory Setting

On February 3, 1999, President Bill Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration guidance issued August 10, 1999 directs the use of the State's invasive species list, currently maintained by the California Invasive Species Council to define the invasive plants that must be considered as part of the National Environmental Policy Act analysis for a project.

Affected Environment

Information in this section came from the *Natural Environment Study* (April 2015) for the project.

Although non-native species (non-native grasses and ornamental species) occur throughout the biological study area, invasive species are not prevalent within the biological study area. One listed noxious weed species from the California Department of Food and Agriculture Noxious Weed List (2010) and five listed invasive weed species from the California Invasive Plant Council List (2006) were identified in the biological study area: wild turnip (*Brassica toumefortii*), foxtail chess (*Bromus madritensis* ssp. *rubens*), cheat grass (*Bromus tectorum*), halogeton (*Halogeton glomeratus*), English ivy (*Hedera helix*), and Mediterranean tamarisk (*Tamrix ramosissima*). No species on the Federal Weed List (U.S. Department of Agriculture Natural Resource Conservation Service 2010) were identified within the biological study area.

Environmental Consequences

Build Alternatives

Common to All Build Alternatives

Invasive species can be introduced into an area through the type of landscaping plants used or from remnants of plant materials (seeds or portions of plants) on construction equipment. As a standard practice, Caltrans has a biologist review the list of plants that are proposed for erosion control and landscaping to ensure the list does not include any species on the California list of invasive species. Additionally, all equipment and materials are inspected for the presence of invasive species.

No-Build Alternative

There would be no change from existing conditions with the No-Build Alternative.

Avoidance, Minimization, and/or Mitigation Measures

The standard condition to minimize invasive species during construction is identified in Section 3.6, Construction Impacts.

3.4 Relationship Between Local Short-Term Uses of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity

Common to All Build Alternatives

The project would provide freeway/roadway improvements that have been identified in state and city planning that considered the need for present and future traffic requirements with the context of present and future land use developments in the metropolitan Bakersfield area, the region, and the state. Local short-term impacts and the use of resources to build the project would support the long-term productivity of the metropolitan Bakersfield area.

The build alternatives would have similar impacts and are discussed separately only if an impact would not apply to all three build alternatives. The following local short-term impacts are expected from the project:

- ***Displacement of Households and Businesses.*** Relocation of these uses would be required, resulting in disruption of residents, neighborhoods and businesses. This would result in changes to community character and potential impacts to neighborhood cohesion.
- ***Construction Traffic Impacts.*** Construction impacts related to travel lane closures and traffic detours would result in temporary inconveniences and lost productivity due to delays.
- ***Construction Air Quality and Noise Impacts.*** Areas next to construction activities would be exposed to construction emissions and increased noise levels.
- ***Temporary Natural Habitat Displacement.*** Construction activities would displace natural habitat that is used by both common and sensitive species; long-term adverse effects are not expected.
- ***Increased Energy Usage During Construction.*** Energy use would be higher than normal from the use of construction equipment and manufacture/fabrication of construction materials.
- ***Parkland Impacts.*** Permanent displacement of 6.28 acres of the Kern River Parkway would occur with Alternative A associated with construction of the bridge viaduct structures. Alternative C would result in the permanent displacement of 1.95 acres of the developed portion and 1.32 acres of the undeveloped portion of Saunders Park. Replacement parkland and facilities would be provided at Saunders Park.
- ***Visual and Aesthetic Impacts.*** Construction activities could generate visual and aesthetic images that are generally visually disruptive and may be undesirable to

some affected individuals or groups. Demolition of acquired properties before the roadway is built could result in vacant lots interspersed in business areas and neighborhoods. However, long-term effects from construction activities and vacant parcels are not expected.

Compliance with standard conditions and implementation of minimization and mitigation measures would help to reduce these impacts. These measures, which are identified in each section, include the phased acquisition of property, development of a Traffic Management Plan, and compliance with regulations designed to reduce construction-related impacts. Though the impacts would be considered short term when compared to the long-term productivity of the project, the duration of construction (about 30 months) may be viewed as a prolonged inconvenience to the residents and businesses in the immediate area of construction.

Short-term benefits would also result from the project. This would include an increase in jobs and revenue in the local economy from the construction activities.

The following long-term impacts are expected from the project:

- ***Displacement of Households and Businesses***. All of the build alternatives would result in the displacement of homes and businesses. In addition, Alternatives A and B would result in substantial long-term disruption to the established Westpark neighborhood; Alternative C would not have this effect.
- ***Long-Term Loss of Habitat for Sensitive Species.*** The project would remove habitat used by the San Joaquin kit fox and burrowing owl.
- ***Change in Visual Character.*** The project would introduce a major transportation corridor, including elevated structures and retaining walls, in areas that currently do not have this element. This would be more pronounced with Alternatives A and B.
- ***Potential Impact to Archaeological Resources.*** Construction activities could destroy previously unidentified buried resources.
- ***Potential Impact to Paleontological Resources.*** Construction activities could destroy previously unidentified buried resources.
- ***Increased Noise.*** Before abatement, noise levels next to the roadway would be louder than what now exists in these locations due to the increased traffic volumes.

The project would provide long-term benefits both in and beyond the metropolitan Bakersfield area. The following long-term benefits are expected from the project:

- ***Improved Traffic Circulation.*** Once operational, the project would reduce congestion and decrease travel times through the urbanized areas of Bakersfield. The project would provide an additional east-west connection that crosses the Kern River, allowing for better distribution of traffic on the roadway network. This would benefit the community and support the circulation demands of future

development in the project area. Traffic volumes on the shared portion of State Route 58 and State Route 99 would be less than what would occur under the No-Build Alternative.

- ***Reduce Truck Trips on Local Roadways.*** With a high-speed freeway, the Centennial Corridor would attract truck traffic that currently uses local roadways, such as the Rosedale Highway portion of State Route 58. This would improve operation of the local roadways.
- ***Improve Interregional Goods Movement.*** State Route 58 provides a link to other state routes and interstate roadways that are used by trucks transporting goods beyond the local area. Providing an improved route would allow for more efficient goods movement.

No-Build Alternative

The No-Build Alternative would not have construction impacts or use local resources, nor would it enhance long-term productivity. This alternative would not provide long-term benefits. Congestion would increase as the population of Bakersfield grows.

3.5 Irreversible and Irretrievable Commitments of Resources that Would be Involved in the Proposed Project

Common to All Build Alternatives

The impacts of the build alternatives would be similar to each other because they are all providing similar types of improvements. Construction would require the commitment of natural, physical, human, and fiscal resources.

The build alternatives would demolish existing residential and non-residential buildings. Loss of existing developed properties and use of the land that would be acquired and added into the freeway/roadway right-of-way would be an irreversible and long-term commitment of this resource. As discussed in Section 3.1.4.2, Relocation and Property Acquisition, the demolished uses (both residential and business uses) would likely be relocated within the metropolitan Bakersfield area. Adequate replacement opportunities are available, but this would result in a commitment of available resources as replacement opportunities. And, though the number of replacement structures needed is a very small percentage of the projected long-term growth for the region, the relocated uses would reduce the amount of available inventory. New development would be needed to serve the projected growth for the region, so the loss of the current inventory may encourage new development, which would also require a commitment of similar non-renewable resources.

Construction of the build alternatives would also require use of fossil fuels, water, and construction materials such as concrete cement, aggregates (sand and gravel), asphalt, reinforcement bars, paint, fencing, pipes, and other materials. These materials are generally not retrievable once they have been used to build a road. These same resources are also used in other types of development, such as residential and

commercial developments. Aggregates used for building the roads are a non-renewable resource. The California Department of Conservation's California Geological Survey estimates the 50-year demand for aggregate resources in California and the amount of resources permitted for mining. In 2006, it was estimated that about 32 percent of the 50-year demand was currently permitted. In the Bakersfield region, about 46 percent of the 50-year demand was provided for based on current permits. Though it is a commitment of non-renewable resources, the project would require a very small amount compared to the resources available.

Labor would be needed to make construction materials, demolish existing structures and infrastructure, and build the proposed improvements. Labor is not in short supply, and use of this labor would not have an adverse effect upon its continued availability in the city of Bakersfield or Kern County.

The project would also require a substantial one-time expenditure of local, state, and federal funds; the funds are not retrievable. Anticipated savings in energy consumption by vehicles, travel time, and a reduction in accidents would offset the financial commitment. In addition to the costs of construction and right-of-way acquisition, the project would also incur the costs for roadway maintenance, including pavement, roadside landscaping, litter/sweeping, signs and markers, electrical and storm maintenance. This long-term commitment would be balanced by the transportation benefits of the project.

Commitment of these resources would benefit residents and businesses in the metropolitan Bakersfield area, the Central Valley, and the state through an improved transportation system. These benefits would consist of improved accessibility, which is expected to outweigh the irreversible and irretrievable commitment of resources.

No-Build Alternative

The No-Build Alternative would require no commitment of resources because no changes to the existing environment would occur.

3.6 Construction Impacts

Affected Environment

To understand the temporary construction impacts associated with the Centennial Corridor build alternatives, a typical construction sequence is provided.

Construction Sequence

Project construction would commence after the city of Bakersfield and County of Kern complete acquisition of all the right-of-way for the project. The construction sequence would begin with site clearing of all improvements, which includes demolition of buildings and structures, followed by utility relocation, roadway construction, and landscaping/finishing work. A construction schedule of about 30 months is expected to complete the project, as shown in Table 3.48. The construction schedule is currently expected to extend from 2016 to 2018.

A Traffic Management Plan would be developed to reduce the impacts of traffic congestion and detours during construction. Except for short-term closures to install bridge falsework (temporary supports while the bridge is being built), most of the arterial roadways and most secondary streets crossing the construction corridor would remain open during construction. BNSF Railway operations would not be interrupted or delayed during construction. Some nighttime work would be planned on busy thoroughfares to minimize traffic disruption, especially when temporary lane or road closures are required.

The typical construction sequence for a project of this type and scale is described below for the purpose of impact assessment. The actual construction process would be determined by the contractor in accordance with requirements of the construction contract. Construction would likely be done in phases to minimize impacts to local residents and businesses. The timing of construction in certain areas, such as in the vicinity of active bird nests, would have to be scheduled in accordance with the seasonal restrictions, as described below under *Avoidance, Mitigation and Minimization Measures*.

The contractor would require temporary laydown and staging areas for field trailers, storage and equipment, and construction-related activities within the vicinity of the project corridor. The contractor may propose to set up temporary rock-crushing equipment on the construction site to recycle concrete and asphalt rubble for use as base material to be placed under the street pavement. The contractor may also propose to set up and operate an on-site batch plant to prepare Portland cement concrete or hot-mix asphalt. Soil disposal would be undertaken according to the regulatory requirements. In the event the borrow/fill is needed, the contractor would identify the borrow sites.

Step 1: Mobilization and Staging

The first step in the construction process involves contractor preparation of the site for construction activities. This would be done after all required preconstruction surveys are conducted and permits are obtained.

Step 2: Site Clearing and Demolition

Under this step, the roadway alignment would be cleared of conflicting structures and vegetation to prepare the site for construction. Asphalt and concrete from roadways, parking lots, and walkways would be removed and disposed.

Step 3: Utility Relocation

Electrical transmission towers, oil wells, canal culverts, and other existing utilities that would interfere with construction would be removed and relocated, or encased for continuing service, by the utility provider or their contractors. Each utility would be restored or replaced in accordance with design plans, and within close proximity to its former location to allow access in conjunction with the new highway facility. Not all utility relocations would occur at the beginning of the project; some could be done at a later stage of construction, as appropriate.

Table 3.48 Typical[1] Construction Sequencing

Step	Activity	Months																												
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Mobilization and Staging																														
2	Site Clearing and Demolition																														
3	Utility Relocation																														
4	Roadway Construction (including structures)																														
5	Landscaping and Finish Work																														

1. Actual construction process to be determined by the contractor in accordance with requirements of the construction contract.
Source: Caltrans, 2013.

Step 4: Roadway Construction

Roadway construction activities would involve site excavation, grading, and pavement installation. Bridges, overcrossings, undercrossings, sound walls, and retaining walls along the roadway alignment would be built in parallel with the roadway construction. Traffic signals would also be installed.

Step 5: Landscaping and Finish Work

Work under this step would include installation of irrigation systems and plant materials, lane striping, signage installation, and removal of all temporary structures.

Environmental Consequences

Impacts to various environmental resources as a result of project construction are discussed below. Unless noted, the impacts identified would be the same for all three build alternatives. Applicable measures to reduce these potential impacts are provided below under Avoidance, Minimization and/or Mitigation Measures.

Parks and Recreation

With Alternative A, indirect impacts associated with noise may diminish the enjoyment of park use next to construction activities at the Kern River Parkway, including the Kern River Multi-Use Trail, Hoey Trail, and equestrian trails. These impacts would be inconveniences, but would not substantially alter the use of the park.

Alternative B would result in indirect effects (such as noise) on Centennial Park and along the Kern River Multi-Use Trail, Hoey Trail and equestrian trails on the south and north sides of the Kern River during construction, but would not substantially alter use of the park.

Alternative C would result in indirect noise and air emission impacts that would affect the Kern River Multi-Use Trail, Hoey Trail and equestrian trails on the south and north sides of the Kern River during construction. These impacts would be inconveniences and would not substantially alter the use of the park.

Alternative C would provide replacement parkland and recreational improvements at Saunders Park. Though the improvements would be made before there would be any displacement of park uses, there would be some potential disruption from construction activities when the new park facilities are being built and the old facilities are being cleared. Indirect impacts associated with noise may diminish the enjoyment of park use next to construction activities at Saunders Park. These impacts would be inconveniences, but would not substantially alter use of the park.

Farmlands

Intersection improvements at Stockdale Highway and State Route 43 for any alternative would result in temporary construction impacts to about 4 acres of Prime Farmland and to about 0.5 acre of 1 parcel under a Williamson Act contract. The parcel under a Williamson Act contract is located to the southwest of the intersection.

A temporary construction easement is required for the temporary construction impacts, which include construction equipment staging and relocating irrigation lines. Areas affected by the temporary construction impacts would be restored and usable when the improvements are completed.

Community Impacts

During construction of the Centennial Corridor, detours and delays would be experienced by local residents, particularly to those living in neighborhoods next to the selected build alternative. Access within the study area and other parts of Bakersfield would be maintained so no area would be isolated by construction activity. At times, this may mean that local traffic may have to use alternate routes to avoid construction zones, forcing residents of the area to use less direct routes to reach their preferred destination. These impacts would be temporary.

Although access to some neighborhoods would be disrupted and detoured for short periods during construction, access would continue to be available to all businesses and residences, except in cases where such buildings would be displaced by the project and would be acquired as part of the right-of-way needs.

Construction impacts would include temporary increases in noise and dust, visual changes, and traffic congestion related to temporary road closures or detours. These impacts would be temporary and would not disproportionately affect a low-income or minority population because everyone in the project area would experience these impacts.

With implementation of community impacts standard conditions SC-CI-1 through SC-CI-4, under the Avoidance, Minimization, and Mitigation Measures in this section, adverse impacts would be minimized.

Utilities/Emergency Services

Utilities

Several utility facilities and lines would be removed and relocated during project construction. This would be done through standard engineering practices to avoid service interruptions. With implementation of standard conditions SC-CI-5 and SC-CI-6, under the Avoidance, Minimization, and Mitigation Measures in this section, adverse impacts would be minimized.

Emergency Services

The build alternatives would result in short-term construction impacts to emergency services; occasional travel delays would occur due to traffic detours, off-peak lane closures, shoulder closures, and lane shifts.

Emergency vehicle access for police, fire protection, and emergency services would be maintained at all times. Law enforcement, fire, and emergency services could experience slightly increased response times because of construction-related road closures, temporary detours, and increased traffic congestion. It is not expected that

temporary road closures would result in more than 1 mile of out-of-direction travel because nearby alternative routes would be maintained and identified as part of the detour plans.

With implementation of construction utilities/emergency services standard conditions SC-CI-5 through SC-CI-7, under the Avoidance, Minimization, and Mitigation Measures in this section, adverse impacts would be avoided or minimized.

Traffic and Transportation/Pedestrian and Bicycle Facilities

The project would temporarily affect motoring vehicular, bicycle, and pedestrian traffic during construction. The potential for traffic disruption would mostly exist where bridge crossings would be built, at connections to existing road and highway facilities, and where ramp work would be done, including ramp closure work. The duration of construction travel-time delays could be expected to last from a few days to more than a year in various construction zones and may require motorists to adjust their schedules to accommodate longer travel times. Based on the temporary nature of the roadway closures, implementation of a Traffic Management Plan and public outreach program (see Standard Conditions SC-CI-8 and SC-CI-9, under the Avoidance, Minimization, and Mitigation Measures in this section) would minimize impacts related to increased travel time and distance during construction.

Construction within the public right-of-way would also affect transit service on a temporary basis, from delays due to traffic detours and work zone operations. Some bus routes would also be affected, and coordination would be necessary to arrange for temporary relocation to nearby locations.

Temporary construction easements would be required at various roadway segments under construction to accommodate construction activities. Access in and out of any residential homes and local businesses would not be blocked, and obstructions would be minimized to the extent possible. About 10 percent of the overall parking space acquisitions described in Section 3.1.6, Traffic and Transportation/ Pedestrian and Bicycle Facilities, of this document would be temporarily required for construction easement purposes and would be restored after construction.

The Kaiser Health Care Center at 3501 Stockdale Highway expressed concern during the public review period of the draft environmental document regarding direct impacts to the operations of the medical facility. In response to Kaiser’s concerns on the loss of parking, the Alternative B (Preferred Alternative) alignment has been shifted away from the medical facility to avoid the loss of parking stalls during construction.

On-street parking would be restricted in and surrounding work areas to accommodate construction equipment and materials. Where it exists, on-street parking would be restored after construction is completed.

Short-term bicycle and pedestrian detours, likely to include bike lane re-routing on affected arterials, would occur during construction. Implementation of both the Traffic Management Plan and public outreach program throughout the construction period would minimize impacts in this regard.

With implementation of standard conditions SC-CI-8 through SC-CI-10, under the Avoidance, Minimization, and Mitigation Measures in this section, impacts during project construction would be minimized and not considered adverse.

Visual/Aesthetics

Construction activities would temporarily alter the visual and aesthetic environment from the vantage point of homes and other properties surrounding the construction site. These images, including the presence and operation of construction equipment (such as heavy trucks, cranes, or excavators), would generally be visually disruptive and may be undesirable to some affected individuals or groups.

During right-of-way acquisition, which is expected to take about two years, buildings and homes would be acquired and demolished by the city of Bakersfield. To enhance safety, minimize graffiti, and reduce vagrancy problems associated with vacant buildings, the city would: 1) rent the homes and businesses on a month-to-month basis to keep them occupied as long as possible in advance of demolition; or 2) demolish each building as soon as possible after acquisition. This latter option would result in vacant lots being interspersed in business areas and neighborhoods. With either option, proper management of acquired property is a key consideration with regard to avoiding visual impacts to the remaining uses. Temporary visual impacts would be minimized by adhering to Caltrans Standard Specifications for construction, such as the use of opaque temporary fencing around construction staging areas. Also, sound walls would be constructed first, wherever possible, allowing them to more quickly mitigate any visual or aesthetic effects by partially or fully obstructing views from surrounding properties sooner.

Cultural Resources

Though there are no known archaeological sites in the project area, construction activities have the potential of disturbing or destroying unknown sites that are currently buried. Implementation of standard conditions SC-CI-11 and SC-CI-12 and Minimization Measure CI-1, under the Avoidance, Minimization, and Mitigation Measures in this section, will help minimize impacts to cultural resources during construction. Should a previously unidentified and/or unevaluated archaeological resource or resource segment that meets any of the eligibility criteria for the National Register of Historic Places be discovered or impacted during project activities and adverse effects pursuant to 36 Code of Federal Regulations 800.5 cannot be avoided, actions shall be taken in compliance with 36 Code of Federal Regulations 800.13 and the terms of the First Amended Programmatic Agreement (2014).

Hydrology and Floodplain

The project would include design components intended to minimize hydrological and floodplain impacts during construction. For example, the existing drainage flow pattern would be retained to the extent feasible. During rough grading, infiltration basins would be excavated to provide controls for temporary storm water runoff. Also at this stage of construction, culvert drainage facilities would be installed underneath alignment embankments, where required, to maintain existing stormwater runoff patterns in the study area. Stormwater runoff from the construction site would be controlled within the site so that construction-related drainage would not overflow onto adjacent properties or public streets and would not adversely affect existing drainage systems. Following work within the Kern River channel, river bottom contours would be restored to pre-existing conditions.

The project would use appropriate best management practices designed to provide temporary erosion and sediment control as well as control for potential pollutants other than sediment. These include the following construction-related best management practices for roadway projects: soil stabilization, sediment control, wind erosion control, tracking control, non-stormwater management, and waste management and materials pollution control. As a result, these best management practices would minimize stormwater and non-stormwater impacts during construction. Site-specific best management practices would be evaluated in the Storm Water Pollution Prevention Plan. Best management practices would also need to be implemented to keep excavation work outside the channel area with flowing water. If flowing water in the Kern River needs to be channelized so the water does not interfere with excavation work, a Surface Water Diversion Plan for approval by the Regional Water Quality Control Board and U.S. Army Corps of Engineers would be necessary.

Compliance with existing regulations would apply to project design and construction that would minimize construction impacts to floodplains as presented in Section 3.2.1, Hydrology and Floodplain (Standard Condition SC-FP-1).

Water Quality and Storm Water Runoff

Construction activities could contribute pollutants to receiving water bodies (see Figure 3-29) from runoff and discharges. Pollutants that could be generated by construction activities include vehicle fluids (oils, grease, and coolant), cement and masonry products, landscaping-related products, and excavation materials. Some pollutants can lead to turbidity (cloudiness), which blocks light transmission and penetration, reduces oxygen levels, affects the food chain, and creates changes in water temperature. Pollutants in stormwater could also cause chemical degradation and aquatic toxicity in the receiving waters, adversely affecting the survival of plant and animal species, their populations, and the ecosystem structure.

Compliance with the Construction General Permit (Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ and 2012-0006-DWQ), would minimize construction water quality impacts. In addition, construction site best management practices that would be included in the Storm Water Pollution Prevention Plan would be implemented to minimize pollutants in the stormwater during project construction.

A risk analysis was done for the project based on characteristics of the project area, construction dates, and receiving waters. The analysis showed that the Kern Delta watershed sediment risk factor is low and the receiving water risk factor is low. The combined risk level of the project is ranked as Level 1, which requires the discharger to prepare and implement a Storm Water Pollution Prevention Plan and conduct visual monitoring and record keeping per Attachment C of the Construction General Permit.

With implementation of standard conditions SC-CI-13 through SC-CI-18, under the Avoidance, Minimization, and Mitigation Measures in this section, water quality and storm runoff construction impacts would not be adverse.

Geology/Soils/Seismic/Topography

As described in Section 3.2.3, the soils encountered in the borings indicate that the upper subsurface materials are susceptible to caving during construction. Though soils have the potential to cave, standard construction practices would protect the construction crew from the collapse of slopes within excavation areas and trenches. This would apply for all areas where trenching is required. These practices are stipulated by the Occupational Safety and Health Administration's Safety and Health regulations for construction. No other adverse impacts associated with geology, soils, seismic, or topography are anticipated.

Paleontology

Construction-related earth-moving activities have a high potential to adversely affect paleontological resources where the project area is underlain by Pleistocene Nonmarine Sedimentary Deposits and, at depths at least 3 feet below current grade, Recent Alluvial Fan Deposits of the Great Valley, Recent Basin Deposits of the Great Valley, and Recent River and Major Stream Channel Deposits of the Great Valley. Such earth-moving activities would include excavation for those segments of roadways that would be below current grade, excavation of retention basins, and trenching for pipelines and culverts.

Excavation activities could reach depths up to 40 feet below the current ground surface. Potentially affected resources could include previously unrecorded fossil remains, the respective fossil localities, associated specimen data and corresponding geologic and geographic locality data, and the fossil-bearing strata. The disturbance or loss of these resources would be an adverse environmental impact.

The maximum depth of excavation for Alternative A is 40 feet. This would occur near State Route 58 between Stephens Drive and H Street to accommodate the widened ramps. On State Route 99, the maximum excavation would be about 18.5

feet and would occur between Belle Terrace and Ming Avenue. Seven drainage basins would be placed throughout the study area to retain stormwater runoff for water quality improvement purposes.

The maximum depth of excavation for Alternative B is 40 feet. This would occur near State Route 58 between Stephens Drive and H Street to accommodate the widened ramps and, between California Avenue and Ford Avenue, where the freeway would be built below the existing grade. On State Route 99, the maximum excavation would be about 18.5 feet, between Belle Terrace and Ming Avenue. Eight drainage basins would be placed throughout the study area to retain stormwater runoff for water quality improvement purposes.

The maximum depth of excavation for Alternative C is 30 feet. This would occur near State Route 58 between Stephens Drive and H Street to accommodate the widened ramps. On State Route 99, the maximum excavation would be about 18.5 feet and be located between Belle Terrace and Brundage Lane. Eleven drainage basins would be placed throughout the study area to retain stormwater runoff for water quality improvement purposes.

The potential impact of earth-moving activities would be greatest under Alternative B, in which the most sediment in the Recent Alluvial Fan Deposits of the Great Valley would be disturbed, particularly with regard to excavation for roadways that would be below current grade. Correspondingly, the impact of such excavation would be less with Alternative C and least for Alternative A. Adverse impacts on paleontological resources, particularly fossil remains and associated locality data, would be reduced with implementation of Mitigation Measures CI-2 through CI-15, under the Avoidance, Minimization, and Mitigation Measures in this section. There would be no impact on paleontological resources under the No-Build Alternative.

Hazardous Waste or Materials

During demolition and construction phases of the project, there is a limited risk of accidental release of hazardous materials such as gasoline, oil or other fluids in the operation and maintenance of construction equipment. As a result of construction activities, asbestos, lead-based paint, and/or aerially deposited lead may also be encountered. Standard condition SC-CI-19, under the Avoidance, Minimization, and Mitigation Measures in this section, involves developing a Health and Safety Contingency Plan to address emergency procedures to be implemented in the event of accidental release or other emergency involving hazardous waste and materials to ensure public safety and to minimize the potential impact on the environment. Compliance with federal, state, and local regulations would also address worker safety handling such materials. During construction, oil wells within the proposed right-of-way may be encountered. Implementation of the standard condition SC-U-1 identified in Section 3.1.5, Utilities/Emergency Services, would address construction impacts to oil wells.

Air Quality

Criteria Pollutants

Construction of the project has the potential to create air quality impacts through the use of heavy-duty construction equipment within the construction site and through vehicle trips generated from haul trucks and construction workers traveling to and from the project site. In addition, fugitive dust emissions would result from earthwork (such as grading, excavation) and onsite construction activities. Off-road (onsite) mobile source emissions, primarily nitrogen oxides and carbon monoxide, would result from use of construction equipment such as excavators, bulldozers and loaders. During the finishing phase, paving operations and application of architectural coatings and other building materials would release reactive organic compounds and off-gassing products (paints and asphalt, for example). Construction emissions can vary substantially from day to day, depending on the level of activity, the specific mix of construction equipment and, for dust, the prevailing weather conditions.

Methodology

As recommended by the San Joaquin Valley Air Pollution Control District and approved by Caltrans, construction-related emissions of criteria pollutants were estimated using the *Road Construction Emission Model, Version 7.1.4* (the latest version, which was released in August 2013). The model was developed for the Sacramento Metropolitan Air Quality Management District and approved by the California Air Resources Board.

Construction Emissions

Construction emissions were estimated using the Sacramento Metropolitan Air Quality Management District's *Road Construction Emissions Model, Version 7.1.4*. Table 3.49 shows the calculated mass daily emissions for each phase of construction and the annual emissions (in tons) during each year of construction for comparison with the San Joaquin Valley Air Pollution Control District's significance criteria. As shown, construction emissions of reactive organic gases and inhalable particulate matters less than 10 microns in diameter (PM_{10}) do not exceed the district's criteria. Nitrogen oxides emissions would potentially exceed the 2 tons per year criterion established by the district's Rule 9510; therefore, these emissions need to be reduced to 20 percent of the state fleet average, as required by the rule. Reductions need to be achieved either by onsite mitigation measures or through payment of an offsite mitigation fee, as required by Rule 9510. Compliance with standard conditions SC CI-20 through SC-CI-22, under the Avoidance, Minimization, and Mitigation Measures in this section, would reduce construction emissions.

Table 3.49 Estimate of Unmitigated Construction Emissions

Construction Stage (Duration)	Total or Onsite	Construction Daily Emissions (pounds per day)							
		Reactive Organic Gases	Carbon Monoxide	Nitrogen Oxides	Inhalable Particulate Matter (PM_{10})		Fine Particulate Matter ($PM_{2.5}$)		Carbon Dioxide
					Exhaust	Total	Exhaust	Total	
Site Clearing/Demolition (2.5 months)	Total	5.1	23.8	28.2	1.6	51.6	1.5	11.9	3,719
	Onsite	*4.8*	*21.0*	*27.9*	*1.6*	*51.6*	*1.4*	*11.8*	*3,120*
Grading/Excavation (12 months)	Total	15.9	77.1	314.5	9.6	59.6	7.3	17.7	55,395
	Onsite	*11.3*	*53.7*	*100.4*	*5.1*	*55.1*	*4.7*	*15.1*	*10,045*
Utilities/Subgrade (10.5 months)	Total	9.7	49.7	75.0	4.2	54.2	3.8	14.2	9,073
	Onsite	*9.3*	*45.5*	*74.6*	*4.1*	*54.1*	*3.7*	*14.1*	*8,074*
Paving/Finish Work (5 months)	Total	5.1	29.4	31.4	2.0	2.0	1.8	1.8	4,840
	Onsite	*4.8*	*26.1*	*31.0*	*1.9*	*1.9*	*1.8*	*1.8*	*3,991*
Maximum Daily	Total	15.9	77.1	314.5	9.6	59.6	7.3	17.7	55,395
	Onsite	*11.3*	*53.7*	*100.4*	*5.1*	*55.1*	*4.7*	*15.1*	*10,045*
Construction Year		**Construction Annual Emissions (tons per year)**							
Year 1	Total	1.88	8.71	33.64	1.04	7.64	0.80	2.18	5,344.25
	Onsite	1.32	6.19	**11.26**	0.58	7.18	0.53	1.90	1,030.15
Year 2	Total	1.45	7.31	16.49	0.70	7.30	0.60	1.97	2,242.05
	Onsite	1.28	6.23	**10.56**	0.56	7.16	0.52	1.89	1,016.04
Year 3	Total	0.38	2.16	2.55	0.16	0.71	0.14	0.26	332.04
	Onsite	0.36	1.94	**2.53**	0.15	0.70	0.14	0.25	279.71
San Joaquin Valley Air Pollution Control District Significance Criteria (tons/year)		10.0	–	2.0	2.0	–	–	–	–

Notes:

- Emissions were estimated using the Sacramento Metropolitan Air Quality Management District's Road Construction Model, version 7.1.4(2009).
- Exceedances of the criteria are shown in **bold**. Note that the criteria are set for onsite emissions from equipment exhaust gases.
- Annual carbon dioxide data are in metric tons.
- Copies of the model sheets are provided in the *Air Quality Study Report.*
- Large particulate matter: Particulate Matter less than 10 microns in diameter (PM_{10}); Fine particulate matter: Particulate Matter less than 2.5 microns in diameter ($PM_{2.5}$).

Source: Air Quality Study Report 2014.

Air Toxics and Asbestos

Potential for air toxics emissions during construction would be related to diesel particulate matter emissions associated with heavy equipment operations. However, the health effects from carcinogenic air toxics at sensitive receptors would be considered less than significant because the risk posed by these pollutants is based on long-term (70-year lifetime) exposure. Given the construction schedule of 2.5 years, the project would not result in a long-term (that is, 70 years) substantial source of air toxics emissions. Potential impacts related to air toxics emissions during construction would not be substantial, and no mitigation measures are required.

According to the California Division of Mines and Geology (2003), Kern County is not among areas listed as containing naturally occurring asbestos (Governor's Office

of Planning and Research 2000). Therefore, the potential for construction activities to disturb naturally occurring asbestos is low. Mitigation measures are not required.

Odors

During project construction, objectionable odors would be related mainly to operation of diesel-powered equipment and to off-gas emissions during road-building activities, such as paving and asphalting. District Rule 4601 (Architectural Coatings) limits the amount of reactive organic gas emissions from paving, asphalt, concrete curing, and cement coating operations. Construction of the project would be performed in compliance with the San Joaquin Valley Air Pollution Control District rules.

While construction equipment onsite would generate some objectionable odors (mainly from diesel exhaust), these emissions would generally be limited to the project site and would be temporary. Most potential sensitive receptors are far enough from the project site so that odors would not affect a substantial number of people. No mitigation measures would be required.

Valley Fever

Construction of the project would occur in an endemic area where the fungi *Coccidioides immitis* have been known to naturally occur. Coccidioidomycosis, also known as Valley Fever, is a common cause of pneumonia in the endemic areas in which the fungus occurs, such as Kern County. Because the spores of *Coccidioides immitis* can become airborne during soil disturbance, all persons residing or traveling through Kern County are susceptible to the disease. Temporary soil disturbance during construction grading activities could cause fungal spores (if present) to become airborne, potentially putting construction personnel, residents, and wildlife at risk of contracting Valley Fever. However, there are a number of preventive and precautionary measures that can be undertaken to reduce exposure and which include the use of dust masks when conducting outdoor activities, such as field studies or performing construction activities in the winter months; seeking prompt medical treatment if flu-like or respiratory illness occurs during or within a few weeks following fieldwork or construction activities; getting a coccidioidin skin test to determine susceptibility to the disease; and educating all members of the field party and construction crew about the possibilities and consequences of infection. Compliance with Avoidance and Minimization Measure SC-CI-21, under the Avoidance, Minimization, and Mitigation Measures in this section, would control dust during project construction. As a result, those measures would reduce the potential for contact with *Coccidioides immitis* spores, and as such, the potential for health impacts during construction of the project associated with Valley Fever would be minimized.

Noise and Vibration

Noise from construction activities may intermittently dominate the environment in the immediate area of construction. Table 3.50 shows noise levels produced by construction equipment commonly used on roadway construction projects.

Table 3.50 Construction Equipment Noise

Equipment	Maximum Noise Level (dBA at 50 feet)
Scrapers	89
Bulldozers	85
Heavy Trucks	88
Backhoes	80
Pneumatic Tools	85
Concrete Pumps	82

dBA: A-weighted decibels

Source: *Federal Transit Administration* 2006.

Equipment involved in construction is expected to generate noise levels ranging from 80 to 89 dBA at a distance of 50 feet. Noise produced by construction equipment would be reduced over distance at a rate of about 6 dB per doubling of distance. More precise construction noise levels cannot be calculated at this time because some of the necessary data such as the type of equipment, effective usage factor, and number of each equipment type have not yet been designated.

Construction noise varies greatly depending on the construction process, type, and condition of equipment used, as well as layout of the construction site. Many of these factors are traditionally left to the contractor's discretion, which makes it difficult to accurately estimate levels of construction noise. Temporary construction noise impacts would be unavoidable at areas right next to the project alignment.

The noise level requirement specified here shall apply to the equipment on the job or related to the job, including but not limited to trucks, transit mixers, or transient equipment that may or may not be owned by the contractor.

Sound control shall conform to the provisions in Section 14-8.02, "Noise Control," of the Standard Specifications and Section 14-8.02. According to requirements of these specifications, construction noise cannot exceed 86 dBA at 50 feet from the job site activities from 9:00 in the evening to 6:00 in the morning.

Additional noise mitigation measures may be incorporated by Caltrans and the construction contractor if they are deemed practicable and reasonable. These additional construction abatement measures include the use of temporary noise barriers, outdoor sound curtains or sound curtain noise barriers. These measures typically reduce equipment noise levels by 15 to 22 dBA.

It is possible that certain construction activities could cause intermittent localized concern from vibration in the project area. During certain construction phases, processes such as earth moving with bulldozers, the use of vibratory compaction rollers, impact pile driving, demolitions, or pavement braking may cause construction-related vibration impacts such as human annoyance or, in some cases,

building damages. It may be necessary to use this type of equipment close to residential buildings. Implementation of minimization measure CI-16, under the Avoidance, Minimization, and Mitigation Measures in this section, would eliminate or minimize vibration impacts during construction activities.

Mitigation techniques for control of equipment noise and vibration plus administrative measures, when properly implemented, can provide the most effective means to minimize the effects of construction activity impacts. These standard conditions (SC-CI-23 through SC-CI-25) are listed under the Avoidance, Minimization, and Mitigation Measures in this section.

Energy

The project would result in one-time non-recoverable energy costs associated with construction activities. Fuel use during construction activities is the largest source of energy usage for construction. Table 3.51 shows the calculated energy use by construction year based on the estimates of fuel use during construction.

Table 3.51 Centennial Corridor Calculated Construction Energy Use

Year	Btu (in million Btu)
Year 1	72.26
Year 2	30.31
Year 3	4.49
Total	107.06

Btu: British thermal units

* Assumes diesel fuel is used during construction

Source: Source data from *Air Quality Study Report* 2014.

In addition to direct energy expenditures, such as preparing the ground surface and building the highway, there would also be indirect energy consumption such as the manufacture of building materials. Temporarily increased traffic congestion on local roads during construction would also result in additional energy consumption. Short-term use of oil, gas, and electricity for construction would minimally reduce the overall amount of global fossil fuels available for consumption. However, this use should be considered within the context of substantial energy savings over the design life of the project, as described in Section 3.2.8, Energy. In addition, standard condition SC-CI-26, under the Avoidance, Minimization, and Mitigation Measures in this section, would reduce energy use during construction.

Biological Environment

Construction of the project would include use of heavy equipment to clear vegetation and grade the project site. This activity would create noise, dust, and vibration that could adversely affect animals within and next to the construction site. This disturbance could cause animals to move away from construction. Habitat next to the construction site may not be used by species sensitive to construction noise, dust, and vibration effects. Vibration could collapse the burrows or dens of burrowing animals.

Silt runoff from the project site or improper disposal of petroleum and chemical products from construction equipment could adversely affect water quality during construction. Adverse effects on water quality could affect plants, animals, and habitats downstream of construction areas, including areas along the Kern River.

Night lighting during construction of the project could spill over into the adjacent open space and could adversely affect foraging activities of nocturnal species (such as the San Joaquin kit fox, burrowing owl, bats, and other small mammals) and may also increase predation of small mammals. Therefore, the project's night lighting may affect nocturnal wildlife, especially along the Kern River.

If construction limits are not clearly marked, construction operators could inadvertently remove habitat that should not be removed. Because the project includes sensitive habitat along the Kern River, this effect could be potentially substantial.

Compliance with standard condition SC-CI-27 and minimization and mitigation measures CI-17 through CI-24, under the Avoidance, Minimization, and Mitigation Measures in this section, and B-1 through B-4 provided in Section 3.3 Biological Environment, would reduce construction impacts.

After the circulation of the draft environmental document, Caltrans decided to include a multi-use pathway and bridge spanning over the Carrier Canal as a response to public comments to enhance bicycle connectivity to the Kern River Parkway. The construction of the Carrier Canal Crossing will connect California Avenue to Commerce Way and would temporarily impact up to 0.164 acre of areas jurisdictional to the U.S. Army Corps of Engineers, California Department of Fish and Wildlife and Regional Water Quality Control Board within the general area of the Carrier Canal.

A subsequent field verification of jurisdictional waters within the project area was conducted in August 2014. The survey resulted in the elimination or reduction of impacts to waters under the jurisdiction of the U.S. Army Corps of Engineers, California Department of Fish and Wildlife and Regional Water Quality Control Board due to the construction of the Westside Parkway project. Table 3.44 and 3.45 of this volume show the total permanent and temporary impacts to these different waters. Potential construction related-impacts to jurisdictional waters have also been reduced through design changes to avoid jurisdictional waters. The project will obtain applicable regulatory permits and comply with any additional construction-related minimization and mitigation measures required by the permitting agency.

Avoidance, Minimization, and Mitigation Measures

Standard conditions and minimization and mitigation measures would reduce construction-related impacts to various resources described in the previous sections.

Community Impacts

Standard Conditions

SC-CI-1 To the extent practical, street closures required during construction shall be scheduled to occur during nighttime hours. This requirement will be addressed in the Traffic Management Plan to be prepared during the final design phase of project development.

SC-CI-2 To the extent practical, the contractor shall avoid blocking or limiting access to businesses during construction during normal business hours. Businesses will be contacted and advised of nearby construction activities before their start.

SC-CI-3 Caltrans shall notify emergency service providers, such as fire, police, and ambulance services in advance of construction of the timing, location, and duration of construction activities and the locations of detours and lane closures.

SC-CI-4 During the final design phase, the city of Bakersfield and Caltrans in coordination with affected facility owners or operators shall develop and implement access plans for highly sensitive land uses such as police and fire stations, transit stations, hospitals, and schools.

Utilities and Emergency Services

Standard Conditions

SC-CI-5 Caltrans and the city of Bakersfield shall coordinate with all affected private and public service utilities in advance of the construction. Per Caltrans requirements, all linear underground utilities within Caltrans' right-of-way will be encased from right-of-way to right-of-way in either steel or concrete.

SC-CI-6 In accordance with the requirements in the California Code of Regulations, prior to the initiation of construction, the contractor shall coordinate and notify the operators of underground or overhead utility and service lines prior to any excavation activities. This coordination would avoid damage to existing utility lines and would limit disruption to existing utility services to the existing developments near the proposed alignments.

The following standard conditions would avoid and/or minimize adverse effects of the Centennial Corridor on emergency services:

SC-CI-7 The contractor shall conduct construction activities in accordance with the approved Traffic Management Plan for the project and Caltrans' Manual of Uniform Traffic Control Devices to reduce impacts to emergency services and response. Coordination of roadway closures with appropriate

emergency services would be addressed in the Transportation Management Plan.

Traffic and Transportation/Pedestrian and Bicycle Facilities

Standard Conditions

SC-CI-8 Caltrans shall require the design team to develop a Traffic Management Plan to offset the effects of access restrictions and traffic congestion during construction of the freeway, ramps, and on local streets. The Traffic Management Plan will consider methods such as adjustment of signal timing and/or signal coordination to increase roadway efficiency; turn restrictions at intersections and roadways necessary to reduce congestion and improve safety; and parking restrictions on detour routes during work hours to increase capacity, reduce traffic conflicts, and improve access. The Traffic Management Plan will include a traffic contingency plan with procedures to be implemented for possible unforeseen circumstances and emergencies.

SC-CI-9 Caltrans shall require the contractor to provide motorist alert and awareness information during construction, as appropriate for the conditions, to include the following options: changeable message signs, stationary ground-mounted signs, traffic radio announcements, and the Caltrans Highway Information Network.

SC-CI-10 Caltrans, in coordination with the city of Bakersfield, shall coordinate with Golden Empire Transit and other affected transit providers to request and comply with applicable procedures for any required temporary bus stop relocations or other disruptions to transit service during construction.

Visual/Aesthetics

Measure V-1 presented in Section 3.1.7, Visual/Aesthetics would minimize visual impacts during construction.

Cultural Resources

Standard Conditions

SC-CI-11 In accordance with Caltrans standard specifications, if cultural materials are discovered during construction, all earth-moving activities within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find. If human remains are discovered, Section 7050.5 of the State Health and Safety Code states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the county coroner shall be contacted. Pursuant to Section 5097.98 of the Public Resources Code, if the remains are thought to be Native American, the coroner will notify the Resident Engineer and the Native American Heritage Commission, who will then notify the Most Likely Descendent. At this time, the Resident Engineer will contact the District 6 Environmental Branch so that staff

may work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of Section 5097.98 of the Public Resources Code are to be followed as applicable.

SC-CI-12 It is Caltrans' policy to avoid cultural resources whenever possible. Further investigation may be needed if resources cannot be avoided by the project. Additional survey(s) will be required if the project changes to include areas not previously surveyed.

Minimization Measures

CI-1 If cultural resources are discovered at the job site, all work activities shall stop within a 60-foot radius of the discovery, the discovery area shall be protected, and the Resident Engineer shall be notified. Cultural resources shall not be moved or taken from the job site until Caltrans investigates and determines the significance of the find. Work activities shall not resume within the discovery area until Caltrans provides written notification authorizing work activities to resume.

Water Quality and Storm Water Runoff

Standard Conditions

SC-CI-13 The project shall conform to the requirements of the Caltrans' National Pollutant Discharge Elimination System Statewide Storm Water Permit (Order No. 2012-0011-DWQ, NPDES No. CAS000003), adopted by the State Water Resources Control Board on July 1, 2013, and any subsequent permit in effect at the time of construction. In addition, the contractor shall comply with the requirements of the General National Pollutant Discharge Elimination System Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002, as amended by 2010-0014-DWQ and 2012-0006-DWQ), also referred to as the Construction General Permit, as well as implementation of the best management practices specified in the Caltrans Storm Water Management Plan, to be prepared during the final design of the project.

SC-CI-14 The contractor shall develop an acceptable Storm Water Pollution Prevention Plan containing proven best management practices to minimize storm water pollution that have the potential to affect water quality. All construction site best management practices would follow the latest edition of the Storm Water Quality Handbooks and the Construction Site Best Management Practices Manual. In addition, the Storm Water Pollution Prevention Plan shall include implementation of specific stormwater effluent monitoring requirements based on the project's risk level to ensure water quality standards are met.

SC-CI-15 During construction, when dewatering is required, the contractor shall fully conform to the requirements specified in Order No. R5-00-175 (CAG 995001), General Waste Discharge requirements for Discharges to Surface Water which Pose an Insignificant (De Minimus) Threat to Water Quality, from the Central Valley Regional Water Quality Control Board.

SC-CI-16 The contractor shall comply with all requirements of the Section 404 Permit issued by the U.S. Army Corps of Engineers for the discharge of dredged or fill material into waters of the United States.

SC-CI-17 The contractor shall comply with all requirements of the Section 401 Certification issued by the Regional Water Quality Control Board to ensure that all discharges comply with applicable federal and state effluent limitations and water quality standards.

SC-CI-18 The contractor shall comply with all requirements of the Streambed Alteration Agreement per Section 1602 of the California Fish and Game Code.

Paleontology

Mitigation Measures

A Paleontological Mitigation Plan will be prepared prior to project construction. The plan would include the following mitigation measures:

CI-2 Specifications for paleontological mitigation shall be included in the construction contract special provisions section for this project to advise the construction contractor of the requirement to cooperate with the salvage of paleontological resources, particularly fossil remains and associated locality data.

CI-3 A principal paleontologist that meets the qualifications in Chapter 8 – Paleontology of the Caltrans Standard Environmental Reference shall prepare a detailed Paleontological Mitigation Plan before the start of construction. The paleontologist must have a Master of Science/Arts (M.S./M.A.) or Doctor of Philosophy (Ph.D.) degree in paleontology or geology and will be familiar with paleontological salvage or mitigation procedures and techniques. The Paleontological Mitigation Plan shall be certified by a California Professional Geologist.

CI-4 The city of Bakersfield will perform paleontological monitoring and salvage during construction-related excavation and other earth-moving activities. Within the boundaries of the project area, no earth-moving activity shall be allowed without written authorization of the Resident Engineer. The city of Bakersfield will provide a Paleontological Salvage Team consisting of a qualified Principal Paleontologist and Paleontological Monitors. The Resident Engineer will make arrangements for the Paleontological Salvage Team to be at the job site.

CI-5 If unanticipated fossils are discovered in an area of the project site not being actively monitored, the remains shall not be disturbed. The Resident Engineer shall direct that all work within a 60-foot radius of the discovery be stopped and that the area be protected. The Resident Engineer, in consultation with the paleontologist, will investigate and modify the dimensions of the protected area, if necessary. Paleontological resources will not be removed from the project site without authorization. Work will not resume within the specified radius of the discovery until authorized by the Resident Engineer.

CI-6 The Paleontological Salvage Team will be notified 15 days in advance of the start of excavation or any other earth-moving activity.

CI-7 The construction contractor shall attend a pre-construction meeting with the Paleontological Salvage Team and the Resident Engineer to establish procedures for cooperation in the event fossil remains are encountered and to provide for worker safety during monitoring and salvage activities. The Principal Paleontologist and the Caltrans paleontology coordinator will be present at pre-grading meetings to consult with grading and excavation contractors.

CI-8 Before any earth-moving activity, the Principal Paleontologist shall conduct an employee environmental awareness training session for all persons involved in that earth-moving activity.

CI-9 Before the start of earth-moving activities, the Paleontological Salvage Team will conduct a pre-construction field survey of the project area, and any exposed fossil remains will be recovered. A qualified Paleontological Monitor, under the direction of the Principal Paleontologist, will be onsite to inspect cuts and debris piles to allow for the discovery and recovery of larger fossil remains. Monitoring will be conducted at all times during original grading in areas underlain by highly important rock units. If necessary, additional personnel will be assigned to recover an unusually large or numerous fossil occurrence.

CI-10 The Paleontological Salvage Team will salvage fossil remains exposed by excavation and other earth-moving activities. The Resident Engineer, at the request of the Paleontological Salvage Team, may temporarily divert or stop such activities in the vicinity of a fossil locality to avoid disturbing the locality pending removal of the remains. When fossil remains are discovered, the Paleontological Monitor will recover them and contact a Principal Paleontologist for assistance, if necessary. Earth-moving activities in these areas shall be halted or diverted to allow for the recovery of the remains in a timely manner.

CI-11 Bulk sediment or rock samples will be recovered from fossiliferous horizons and processed to allow for the recovery of microvertebrate and

other microfossil remains, as determined necessary by the Principal Paleontologist.

CI-12 Fossil remains collected as a result of monitoring and salvage or sample processing will be cleaned, prepared, sorted, curated, and cataloged. Recovered specimens will be identified by appropriate paleontological specialists.

CI-13 Prepared fossils, along with copies of all pertinent field notes, photographs, and maps, shall then be deposited in a Caltrans-approved museum repository with paleontological collections and made available for future scientific study.

CI-14 A final report shall be completed by the Principal Paleontologist. The report shall outline the results of the mitigation program and will be signed by the Principal Paleontologist and Professional Geologist. A copy of the report will be supplied to the museum repository and to Caltrans.

CI-15 At the completion of the project, the Caltrans paleontological coordinator will prepare a paleontological stewardship summary with a list of any long-term commitments. The list will be provided to both Maintenance and Operations staff, including the Encroachment Permits office.

Hazardous Waste or Materials

Standard Condition

SC-CI-19 A Health and Safety Contingency Plan shall be prepared as part of the standard engineering design process.

Air Quality

Standard Conditions

SC-CI-20 Caltrans shall incorporate requirements into the contract specifications requiring that the contractor comply with the San Joaquin Valley Air Pollution Control District's Rule 9510 (Indirect Source Review). This rule applies to transportation or transit projects with construction exhaust emissions of at least 2 tons of nitrogen oxides or 2 tons of particulate matter (PM_{10}) per year. These projects are required to reduce their construction exhaust emissions of nitrogen oxides and particulate matter (PM_{10}), by 20 and 45 percent, respectively, compared to the statewide average for construction equipment. If, after implementation of all feasible onsite mitigation measures, the required emission reduction is not achieved, the rule provides a mechanism by which Caltrans can pay an offsite mitigation fee to the district. Methods of calculating the offsite emission reduction fee are provided in Section 7.1.1 of Rule 9510 and the District's Rule 3180. District Rule 3180 establishes a 4 percent administration fee to cover the district's cost of operating an offsite emission reduction program.

Achieving a 20 percent nitrogen oxides reduction in exhaust emissions compared to the statewide fleet average can be met by implementing one or more of the following measures:

- Operate equipment with engines newer than 1996.
- Retrofit the existing equipment with control devices (e.g., exhaust oxidation catalyst).
- Use cleaner fuels such as liquid natural gas, compressed natural gas, or aqueous diesel fuel, where feasible.
- Prohibit truck idling in excess of 10 minutes, whenever practical.
- Use only well-maintained equipment; use proper planning to reduce rework and multiple handling of earth materials.
- Pay a mitigation fee to the air district to obtain reductions through incentive and other programs.

SC-CI-21 Caltrans shall incorporate requirements into the contract specifications requiring that the contractor comply with the San Joaquin Valley Air Pollution Control District's Regulation VIII (Fugitive PM_{10} Prohibitions) and shall implement all applicable control measures included in the District's Guide for Assessing and Mitigating Air Quality Impacts, specifically those measures listed in Table 6-2 (Regulation VIII Control Measures) and Table 6-3 (Enhanced and Additional Control Measures) of the document. Applicable mitigation measures as listed in these tables include the following:

- All disturbed areas, including storage piles that are not being actively used for construction purposes shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant, or they shall be covered with a tarp, another suitable cover, or vegetative ground cover.
- All onsite unpaved roads and offsite unpaved access roads shall be effectively stabilized of dust emissions using water or a chemical stabilizer/suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions by applying water or by pre-soaking.
- With the demolition of buildings up to six stories in height, all exterior surfaces of the building shall be wetted during demolition.
- When materials are transported offsite, all material shall be covered or effectively wetted to limit visible dust emissions, and at least 6 inches of freeboard space from the top of the container shall be maintained.

- All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.
- Within urban areas, an owner/operator shall prevent carryout and trackout, or immediately remove carryout and trackout when it extends 50 feet or more from the nearest unpaved surface exit point of the site.
- Any construction site with 150 or more vehicle trips per day shall prevent carryout and trackout.
- The following measures shall be implemented at construction sites with high emissions of fugitive dust:
    - Limit traffic speed on unpaved roads to 15 miles per hour.
    - Install sandbags or other erosion-control measures to prevent silt runoff to public roadways from sites with a slope greater than 1 percent.
- The following measures shall be implemented at large construction sites near sensitive receptors:
    - Install wheel washers for all exiting trucks, or wash off tires of trucks and equipment leaving the site.
    - Install wind breaks at windward side(s) of construction areas.
    - Suspend excavation and grading activities when wind exceeds 20 miles per hour.
    - Limit areas subject to excavation, grading, and other earthwork activity at any one time.

SC-CI-22 Caltrans shall incorporate requirements into the contract specifications requiring that the contractor comply with the limitations of the National Emissions Standards for Hazardous Air Pollutants regulations as listed in the CFR requiring notification and inspection for the construction activities that are involved with demolition, renovation, or removal of asbestos-containing materials. Before starting any demolition or renovation of any building, Caltrans shall require the contractor to consult with the San Joaquin Valley Air Pollution Control District's Compliance Division to determine inspection and compliance requirements.

Noise and Vibration

Standard Conditions

SC-CI-23 The contractor shall be required to adhere to the following equipment noise-control measures:

- Each internal combustion engine used for any purpose on the job or related to the job shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the job site without an appropriate muffler.
- Construction methods or equipment that will provide the lowest level of noise and ground vibration impact (for example, avoid impact pile driving near residences and consider alternative methods that are also suitable for the soil condition) shall be used.
- Idling equipment shall be turned off.
- Construction activities shall be coordinated to build recommended permanent sound walls during the first phase of construction to protect sensitive receivers from subsequent construction noise, dust, light, glare, and other impacts, to the extent feasible.
- Temporary noise barriers shall be used and relocated, as needed, to protect sensitive receptors against excessive noise from construction activities involving large equipment and by small items such as compressors, generators, pneumatic tools, and jackhammers. Noise barriers can be made of heavy plywood, moveable insulated sound blankets, or other best available control techniques.
- Newer equipment with improved noise muffling shall be used, and all equipment items shall have the manufacturers' recommended noise-abatement measures (such as mufflers, engine covers, and engine vibration isolators) intact and operational. Newer equipment will generally be quieter in operation than older equipment. All construction equipment shall be inspected at periodic intervals to ensure proper maintenance and presence of noise-control devices (such as mufflers and shrouding).
- Construction activities shall be minimized to the extent possible in residential areas during evening, nighttime, weekend, and holiday periods. Noise impacts are typically minimized when construction activities are performed during daytime hours. However, nighttime construction may be desirable (such as in commercial areas where businesses may be disrupted during daytime hours) or necessary to avoid major traffic disruption. Coordination with the city or County shall occur before construction can be performed in noise-sensitive areas between 9:00 in the evening and 6:00 in the morning.
- Construction lay-down or staging areas shall be selected in industrially zoned districts. If industrially zoned areas are not available,

commercially zoned areas may be used, or locations that are at least 100 feet from any noise-sensitive land use (such as residences, hotels, and motels).

SC-CI-24 The contractor shall be required to adhere to the following administrative noise control measures:

- Once details of the construction activities become available, the contractor shall work with local authorities to develop an acceptable approach to minimize interference with the business and residential communities, traffic disruptions, and the total duration of the construction.
- Good public relations shall be maintained with the community to minimize objections to unavoidable construction impacts. Frequent activity updates of all construction activities shall be provided. A construction noise monitoring program to track sound levels and limit the impacts shall be implemented.
- In case of construction noise complaints by the public, the Resident Engineer shall coordinate with the construction manager, and the specific noise-producing activity may be changed, altered, or temporarily suspended, if necessary.

SC-CI-25 The contractor shall be required to adhere to the following vibration-control measures:

- Restrict the hours of vibration-intensive equipment or activities such as vibratory rollers so that impacts to residents are minimal (e.g., weekdays during daytime hours only when as many residents as possible are away from home).
- The owner of a building close enough to a construction vibration source that could cause damage to that structure could be entitled to a pre-construction building inspection to document the pre-construction condition of that structure.
- Conduct vibration monitoring during vibration-intensive activities.

Minimization Measure

CI-16 The contractor shall prepare a Noise and Vibration Monitoring and Mitigation Plan by a qualified Acoustical Engineer and submit it for approval. The plan must outline noise- and vibration-monitoring procedures at predetermined noise- and vibration-sensitive sites as well as historic properties. The plan also must include calculated noise and vibration levels for various construction phases and mitigation measures that may need to meet the project specifications. The contractor shall not start any construction work or operate any noise-generating construction equipment at the construction site before approval of the plan. The plan

must be updated every three months or sooner if there are any changes to the construction activities.

Energy

Standard Conditions

SC-CI-26 The contractor shall identify specific measures that reduce the amount of refuse generated by construction of the proposed project, consistent with the waste reduction requirements established by the California Integrated Waste Management Act of 1989.

Biological Environment

Standard Conditions

SC-CI-27 ***Invasive Species:*** In compliance with the Executive Order on Invasive Species (Executive Order 13112) and subsequent guidance from the Federal Highway Administration, Caltrans shall not use species listed as invasive as part of landscaping erosion control measures. In areas of particular sensitivity, extra precautions shall be taken if invasive species are found in or adjacent to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur. To adhere to this requirement, any landscape designs shall be submitted to Caltrans for review and concurrence by a qualified biologist during the project design phase. The review shall verify that no noxious weeds/invasive exotic plant species are in the proposed landscaping plan. If the plan contains noxious weeds/invasive species, the reviewing biologist shall coordinate suitable substitutes.

Minimization Measures

CI-17 ***Wetlands and Other Waters:*** Before starting any grading and/or construction-related activity within 50 feet of areas under the jurisdiction of the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and/or California Department of Fish and Wildlife, the contractor shall install fencing, flagging, lath and rope, or another device to delineate the jurisdictional areas that would not be affected by the project. The purpose of the fencing is to protect the jurisdictional areas from inadvertent disturbance. Placement of the fencing shall be done under the recommendation of a qualified biologist in coordination with the project engineer.

CI-18 ***Western Spadefoot, Western Pond Turtle, Coast Horned Lizard, Silvery Legless Lizard:*** A pre-construction survey for western spadefoot, western pond turtle, coast horned lizard, and silvery legless lizard shall be conducted by a qualified biologist within the proposed impact area before construction. Suitable habitat (such as pools for western spadefoot tadpoles or pond turtles) into which to relocate the individuals will be identified by the biologist and approved by the California Department of

Fish and Wildlife before individuals are translocated. If these species are observed on or adjacent to the impact area and are in imminent danger from construction activities, a qualified biologist shall capture and relocate individuals to an appropriate location outside the impact area. The biologist conducting the surveys shall hold necessary permits to handle the species. If animals are not in imminent danger, they shall be allowed to leave the impact area on their own.

CI-19 ***White-tailed Kite:*** A pre-construction survey for nesting raptors shall be done by a qualified biologist within the limits of project disturbance and shall be repeated annually. Any active nest found during survey efforts shall be mapped on the construction plans. If nesting activity is present, the active site shall be protected until nesting activity ends to ensure compliance with Section 3503.5 of the *California Fish and Game Code.*

Nesting activity for raptors in the region normally occurs from February 1 to August 31. If no active nests are found, no further mitigation would be required. Results of the surveys shall be provided to the California Department of Fish and Wildlife.

To protect any white-tailed kite nest site, the following restrictions on construction would be required between February 1 and August 31 (or until nests are no longer active, as determined by a qualified biologist): (1) clearing limits shall be established a minimum of 600 feet in any direction from any occupied nest; (2) access and surveying shall be restricted within 600 feet of any occupied nest; and (3) full-time biological monitoring shall be required when construction is within 600 feet of an active nest. Any encroachment into the buffer area around the known nest shall be allowed only if it is determined by a qualified biologist that the proposed activity shall not disturb the nest occupants. Construction during the non-nesting season can occur only at the sites if a qualified biologist determines that fledglings have left the nest.

CI-20 ***Burrowing Owl****:* A pre-construction survey shall be conducted by a qualified biologist in accordance with the survey requirements detailed in the California Department of Fish and Game's March 7, 2012 *Staff Report on Burrowing Owl* no less than 14 days before initial ground-disturbing activities (California Department of Fish and Game 2012) and shall be repeated annually. Any active burrow found during pre-construction survey efforts shall be mapped and provided to the construction foreman. If no active burrows are found, no further mitigation shall be required.

No disturbance shall occur within buffers around burrows determined to be occupied. Recommended buffer distances are based on time of year and level of disturbance.

Time of Year	Level of Disturbance		
	Low	Medium	High
April 1 – August 15	656 feet	1,640 feet	1,640 feet
August 16 – October 15	656 feet	656 feet	1,640 feet
October 16 – March 31	164 feet	328 feet	1,640 feet
Source: *Staff Report on Burrowing Owl* (California Department of Fish and Game 2012).			

If owls must be moved away from the disturbance area, passive relocation is preferable to trapping. Relocation shall be implemented only during the non-breeding season by a qualified biologist and would occur in coordination with the California Department of Fish and Wildlife. Owls shall be excluded from burrows in the immediate impact zone by installing one-way doors in burrow entrances. One-way doors shall be left in place for 48 hours to ensure owls have left the burrow before excavation.

An effort shall be made to preserve foraging habitat contiguous with occupied burrow sites for each pair of breeding burrowing owls or for every single unpaired resident bird.

Compensatory mitigation for the San Joaquin kit fox (discussed below) shall also mitigate for the loss of burrowing owl habitat. Additional compensatory mitigation for burrowing owls shall be required only if burrowing owls found within buffer distances specified above during pre-construction surveys cannot be avoided during construction. In this event, potential compensatory mitigation may include purchase of suitable habitat through the payment of fees to the Metropolitan Bakersfield Habitat Conservation Plan Trust Group for this species or construction of artificial burrows in city sumps similar to the city Sump Habitat Program for the San Joaquin kit fox.

CI-21 ***Loggerhead Shrike and Tricolored Blackbird****:* A qualified biologist shall survey annually during construction within the limits of project disturbance for the presence of any nesting locations. Any active nest found during survey efforts shall be mapped and provided to the construction foreman. If no active nests are found, no further mitigation would be required. If nesting tricolored blackbirds are observed, compensatory mitigation may be required.

If nesting activity is present, the active site shall be protected until nesting activity has ended to ensure compliance with Section 3503.5 of the California Fish and Game Code. Nesting activity for birds in the region normally occurs from February 1 to August 31. To protect any nest site, the following restrictions on construction are required between February 1

to August 31 (or until nests are no longer active, as determined by a qualified biologist): (1) clearing limits shall be established a minimum of 300 feet in any direction from any occupied nest and (2) access and surveying shall be restricted within 200 feet of any occupied nest. Any encroachment into the 300-/200-foot buffer area around the known nest shall be allowed only if a qualified biologist determines that the proposed activity will not disturb the nest occupants.

CI-22 ***Western Mastiff Bat:*** During construction, when nightwork is required, lighting during the early evening twilight hours (i.e., two hours before sunrise and two hours after sunset) adjacent to open space areas shall be minimized or avoided to the greatest extent possible. Permanent night lighting for the project shall be directed away from natural open space areas.

CI-23 ***Swainson's Hawk****:* Tree removal within 500 feet of non-native grassland, agricultural areas, and detention basins shall occur outside the Swainson's hawk nesting season. An updated focused survey (5 visits) for Swainson's hawk nests shall be conducted during the breeding season before construction activities. A qualified biologist shall survey within the limits of the biological study area and within a 0.5-mile radius around the biological study area for the presence of an active nest in accordance with the Swainson's Hawk Technical Advisory Committee's *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California, Central Valley.* Any active nest found during survey efforts shall be mapped and provided to the construction foreman. If a Swainson's hawk is nesting within 0.5 mile of the proposed impact area, the California Department of Fish and Wildlife shall be consulted to evaluate the potential for disturbance of the nesting birds during construction and to approve measures that would avoid impacts on the active nest; authorization to proceed shall be obtained before work starts. The active site shall be protected until nesting activity has ended to ensure compliance with Section 3503.5 of the California Fish and Game Code and the California Endangered Species Act. If no active nests are found, no further mitigation would be required. Results of the surveys shall be provided to the California Department of Fish and Wildlife.

A pre-construction survey (5 visits from March15 to April 30) shall be conducted annually before construction activities. To protect an active Swainson's hawk nest site, the following restrictions on construction are required between February 1 and August 31 (or until nests are no longer active, as determined by a qualified biologist): (1) clearing limits shall be established a minimum of 600 feet in any direction from any occupied Swainson's hawk nest; (2) access and surveying shall be restricted within 600 feet of any occupied Swainson's hawk nest; and (3) full-time biological monitoring shall be required when construction is within 600 feet of an active nest. Any encroachment into the 600-foot buffer area

around the known nest shall be allowed only if the qualified biologist determines that the proposed activity will not disturb the nest occupants.

Mitigation Measures

CI-24 ***San Joaquin Kit Fox:*** The following measures shall be implemented before and during construction:

- Caltrans shall include Special Provisions that include avoidance and minimization measures of the Biological Opinion (Service file numbers 08ESMF00-2013-F-0373 [December 20, 2013] and 08ESMF00-2013-F-0373-R001 [February 24, 2015 and amended on July 30, 2015]), when soliciting contractor bid packages.
- Construction activities shall adhere to the standard construction and operational requirements, as described in the U.S. Fish and Wildlife Service's *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011b) and the Biological Opinion (Service file numbers 08ESMF00-2013-F-0373 [December 20, 2013] and 08ESMF00-2013-F-0373-R001 [February 24, 2015 and amended on July 30, 2015]).
- No less than 30 but no more than 60 days prior to road construction, a U.S. Fish and Wildlife Service-approved biologist(s) shall conduct pre-construction surveys for San Joaquin kit fox dens both in the project footprint and within 200 feet of the footprint (project footprint plus temporary construction zone), inclusive of any utilities relocations. A report and map of known and potential kit fox dens shall be submitted to the U.S. Fish and Wildlife Service prior to the start of ground disturbance and/or construction activities. Repeat clearance surveys shall be conducted no more than 14 days before construction or after any delays in construction of over 2 weeks. Any new known or potential San Joaquin kit fox dens identified in the interim shall be reported to the U.S. Fish and Wildlife Service in a report and map. If no new known or potential San Joaquin kit fox dens are identified, an internal record shall be maintained that includes the survey date, the designated biologist conducting the survey, and the general survey findings. The records will be submitted to the U.S. Fish and Wildlife Service upon request.
- Disturbance to all San Joaquin kit fox dens shall be avoided to the maximum extent possible. If known or potential dens are identified within the project footprint during 60-day and/or 14-day pre-construction surveys, Caltrans shall request to monitor and excavate those dens that are expected to be affected directly by the project and cannot be avoided. Active dens shall not be excavated during the natal season (January 1–June 30). The U.S. Fish and Wildlife Service-approved biologist(s) shall monitor potential dens for three

consecutive nights using tracking medium and/or a remote sensor camera, shall submit monitoring results in a report to the U.S. Fish and Wildlife Service, and also shall oversee the hand excavation of dens that have been determined to be vacant following approval by the U.S. Fish and Wildlife Service. The U.S. Fish and Wildlife Service-approved biologist(s) also shall submit results of the den excavation and exclusion activities in a report to the agencies. The following measures shall be applied to dens that are not excavated:

- Dens that are identified during pre-construction surveys of the project footprint boundary and a 200-foot area outside of the project footprint shall be monitored and protected by an exclusion zone around dens, as measured outward from the entrance or cluster of entrances of each den. Potential and atypical dens within 50 feet of the project footprint shall be protected with a 50-foot zone delineated by flagged stakes. Known dens within 100 feet of the project footprint shall be protected with a 100-foot zone. To ensure protection, the exclusion zone shall be demarcated by fencing/flagging that does not prevent access to the den by the San Joaquin kit fox. Acceptable designs shall have openings for San Joaquin kit fox ingress/egress but shall keep humans and equipment out, e.g., wooden posts connected with caution tape; orange construction cones; orange construction fencing with a mesh size less than 2 inches in diameter (to prevent the San Joaquin kit fox from becoming entangled in the fencing) with gaps every 50 feet. Fencing/flagging shall be maintained until all construction-related disturbances have been terminated. At that time, all fencing/flagging shall be removed to avoid attracting subsequent attention at the dens.
- If natal/pupping dens are discovered either within the project footprint or within 200 feet of the project footprint, Caltrans shall immediately notify the U.S. Fish and Wildlife Service.

- The U.S. Fish and Wildlife Service-approved biologist(s) shall conduct a worker environmental awareness program for all construction crews prior to ground-disturbing activities, with the purpose of informing all crew members of the potential for the San Joaquin kit fox to occur on site, the effects on the species from construction activities, how to minimize effects to the species, and the penalties for non-exempted take. The training shall include, at a minimum (1) special-status species identification and a description of suitable habitat for the species; (2) avoidance of environmentally sensitive areas; and (3) measures to implement in the event that this species is found during construction. The training shall be repeated to all new crew members working in San Joaquin kit fox habitat. Crew members shall sign an attendance sheet and confirm that they understand the protection measures and construction restrictions. Training materials

and records of attendees shall be submitted to the U.S. Fish and Wildlife Service.

- The U.S. Fish and Wildlife Service-approved biologist(s) shall monitor road construction on a daily basis and shall verify that construction complies with the measures laid out in the Biological Opinion (Service file numbers 08ESMF00-2013-F-0373-R001 and 08ESMF00-2013-F-0373). The U.S. Fish and Wildlife Service-approved biologist(s) shall maintain a log of daily monitoring notes that can be summarized and transmitted to the U.S. Fish and Wildlife Service by request.
- Upon completion of project construction, all areas subject to temporary ground disturbance, including storage and staging areas, shall be restored to original grade and contour. Appropriate methods and plant species used to revegetate shall be determined on a site-specific basis in consultation with revegetation experts.
- To minimize opportunistic predatory effects to the San Joaquin kit fox, the city and Caltrans shall condition contracts with contractors to require that trash be removed at least once daily from project areas and disposed of off site so as not to attract predator species like coyotes (*Canis latrans*) and bobcats (*Lynx rufus*) to the project area.
- The city and Caltrans shall condition contracts with contractors to require that contained water sources, which are inaccessible to the San Joaquin kit fox (e.g., elevated water trucks), be used for dust control and other construction water activities.
- The U.S. Fish and Wildlife Service-approved biologist shall meet weekly with the resident engineer and contractor to review the week's upcoming ground-disturbing activities, including any possible changes from the project as analyzed in the Biological Opinion (Service file numbers 08ESMF00-2013-F-0373-R001 and 08ESMF00-2013-F-0373) and the avoidance and minimization measures. These meetings shall be documented and reported to Caltrans every two weeks, Caltrans will in turn report to the U.S. Fish and Wildlife Service every two weeks. Should the incidental take exceed the amount agreed upon in the Biological Opinion (Service file numbers 08ESMF00-2013-F-0373-R001 and 08ESMF00-2013-F-0373), Caltrans must immediately reinitiate formal consultation.
- If incidental take in the form of harassment, harm, injury, or death is likely, Caltrans shall immediately contact the U.S. Fish and Wildlife Service to report the encounter. If an injured or dead individual of a listed species is found, Caltrans shall follow the steps outlined in the *Salvage and Disposition of Individuals* section of the Biological Opinion (Service file numbers 08ESMF00-2013-F-0373-R001 and 08ESMF00-2013-F-0373).

- A post-construction report detailing compliance with the project design criteria and proposed conservation measures shall be provided to the U.S. Fish and Wildlife Service within 60 calendar days of completion of the project. The report shall include: (1) dates of project groundbreaking and completion; (2) pertinent information concerning success of the project in meeting the conservation measures; (3) an explanation of failure to meet such measures, if any; (4) known project effects on San Joaquin kit fox, if any; (5) observed instances of injury to or mortality of the San Joaquin kit fox, if any; (6) the number of dens lost, if any; and (7) any other pertinent information. Any new sightings of the San Joaquin kit fox or its dens shall be reported to the California Natural Diversity Database.

3.7 Cumulative Impacts

Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of this project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor, but collectively substantial, impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive types of agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

California Environmental Quality Act Guidelines Section 15130 describes when a cumulative impact analysis is warranted and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts, under the California Environmental Quality Act, can be found in Section 15355 of the California Environmental Quality Act Guidelines. Briefly, a cumulative impact is when the impact of two or more projects “when considered together, are considerable or which compound or increase other environmental impact.” The definition of cumulative impacts, under the National Environmental Policy Act, which can be found in 40 Code of Federal Regulations, Section 1508.7 of the Council on Environmental Quality Regulations, states, a cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative

impacts can result from individually minor but collectively significant actions taking place over a period of time.

Affected Environment

Cumulative impacts identified for the Centennial Corridor are those impacts that result from past, present, and reasonably foreseeable future actions occurring in the metropolitan Bakersfield area, combined with the impacts of building the Centennial Corridor via alignment Alternative A, B, or C. The study area for each of the resources potentially affected by the cumulative projects is defined below. The affected environment for each of these resources has been previously discussed in their respective portions of Chapter 3.

Reasonably Foreseeable Projects

The list of reasonably foreseeable projects is based on known projects identified on the cumulative projects map maintained by the city of Bakersfield. Long-term growth projections are also considered because they help to identify future actions that could contribute to potential cumulative impacts; the project design year (2038) is used as the planning horizon for considering future projects and actions.

Table 3.52 summarizes the reasonably foreseeable projects considered in the cumulative impact analysis of this project. Note that both the Thomas Roads Improvement Program projects and other projects assumed under the Regional Traffic Impact Fee Program are included in the cumulative analysis. The Regional Traffic Impact Fee Program, which requires new development to pay a proportionate share of the cost for new and expanded transportation facilities, includes a range of local street improvements designed to relieve traffic congestion in the study area, which would be built through 2035.

Table 3.52 Cumulative Projects List

Project Name	Description	Status
Bakersfield Commons	A 255-acre project east and west of Coffee Road between Brimhall Road and Rosedale Highway. Allows 1,400,000 square feet of retail commercial, 600,000 square feet of office commercial, 345 multi-family homes, and 80 single-family homes.	Approved in August 2010, but no current construction.
Stockdale Ranch	On the south side of Stockdale Highway near Heath Road. Allows 3,583 residential units and 941,700 square feet of commercial/ business park uses on a 564-acre site.	Approved in June 2010, but no current construction. Two tentative subdivision maps have been submitted to the city.
Saco Ranch Commercial Center	Southeast and southwest of the Coffee Road/7th Standard Road intersection. Allows 1,459,500 square feet of retail commercial, 332,000 square feet of office uses, and 1,376,496 square feet of industrial uses. The center is a 327-acre project.	Approved in August 2010, but no current construction.

Table 3.52 Cumulative Projects List

Project Name	Description	Status
Crossroads Plaza Commercial Center	On the west side of Gosford Road between Panama Lane and Harris Road. Allows retail development (138,621 square feet) and a community retail center (605,008 square feet). The Crossroads Plaza project is a 69.84-acre project.	Approved December 2010. No current construction.
South Mill Creek Retail, Entertainment, and Housing Project	A commercial village of 5.5 acres proposed west of Mill Creek Linear Park in downtown Bakersfield. Creek View Villas (36 condos) and City Place (70-unit apartment), with Mill Creek Courtyard Apartments planned.	14 units of the Creekview Villas have been placed on the market for sale.
Maya Cinemas; Additional Commercial Businesses	16-screen movie theater; 25,000 square feet of retail and commercial space planned in downtown Bakersfield.	Theater complete; remaining commercial enterprises not yet developed.
San Joaquin Community Hospital Avenue	Community hospital to be located at 2620 Chester Avenue, downtown Bakersfield.	The medical office building at 2620 Chester Avenue has been built and is occupied. 60,000-square-foot medical facility at 2700 Chester Avenue is currently under construction.
Regional Traffic Impact Fee Program	Local street improvements throughout the metropolitan Bakersfield area. Improvements would be built as funds are available.	Construction ongoing through 2035.
California High-Speed Rail	The proposed system is composed of nine segments. The first segment proposed for construction would be in the Central Valley from Fresno to Bakersfield.	The final environmental document for the Fresno-Bakersfield segment has been approved. A contractor for the design-build contract for the initial phase of the project (Merced to Fresno) has been selected. The system from San Francisco to Los Angeles is expected to be constructed by 2029.
State Route 178/ Fairfax Road Interchange	Built an interchange at State Route 178 and Fairfax Road; widened State Route 178.	Project was completed in 2009.
Mohawk Street Extension	Built a six-lane, north-south arterial from Rosedale Highway to Truxtun Avenue with bridges over BNSF Railway, Westside Parkway, and the Kern River, plus a box culvert over the Cross Valley Canal.	Project was completed in 2011.
State Route 99/ 7th Standard Road	Widened 7th Standard Road, modified the interchange, and built an overpass for 7th Standard Road over the Union Pacific Railroad.	Project was completed in 2010.

Table 3.52 Cumulative Projects List

Project Name	Description	Status
North Beltway/ Seventh Standard Road Widening	The project consisted of widening Seventh Standard Road to four lanes from Santa Fe Way to Coffee Road, constructing a grade separation at the BNSF Railroad, and new bridges over three canals.	The project was completed in 2011.
24th Street Project	The project consists of improvements to the State Route 99 southbound on-ramp and northbound off-ramp, the Oak Street / 24th Street intersection and widening of 24th and 23rd Street from State Route 99 to east of M Street.	Currently, the project is in the final design and property acquisition phase. Construction to begin in mid to late 2016.
Hageman Flyover Project	Project would provide a roadway across State Route 99 to connect Hageman Road with State Route 204 (Golden State Avenue). The final environmental document to be completed in 2013.	Construction to begin in 2016.
State Route 178 at Morning Drive Interchange	Project would build a new interchange at State Route 178 and Morning Drive and widen State Route 178 to four lanes for about 1.5 miles. Final design is underway.	Construction began in 2013 and will be completed in 2015.
State Route 178 Widening Project	Project would widen State Route 178 to six lanes from Canteria Drive to Masterson Street, and to four lanes from Masterson Street to Miramonte Drive.	Construction to begin in 2015.
State Route 58 (Rosedale Highway) Widening	The project consists of widening a 5.5-mile segment of State Route 58 from Allen Road to State Route 99 by constructing two additional lanes (one in each direction) and a grade separation at the San Joaquin Valley Railroad crossing.	The project has completed the final design phase, and construction of the State Route 58 widening of the first phase (State Route-99 to Calloway) is currently underway with expected completion in mid 2016. The projected construction start date for the grade separation is in 2025.
West Beltway	Project would build a six-lane, north-south facility that extends from State Route 119 to 7th Standard Road with 10 potential intersections/ interchanges.	Construction will occur when funding is available.
Westside Parkway (Segment 2 of the Centennial Corridor)	The project consisted of a new east-west six- to eight-lane freeway from Truxtun Avenue to Heath Road. Interchanges are proposed at Mohawk Street, Coffee Road, Calloway Drive, and Allen Road. Westside Parkway is a part of this project and is referenced within this report as “Segment 2”.	Westside Parkway, from Truxtun Avenue to Allen Road, opened to traffic August 2013. Westside Parkway, from Allen Road to Heath Road was opened to traffic April 2015
State Route 58 Gap Closure	The project widened State Route 58 from 4 to 6 lanes within the median of the freeway from approximately Hughes Lane to Cottonwood Road.	The project was completed in March, 2015.
State Route 99/ Kern 99 North Widening Project	This project consisted of widening State Route 99 from 6 to 8 lanes from Route 119 to Wilson Avenue.	Completed in 2014.

Table 3.52 Cumulative Projects List

Project Name	Description	Status
State Route 99/ South Bakersfield 8-Lane Widening Project	This project consisted of widening State Route 99 from 6 to 8 lanes from Route 119 to Wilson Avenue.	Completed in 2014.
State Route 99 Olive Drive Southbound Auxiliary Lane	The project consisted of adding an auxiliary lane on southbound State Route 99 and widening the Olive Drive on-ramp	The project was completed in 2014
State Route 99/ Southbound California Avenue On-Ramp Improvements	This project consisted of relocating the right turn lane of the California Avenue on-ramp to southbound State Route 99.	The project was completed in May 2015.
Beltway Operational Improvements Project	The project consists of operational improvements along segments of State Route 99 at the Ming Avenue interchange, and State Route 58 from east of State Route 99 to Cottonwood Road.	The project is currently in construction with expected completion in mid-2017.
State Route 99 Auxiliary Lane/ Rosedale Highway Off-Ramp Improvements	This project proposes to construct operational and safety improvements along southbound State Route 99 at the Rosedale Highway off-ramp.	This project has completed the final design phase and construction is anticipated to begin early 2016.

Environmental Consequences

This section discusses potential impacts to various resources that could occur as a result of the Centennial Corridor Project together with the other related projects listed in Table 3.52.

For hazardous materials and waste, the concern would not be from contamination caused by the project, but rather from materials that are currently present in the environment, and hazardous materials transported on the areawide roadway system on a daily basis. Federal, state, and local management and disposal requirements address the handling of these materials. There would be an incremental increase in the generation of hazardous materials in the study area during construction; however, long-term operational impacts of the Centennial Corridor would not contribute to the generation of hazardous materials. The project would serve to remediate (clean up) existing concerns that exist in the corridor. Also, for trucks and other vehicles traveling through Bakersfield carrying hazardous materials, freeways generally have a lower accident rate than surface streets. This would be a cumulative benefit rather than an impact.

The long-range analysis (year 2038) assumptions for the traffic, air quality, and noise (in Sections 3.1.6, 3.2.6, and 3.2.7, respectively) all reflect the growth projections approved by the Kern Council of Governments for 2038. Therefore, from a land use and circulation perspective, the approved long-range growth projections include the cumulative projects identified in Table 3.52. As a result, the project long-range analysis for traffic, air quality and noise also generally reflects the cumulative projects. An exception is that the project analysis does not assume the California High-Speed Rail project, which has been identified as a cumulative project. From a cumulative perspective, the California High-Speed Rail project could result in cumulative traffic and air quality benefits by providing an alternative mode of transportation. But, it could result in potential cumulative noise impacts, discussed later in this section.

If multiple projects are built during the same general time frame, it would likely result in increased localized construction-related traffic congestion and construction air emissions and noise impacts. The State Route 58 Widening project (Rosedale Highway), widening of 24th Street, and the California High-Speed Rail project are examples of other actions that would occur near the Centennial Corridor and have the potential to contribute to cumulative construction impacts. Construction of both the State Route 58 Widening project (Rosedale Highway) and widening of 24th Street should be completed by the time construction for the Centennial Corridor starts. The city of Bakersfield and Caltrans would work together to ensure overlapping construction from multiple projects in the same vicinity would be managed to avoid or lessen cumulative impacts.

Timing of the California High-Speed Rail project (which would, if and when built, cross State Route 99 between California and Truxtun Avenues next to the existing BNSF Railway railroad tracks) is uncertain at this time. If the High-Speed Rail project were to be in construction at the same time as the Centennial Corridor, there would be cumulative impacts for construction air quality, noise, and traffic. Both projects would generate these types of impacts and, because the construction areas overlap, the surrounding areas would experience the impacts of both projects at the same time.

The analysis concludes that there may be cumulative impacts for several resources:

- Community resources, including land use (such as farmland and parkland), community cohesion, relocation, environmental justice, and growth
- Cultural resources
- Visual resources
- Hydrology and floodplain
- Water quality
- Noise
- Biological resources

Analysis of cumulative impacts for these resources is presented below. The affected environment for each of these resources has been previously discussed in its respective portion of Chapter 3. Analysis focuses on the cumulative impacts of the build alternatives in Segment 1.

Community Resources

Resource Study Area

The Centennial Corridor Project is in the metropolitan Bakersfield area, which includes the city of Bakersfield and adjacent unincorporated county land. The effects on community cohesion were considered by looking at specific resources (such as parks and recreational facilities) within half a mile of the project build alternatives.

Current Condition and Historical Context

The city of Bakersfield is one of the fastest growing cities in the nation, but it remains a major agricultural and oil producer. Existing land uses in the metropolitan Bakersfield area include a mix of urban land, outlying agricultural areas, and oil well production areas north of the Kern River. Surrounding the Centennial Corridor are various residential, commercial, industrial, recreational, agricultural, resource/utility, undeveloped/vacant, and government uses.

During and after the recession, Bakersfield has been subject to the same stagnation in the economy that has affected the entire state of California, resulting in lower housing values, increasing pressure on monthly rent payments, residential and commercial vacancy rates higher than normal, and lack of widespread employment opportunities. Land development has been steady, until the past few years, when projects have been put on hold, pending an upturn in the local economy. Agricultural land continues to be highly valued.

Project Impacts

Construction of the Centennial Corridor Project would result in conversion of existing land uses to transportation uses due to right-of-way acquisitions, resulting in neighborhood disruption, loss of community cohesion, and residential and business displacements. A detailed discussion of land use and community impacts is presented in Sections 3.1.1 and 3.1.4 of this document.

Reasonable Foreseeable Actions

New development in the metropolitan Bakersfield area will lead to changes in land use and an increase in development projects in the area. Planned roadway and infrastructure projects would also change existing land uses as a more developed roadway system is built. Roadway and infrastructure projects that require right-of-way acquisition could also lead to potential demolition and displacement.

Cumulative Impacts

Land Use

Cumulative projects and planned growth in the metropolitan Bakersfield area will lead to changes in land use and an increase in development intensity in the area. With this growth, there would be pressure for urbanized areas to expand to vacant lands and agricultural lands next to existing urban development. Historically, this has happened in the Bakersfield area. But, future development would be managed to be consistent with adopted General Plans, which encourage development in the urbanized portions of the city.

The project, which is one of the planned infrastructure improvements of the approved Regional Transportation Plan, would provide support to the existing and planned developments. Several of the cumulative projects would extend into areas that are or recently have been agricultural areas. In approving these projects, the local jurisdictions have determined that the land use conversion impacts associated with cumulative projects would remain unsubstantial. Construction of the Centennial Corridor improvements would result in the conversion of about 6 acres of land adjacent to the roadway at Stockdale Highway and State Route 43 that are designated as Prime Farmland. But, the project would not cumulatively contribute to considerable cumulative land use impacts.

Parks

A review of cumulative projects indicates that planned projects that are mainly related to transportation would not result in new demand for recreational services, but would instead facilitate access to recreational facilities. Residential land uses and, to a lesser extent, mixed-use projects identified on the cumulative projects list would create additional demand for recreational services. As required by the Quimby Act, future land development projects would be required to provide additional parkland based on the population generated by the project. Implementation of the project would affect some parkland, but mitigation—in the form of replacement park acreage, improved facilities and improvements at new sites—would be provided, resulting in full restoration and potentially expanded facilities. Therefore, the project would not contribute to cumulative effects on parkland.

Growth

The programwide *Thomas Roads Improvement Program Growth Inducement Analysis Report* (2009) documents the results of a growth-related impact analysis of a sample of residential areas in the Bakersfield area. The analysis estimates that Thomas Roads Improvement Program projects would create substantial time savings for commute trips to jobs in the core or across town.

Based only on changes in access to jobs, the growth analysis estimates that Thomas Roads Improvement Program projects would cumulatively increase growth pressures—in northwest Bakersfield to a moderate extent and slightly in west-central Bakersfield. Other areas in Bakersfield are expected to have a relative decrease in growth pressure. Given the existing level of growth pressure due to the ongoing

migration of population to Bakersfield and continuing traffic congestion, construction of the proposed Thomas Roads Improvement Program projects is judged unlikely to have a substantial effect on actual residential growth in the area.

Community Character and Cohesion

The right-of-way acquisition for the California High-Speed Rail project would have the potential to affect community cohesion. As with the Centennial Corridor, the California High-Speed Rail project could alter travel patterns of residents due to changes in the local street system. This may disrupt access to nearby facilities and services. However, engineering designs are being developed to keep the local circulation network intact by building underpasses and overpasses and depressing or elevating facilities.

In the long term, the project would improve the operational efficiency of State Route 58, and it would relieve traffic congestion from area roadways in the resource study area, which would have a positive effect on residents living nearby. The impact from project implementation would be beneficial on a cumulative basis.

Relocation and Property Acquisition

Implementation of any of the build alternatives would result in property acquisitions, ranging from 133 to 356 residential units and between 121 to 198 non-residential properties. Other cumulative projects expected to result in relocations and property acquisition include: (1) the California High-Speed Rail project, which would likely eventually relocate over 200 households and about 280 businesses within the Bakersfield metropolitan area; (2) 24th Street, which would relocate 25 homes; (3) the rail grade-separation portion of the State Route 58 (Rosedale Highway) Widening project, which would relocate 1 home and 14 businesses (the grade-separation is projected to be built in 2025); (4) the West Beltway, which would displace 29 to 72 homes, depending on the alternative selected; and (5) the Hageman Flyover Project, which would displace 1 business.

It is possible that other roadway improvements identified in the Regional Transportation Impact Fee Program may result in a few displacements, but that is unknown at this time because the engineering design for all the projects included in this program has not been completed. None of the projects in the Regional Transportation Impact Fee Program are expected to require a large number of relocations.

Based on current schedules for these projects, only the relocations for Centennial Corridor and the High-Speed Rail project would be expected to occur in the same time period. Relocations for 24th Street would be completed before the start of construction of the Centennial Corridor. The relocations associated with Rosedale Highway, Hageman Flyover, and the West Beltway would not occur until several years after the completion of the Centennial Corridor.

Compliance with the California Relocation Assistance Act, the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act, and the city of

Bakersfield's Relocation Assistance Program regarding fair compensation and relocation assistance for displaced individuals and businesses would minimize cumulative impacts as a result of right-of-way acquisition. But, combined, these projects would add to the demand for residential units and business properties in Bakersfield. Construction of new housing stock and business properties is continuing throughout Bakersfield and the surrounding area. The long-range growth forecast identifies substantial growth in the area to provide replacement opportunities. The timing of the property acquisition process for the Centennial Corridor and California High-Speed Rail projects would be important in phasing the impact on replacement housing.

Job losses associated with the business displacement are not expected because most businesses would likely be relocated to an area within the city of Bakersfield.

Right-of-way acquisition required for the Centennial Corridor Project would slightly diminish the property tax base of Bakersfield, resulting in minor losses of property tax revenue. Several public projects listed above would also result in the acquisition of private property, further diminishing the local property tax base. Taken altogether, however, this potential cumulative impact would likely be offset by the ongoing and expanding residential, industrial, and commercial property development identified in the cumulative projects list.

Cultural Resources

Resource Study Area

Cultural resource impacts can extend beyond the immediate and direct construction footprint of the specific project and include areas within the Area of Potential Effects, often extending adjacent to and one property beyond and within the viewshed of the project. Therefore, the resource study area includes the overall area from which the build alternatives would be potentially visible.

Current Condition and Historical Context

Numerous historic properties in the form of buildings with historic or architectural significance have been identified to be located in the metropolitan Bakersfield area, although an exact number is unknown due to a lack of an area-wide comprehensive local preservation survey meeting State Office of Historic Preservation standards. As of January 10, 2014, seven properties within Bakersfield were listed on the National Register of Historic Places. Many others have been found to be potentially eligible as part of Section 106, though lacking a formal process the exact number is not known. The city of Bakersfield also has a local Register of Historical Places, which as of January 2014, includes an additional fourteen properties. Another city of Bakersfield historic landmarks designation is made in the category of Locations of Historic Interest for which there are seventeen listings. While development sometimes removes certain historic properties, additional properties are identified and placed on registers as an appreciation for history and architecture expands among the local populace. In addition, as time progresses, more buildings meet the 50 year threshold for consideration. Windshield surveys conducted by professional historians and

architectural historians have identified a number of local neighborhoods within the Bakersfield city limits that could form potential historic districts, containing both residential and commercial properties, if the neighborhoods were interested in creating such districts.

Project Impacts

Changes to existing views would occur under build Alternative A due to the introduction of bridge structures, retaining walls, sound walls into the Rancho Vista Historic District, as well as splitting the historic district and demolition of more than half of the existing residential properties determined to be eligible for the National Register as district contributors.

Reasonable Foreseeable Actions

New development proposed in the metropolitan Bakersfield area, along with several transportation projects planned throughout the area, may have the further effect of reducing certain historic properties from the existing inventory. However, as most of the historic properties tend to be privately owned, decisions to maintain those properties with historic and architectural character lie not with government actions, but with the individual owners.

Cumulative Impacts

Construction activities may cause the loss or impairment of National Register or California Register built environment properties. These include demolition or relocation, as well as increases in vibration and the introduction of new visual elements out of character with the setting of the historic property. Development and other changes induced over time may eliminate or reduce the number of certain types of built environment properties which represent Bakersfield's rich architectural and historical past. However, based on both formal and informal surveys, the inventory of significant properties within the metropolitan Bakersfield area would remain vast.

For cumulative impacts to occur to historic properties, important examples of period architecture property types would have to be permanently removed from the existing inventory of Bakersfield. Neither the Centennial Corridor Project, nor the 24th Street Improvement Project, which anticipates an adverse effect on one historic property, the South of 24th Street Historic District, with potential relocation or demolition of between 7 and 10 district contributors, would cause the complete removal of any one period architectural style from the entire inventory of residential properties in Bakersfield. The California High-Speed Rail project, if built, is not expected to require demolition of historic properties in metropolitan Bakersfield. Regardless, under Section 106, adverse effects to historic properties are in part mitigated by means of carrying out stipulations as part of Memoranda of Agreement. Therefore, cumulative impacts related to historic properties are not expected to be substantial.

Visual/Aesthetics

Resource Study Area

Visual impacts can extend beyond the immediate area of the project site and include areas within the viewshed of the project. So, the resource study area includes the overall area from which the build alternatives would be potentially visible.

Current Condition and Historical Context

Landscape in the metropolitan Bakersfield area is characterized by relatively flat topography. The Kern River is an important visual and recreational corridor that runs through the project area and is visible from all build alternatives. The regional landscape, except for the northwestern portion, consists of a mix of residential, commercial, industrial, and recreational land uses.

Existing views are typical of a developed urban setting. Distant mountains, the Kern River, and scattered parks provide visual relief from the urban setting. The nearest naturally elevated features are the Greenhorn Mountains, about 10 miles northeast of the project area. As time goes on, it is likely that the viewshed in metropolitan Bakersfield would become more urbanized.

Project Impacts

Changes to existing views would occur under the build alternatives due to the introduction of bridge structures, bridge supports, retaining walls, sound walls, signs, lights, ramps, and other accessory structures, demolition of existing residential, commercial, and industrial buildings, and other structures and improvements. Obstruction of views of the Kern River would also occur.

Reasonable Foreseeable Actions

New structures and infrastructure would be introduced by residential and non-residential developments that have been proposed in the metropolitan Bakersfield area, along with several transportation projects throughout the area.

Future development in the metropolitan Bakersfield area would add to the increasing intensity and density of urban development in the project area through the construction of new buildings and infrastructure systems, including roadways.

Cumulative Impacts

Future development would expand the urbanized area, but the metropolitan Bakersfield area would continue to be surrounded by agricultural land or low-density uses in the outlying areas, thereby maintaining a semi-rural character.

For cumulative aesthetic impacts to occur, elements of cumulative projects would need to be close to each other or within the same view. The State Route 58 Widening project (Rosedale Highway) would widen the roadway from four to six lanes. As part of a final phase in the year 2025, a grade separation is proposed over the San Joaquin Valley Railroad line. The State Route 58 Gap Closure project would widen the freeway from Cottonwood Road to State Route 99. Both of these projects would be

visible from spots along the Centennial Corridor and would incrementally add to the urbanized nature of the area, but would not change the visual character of the area.

The Westside Parkway project would be incorporated into the Centennial Corridor. Design of Segment 1 of the Centennial Corridor would be done to maintain an aesthetic design theme that is compatible with the Westside Parkway project; to preserve mature trees, as feasible; and to make stormwater management improvements aesthetically pleasing. Therefore, cumulative impacts related to visual and aesthetic resources are not expected to be substantial.

The California High-Speed Rail project, if built, would further add to the urban character of the study area. Design elements and timing for construction of this project are unknown.

When evaluating cumulative aesthetic impacts, it is important to note that the context in which a project is being viewed would also influence the significance of the aesthetic impact. If most of an area becomes or is already urbanized, as is the case with the project area, the contrast with the natural surroundings would be less because the project would not stand out.

So, while the project, when combined with the cumulative projects, would contribute to the ongoing urbanization of the metropolitan Bakersfield area, it is this urban context that would minimize the cumulative visual impact.

Design review of individual projects by the city and County would ensure that the visual quality of proposed structures is consistent with adopted policies and design guidelines. Cumulative impacts would not be significant, and no additional measures would be required.

Hydrology and Floodplain

Resource Study Area

The Centennial Corridor is within the Kern River watershed. The cumulative resource study area is the portion of the Kern River watershed within metropolitan Bakersfield. The Kern River serves as the main drainage channel for the project area. This river flows south through the Sequoia National Forest and enters Lake Isabella. From Lake Isabella, the river flows southwest into the San Joaquin Valley through the city of Bakersfield and empties into the normally dry Kern Lake. Groundwater resources are found within the San Joaquin groundwater basin, which underlies the project area.

Current Condition and Historical Context

The Kern River poses flood hazards to adjacent areas, although levees along the river, bridges, diversion structures, and canals provide flood protection for abutting properties. The natural and beneficial uses of the Kern River and the adjacent floodplain include wildlife foraging, migration, and breeding, flood-flow conveyance and storage, groundwater recharge, and recreational activities, which would be maintained into the foreseeable future.

Project Impacts

Ground disturbance under the build alternatives would change the directional flows and volume of stormwater. The three build alternatives would include bridges over the Kern River, and the bridge columns that would be built in the river would raise the surface water elevation. However, the calculated increase in water surface would be minor, and this encroachment would not be substantial. Impacts on natural and beneficial floodplain values would be minor, and the project would not support incompatible floodplain development.

Reasonable Foreseeable Actions

A number of roadway projects under the Regional Traffic Impact Fee Program would be near the Kern River. Also, the Mohawk Street Extension, the West Beltway, and the 24th Street projects would cross the river, similar to the project.

Cumulative Impacts

Future development within the Kern River watershed would increase impermeable surfaces and decrease water percolation areas. An increase in impervious surfaces would reduce recharge, but since individual development sites are not designated as groundwater recharge areas and existing recharge basins are expected to remain in use, reduction in percolation areas from the project would not have cumulative adverse impacts on groundwater recharge.

The increase in runoff volumes from future development would increase overall stormwater volumes and flow rates in local drainage channels and the Kern River. Under the County/city National Pollutant Discharge Elimination System Permit, new developments must provide onsite improvements (including stormwater infiltration facilities or other stormwater runoff controls) and/or storm drainage system upgrades to prevent the creation of flood hazards at downstream areas. So, no cumulative adverse impacts related to flood hazards or inadequate storm drainage would occur.

Proposed river crossings may increase the surface water elevation of the Kern River. The hydraulic assessment for the project incorporates other proposed bridges into the analysis. The results reveal no adverse impacts to the hydrologic conditions of the Kern River with standard conditions and minimization measures incorporated.

Water Quality and Stormwater Runoff

Resource Study Area

Surface water resources within the Kern Delta hydrologic area include the Kern River and several canals that divert water from the Kern River for use in agricultural irrigation and as municipal water supplies for the surrounding areas. Groundwater resources are within the San Joaquin groundwater basin, which underlies the project area. The resource study area for the analysis of cumulative impacts related to water quality is the metropolitan Bakersfield portion of the lower segment of the Kern River watershed.

Current Condition and Historical Context

The Kern River receives stormwater runoff from developments in the project area through sheet flow and a system of drainage pipes, canals, retention basins, cross culverts, pump stations, and landscaped areas. Surface water quality in the Kern River and other surface water bodies within the Tulare Lake basin are generally good.

Groundwater is the main source of domestic water supplies in the Bakersfield area, with the Kern River water and imported water as supplemental sources. Aside from the river channel, there are recharge ponds along the river, recharge facilities, ground percolation programs, canal seepage, spreading/banking projects, and wastewater reclamation that contribute to local groundwater recharge. Groundwater quality in the Tulare Lake hydrologic region is suitable for most urban and agricultural uses, with some exceptions. No water body in the project area has been identified as "impaired" under Section 303(d) of the Clean Water Act.

Project Impacts

Construction of any build alternative would contribute pollutants to receiving water bodies from uncontrolled runoff and discharges. But, existing and proposed stormwater infiltration basins built as part of the project would minimize impacts to surface water quality of the receiving waters within the watershed.

Reasonable Foreseeable Actions

Private development projects and infrastructure projects planned in the project area would require construction, generate vehicle trips, and involve outdoor operations that may generate stormwater pollutants.

Cumulative Impacts

Future development in the Kern River watershed would generate new sources for urban pollutants, which could affect water quality of surface water and groundwater resources. Construction activities would lead to increases in stormwater runoff and pollutants in the runoff from new impervious areas and a reduction in groundwater recharge. Construction could also result in erosion, which could degrade water quality in receiving waters.

New development would have to comply with existing regulations regarding construction practices that minimize risks of erosion and runoff. Among the various regulations are the applicable provisions of Caltrans Statewide National Pollutant Discharge Elimination System Permit, the Construction General Permit, County and city regulations related to the protection of stormwater quality for new development and significant redevelopment; municipal grading permits, and other National Pollutant Discharge Elimination System permits. This would minimize degradation of water quality at individual project construction sites. Consequently, cumulative impacts would not be considered substantial.

Vehicle use of planned highway/roadway improvement projects would contribute pollutants that could degrade stormwater quality in the Kern Delta hydrologic area.

Compliance with applicable State Water Resources Control Board and Regional Water Quality Control Board regulations would ensure that water quality objectives are met and that beneficial uses are maintained. Therefore, direct or indirect impacts associated with water quality from the project would not be considered substantial, and the project would not have a cumulatively considerable contribution to the cumulative effects related to water quality.

Since groundwater impacts associated with the Centennial Corridor Project would not be substantial, the project would not have a cumulatively considerable contribution to cumulative effects on groundwater.

Noise

Resource Study Area

The resource study area is the same as the study area evaluated in the *Noise Study Report.* As summarized in Section 3.2.7, Noise, and discussed in the *Noise Technical Study*, various land uses sit next to the Centennial Corridor project in the study area: single-family and multi-family residences, schools, parks, hotels and motels, churches, and outside dining areas. The analysis evaluated the effects of noise on affected receivers next to the build alternatives.

Current Condition and Historical Context

The project study area is an urban area that includes major roadways, freeways (State Routes 58 and 99) and a rail line. Based on the short-term noise measurements taken in the study area, the existing outdoor equivalent hourly average noise levels in the study area range from 50 to 73 dB, consistent with an urban area. The health effects on the population at the study area would be considered average.

Project Impacts

Each of the build alternatives would result in affected receivers being exposed to traffic noise levels that would approach or exceed the Caltrans Noise Abatement Criteria where abatement would not be provided because it was determined not to be feasible and/or reasonable.

Reasonable Foreseeable Actions

Reasonably foreseeable actions include construction of additional residential uses, which would result in an increase in the number of receptors that may be exposed to traffic noise associated with the Centennial Corridor Project, and generation of additional traffic that would use the Centennial Corridor and other roadway projects identified in Table 3.52, Cumulative Projects List.

A portion of the California High-Speed Rail project would be within the resource study area. Based on current studies, the High-Speed Rail alignment would be between Truxtun and California Avenues on the east side of State Route 99. From west of State Route 99 to Coffee Road, the rail alignment would generally be in the vicinity of the Westside Parkway. Around Coffee Road, the rail alignment would veer northwesterly, away from the Centennial Corridor study area.

Cumulative Impacts

The project long-range analysis (year 2038) reflected the growth projections approved by the Kern Council of Governments. As a result, the 2038 noise analysis of traffic noise reflects the anticipated population growth and traffic that would be associated with cumulative projects. Therefore, except for the California High-Speed Rail project, cumulative noise levels would be the same as those evaluated for the project. The noise impacts associated with the High-Speed Rail project would occur only as the train is passing the affected receivers. As a result, the extent of the impacts would depend on the number and timing of the trips. The High-Speed Rail project also proposed noise abatement to reduce the impacts associated with the rail activity. However, even with abatement, there would still be increased noise levels for those receptors that are exposed to noise levels of both the Centennial Corridor and the California High-Speed Rail project.

Biological Resources

Resource Study Area

The resource study area for biological resources is metropolitan Bakersfield, which is the same area that is under the Metropolitan Bakersfield Habitat Conservation Plan.

Current Condition and Historical Context

Historical development in the metropolitan Bakersfield area has led to the loss of biological resource habitat over time, which has compromised the value of the natural habitat. The project area is highly urbanized and disturbed. Much of the habitat in metropolitan Bakersfield is a mix of native and non-native species. In response to this, the current strategy for maintaining habitat is to secure large contiguous blocks of habitat to support core populations and to serve as corridors between core areas (U.S. Fish and Wildlife Service 1998). The Metropolitan Bakersfield Habitat Conservation Plan was designed to implement this strategy focusing on 11 special-status plant species and seven special-status wildlife species. Mitigation fees paid for each project are used to purchase and maintain habitat reserves.

Project Impacts

The project would have impacts to sensitive plant and animal species and their habitats, including the Swainson’s hawk, San Joaquin kit fox, and Ferris’ goldfields. The project would also affect riparian habitats and wetlands found in the Kern River and in various canals in the area.

Reasonable Foreseeable Actions

Future development and planned transportation projects would result in permanent and temporary loss of habitat for plant and wildlife species in the area. Additionally, habitat fragmentation can result from the following: development of 1,200 acres of open space; construction and widening of roads for the Thomas Roads Improvement Program projects; and other infrastructure projects, as listed above.

Cumulative Impacts

The disturbance of plant and animal species and loss of habitat that would accompany future development and infrastructure and roadway projects in the metropolitan Bakersfield area would adversely affect sensitive species found in the area. The development of the projects listed in Table 3.52 would require mitigation for the cumulative loss of habitat through payment into the Metropolitan Bakersfield Habitat Conservation Plan of an in-lieu mitigation fee.

The project and cumulative projects could also indirectly affect adjacent habitat during construction or operation. During construction, noise or vibration could affect burrowing animals or nesting raptors. Runoff from the construction sites or operational roadways could affect water quality next to the project sites, which could degrade habitat quality. Night lighting during construction or operation of the projects could interfere with typical foraging or predation of nocturnal species in adjacent open space areas, increasing the potential for some wildlife to avoid these areas.

To avoid or offset potential cumulative effects on biological resources, avoidance, individual projects would implement minimization, and/or mitigation measures. These measures include, but are not limited to, pre-construction biological surveys, biological monitoring, best management practices, construction contract standard provisions, contract non-standard provisions, environmental awareness training, and habitat compensation to mitigate for potential effects to federally and state-listed species.

Implementation of the project and cumulative projects would result in permanent and temporary cumulative impacts on San Joaquin kit fox habitat, including contributing to the regional loss of habitat and fragmentation. Through consultation with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife, it has been determined that the Thomas Roads Improvement Program projects, which includes the Centennial Corridor Project, would have a cumulative effect on the San Joaquin kit fox. The new roadways could disrupt movement corridors, reducing the probability that kit foxes could safely move from one area of suitable habitat to another in search of denning and foraging habitat. Areas of undeveloped kit fox habitat, which are already highly fragmented in Bakersfield, could be sufficiently degraded by construction of new and expanded roadways and associated infrastructure so that they would no longer function as suitable habitat. Reduced habitat connectivity associated with construction and use of these roadways and infrastructure could force kit foxes to use different areas for movement that could result in greater exposure to potential predators and risk of injury by vehicles.

New development, highway projects, and the Thomas Roads Improvement Program projects could permanently or temporarily affect kit fox dens. Dens within the individual project sites could be destroyed by earth-moving activities during project grading and construction. Dens in the immediate vicinity of roads might be damaged or destroyed by vibration from construction activities. Loss of dens could result in the displacement of kit foxes.

In addition to the project-specific avoidance, minimization, and compensatory mitigation measures described in Section 3.3, Biological Environment, 3.3.1, Natural Communities, 3.3.2, Wetlands and Other Waters, 3.3.3, Plant Species, 3.3.4, Animal Species, 3.3.5, Threatened and Endangered Species, and 3.3.6, Invasive Species, of this document, the project would mitigate cumulative effects of the Thomas Roads Improvement Program projects by implementing the Sump Habitat Program, which would provide long-term habitat conservation for the urban kit fox population. On balance, and taking into account mitigation and compensation to be provided for the Thomas Roads Improvement Program, of which the Centennial Corridor is part, there would not be a net adverse cumulative impact on biological resources (see measure CUM-1 below).

Avoidance, Minimization, and/or Mitigation Measures

Avoidance, minimization, and/or mitigation measures identified in each topical section in this document would serve to minimize cumulative impacts to the extent feasible. As each project is evaluated for environmental impacts, project-specific mitigation measures would apply, which would reduce the cumulative impact.

All of the Thomas Roads Improvement Program projects would be providing mitigation for cumulative loss of habitat by payment of the Metropolitan Bakersfield Habitat Conservation Plan in-lieu mitigation fee. Individual projects would also comply with regulations of the California Department of Fish and Wildlife, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and the Central Valley Regional Water Quality Control Board, as they relate to the preservation and protection of sensitive plant and animal species and their habitats.

In addition, the Sump Habitat Program described below in Mitigation Measure CUM-1 will provide long-term habitat conservation for the urban San Joaquin kit fox population in the metro-Bakersfield area by focusing on sumps (i.e., stormwater drainage basins); sumps in Bakersfield are a functional habitat type for the species and many sumps are either currently known to support San Joaquin kit fox dens or offer potential denning opportunities. The city, in coordination with Caltrans, proposed to utilize the Sump Habitat Program to minimize collective effects to the San Joaquin kit fox engendered by all six Thomas Roads Improvement Program road improvement projects. Conservation measures of the Sump Habitat Program include the installation of artificial dens in selected sumps, the enhancement of San Joaquin kit fox habitat by controlling vegetation in and around dens, the increase of San Joaquin kit fox accessibility to sumps through installation of fence/gate openings (with proposed dimensions of 6 x 6 inches to exclude predators like coyotes and medium- to large-sized dogs), and the reduction in the potential for effects to the species associated with regular maintenance activities and predation. The city provided a letter of commitment to the Service, dated August 10, 2010, fully supporting and providing assurance of the implementation and management of the Sump Habitat Program and its conservation efforts.

CUM-1 The basic conceptual framework for the Sump Habitat Program is described in the September 2010 Draft Sump Habitat Program Plan, which

addresses five core conservation goals in detail that are integral to the implementation and success of the Sump Habitat Program: 1) the selection of sumps that maintain San Joaquin kit fox accessibility and/or habitat (i.e., those of high/medium conservation priority based on the relative potential for minimizing program-level effects); 2) the installation and maintenance of San Joaquin kit fox enhancement features (i.e., fence/gate gaps, artificial dens, conservation zones, signs, and enhancement maintenance and repair); 3) the management of sump vegetation compatible with San Joaquin kit fox presence and/or use (i.e., performance of routine maintenance outside the San Joaquin kit fox natal season and the use of hand tools in conservation zones and new active dens); 4) the biological monitoring and reporting of results (i.e., pre-maintenance surveys; den monitoring and supervised den excavation; environmental awareness training; maintenance monitoring; annual enhancement inspection; annual San Joaquin kit fox sump use monitoring; and annual reporting); and 5) the provision of long-term conservation assurances (i.e., individual conservation easements for each sump; a perpetual non-wasting endowment for management, maintenance, and monitoring costs associated with ongoing implementation; and a Service-approved Long-Term Management Plan. The proposed easement and endowment holder(s) will be Service-approved third-party organizations). Further details in regards to these five core measures can be found in the Draft Sump Habitat Program Plan.

a. The Sump Habitat Program will continue to be updated, refined, and ultimately finalized through an ongoing collaborative consultation process involving Caltrans, the city of Bakersfield, Parsons/Thomas Roads Improvement Program, and the Service over the course of the final remaining Thomas Roads Improvement Program project.

b. The finalized Sump Habitat Program will be established and implemented within one year of the approval of the final environmental document for the last of the six Thomas Roads Improvement Program projects; the city of Bakersfield will fully fund the Sump Habitat Program within one year of this approval. Caltrans and the city of Bakersfield will share responsibility for the Sump Habitat Program; Caltrans will adhere to the proposed avoidance and minimization measures and terms and conditions of this Biological Opinion (Service file number 08ESMF00-2013-F-0373-R001) and will be responsible for the overall implementation of the Sump Habitat Program, while the city of Bakersfield will be responsible for enhancing sumps and conducting long term management of the Sump Habitat Program. A Service-approved third-party will be responsible for administering endowment funds and providing compliance oversight with the terms of the conservation easements for each sump in the Sump Habitat Program.

Chapter 4 California Environmental Quality Act Evaluation

4.1 Determining Significance under the California Environmental Quality Act

The project is subject to federal and state environmental review requirements because Caltrans and the city of Bakersfield propose the use of federal funds and/or the project requires a federal approval action. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act and the National Environmental Policy Act. Caltrans is the project proponent and the lead agency under the California Environmental Quality Act. The Federal Highway Administration's responsibility for environmental review, consultation, and any other action required in accordance with the National Environmental Policy Act and other applicable federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S. Code 327.

One of the main differences between the National Environmental Policy Act and the California Environmental Quality Act is the way significance is determined. Under the National Environmental Policy Act, significance is used to determine whether an Environmental Impact Statement, or some lower level of documentation, will be required. The National Environmental Policy Act requires that an Environmental Impact Statement be prepared when the proposed federal action (project) *as a whole* has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under the California Environmental Quality Act may not be of sufficient magnitude to be determined significant under the National Environmental Policy Act. Under the National Environmental Policy Act, once a decision is made regarding the need for an Environmental Impact Statement, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. The National Environmental Policy Act does not require that a determination of significant impacts be stated in the environmental documents.

The California Environmental Quality Act, on the other hand, does require Caltrans to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an Environmental Impact Report must be prepared. Each and every significant effect on the environment must be disclosed in the Environmental Impact Report and mitigated if feasible. In addition, the California Environmental Quality Act Guidelines list a number of mandatory findings of significance, which also require the preparation of an Environmental Impact Report. There are no types of actions under the National Environmental Policy Act that parallel the findings of mandatory significance of the California Environmental

Quality Act. This chapter discusses the effects of this project and the California Environmental Quality Act significance.

4.2 Discussion of Significant Impacts

With the absence of timberland (forest land), coastal zones, mineral resources, and wild and scenic rivers in or near the project area, the project would have no impacts on these resources. No further discussion of these issues is provided in this chapter. In addition, there would be no transportation/traffic impacts except temporary delays during construction. The project would have beneficial effects on circulation. Transportation/traffic is discussed in Section 3.1.6 of this Environmental Impact Report/Environmental Impact Statement.

Questions on the California Environmental Quality Act environmental checklist (Appendix A, Volume 2) have been addressed based on the discussions in Chapter 3 and below. The discussion below applies to all three build alternatives, unless specifically noted otherwise. As previously discussed in Chapter 3, the environmental baseline for the project is 2008 because that is the year the Notice of Preparation was filed.

4.2.1 Less than Significant Effects of the Project

All three build alternatives have the potential for environmental impacts on resources in the area, as analyzed in Chapter 3 above. However, with standard conditions and minimization measures incorporated, the following impacts would have a less than significant effect on the environment (see Chapter 3 for further information):

Common to All Build Alternatives

- Agriculture (discussed in Section 3.1.3 Farmland)
- Air quality (discussed in Section 3.2.6 Air Quality)
- Archaeological resources (discussed in Section 3.1.8 Cultural Resources)
- Hydrology and water quality (discussed in Section 3.2.1 Hydrology and Floodplain and Section 3.2.2 Water Quality and Stormwater Runoff)
- Geology and soils (discussed in Section 3.2.3 Geology/Soils/ Seismic/Topography)
- Hazards and hazardous materials (discussed in Section 3.2.5 Hazardous Waste and Materials)
- Population and housing (discussed in 3.1.4 Community Impacts)
- Paleontological resources (discussed in Section 3.2.4 Paleontology)
- Public services, other than parks (discussed in Section 3.1.5 Utilities/Emergency Services)

- Utilities and service systems (discussed in Section 3.1.5 Utilities/Emergency Services)

Analyses of these topics are provided in Chapter 3. Additional analysis of mobile source air toxics pursuant to the California Environmental Quality Act is also provided.

Mobile Source Air Toxics Contaminants

The following analysis assesses project operational emissions of mobile source air toxics contaminants for comparison with the base year (year 2008). The analysis uses the projected traffic data, including local roadway traffic volumes, vehicle miles traveled, vehicle mix, traffic diversion data, average speed, and the associated changes in mobile source air toxics contaminants for the project alternatives.

Project Setting

The varied existing land uses within the Centennial Corridor study area include low-density residential, commercial, industrial, utilities, and recreational uses. The project area contains several well-established residential neighborhoods and commercial lands mainly situated along Stockdale Highway, California Avenue, and next to State Route 99. Stockdale Highway serves many local retail shops and commercial enterprises, interspersed with small offices providing various community services. Health-related offices, houses of worship, educational facilities, and neighborhood-serving businesses and services are intermingled in residential areas. Multi-family residences, including condominium and apartment complexes, sit throughout the study area.

Land uses along Rosedale Highway (north of the project alignments) are commercial, industrial, open space, public facilities, and residential uses. Residential uses with a mix of commercial uses are mostly west of Calloway Drive. Most land uses include industrial, resource, and commercial land from Calloway Drive to State Route 99. No neighborhoods with an environmental justice population exist along Rosedale Highway within the project vicinity.

Industrial land uses are mostly on the north side of the Kern River. Recreational land uses are spread throughout the study area in the form of neighborhood parks, as noted in Section 2.3. The proposed uses of the Kern River Parkway include primary river channel, natural open space, landscaped areas, existing and proposed recreational areas, access points, parking areas, bridge crossings, and other similar designations. Utilities and transportation facilities are found throughout the study area. Little remaining open space/vacant land exists within the study area. Public facilities are largely concentrated within downtown Bakersfield. The Kern County government is the largest employer within Bakersfield.

Based on demographic data reported by the 2010 U.S. Census, the build alternative alignments pass through 17 census block groups. Thirteen of these 17 census block groups contain a number of minority populations, lower than the city and county averages.

Only four block groups (out of 17) for the Alternatives A and C alignments and three block groups (out of 16) for the Alternative B alignments (see Figures 3-9a through 3-9c in Volume 2) contain minority populations that are higher than the city and county averages. One of these block groups (Census Tract 20 Block Group 3) is also considered a low-income community because the average income of residents is below the federal poverty level.

Table 4.1 shows the number of residents living within 500 feet of each build alternative alignment delineated by census block groups that pass through the project alignments. See Figures 3-9a through 3-9c for census tract maps.

Table 4.1 Number of Residents Within 500 Feet of Project Alignments

Tract	Block	Alternative A	Alternative B (Preferred Alternative)	Alternative C
5.07	1	0	0	0
18.01	1	N/A	N/A	250
18.01	2	N/A	313	N/A
18.01	3	92	372	N/A
18.02	1	330	0	0
18.02	3	75	N/A	N/A
19.01	2	28	28	30
19.01	3	17	17	75
19.02	3	46	46	46
20.00	**3**	116	116	116
26.00	**3**	46	46	46
27.00	1	52	52	52
27.00	4	165	165	165
27.00	**5**	150	150	150
28.12	1	273	271	80
28.12	2	210	210	N/A
28.12	**3**	40	N/A	N/A
28.13	1	95	95	95
Total		1735	1881	1105

N/A: not applicable.
Note: The bold face signifies block groups with an environmental justice population.
Source: Developed from the right-of-way maps 2012

Numerous sensitive receptors to air pollutants, such as schools, hospitals, medical facilities and childcare centers, sit in the vicinity of the proposed alignments as shown in Table 4.2. Note that not all medical facilities listed in Table 4.2 are inpatient facilities and so are not considered a sensitive receptor to air pollutants.

Table 4.2 Schools and Medical Facilities Within Vicinity of Project Alignments

Community Facility	Approximate Distance (feet) from Alignment		
	Alternative A	Alternative B (Preferred Alternative)	Alternative C
Schools and Daycare			
Van Horn (Wayne) Elementary School	1,000	N/A	N/A
Roosevelt Elementary School	1,200	1,200	1,200
Little Red School House	N/A	0	1,900
Harris (Caroline) Elementary School	N/A	800	1,900
Stockdale Christian School	1,700	375	N/A
Sunshine Center	1,100	1,100	1,100
First United Methodist Church/First Experiences Preschool Assembly Manor	700	700	N/A
Millie Munsey Elementary School	1,400	1,400	1,400
Noah's Ark Pre-School	1,400	1,400	1,400
Vista High School	1,800	1,800	1,800
Claude Richardson Child Development Center	900	900	900
Sequoia Middle School	1,700	1,700	1,700
Stine Headstart	800	1,000	N/A
Day Care Center at Central California Economic Development	1,000	1,000	N/A
Child Haven Preschool	640	600	1,100
Five Star Day Care	140	140	110
Caring Corner Day Care Center	300	300	300
Medical Facilities			
Stockdale Podiatry	200	150	N/A
Kaiser Permanente - Stockdale Medical Offices	0	105	550
Brundage Medical Center	550	550	550
Houchin Blood Bank	800	N/A	N/A
DaVita Dialysis	1,980	1,000	1,980
Kern Radiology	N/A	N/A	1,320
Bakersfield Veteran's Affairs Community Clinic	N/A	N/A	1,980
Arthritis Association/Adaptive Aquatic Center	N/A	N/A	1,980
Lifehouse Parkview Healthcare Center	N/A	1,800	930
Truxtun Surgery Center	N/A	N/A	1,000
Healthsouth Bakersfield Rehabilitation Center	N/A	500	1,400
Bakersfield Family Medical	N/A	500	1,900
Kaiser Permanente Medical Care	900	1,400	N/A
First Choice Medical	800	650	1,800
Child and Adolescent Psychology Center	600	N/A	N/A

Note: Facilities sitting beyond 2,000 feet of the build alternatives are listed as not applicable (N/A). Facilities directly affected by a build alternative are identified with the number 0.

Source: *Community Impact Assessment* 2015

Results of Mobile Source Air Toxics Analysis

Please refer to the Mobile Source Air Toxics analysis in the Air Quality Section 3.2.6. Based on the mobile source air toxics emission calculation results, no significant impact from mobile source air toxics is expected to occur based on comparison of mobile source air toxics emissions of project alternatives with the existing condition (2008) as the baseline for the California Environmental Quality Act.

As far as the health effect of mobile source air toxics is concerned, there are 1,735 (Alternative A), 1,881 (Alternative B), and 1,105 (Alternative C) residences within 500 feet of the build alignments (see Table 4.1). There are also numerous sensitive receptors such as schools, hospitals, and childcare centers near the proposed alignments (see Table 4.2). These residences and sensitive receptors would be exposed to the mobile source air toxics as a result of the existing and proposed new roadway operations.

Research into the health impacts of mobile source air toxics is ongoing. For different emission types, various studies show that some are associated with adverse health outcomes through epidemiological studies (frequently based on emissions levels found in occupational settings); others indicate that animals demonstrate adverse health outcomes when exposed to large doses.

Other studies have addressed mobile source air toxics health impacts on humans in proximity to roadways. The Health Effects Institute, which is a nonprofit organization funded by U.S. Environmental Protection Agency, Federal Highway Administration, and the automotive industry, has undertaken a major series of studies to research near-roadway mobile source air toxics hot spots, the health implications of the entire mix of mobile source pollutants, and other topics. The final summary of the series is not expected for several years.

Alternative B

- Recreation (discussed in Section 3.1.1.3 Parks and Recreation)

Alternatives B and C

In addition to the impact areas identified above, with standard conditions incorporated, Alternatives B and C would have less than significant effects on the following area:

- Historical resources for the purposes of the California Environmental Quality Act

No-Build Alternative

The No-Build Alternative would not lead to any physical changes in the existing environment, in the following areas:

- Aesthetics
- Air quality (construction emissions)

- Agriculture
- Biological resources
- Cultural resources
- Geology and soils
- Hazards and hazardous materials
- Hydrology and water quality
- Land use and planning
- Population and housing
- Public services
- Recreation
- Utilities and service systems

4.2.2 Significant Environmental Effects of the Project

Common to all Build Alternatives

Significant adverse impacts before mitigation measures would occur with the build alternatives in the following resource areas:

- Biological resources

Alternative A

In addition to the impact areas identified above, Alternative A would have significant adverse impacts before incorporation of mitigation measures in the following areas:

- Historical Resources for the purposes of the California Environmental Quality Act
- Public Services – Parks—Kern River Parkway

Alternative B (Preferred Alternative)

Alternative B would not have any significant impacts beyond those listed under the Common to All Build Alternatives heading above.

Alternative C

In addition to the impact areas identified above, Alternative C would have significant adverse impacts before incorporation of mitigation measures in the following area:

- Public Services – Parks—Saunders Park

No-Build Alternative

The following would have a significant impact with the No-Build Alternative:

- Transportation/Traffic
- Air Quality (plan consistency)
- Noise

4.2.3 Unavoidable Significant Environmental Effects

Measures have been proposed to mitigate the potentially significant adverse impacts of the build alternatives. However, the following impacts would remain significant and unavoidable.

- Aesthetics (Visual) (Alternatives A and B)
- Land Use and Planning (Consistency with Planning Programs—all alternatives)
- Community Impacts—Alternatives A and B
- Noise (all alternatives)

These are discussed below.

Common to All Build Alternatives

Land Use and Planning

As discussed in Section 3.1.1.2, none of the build alternatives would be able to fully meet all the goals outlined in the *Metropolitan Bakersfield General Plan*. The remaining inconsistencies pertain to minimizing impacts from truck traffic on noise-sensitive uses; retaining existing residential neighborhoods and allowing in-fill development that is compatible with the character of the surrounding neighborhood; and protecting access to the Kern River (this last point only applies to Alternative A). The project has been designed to minimize these inconsistencies with local plans and programs to the extent feasible. However, these impacts cannot be fully reduced to less than significant.

Noise

All the build alternatives would have sensitive noise receptors that would be exposed to traffic noise increases in excess of 12 dB even after abatement measures. The noise analysis in accordance with the California Environmental Quality Act is presented below.

California Environmental Quality Act Noise Analysis

When determining whether a noise impact is significant under the California Environmental Quality Act, a comparison is made between the existing noise level (baseline) and the build alternative noise levels. The California Environmental Quality Act noise analysis is independent of the National Environmental Policy Act analysis, which is centered on noise abatement criteria. Under the California Environmental Quality Act, the assessment looks at the setting of the noise impact and then how large or perceptible any noise increase would be in the given area. The following are key considerations: uniqueness of the setting, sensitive nature of the

noise receptor(s), magnitude of the noise increase, number of residences affected, and project noise level.

If a proposed project is determined to have a significant noise impact under the California Environmental Quality Act, then the act dictates that mitigation measures must be incorporated into the project unless such measures are not feasible.

It is generally accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments, and that a 5-decibel increase is perceived as a distinctly noticeable increase. A 10-decibel increase is generally perceived as a doubling of loudness. Therefore, a doubling of sound energy, such as doubling the volume of traffic on a highway that would result in a 3-decibel increase in sound would generally be perceived as barely detectable.

Frequent outdoor use areas of residences and other noise-sensitive areas affected by the project can be divided into two distinct groups. The first group is receivers that are located along State Route 58, along State Route 99 south of State Route 58, and along the east side of State Route 99 north of State Route 58; these receivers are presently exposed to traffic noise from a freeway. The second group consists of frequent outdoor use areas that are not presently exposed to freeway traffic noise, but are located along proposed Alternatives A and B west of State Route 99, as well as receivers along the west side of Alternative C north of State Route 58.

A two-tier impact criterion for traffic noise significance analysis is used for the California Environmental Quality Act. A 5-decibel increase from existing noise levels is considered an impact for areas presently exposed to the freeway traffic noise; a 12-decibel increase is used for areas that presently are not exposed to the freeway traffic noise. This allows less noise increase for areas that are along the existing freeway because the areas are already exposed to high traffic noise levels. The reasoning for this two-tier approach is that people already exposed to high levels of noise should be expected to tolerate a small increase in the amount of noise in their community. In contrast, if the existing noise levels are quite low, it is reasonable to allow a greater change in the community noise for the equivalent difference in annoyance. Typically, a 5-decibel noise increase in a noisy environment is more annoying and intruding than a similar noise increase in a quieter environment.

Because a decibel, which is used to report noise levels, is a logarithm, the required energy to increase 1 decibel is much less when the noise level is 50 dBA versus when it is 70 dBA. An increase of 5 dB from 67 to 72 dBA requires approximately 4.5 times more energy than required to increase 52 dBA by 12 dB to 64 dBA. Therefore, an increase of 12 dB at a lower noise level will not cause more energy exposure than an increase of 5 dB at a higher noise level. The higher increase for areas that presently have low background noise levels would bring their noise levels about the same as the areas along the existing freeways.

A project is considered to have a significant noise impact when it causes an adopted noise standard to be exceeded at a sensitive receptor and when it substantially increases noise exposure.

At noise receiver locations, the existing baseline traffic noise level was compared to the future build traffic noise level for each of the build alternatives. Feasible traffic noise abatement was considered at locations where a significant noise impact was identified. Because of the constrained configuration and suburban location of the project, construction of noise barriers was considered the only practical traffic noise abatement measure. For the purposes of the California Environmental Quality Act, Caltrans considers the reasonableness and feasibility of noise abatement the same as previously discussed in Section 3.2.7, Noise, and as determined in the *Noise Abatement Decision Report.*

Land uses along the alignment of the project consist of single- and multi-family residences, commercial and light industrial establishments, hotels and motels, office buildings, parks, churches, mobile homes, recreational outdoor use areas, and schools and daycare centers. Most of the frequent outdoor use areas consist of residential areas. Sound walls would serve as abatement to bring down the noise levels along several segments of the freeway, but some areas would continue to experience noise increases of 5 or 12 dB or more. Noise impacts at these locations would remain significant and unavoidable.

Alternative A

There are 157 frequent outdoor use areas west of State Route 99 that would have more than a 12-decibel noise increase and 27 frequent outdoor use areas along State Route 58 and State Route 99 that would have more than a 5-decibel noise increase. Alternative A proposes 23 sound walls to cover the entire study area, but only 19 meet the feasibility and reasonableness criteria. Refer to Section 3.2.7, Noise, for details. Future predicted traffic noise levels with the recommended abatement measures would range from 56 to 74 dBA. There would be 13 affected frequent outdoor use areas for which noise abatement is not recommended, and 171 frequent outdoor use areas would still be affected even with the recommended sound walls.

Tables 4.3 through 4.5 show the change in traffic noise levels at each receiver location and indicate whether an impact is a significant impact.

Table 4.3 Traffic Noise Impact Analysis – Alternative A (West of State Route 99)

Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Recommended Sound Wall	Future Conditions with Alternative A minus Existing Conditions (2011)	Noise Reduction (dBA)	Increase/ Decrease from Existing Noise Level	Impact
RA-6	52	52	71	S474	19	6	13	Significant/Unavoidable
RA-7	52	52	69	S474	17	6	11	Less than Significant
RA-8	52	52	66	S474	14	5	9	Less than Significant
RA-9	52	52	63	S474	11	4	7	Less than Significant
RA-10	52	52	62	S474	10	3	7	Less than Significant
RA-11	52	52	64	S474	12	5	7	Less than Significant
RA-12	52	52	72	S474	20	10	10	Less than Significant
RA-12A	52	52	72	S474	20	8	12	Significant/Unavoidable
RA-13	52	52	71	S474	19	5	14	Significant/Unavoidable
RA-13A	52	52	74	S474	22	8	14	Significant/Unavoidable
RA-14	52	52	73	S474	21	8	13	Significant/Unavoidable
RA-15	52	52	69	S474	17	8	9	Less than Significant
RA-16	52	52	68	S474	16	7	9	Less than Significant
RA-17	52	52	71	S474	19	8	11	Less than Significant
RA-18	52	52	69	S474	17	7	10	Less than Significant
RA-18A	52	52	73	S474	21	7	14	Significant/Unavoidable
RA-19	52	52	66	S474	14	5	9	Less than Significant
RA-20	52	52	69	S474	17	6	11	Less than Significant
RA-21	52	52	69	S474	17	6	11	Less than Significant
RA-22	50	50	67	S474	17	5	12	Significant/Unavoidable
RA-23	50	50	68	S474	18	5	13	Significant/Unavoidable
RA-24	50	50	65	S474	15	6	9	Less than Significant
RA-25	50	50	62	S474	12	5	7	Less than Significant
RA-26	50	50	61	S474	11	4	7	Less than Significant
RA-27	50	50	62	S474	12	1	11	Less than Significant
RA-28	54	54	66	S499	12	5	7	Less than Significant
RA-29	54	54	70	S499	16	8	8	Less than Significant
RA-30	54	54	67	S499	13	7	6	Less than Significant
RA-31	54	54	69	S499	15	5	10	Less than Significant
RA-32	54	54	67	S499	13	7	6	Less than Significant
RA-33	54	54	65	S499	11	5	6	Less than Significant
RA-34	54	54	63	S499	9	6	3	Less than Significant
RA-35	54	54	62	S499	8	6	2	Less than Significant
RA-36	52	52	72	S499	20	8	12	Significant/Unavoidable
RA-37	52	52	68	S499	16	7	9	Less than Significant
RA-38	52	52	69	S499	17	7	10	Less than Significant
RA-39	52	52	68	S499	16	6	10	Less than Significant
RA-41	63	63	70	S531	7	5	2	Less than Significant
RA-42	63	63	71	S531	8	6	2	Less than Significant
RA-43	63	63	70	S531	7	6	1	Less than Significant
RA-44	59	59	70	S531	11	7	4	Less than Significant

Table 4.3 Traffic Noise Impact Analysis – Alternative A (West of State Route 99)

Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Recommended Sound Wall	Future Conditions with Alternative A minus Existing Conditions (2011)	Noise Reduction (dBA)	Increase/ Decrease from Existing Noise Level	Impact
RA-45	59	59	69	S531	10	6	4	Less than Significant
RA-46	63	63	69	S531	6	6	0	Less than Significant
RA-47	63	63	69	S531	6	6	0	Less than Significant
RA-49	63	63	70	S531	7	5	2	Less than Significant
RA-50	53	53	66	S526	13	5	8	Less than Significant
RA-51	53	53	68	S526	15	6	9	Less than Significant
RA-53	53	53	59	S526	6	3	3	Less than Significant
RA-54	53	53	69	S526	16	7	9	Less than Significant
RA-55	53	53	64	S526	11	5	6	Less than Significant
RA-56	53	53	62	S526	9	4	5	Less than Significant
RA-57	53	53	69	S526	16	6	10	Less than Significant
RA-58	53	53	68	S526	15	5	10	Less than Significant
RA-59	53	53	68	S526	15	5	10	Less than Significant
RA-60	56	56	69	S526	13	6	7	Less than Significant
RA-61	56	56	69	S526	13	6	7	Less than Significant
RA-62	56	56	69	S526	13	6	7	Less than Significant
RA-64	56	56	67	S526	11	5	6	Less than Significant
RA-65	52	52	70	S526	18	6	12	Significant/Unavoidable
RA-66	52	52	70	S526	18	6	12	Significant/Unavoidable
RA-67	52	52	69	S526	17	6	11	Less than Significant
RA-69	52	52	69	S526	17	5	12	Significant/Unavoidable
RA-70	52	52	69	S526	17	5	12	Significant/Unavoidable
RA-71	52	52	71	S526	19	5	14	Significant/Unavoidable
RA-72	52	52	72	S526	20	5	15	Significant/Unavoidable
RA-74	52	52	72	S526	20	6	14	Significant/Unavoidable
RA-75	52	52	72	S526	20	6	14	Significant/Unavoidable
RA-76	52	52	68	S526	16	5	11	Less than Significant
RA-77	52	52	64	S526	12	3	9	Less than Significant

dBA: A-weighted decibels

Note:
1 - Receivers that are noise measurement sites which are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: Developed from the *Noise Study Report* 2014.

Table 4.4 Traffic Noise Impact Analysis – Alternative A (State Route 99 South of State Route 58)

Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Recommended Sound Wall	Future Conditions with Alternative A minus Existing Conditions (2011)	Noise Reduction (dBA)	Increase/ Decrease from Existing Noise Level	Impact
R99-11	60	63	67	--	7	0	7	Significant/Unavoidable
R99-12	70	73	74	--	4	0	4	Less than Significant
R99-13	68	71	74	--	6	0	6	Significant/Unavoidable
R99-14	69	72	73	SW3	4	2	2	Less than Significant
R99-15	62	65	68	SW3	6	0	6	Significant/Unavoidable
R99-20	56	59	59	SW2	3	0	3	Less than Significant
R99-20A	62	65	65	SW2	3	0	3	Less than Significant
R99-21	58	61	62	SW2	4	0	4	Less than Significant
R99-21A	61	64	67	SW2	6	0	6	Significant/Unavoidable
R99-21B	65	68	69	SW2	4	0	4	Less than Significant
R99-21C	61	64	65	SW2	4	0	4	Less than Significant
R99-22	60	63	65	SW2	5	0	5	Significant/Unavoidable
R99-23	62	65	72	--	10	5	5	Significant/Unavoidable
R99-25	64	67	74	--	10	5	5	Significant/Unavoidable
R99-26	61	66	68	SW5	7	0	7	Significant/Unavoidable
R99-27	60	65	68	SW5	8	0	8	Significant/Unavoidable
R99-28	61	66	66	SW5	5	0	5	Significant/Unavoidable
R99-29	56	61	61	SW5	5	0	5	Significant/Unavoidable
R99-30	57	62	62	S676	5	0	5	Significant/Unavoidable
R99-31	68	73	73	S676	5	8	-3	Less than Significant
R99-32	68	73	71	S676	3	6	-3	Less than Significant
R99-33	70	75	75	S676	5	11	-6	Less than Significant
R99-34	62	67	67	S676	5	5	0	Less than Significant
R99-36	64	69	70	S676	6	6	0	Less than Significant
R99-37	68	73	74	S676	6	9	-3	Less than Significant
R99-40	59	63	71	--	12	0	12	Significant/Unavoidable
R99-41	58	62	70	--	12	0	12	Significant/Unavoidable
R99-43	60	64	72	--	12	0	12	Significant/Unavoidable
R99-43A	57	61	67	--	10	0	10	Significant/Unavoidable

dBA: A-weighted decibels

Note:
1 - Receivers that are noise measurement sites which are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: Developed from the *Noise Study Report* 2014.

Table 4.5 Traffic Noise Impact Analysis – Alternative A (State Route 58)

Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Recommended Sound Wall	Future Conditions with Alternative A minus Existing Conditions (2011)	Noise Reduction (dBA)	Increase/ Decrease from Existing Noise Level	Impact
R58-43	62	65	66	--	4	0	4	Less than Significant
R58-44	62	65	67	--	5	0	5	Significant/Unavoidable
R58-69	62	65	68	--	6	0	6	Significant/Unavoidable

dBA: A-weighted decibels

Note:
1 - Receivers that are noise measurement sites which are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: Developed from the *Noise Study Report* 2014.

Alternative B (Preferred Alternative)

There are 49 frequent outdoor use areas west of State Route 99 that would have more than a 12-decibel noise increase and 21 frequent outdoor use areas along State Route 58 and State Route 99 that would have more than a 5-decibel noise increase. Alternative B proposes 25 sound walls to cover the entire study area, but only 24 meet the feasibility and reasonableness criteria; one that was not reasonable was recommended for gap closure. Refer to Section 3.2.7, Noise, for details.

Future predicted traffic noise levels with the recommended abatement measures would range from 54 to 75 dBA. There would be 11 affected frequent outdoor use areas for which noise abatement is not recommended, and 58 frequent outdoor use areas would still be affected even with the recommended sound walls.

Tables 4.6 through 4.8 show the change in traffic noise levels at each receiver location and whether an impact is a significant impact.

Table 4.6 Traffic Noise Impact Analysis – Alternative B (West of State Route 99)

Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Recommended Sound Wall	Future Conditions with Alternative B minus Existing Conditions (2011)	Noise Reduction (dBA)	Increase/ Decrease from Existing Noise Level	Impact
RB-5	58	58	75	S518	17	8	9	Less than Significant
RB-6	58	58	63	S518	5	4	1	Less than Significant
RB-7	53	53	66	S518	13	6	7	Less than Significant
RB-8	53	53	74	S518	21	7	14	Significant/Unavoidable
RB-9	53	53	62	S518	9	4	5	Less than Significant
RB-10	53	53	68	S518	15	7	8	Less than Significant

Table 4.6 Traffic Noise Impact Analysis – Alternative B (West of State Route 99)

Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Recommended Sound Wall	Future Conditions with Alternative B minus Existing Conditions (2011)	Noise Reduction (dBA)	Increase/ Decrease from Existing Noise Level	Impact
RB-11	53	53	75	S518	22	9	13	Significant/Unavoidable
RB-12	53	53	63	S518	10	6	4	Less than Significant
RB-13	53	53	60	S518	7	3	4	Less than Significant
RB-14	53	53	61	S518	8	3	5	Less than Significant
RB-15	53	53	66	S518	13	5	8	Less than Significant
RB-16	53	53	68	S518	15	4	11	Less than Significant
RB-17	53	53	63	S518	10	2	8	Less than Significant
RB-18	53	53	60	S518	7	2	5	Less than Significant
RB-19	51	51	65	S530	14	5	9	Less than Significant
RB-19A	53	53	65	S530	12	5	7	Less than Significant
RB-20	51	51	65	S530	14	7	7	Less than Significant
RB-21	51	51	62	S536 & S544	11	3	8	Less than Significant
RB-22	51	51	65	S536 & S544	14	5	9	Less than Significant
RB-23	51	51	72	S536 & S544	21	8	13	Significant/Unavoidable
RB-24	51	51	76	S536 & S544	25	10	15	Significant/Unavoidable
RB-26	51	51	77	S536 & S544	26	12	14	Significant/Unavoidable
RB-27	51	51	73	S536 & S544	22	7	15	Significant/Unavoidable
RB-28	51	51	75	S536 & S544	24	8	16	Significant/Unavoidable
RB-30	51	51	68	S536 & S544	17	5	12	Significant/Unavoidable
RB-31	51	51	70	S536 & S544	19	5	14	Significant/Unavoidable
RB-32	51	51	72	S536 & S544	21	7	14	Significant/Unavoidable
RB-34	67	67	67	--	0	0	0	Less than Significant
RB-35	69	69	70	--	1	0	1	Less than Significant
RB-36	52	52	66	S509 & S519	14	7	7	Less than Significant
RB-37	52	52	64	S509 & S519	12	5	7	Less than Significant
RB-38	52	52	58	S509 & S519	6	1	5	Less than Significant
RB-39	52	52	74	S509 & S519	22	11	11	Less than Significant
RB-39A	52	52	76	S509 & S519	24	11	13	Significant/Unavoidable
RB-40	52	52	68	S509 & S519	16	8	8	Less than Significant
RB-41	52	52	64	S509 & S519	12	5	7	Less than Significant
RB-42	52	52	72	S509 & S519	20	8	12	Significant/Unavoidable
RB-43	52	52	61	S509 & S519	9	1	8	Less than Significant
RB-44	52	52	70	S509 & S519	18	5	13	Significant/Unavoidable
RB-45	53	53	63	S529	10	1	9	Less than Significant
RB-46	53	53	67	S529	14	1	13	Significant/Unavoidable
RB-47	53	53	61	S529	8	1	7	Less than Significant
RB-48	51	51	62	S529	11	1	10	Less than Significant
RB-49	51	51	69	S529	18	5	13	Significant/Unavoidable
RB-50	51	51	66	S529	15	5	10	Less than Significant
RB-51	51	51	62	S529	11	3	8	Less than Significant
RB-52	51	51	62	S537 & S555	11	3	8	Less than Significant
RB-53	51	51	69	S537 & S555	18	6	12	Significant/Unavoidable

Table 4.6 Traffic Noise Impact Analysis – Alternative B (West of State Route 99)

Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Recommended Sound Wall	Future Conditions with Alternative B minus Existing Conditions (2011)	Noise Reduction (dBA)	Increase/ Decrease from Existing Noise Level	Impact
RB-54	51	51	76	S537 & S555	25	9	16	Significant/Unavoidable
RB-55	51	51	70	S555	19	7	12	Significant/Unavoidable
RB-57	51	51	67	S555	16	5	11	Less than Significant
RB-58	51	51	58	S555	7	4	3	Less than Significant
RB-59	51	51	71	S555	20	7	13	Significant/Unavoidable
RB-59A	51	51	74	S555	23	8	15	Significant/Unavoidable
RB-60	51	51	69	S555	18	7	11	Less than Significant
RB-61	62	62	66	S555	4	6	-2	Less than Significant
RB-62	62	62	62	S555	0	3	-3	Less than Significant
RB-63	62	62	64	S555	2	1	1	Less than Significant
RB-64	62	62	72	S555	10	8	2	Less than Significant
RB-65	62	62	71	S555	9	3	6	Less than Significant
RB-66	63	63	65	S555	2	1	1	Less than Significant
RB-67	63	63	66	S555	3	1	2	Less than Significant
RB-68	59	59	67	S555	8	3	5	Less than Significant
RB-69	63	63	70	S555	7	4	3	Less than Significant
RB-70	63	63	68	S555	5	5	0	Less than Significant
RB-71	63	63	67	S555	4	5	-1	Less than Significant
RB-73	63	63	69	S555	6	7	-1	Less than Significant
RB-74	63	63	66	S555	3	6	-3	Less than Significant
RB-75	52	52	65	S555	13	6	7	Less than Significant
RB-76	52	52	66	S555	14	6	8	Less than Significant
RB-77	52	52	65	S555	13	5	8	Less than Significant
RB-79	52	52	65	S555	13	5	8	Less than Significant
RB-80	52	52	65	S555	13	5	8	Less than Significant
RB-81	52	52	70	S555	18	5	13	Significant/Unavoidable
RB-82	52	52	71	S555	19	6	13	Significant/Unavoidable
RB-84	52	52	71	S555	19	5	14	Significant/Unavoidable
RB-85	52	52	72	S555	20	7	13	Significant/Unavoidable
RB-86	52	52	70	S555	18	8	10	Less than Significant
RB-87	52	52	66	S555	14	5	9	Less than Significant

dBA: A-weighted decibels

Note:
1 - Receivers that are noise measurement sites which are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: *Noise Study Report,* 2014.

Table 4.7 Traffic Noise Impact Analysis – Alternative B (State Route 99 South of State Route 58)

Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative B (dBA)	Recommended Sound Wall	Future Conditions with Alternative B minus Existing Conditions (2011)	Noise Reduction (dBA)	Increase/ Decrease from Existing Noise Level	Impact
R99 11	60	63	67	--	7	0	7	Significant/Unavoidable
R99 12	70	73	74	--	4	0	4	Less than Significant
R99 13	68	71	74	--	6	0	6	Significant/Unavoidable
R99 14	69	72	73	--	4	2	2	Less than Significant
R99 15	62	65	69	--	7	0	7	Significant/Unavoidable
R99 23	62	65	72	--	10	5	5	Significant/Unavoidable
R99 25	64	67	75	--	11	5	6	Significant/Unavoidable
R99 26	61	66	69	--	8	1	7	Significant/Unavoidable
R99 27	60	65	68	--	8	0	8	Significant/Unavoidable
R99 28	61	66	66	--	5	0	5	Significant/Unavoidable
R99 29	56	61	61	--	5	0	5	Significant/Unavoidable
R99 40	59	63	72	--	13	0	13	Significant/Unavoidable
R99 41	58	62	73	--	15	0	15	Significant/Unavoidable
R99 43C	58	62	75	--	17	0	17	Significant/Unavoidable
R99 43A	57	61	70	--	13	0	13	Significant/Unavoidable

dBA: A-weighted decibels

Note:
1 - Receivers that are noise measurement sites which are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: Developed from the *Noise Study Report* 2014.

Table 4.8 Traffic Noise Impact Analysis – Alternative B (State Route 58)

Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative A (dBA)	Recommended Sound Wall	Future Conditions with Alternative B minus Existing Conditions (2011)	Noise Reduction (dBA)	Increase/ Decrease from Existing Noise Level	Impact
R58-43	62	65	66	--	4	0	4	Less than Significant
R58-44	62	65	67	--	5	0	5	Significant/Unavoidable
R58-69	62	65	68	--	6	0	6	Significant/Unavoidable

dBA: A-weighted decibels

Note:
1 - Receivers that are noise measurement sites which are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: Developed from the *Noise Study Report,* 2014.

According to Caltrans procedures, traffic noise impact analysis and recommending noise abatement measures must be based on the highest traffic noise that a roadway can generate. Normally, the highest traffic noise is generated when traffic speed is at the posted speed and traffic volume is at the capacity. This situation is referred to as level of service C.

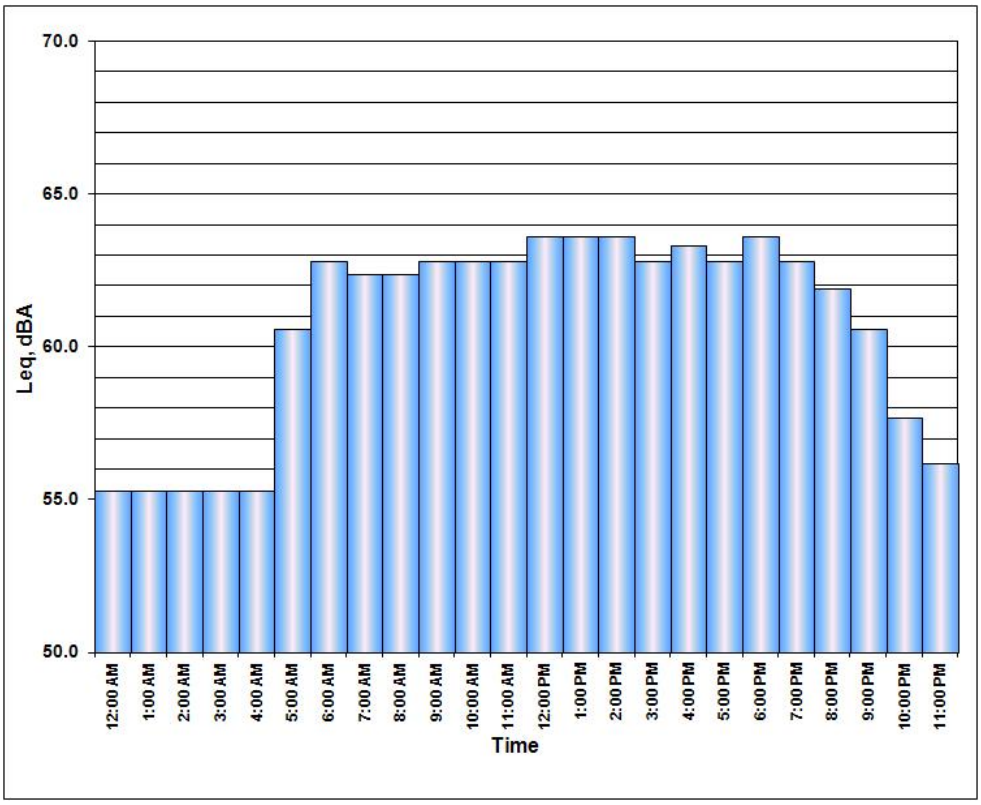
The future predicted highest traffic noise levels from the freeway would range between 61 and 67 dBA (similar to heavy traffic at 300 feet–see Figure 3-33–Noise Levels of Common Activities). These levels are based on a total hourly traffic volume of 11,800, but the highest forecasted total hourly traffic volume for year 2038 is less than 6,000. This means that, by year 2038, the freeway would not be producing the highest traffic noise levels yet. But, noise abatement measures must be designed for the worst possible future traffic noise levels.

Results of the worst-case traffic noise impact analysis indicated that there would be traffic noise impacts at Centennial Park because there would be up to 14-decibel noise increases in the future compared to existing noise levels. The *Noise Study Report* had concluded that a sound wall would not provide feasible abatement to the Centennial Park and nearby residences; therefore, no further evaluation was needed. However, during the environmental process it was decided to add Sound Wall S529 for gap closure purposes. The existing peak noise level at the park is 53 dBA (quiet urban daytime–see Figure 3-33–Noise Levels of Common Activities). But, for Centennial Park, hourly traffic noise levels were calculated using forecasted traffic distribution of a typical day in 2038.

Figure 4-1 shows the results of the calculations. Results indicated that traffic noise levels in Centennial Park would be within a 1-decibel range for the daylight hours (7 a.m. to 7 p.m.) when the park is in use. Traffic noise levels would drop during late night and early morning hours, but the park is not used during those hours.

The predicted hourly traffic noise levels for 2038 during the daylight hours with the existing hourly noise levels measured at a nearby long-term noise measurement site (LT7) indicate that future noise levels would be higher than existing noise levels by 9 to 12 dB. The highest differential may increase by 2 to 3 dB once traffic reaches level of service C conditions in the future.

Figure 4.1: Hourly Traffic Noise Levels at Centennial Park in 2038



Source: Section 4(f) Evaluation 2014.

Alternative C

There are no frequent outdoor use areas west of State Route 99 that would have more than a 12-decibel noise increase. There are 40 frequent outdoor use areas along State Route 58 and State Route 99 that would have more than a 5-decibel noise increase. Alternative C proposes 23 sound walls to cover the entire study area, but only 17 meet the feasibility and reasonableness criteria. Refer to Section 3.2.7, Noise, for details.

The future predicted traffic noise levels with the recommended abatement measures would range from 61 to 76 dBA. There would be 21 affected frequent outdoor use areas for which noise abatement is not recommended and 19 frequent outdoor use areas that would still be affected even with the recommended sound walls. Tables 4.9 through 4.11 show the change in traffic noise levels at each receiver location and whether an impact is a significant impact.

Table 4.9 Traffic Noise Impact Analysis – Alternative C (State Route 99 South of State Route 58)

Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative C (dBA)	Recommended Sound Wall	Future Conditions with Alternative C minus Existing Conditions (2011)	Noise Reduction (dBA)	Increase/ Decrease from Existing Noise Level	Impact
R99-25A	64	67	72	--	8	0	8	Significant/Unavoidable
R99-26	61	66	69	--	8	0	8	Significant/Unavoidable
R99-27	60	65	69	--	9	0	9	Significant/Unavoidable
R99-28	61	66	69	--	8	0	8	Significant/Unavoidable
R99-29	56	61	61	--	5	0	5	Significant/Unavoidable
R99-30	57	62	65	S676	8	1	7	Significant/Unavoidable
R99-31	68	73	73	S676	5	7	-2	Less than Significant
R99-32	68	73	73	S676	5	7	-2	Less than Significant
R99-33	70	75	75	S676	5	10	-5	Less than Significant
R99-34	62	67	68	S676	6	5	1	Less than Significant
R99-36	64	69	68	S676	4	5	-1	Less than Significant
R99-37	68	73	73	S676	5	8	-3	Less than Significant
R99-40A	59	63	67	--	8	0	8	Significant/Unavoidable
R99-41A	58	62	68	--	10	0	10	Significant/Unavoidable
R99-43B	60	64	77	--	17	0	17	Significant/Unavoidable
R99-43A	57	61	67	--	10	0	10	Significant/Unavoidable

dBA: A-weighted decibels

Note:
1 - Receivers that are noise measurement sites which are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: Developed from the *Noise Study Report* 2014.

Table 4.10 Traffic Noise Impact Analysis – Alternative C (State Route 99 North of State Route 58)

Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative C (dBA)	Recommended Sound Wall	Future Conditions with Alternative C minus Existing Conditions (2011)	Noise Reduction (dBA)	Increase/ Decrease from Existing Noise Level	Impact
R99-61	67	70	70	--	3	0	3	Less than Significant
R99-62	64	67	71	--	7	0	7	Significant/Unavoidable
R99-63	57	60	66	--	9	0	9	Significant/Unavoidable
R99-64	59	62	68	--	9	0	9	Significant/Unavoidable
R99-65	61	64	67	--	6	0	6	Significant/Unavoidable
R99-66	62	65	70	--	8	0	8	Significant/Unavoidable
R99-67	57	60	64	--	7	0	7	Significant/Unavoidable
R99-68	60	63	68	--	8	0	8	Significant/Unavoidable
R99-73	68	74	74	--	6	0	6	Significant/Unavoidable
R99-74	70	76	75	--	5	0	5	Significant/Unavoidable
R99-75	69	75	75	--	6	0	6	Significant/Unavoidable

dBA: A-weighted decibels

Note:
1 - Receivers that are noise measurement sites which are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: Developed from the *Noise Study Report* 2014.

Table 4.11 Traffic Noise Impact Analysis – Alternative C (State Route 58)

Receiver[1]	Existing Noise Level (dBA)	Predicted Noise Level with the No-Build Alternative (dBA)	Predicted Noise Level with Alternative C (dBA)	Recommended Sound Wall	Future Conditions with Alternative C minus Existing Conditions (2011)	Noise Reduction (dBA)	Increase/ Decrease from Existing Noise Level	Impact
R58-4	67	70	74	S103 & S109	7	6	1	Less than Significant
R58-5	60	63	70	S103 & S109	10	3	7	Significant/Unavoidable
R58-6	58	61	68	S103 & S109	10	5	5	Significant/Unavoidable
R58-7	67	70	76	S103 & S109	9	9	0	Less than Significant
R58-7A	61	64	70	S103 & S109	9	5	4	Less than Significant
R58-8	68	71	76	S103 & S109	8	8	0	Less than Significant
R58-9	65	70	74	S103 & S109	9	9	0	Less than Significant
R58-10	65	70	74	S103 & S109	9	9	0	Less than Significant
R58-43	62	65	66	--	4	0	4	Less than Significant
R58-44	62	65	67	--	5	0	5	Significant/Unavoidable
R58-69	62	65	67	--	5	0	5	Significant/Unavoidable

dBA: A-weighted decibels

Note:
1 - Receivers that are noise measurement sites which are not located at an outdoor use area, or those subject to acquisitions, are not listed in this table because they do not represent a future outdoor use area and do not qualify for noise abatement.

Source: Developed from the *Noise Study Report* 2014.

Alternatives A and B (Preferred Alternative)

Aesthetics

Alternatives A and B would add a major new transportation corridor in the Westpark community, dividing the existing neighborhood and creating a substantial permanent change in the visual environment. Portions of Alternative B (between California Avenue and Ford Avenue) would be built below grade, which would minimize the aesthetic impacts, but there would be new sound walls and retaining walls. Segments of the freeway would be built at grade with the existing surrounding developments. Elevated segments would be built over existing roadways and the Kern River. Existing residential, commercial, and industrial structures would be demolished and replaced to accommodate the freeway construction, resulting in moderately high adverse changes to the visual character and quality of the site and its surroundings.

Mitigation measures V-1 through V-5, which include landscaping and aesthetic treatment of freeway elements (such as bridges), would be implemented to reduce the significant adverse aesthetic impacts of the build alternatives. Even with mitigation measures, visual impacts would remain significant and unavoidable under Alternatives A and B.

Land Use and Planning (Community Impacts)

As noted above, Alternatives A and B would permanently convert certain land uses and introduce a major new transportation corridor into the Westpark community, which would divide an existing neighborhood. The Centennial Corridor would segment and isolate portions of the neighborhood and alter circulation patterns because of changes to the internal roadway network, even with proposed mitigation. As discussed in Chapter 3, impacts to community cohesiveness generally depend on whether a project is likely to create a barrier effect or otherwise disrupt the existing connectivity of a community. Either of these can be a result of disruptions in access, or substantial residential and commercial property acquisitions; to accommodate a new freeway segment, Alternatives A and B do both.

All property acquisition and relocations would be handled in accordance with the Uniform Relocation Act of 1970, as amended, which mandates certain relocation services and payments by Caltrans be made available to eligible residents, businesses, and nonprofit organizations displaced by Caltrans projects. Design refinements to avoid or minimize impacts to existing land uses related both to temporary construction use and/or permanent acquisition of properties would be incorporated in the final engineering design of the selected build alternative to the extent practical. If, however, displaced residents are required to relocate outside of their immediate neighborhood or sub-community, existing supportive family and community relationships may be severed for those leaving, as well as for those remaining behind. Neighbors, friends, and family, as discussed earlier, often provide emotional support that cannot be easily replicated. These characteristics of a cohesive community cannot be completely mitigated and are unavoidable. Concerning non-residential displacements, several types of businesses that may be difficult to relocate as a result of the project have been identified. The severity of non-residential property impacts

would vary with the type of business displaced. Certain businesses typically experience a greater challenge to find a suitable replacement site, such as automotive repair garages and gasoline service stations, among others, because these types of businesses traditionally serve localized market areas.

Despite measures required by the Uniform Relocation Act, no available reasonable mitigation measures would reduce all community impacts in their entirety. Impacts would remain significant and unavoidable. Therefore, Alternatives A and B would have unavoidable significant impacts on the community.

4.3 Significant Irreversible Environmental Changes

As discussed in Section 3.5, the impacts of the build alternatives would be similar to each other and construction would require the commitment of natural, physical, human, and fiscal resources. The loss of existing developed properties and use of the land that would be acquired and added into the freeway/roadway right-of-way would be an irreversible and long-term commitment of this resource. Construction would also require use of fossil fuels, water, and construction materials such as concrete cement, aggregates (sand and gravel), asphalt, reinforcement bars, paint, fencing, pipes, and other materials that are generally not retrievable once they have been used to build a road. Labor would be needed to make construction materials, demolish existing structures and infrastructure, and build the proposed improvements. However, the project would result in a beneficial impact to labor resources based on the labor availability in the city of Bakersfield or Kern County. But, labor is not in short supply and would not have an adverse effect upon its continued availability in the city of Bakersfield or Kern County.

Lastly, the project would require a substantial one-time expenditure of local, state, and federal funds, which are not retrievable. However, commitment of these resources would benefit residents and businesses in the metropolitan Bakersfield area, the Central Valley, and the state through an improved transportation system. These benefits would consist of improved accessibility, which is expected to outweigh the irreversible and irretrievable commitment of resources.

4.4 Minimization and Mitigation Measures for Significant Impacts under the California Environmental Quality Act

Impacts are avoided or minimized through implementation of standard conditions, minimization measures, and mitigation measures (identified at the end of each topic in Chapter 3). Implementation of the standard conditions is assumed prior to making the determination if an impact is significant, since these are regulatory requirements or practices that Caltrans routinely applies to all projects. Other mitigation measures would reduce impacts identified as significant. Mitigation measures are listed below with a cross reference to the section where the mitigation measure can be found. In addition, all of the mitigation measures and standard conditions are listed in Appendix F, Volume 2. No mitigation measures would apply to the No-Build Alternative because no improvements would be made.

Aesthetics

- V-1 see Section 3.1.7 for the full mitigation measure.
- V-2 see Section 3.1.7 for the full mitigation measure.
- V-3 see Section 3.1.7 for the full mitigation measure.
- V-4 see Section 3.1.7 for the full mitigation measure.
- V-5 see Section 3.1.7 for the full mitigation measure.

Biological Resources

- B-1 see Section 3.3.2 for the full mitigation measure.
- B-2 see Section 3.3.3 for the full mitigation measure (Alternative A only).
- CI-17 see Section 3.6 for the full mitigation measure.
- B-3 see Section 3.3.3 for the full mitigation measure.
- B-4 see Section 3.3.3 for the full mitigation measure.
- CI-18 see Section 3.6 for the full mitigation measure.
- CI-19 see Section 3.6 for the full mitigation measure.
- CI-20 see Section 3.6 for the full mitigation measure.
- CI-21 see Section 3.6 for the full mitigation measure.
- CI-22 see Section 3.6 for the full mitigation measure.
- CI-23 see Section 3.6 for the full mitigation measure.
- CI-24 see Section 3.6 for the full mitigation measure.
- CUM-1 see Section 3.7 for the full mitigation measure.

Cultural Resources

- CI-1 see Section 3.6 for the full mitigation measure.
- CR-1 see Section 3.1.8 for the full mitigation measure (Alternative B only).
- CR-2 see Section 3.1.8 for the full mitigation measure (Alternative B only).
- CR-3 see Section 3.1.8 for the full mitigation measure (Alternative B only).

Paleontological Resources

- CI-2 see Section 3.6 for the full mitigation measure.
- CI-3 see Section 3.6 for the full mitigation measure.
- CI-4 see Section 3.6 for the full mitigation measure.
- CI-5 see Section 3.6 for the full mitigation measure.
- CI-6 see Section 3.6 for the full mitigation measure.

- CI-7 see Section 3.6 for the full mitigation measure.
- CI-8 see Section 3.6 for the full mitigation measure.
- CI-9 see Section 3.6 for the full mitigation measure.
- CI-10 see Section 3.6 for the full mitigation measure.
- CI-11 see Section 3.6 for the full mitigation measure.
- CI-12 see Section 3.6 for the full mitigation measure.
- CI-13 see Section 3.6 for the full mitigation measure.
- CI-14 see Section 3.6 for the full mitigation measure.
- CI-15 see Section 3.6 for the full mitigation measure.

Hazards and Hazardous Materials

- H-1 see Section 3.2.5 for full minimization measure.
- H-2 see Section 3.2.5 for full minimization measure.
- H-3 see Section 3.2.5 for full minimization measure.
- H-4 see Section 3.2.5 for full minimization measure.
- H-5 see Section 3.2.5 for full minimization measure.

Noise

- N-1 see Section 3.2.7 for the full abatement measure.
- CI-16 see Section 3.6 for the full mitigation measure.

Public Services – Parks (Recreation)

- PR-1 see Section 3.1.1.3 for the full mitigation measure (Alternative A only).
- PR-2 see Section 3.1.1.3 for the full mitigation measure (Alternative C only).

4.5 Climate Change under the California Environmental Quality Act

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gases, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change by the United Nations and World Meteorological Organization in 1988, has led to increased efforts devoted to greenhouse gas emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of greenhouse gases related to human activity that include carbon dioxide, methane, nitrous oxide,

tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2 tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of greenhouse gas emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light duty trucks, other trucks, buses, and motorcycles) make up the largest source (second to electricity generation) of greenhouse gas emitting sources. The dominant greenhouse gas emitted is carbon dioxide, mostly from fossil fuel combustion.

Typically, two terms are used when discussing the impacts of climate change. "Greenhouse gas mitigation" is a term for reducing greenhouse gas emissions to reduce or "mitigate" the impacts of climate change. "Adaptation" refers to the effort of planning for and adapting to impacts due to climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels).[1]

There are four primary strategies for reducing greenhouse gas emissions from transportation sources: 1) improving the transportation system and operational efficiencies, 2) reducing travel activity, 3) transitioning to lower greenhouse gas-emitting fuels, and 4) improving vehicle technologies/efficiency. To be most effective, all four strategies should be pursued collectively.[2]

4.5.1 Regulatory Setting

State

With the passage of several pieces of legislation including State Senate and Assembly Bills and Executive Orders, California launched an innovative and proactive approach to dealing with greenhouse gas emissions and climate change.

Assembly Bill 1493, Pavley: *Vehicular Emissions: Greenhouse Gases*, *2002*: This bill requires the California Air Resources Board to develop and implement regulations to reduce automobile and light truck greenhouse gas emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year.

Executive Order S-3-05: The goal of this order is to reduce California's greenhouse gas emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by 2020; and (3) 80 percent below year 1990 levels by 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32.

Assembly Bill 32, Núñez and Pavley, the Global Warming Solutions Act of 2006: Núñez and Pavley: This bill sets the same overall greenhouse gas emissions reduction goals outlined in Executive Order S-3-05, while further mandating that California

[1] http://climatechange.transportation.org/ghg_mitigation/

[2] http://www.fhwa.dot.gov/environment/climate_change/mitigation/

Air Resources Board create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases."

Executive Order S-20-06 (October 18, 2006): This order establishes the responsibilities and roles of the Secretary of the California Environmental Protection Agency (Cal/EPA) and state agencies with regard to climate change.

Executive Order S-01-07 (January 18, 2007): This order set forth the low carbon fuel standard for California. Under this order, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020.

Senate Bill 97, (Chapter 185, 2007), Greenhouse Gas Emissions: This bill required the Governor's Office of Planning and Research to develop recommended amendments to the State's California Environmental Quality Act Guidelines for addressing greenhouse gas emissions. The amendments became effective on March 18, 2010.

Senate Bill 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires the California Air Resources Board to set regional emissions reduction targets from passenger vehicles. The Metropolitan Planning Organization for each region must then develop a "Sustainable Communities Strategy" that integrates transportation, land-use, and housing policies to plan for the achievement of the emissions target for their region.

Senate Bill 391 Chapter 585, 2009 California Transportation Plan: This bill requires the State's long-range transportation plan to meet California's climate change goals under Assembly Bill 32.

Federal

Although climate change and greenhouse gas reduction are a concern at the federal level, currently no legislation or regulation has been enacted specifically addressing greenhouse gas emissions reductions and climate change at the project level. Neither the U.S. Environmental Protection Agency nor the Federal Highway Administration has issued explicit guidance or methods to conduct project-level greenhouse gas analysis.[3] Federal Highway Administration supports the approach that climate change considerations should be integrated throughout the transportation decision-making process, from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will facilitate decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project-level decision-making. Climate change considerations can be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

[3] To date, no national standards have been established regarding mobile source GHGs, nor has U.S. Environmental Protection Agency established any ambient standards, criteria or thresholds for GHGs resulting from mobile sources.

The four strategies set forth by the Federal Highway Administration to lessen climate change impacts do correlate with efforts that the state is undertaking to deal with transportation and climate change; these strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and a reduction in travel activity.

Climate change and its associated effects are being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the "National Clean Car Program" and Executive Order 13514- *Federal Leadership in Environmental, Energy and Economic Performance*.

Executive Order 13514 (October 5, 2009) is focused on reducing greenhouse gases internally in federal agency missions, programs and operations, but also directs federal agencies to participate in the Interagency Climate Change Adaptation Task Force, which is engaged in developing a national strategy for adaptation to climate change.

The U.S. Environmental Protection Agency's authority to regulate greenhouse gas emissions stems from the U.S. Supreme Court decision in *Massachusetts v.* U.S. Environmental Protection Agency (2007). The Supreme Court ruled that greenhouse gases meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, U.S. Environmental Protection Agency finalized an endangerment finding in December 2009. Based on scientific evidence it found that six greenhouse gases constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing Act and the Environmental Protection Agency's assessment of the scientific evidence that form the basis for Environmental Protection Agency's regulatory actions. U.S. Environmental Protection Agency in conjunction with the National Highway Traffic Safety Administration issued the first of a series of greenhouse gas emission standards for new cars and light-duty vehicles in April 2010.[4]

The U.S. Environmental Protection Agency and the National Highway Traffic Safety Administration are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced greenhouse gas emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever greenhouse gas regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle greenhouse gas regulations.

The final combined standards that make up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards implemented by this program are expected to reduce greenhouse gas emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

[4] http://www.c2es.org/federal/executive/epa/greenhouse-gas-regulation-faq

On August 28, 2012, U.S. Environmental Protection Agency and the National Highway Traffic Safety Administration issued a joint Final Rulemaking to extend the National Program for fuel economy standards to model year 2017 through 2025 passenger vehicles. Over the lifetime of the model year 2017-2025 standards this program is projected to save approximately four billion barrels of oil and two billion metric tons of greenhouse gas emissions.

The complementary U.S. Environmental Protection Agency and the National Highway Traffic Safety Administration standards that make up the Heavy-Duty National Program apply to combination tractors (semi trucks), heavy-duty pickup trucks and vans, and vocational vehicles (including buses and refuse or utility trucks). Together, these standards will cut greenhouse gas emissions and domestic oil use significantly. This program responds to President Barack Obama's 2010 request to jointly establish greenhouse gas emissions and fuel efficiency standards for the medium- and heavy-duty highway vehicle sector. The agencies estimate that the combined standards will reduce carbondioxide emissions by about 270 million metric tons and save about 530 million barrels of oil over the life of model year 2014 to 2018 heavy duty vehicles.

4.5.2 Project Analysis

An individual project does not generate enough greenhouse gas emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its incremental contribution combined with the contributions of all other sources of greenhouse gas.[5] In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable." See (California Environmental Quality Act Guidelines Sections 15064(h)(1) and 15130). To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects to make this determination is a difficult, if not impossible, task.

The Assembly Bill 32 Scoping Plan mandated by Assembly Bill 32 includes the main strategies California will use to reduce greenhouse gas emissions. As part of its supporting documentation for the Draft Scoping Plan, the California Air Resources Board released the greenhouse gas inventory for California (forecast last updated: October 28, 2010). The forecast is an estimate of the emissions expected to occur in the year 2020 if none of the foreseeable measures included in the scoping plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the greenhouse gas inventory for 2006, 2007, and 2008.

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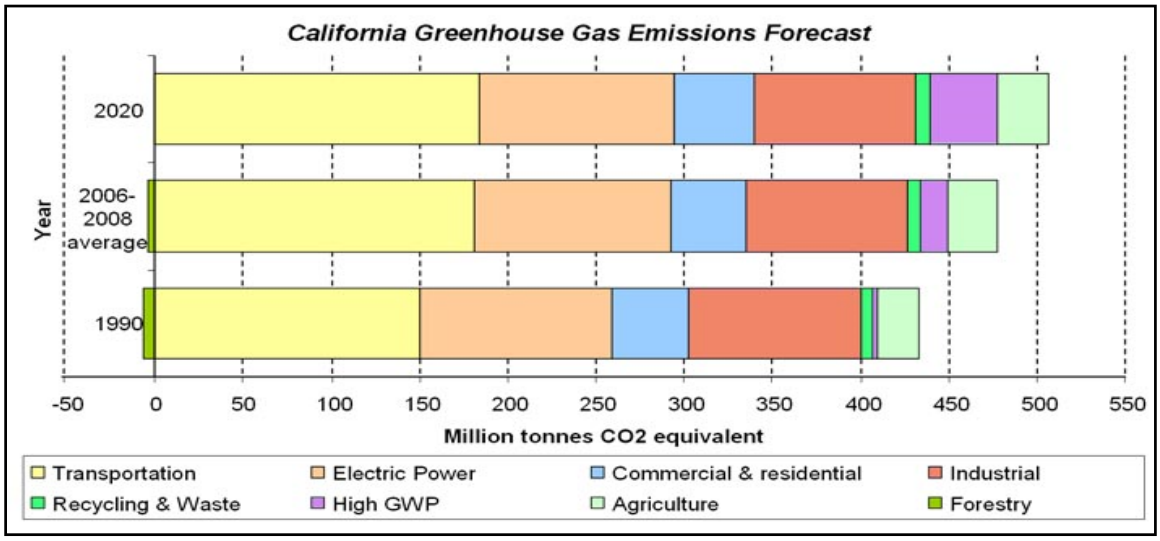
[5] This approach is supported by the Association of Environmental Professionals: Recommendations by the *Association of Environmental Professionals on How to Analyze [Greenhouse Gas] Emissions and Global Climate Change in [California Environmental Quality Act] Documents* (March 5, 2007), as well as the South Coast Air Quality Management District (Chapter 6: The California Environmental Quality Act Guide, April 2011) and the U.S. Forest Service (Climate Change Considerations in Project Level National Environmental Policy Act Analysis, July 13, 2009).

Figure 4-2 shows the total greenhouse gas emissions for California for 1990, 2006-2008 average, and projected 2020.

Figure 4-2 California Greenhouse Gas Forecast



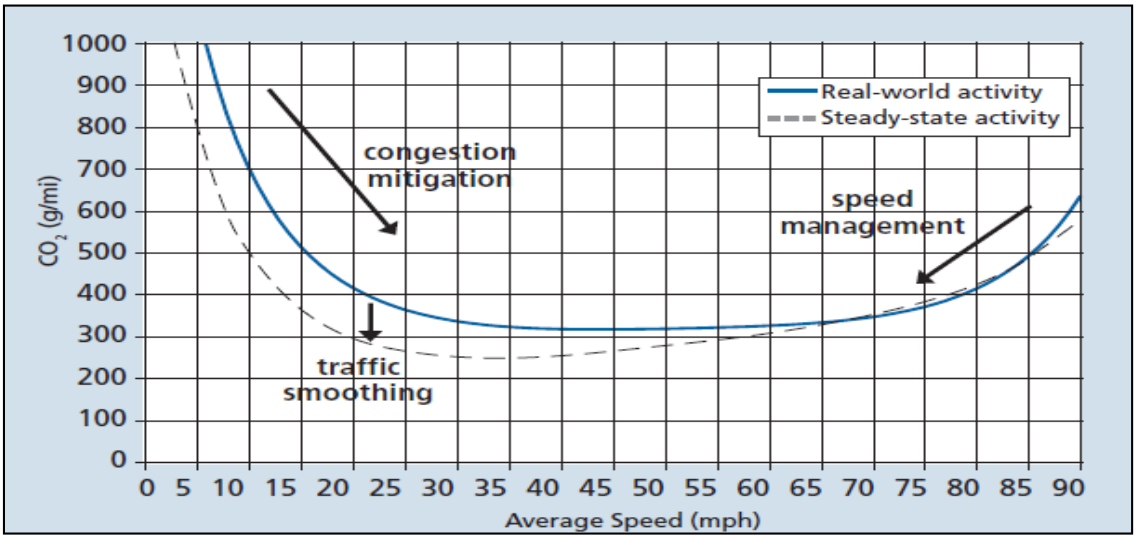
Source: http://www.arb.ca.gov/cc/inventory/data/forecast.htm

Caltrans and its parent agency, the Transportation Agency, have taken an active role in addressing greenhouse gas emission reduction and climate change. Recognizing that 98 percent of California's greenhouse gas emissions are from the burning of fossil fuels and 40 percent of all human-made greenhouse gas emissions are from transportation, Caltrans has created and is implementing the *Climate Action Program at Caltrans*, published in December 2006.[6]

One of the main strategies in Caltrans' Climate Action Program to reduce greenhouse gas emissions is to make California's transportation system more efficient. The highest levels of carbon dioxide from mobile sources, such as automobiles, occur at stop-and-go speeds (0 to 25 miles per hour) and speeds over 55 miles per hour; the most severe emissions occur from 0 to 25 miles per hour (see Figure 4-3 below). To the extent that a project relieves congestion by enhancing operations and improving travel times in high congestion travel corridors greenhouse gas emissions, particularly carbondioxide, may be reduced.

[6] Caltrans Climate Action Program is located at the following Web address: http://www.arb.ca.gov/cc/inventory/data/bau.htm

Figure 4-3 Possible Effect of Traffic Operations Strategies in Reducing On-road Carbon Dioxide (CO_2) Emissions



Relieving congestion by enhancing operations and improving travel times in high congestion travel corridors will lead to an overall reduction in greenhouse gas emissions. A stated project objective is to reduce congestion and improve traffic operations, which is consistent with the objectives of the Climate Action Program.

The purpose of the Centennial Corridor Project is to make improvements that will provide interregional and regional connectivity for east-west traffic traveling within metropolitan Bakersfield and Kern County and continuity for State Route 58 in Kern County. State Route 58 is a critical link in the state transportation network used by interstate travelers, commuters, and a large number of trucks. State Route 58 lacks continuity in central Bakersfield, which results in severe traffic congestion and reduced levels of service on adjoining highways and local streets.

The project is expected to improve local east-west circulation; facilitate congestion management; and reduce commercial and regional commute time through a major freight corridor. Implementation of the project would help to reduce regional greenhouse gas emissions by promoting vehicle operational efficiency through reduced congestion and shorter vehicle trips and reduced vehicle miles traveled by offering more direct roadway connections through the corridor. Note that the vehicle miles traveled for various years (2008, 2018, and 2038) used for air pollutant emission calculations can be found in Appendix A-2 of the Air Quality Study Report.

Quantitative Analysis

Greenhouse gas emissions for transportation projects can be divided into emissions produced during construction and those produced during operations.

Construction Emissions

Construction greenhouse gas emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions would be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases. Table 4.12 below estimates that the project's construction would result in a total of 7,183.40 metric tons of carbon dioxide over the three-year construction period.

Table 4.12 Estimate of Annual Carbon Dioxide Emissions During Construction

		Construction Annual Emissions (Metric Tons of CO_2 per year)
Year 1	Total	4,848.22
	Onsite	934.54
Year 2	Total	2,033.95
	Onsite	921.74
Year 3	Total	301.22
	Onsite	253.75
Project Total		7,183.40
Source: *Air Quality Study Report* 2014.		

Operational Emissions

The project is a transportation facility; therefore, the greenhouse gas emissions would include operational greenhouse gas emissions from vehicle traffic along the project corridor. Greenhouse gas emissions from vehicle traffic along the affected roadways (with the No-Build Alternative and with the build alternatives) were calculated using the emission factors for on-road mobile sources using the EMFAC2011 model, annual vehicle miles traveled along the project roadways.

Tables 4.13, 4.14, and 4.15 summarize the annual operational greenhouse gas emissions associated with vehicle traffic along the studied roadways for Alternatives A, B, and C, respectively. Vehicle traffic is quantified in terms of vehicle miles traveled. The vehicle miles traveled used to calculate the operational emissions can be found in Appendix A-2 of the Air Quality Study Report, prepared for this project. Greenhouse gas emissions are estimated for baseline year 2008 (existing conditions), opening year 2018, and design year 2038 for the No-Build Alternative and for the build alternative scenarios. Sources considered in the emission calculations are the same as those analyzed for criteria pollutants. Carbon dioxide emissions for the baseline year (2008) was estimated at 234,846 metric tons per year. Carbon dioxide emissions are the main greenhouse gas of concern, as vehicle operation does not result in appreciable amounts of other greenhouse gases (such as methane, nitrous oxides, etc.), and thus only carbon dioxide emissions were calculated and presented.

In addition to providing the emissions by year and build scenario, the data in the bottom portion of Tables 4.13, 4.14, and 4.15 present estimates of operational emissions of greenhouse gases reflecting implementation of two important California rules/standards [Assembly Bill 1439 (Pavley) and Assembly Bill 32 via the Low Carbon Fuels Standard], which establish stricter standards to reduce greenhouse gas emissions from passenger cars and light duty trucks (see Section 4.5.1). These emissions were estimated using the EMFAC2011 Model, which includes data for carbon dioxide emissions for the fleet mix with implementation of these new standards.

It should be noted that, while the carbon dioxide emissions factor does assume certain reductions in vehicle emissions due to future vehicle models operating more efficiently, additional reductions in vehicle emissions would also occur in response to new and stricter legislated standards as they become implemented. Therefore, the numbers are not an accurate reflection of what the true carbon dioxide emissions will be and may actually overstate the expectations because carbon dioxide emissions depend on other factors that are not part of the model representation, such as fuel mix; rate of acceleration; and the aerodynamics and efficiency of the vehicles themselves.

Alternative A

Table 4.13 shows that, in the two future year scenarios, annual operational emissions of greenhouse gas (mainly carbon dioxide) would increase relative to the 2008 baseline. This is due to the regional population and economic growth, and the associated increase in the daily traffic.

For future studied years, the build alternatives' operational emissions of greenhouse gases, combined for all studied roadway segments, show a relatively small increase when compared with the No-Build Alternative of the same year (less than 4 percent for opening year 2018 and about 9 percent for design year 2038), as shown in Table 4.13. This small increase is attributable mainly to the availability of the new 9-mile-long (four lane) Westside Parkway, proposed new alignment, which provides a connection between two highway segments (the Westside Parkway and State Route 58 East) and new freeway-to-freeway connectors as well as to the widening of a portion of State Route 58 between State Route 99 and Cottonwood Road (a total of 27.8 lane miles of additional travel lane pavement would be created). As Table 4.13 shows, under Assembly Bill 1439 (Pavley) and Assembly Bill 32 via the Low Carbon Fuels Standard, an average of about 21 percent reduction of vehicular emissions of greenhouse gases of the build alternative would be achieved in 2018 and an average of about 33 percent reduction of the build alternative would be anticipated in 2038.

Alternative B (Preferred Alternative)

The annual operational emissions of greenhouse gas emissions (mainly carbon dioxide) associated with proposed Alternative B estimated for opening year 2018 and horizon year 2038 are shown in Table 4.14.

Data in Table 4.14 indicate a trend very similar to the data for Alternative A (see Table 4.13). Project operational emissions of carbon dioxide in future analyzed years

would increase relative to the 2008 baseline due to an increase in daily traffic and vehicle miles traveled associated with regional development and population growth. A comparison of operational emissions of greenhouse gases from Alternative B with the No-Build Alternative scenario shows slight increases in total emissions in opening year 2018 and in horizon year 2038. This small increase is about 7 percent for 2018 and about 12 percent for 2038 from the respective no-build conditions, for the same reasons described under Alternative A. Total greenhouse gas operational emissions under build scenarios are estimated to be only about 3 percent higher than those estimated for Alternative A.

Alternative C

The annual operational emissions of greenhouse gas emissions (mainly carbon dioxide) associated with Alternative C, estimated for opening year 2018 and horizon year 2038, are shown in Table 4.15.

Similar to Alternatives A and B, the project operational emissions of carbon dioxide in future analyzed years would increase relative to the 2008 baseline due to an increase in daily traffic and vehicle miles traveled associated with regional development and population growth. This increase is about 8 percent for 2018 and about 12 percent for 2038 from the respective no-build conditions. A comparison of operational emissions of greenhouse gases from Alternative C with Alternatives A and B shows that Alternative C is similar to Alternative B, and the total greenhouse gas emission is less than 1 percent above the emission estimate for Alternative B and 2 to 4 percent higher than estimated emissions for Alternative A.

According to *Modal Emission Model* (April 2008) and a 2009 University of California study,[7] brief but rapid accelerations, such as those occurring during congestion, can contribute significantly to a vehicle's carbon dioxide emissions during a typical urban trip. Current emission-factor models are insensitive to the distribution of such modal events (i.e., cruise, acceleration, deceleration, and idling) in the operation of a vehicle and instead estimate emissions by average trip speed. This limitation creates an uncertainty in the model's results when compared to the estimated emissions of the various alternatives with baseline in an attempt to determine impacts. Although work by the U.S. Environmental Protection Agency and the California Air Resources Board is underway on modal-emission models, neither agency has yet approved a modal emissions model that can be used to conduct this more accurate modeling.

[7] Matthew Bartha, Kanok Boriboonsomsin. 2009. Energy and emissions impacts of a freeway-based dynamic eco-driving system. Transportation Research Part D: Transport and Environment Volume 14, Issue 6, August 2009, Pages 400–410

Table 4.13 Annual Operational Carbon Dioxide Emissions from Operation of Build Alternative A (Metric tons/year)

Roadway Segment	Existing Baseline 2008 (A)	Opening Year 2018		Horizon Year 2038	
		No Build (B)	Build (C)	No Build (E)	Build (F)
Rosedale Highway – Allen Road to State Route 99	34,626	43,942	32,558	51,634	41,657
Stockdale Highway/Brundage Lane – Allen Road to H Street	34,144	25,965	19,606	34,040	23,108
California Avenue – Stockdale Highway to State Route 99	7,460	8,157	7,681	9,305	8,099
Westside Parkway – Allen Road to State Route 99	0 [a]	47,401	85,057	78,788	149,836
State Route 58 – State Route 99 to Cottonwood Road	32,817	52,065	53,549	67,325	72,895
State Route 99 – Airport Drive to White Lane	112,911	151,284	141,742	187,887	172,897
Mohawk Street – California Avenue to Rosedale Highway	4,076	6,907	5,640	10,167	8,070
Real Road – Stockdale Highway to California Avenue	2,170	1,660	2,311	1,831	2,427
Freeway to Freeway Connectors [b]	6,644	8,360	10,701	10,779	12,765
Total – All studied roadways	234,849	345,741	358,845	451,757	491,754
Carbon dioxide emissions with implementation of Pavley I [c] and Low Carbon Fuel Standard [d]					
Rosedale Highway – Allen Road to State Route 99	34,626	35,820	26,587	36,287	29,483
Stockdale Highway/Brundage Lane – Allen Road to H Street	34,144	20,584	15,562	22,772	15,512
California Avenue – Stockdale Highway to State Route 99	7,460	6,457	6,093	6,219	5,436
Westside Parkway – Allen Road to State Route 99	0 [a]	37,999	68,207	53,861	102,636
State Route 58 – State Route 99 to Cottonwood Road	32,817	42,040	42,981	46,336	50,133
State Route 99 – Airport Drive to White Lane	112,911	123,238	115,415	130,904	120,876
Mohawk Street – California Avenue to Rosedale Highway	4,076	5,473	4,469	6,809	5,416
Real Road – Stockdale Highway to California Avenue	2,170	1,302	1,813	1,203	1,596
Freeway to Freeway Connectors [b]	6,644	6,889	8,804	7,753	9,173
Total – All studied roadways	234,849	279,802	289,931	312,144	340,262
Emissions reduction due to Pavley I [b] and Low Carbon Fuel Standard [c]		18% to 22%		29% to 34%	

[a] Roadway segment did not exist in 2008 and was constructed after Base Year 2008.

[b] Studied freeway-to-freeway connectors include: State Route 99 northbound connectors to State Route 58 eastbound and westbound, State Route 99 southbound connectors to State Route 58 eastbound and westbound, State Route 58 westbound connectors to State Route 99 northbound and southbound.

[c] Assembly Bill 1493, also known as Pavley I, includes stricter standards to reduce greenhouse gas emissions from automobiles and light trucks, model years 2017-2025.

[d] California Assembly Bill AB 32 calls for a reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020.

Actual emissions would generally be smaller for certain roadways and the overall project than reported in this table because the predicted truck volumes on parts of the Westside Parkway and State Route 58 are smaller than those used in this regional analysis which represents the worst case.

Source: *Air Quality Study Report* 2014.

Table 4.14 Annual Operational Carbon Dioxide Emissions from Operation of Build Alternative B (Preferred Alternative) (Metric tons/year)

Roadway Segment	Existing Baseline 2008 (A)	Opening Year 2018		Horizon Year 2038	
		No Build (B)	Build (C)	No Build (E)	Build (F)
Rosedale Highway – Allen Road to State Route 99	34,626	43,942	31,873	51,634	41,407
Stockdale Highway/Brundage Lane – Allen Road to H Street	34,144	25,965	18,767	34,040	22,304
California Avenue – Stockdale Highway to State Route 99	7,460	8,157	7,181	9,305	7,440
Westside Parkway – Allen Road to State Route 99	0 [a]	47,401	98,144	78,788	161,796
State Route 58 – State Route 99 to Cottonwood Road	32,817	52,065	53,568	67,325	74,349
State Route 99 – Airport Drive to White Lane	112,911	151,284	140,168	187,887	170,898
Mohawk Street – California Avenue to Rosedale Highway	4,076	6,907	7,242	10,167	10,556
Real Road – Stockdale Highway to California Avenue	2,170	1,660	2,228	1,831	2,434
Freeway to Freeway Connectors [b]	6,644	8,360	10,596	10,779	12,754
Total – All studied roadways	234,849	345,741	369,768	451,757	503,939
Carbon dioxide emissions with implementation of Pavley I [c] and Low Carbon Fuel Standard [d]					
Rosedale Highway – Allen Road to State Route 99	34,626	35,820	26,033	36,287	29,317
Stockdale Highway/Brundage Lane – Allen Road to H Street	34,144	20,584	14,896	22,772	14,974
California Avenue – Stockdale Highway to State Route 99	7,460	6,457	5,696	6,219	4,995
Westside Parkway – Allen Road to State Route 99	0 [a]	37,999	78,838	53,861	111,043
State Route 58 – State Route 99 to Cottonwood Road	32,817	42,040	42,986	46,336	50,950
State Route 99 – Airport Drive to White Lane	112,911	123,238	114,154	130,904	119,445
Mohawk Street – California Avenue to Rosedale Highway	4,076	5,473	5,739	6,809	7,027
Real Road – Stockdale Highway to California Avenue	2,170	1,302	1,748	1,203	1,601
Freeway to Freeway Connectors [b]	6,644	6,889	8,720	7,753	9,174
Total – All studied roadways	234,849	279,802	298,811	312,144	348,526
Emissions reduction due to Pavley I [b] and Low Carbon Fuel Standard [c]		18% to 22%		29% to 34%	

[a] Roadway segment did not exist in 2008 and was constructed after Base Year 2008.

[b] Studied freeway-to-freeway connectors include: State Route 99 northbound connectors to State Route 58 eastbound and westbound, State Route 99 southbound connectors to State Route 58 eastbound and westbound, State Route 58 westbound connectors to State Route 99 northbound and southbound.

[c] Assembly Bill 1493, also known as Pavley I, includes stricter standards to reduce greenhouse gas emissions from automobiles and light trucks, model years 2017-2025.

[d] California Assembly Bill AB 32 calls for a reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020.

Actual emissions would generally be smaller for certain roadways and the overall project than reported in this table because the predicted truck volumes on parts of the Westside Parkway and State Route 58 are smaller than those used in this regional analysis which represents the worst case.

Source: *Air Quality Study Report* 2014.

Table 4.15 Annual Operational Carbon Dioxide Emissions from Operation of Build Alternative C (Metric tons/year)

Roadway Segment	Existing Baseline 2008 (A)	Opening Year 2018		Horizon Year 2038	
		No Build (B)	Build (C)	No Build (E)	Build (F)
Rosedale Highway – Allen Road to State Route 99	34,626	43,942	31,831	51,634	41,498
Stockdale Highway/Brundage Lane – Allen Road to H Street	34,144	25,965	17,862	34,040	22,116
California Avenue – Stockdale Highway to State Route 99	7,460	8,157	7,076	9,305	7,075
Westside Parkway – Allen Road to State Route 99	0 [a]	47,401	96,631	78,788	160,289
State Route 58 – State Route 99 to Cottonwood Road	32,817	52,065	54,734	67,325	78,823
State Route 99 – Airport Drive to White Lane	112,911	151,284	139,685	187,887	168,023
Mohawk Street – California Avenue to Rosedale Highway	4,076	6,907	8,879	10,167	10,421
Real Road – Stockdale Highway to California Avenue	2,170	1,660	2,259	1,831	2,500
Freeway to Freeway Connectors [b]	6,644	8,360	13,978	10,779	16,009
Total – All studied roadways	234,849	345,741	372,936	451,757	506,753
Carbon dioxide emissions with implementation of Pavley I [c] and Low Carbon Fuel Standard [d]					
Rosedale Highway – Allen Road to State Route 99	34,626	35,820	25,999	36,287	29,378
Stockdale Highway/Brundage Lane – Allen Road to H Street	34,144	20,584	14,178	22,772	14,848
California Avenue – Stockdale Highway to State Route 99	7,460	6,457	5,613	6,219	4,750
Westside Parkway – Allen Road to State Route 99	0 [a]	37,999	77,652	53,861	110,128
State Route 58 – State Route 99 to Cottonwood Road	32,817	42,040	44,096	46,336	54,152
State Route 99 – Airport Drive to White Lane	112,911	123,238	113,642	130,904	115,293
Mohawk Street – California Avenue to Rosedale Highway	4,076	5,473	7,305	6,809	6,986
Real Road – Stockdale Highway to California Avenue	2,170	1,302	1,774	1,203	1,645
Freeway to Freeway Connectors [b]	6,644	6,889	11,360	7,753	11,214
Total – All studied roadways	234,849	279,802	301,620	312,144	348,393
Emissions reduction due to Pavley I [b] and Low Carbon Fuel Standard [c]		18% to 22%		29% to 34%	

[a] Roadway segment did not exist in 2008 and was constructed after Base Year 2008.
[b] Studied freeway-to-freeway connectors include: State Route 99 northbound connectors to State Route 58 eastbound and westbound, State Route 99 southbound connectors to State Route 58 eastbound and westbound, State Route 58 westbound connectors to State Route 99 northbound and southbound.
[c] Assembly Bill 1493, also known as Pavley I, includes stricter standards to reduce greenhouse gas emissions from automobiles and light trucks, model years 2017-2025.
[d] California Assembly Bill AB 32 calls for a reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020.

Actual emissions would generally be smaller for certain roadways and the overall project than reported in this table because the predicted truck volumes on parts of the Westside Parkway and State Route 58 are smaller than those used in this regional analysis which represents the worst case.

Source: *Air Quality Study Report* 2014.

Limitations and Uncertainties with Modeling

EMFAC

Although EMFAC can calculate carbon dioxide (CO_2) emissions from mobile sources, the model does have limitations when it comes to accurately reflecting changes in carbon dioxide emissions due to impacts on traffic. The California Air Resources Board is currently not using EMFAC to create its inventory of greenhouse gas emissions. It

is unclear why the California Air Resources Board has made this decision. Its website only states:

REVISION: Both the EMFAC and OFFROAD Models develop carbon dioxide (CO_2) and methane (CH_4) emission estimates; however, they are not currently used as the basis for [California Air Resources Board's] official [greenhouse gas] inventory which is based on fuel usage information. http://www.arb.ca.gov/cc/inventory/inventory.htm. However, Air Resources Board is working towards reconciling the emission estimates from the fuel usage approach and the models.[8]

Other Variables

With the current science, project-level analysis of greenhouse gas emissions has limitations. Although a greenhouse gas analysis is included for this project, there are numerous key greenhouse gas variables that are likely to change dramatically during the design life of the proposed project and would thus dramatically change the projected carbon dioxide emissions.

First, vehicle fuel economy is increasing. The U.S. Environmental Protection Agency's annual report, "Light-Duty Automotive Technology and Fuel Economy Trends: 1975 through 2012,"[9] which provides data on the fuel economy and technology characteristics of new light-duty vehicles including cars, minivans, sport utility vehicles, and pickup trucks, confirms that average fuel economy has improved each year beginning in 2005, and is now at a record high. Corporate Average Fuel Economy (CAFE) standards remained the same between model years 1995 and 2003 and subsequently began setting increasingly higher fuel economy standards for future vehicle model years. The U.S. Environmental Protection Agency estimates that light duty fuel economy rose by 16 percent from 2007 to 2012. Table 4.16 shows the increases in required fuel economy standards for cars and trucks between Model Years 2012 and 2025 as available from the National Highway Traffic Safety Administration for the 2012-2016 and 2017-2025 Corporate Average Fuel Economy Standards.

Table 4.16 Average Required Fuel Economy (mpg)

	2012	2013	2014	2015	2016	2018	2020	2025
Passenger Cars	33.3	34.2	34.9	36.2	37.8	41.1-41.6	44.2-44.8	55.3-56.2
Light Trucks	25.4	26	26.6	27.5	28.8	29.6-30.0	30.6-31.2	39.3-40.3
Combined	29.7	30.5	31.3	32.6	34.1	36.1-36.5	38.3-38.9	48.7-49.7
Source: EPA 2013, http://www.epa.gov/fueleconomy/fetrends/1975-2012/420r13001.pdf								

Second, near zero carbon vehicles will come into the market during the design life of this project. According to the 2013 Annual Energy Outlook (AEO 2013):

8 http://www.arb.ca.gov/msei/offroad.htm
9 http://www.epa.gov/oms/fetrends.htm

"LDVs [light duty vehicles] that use diesel, other alternative fuels, hybrid-electric, or all-electric systems play a significant role in meeting more stringent greenhouse gas emissions and Corporate Average Fuel Economy Standards standards over the projection period. Sales of such vehicles increase from 20 percent of all new LDV sales in 2011 to 49 percent in 2040 in the Annual Energy Outlook 2013 Reference case."[10]

The greater percentage of alternative fuel vehicles on the road in the future will reduce overall greenhouse gas emissions as compared to scenarios in which vehicle technologies and fuel efficiencies do not change.

Third, California has recently adopted a low-carbon transportation fuel standard in 2009 to reduce the carbon intensity of transportation fuels by 10 percent by 2020. The regulation became effective on January 12, 2010 (codified in title 17, California Code of Regulations, Sections 95480-95490). Beginning January 1, 2011, transportation fuel producers and importers must meet specified average carbon intensity requirements for fuel in each calendar year.

Lastly, driver behavior has been changing as the U.S. economy and oil prices have changed. In its January 2008 report, "Effects of Gasoline Prices on Driving Behavior and Vehicle Market,"[11] the Congressional Budget Office found the following results based on data collected from California: 1) freeway motorists adjust to higher gas prices by making fewer trips and driving more slowly; 2) the market share of sports utility vehicles is declining; and 3) the average prices for larger, less-fuel-efficient models declined from 2003 to 2008 as average prices for the most-fuel-efficient automobiles have risen, showing an increase in demand for the more fuel efficient vehicles. More recent reports from the Energy Information Agency[12] and Bureau of Economic Analysis[13] also show slowing re-growth of vehicle sales in the years since its dramatic drop in 2009 due to the Great Recession as gasoline prices continue to climb to $4 per gallon and beyond.

Limitations and Uncertainties with Impact Assessment

Taken from p. 5-22 of the National Highway Traffic Safety Administration Final Environmental Impact Statement for Mid-year 2017–2025 Corporate Average Fuel Economy Standards (July 2012), Figure 4-4 illustrates how the range of uncertainties in assessing greenhouse gas impacts grows with each step of the analysis:

"Moss and Schneider (2000) characterize the "cascade of uncertainty" in climate change simulations Figure 4-4). As indicated in Figure 4-4, the emission estimates used in this EIS have narrower bands of uncertainty than the global climate effects, which are less uncertain than regional climate change effects. The effects on climate

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10 http://www.eia.gov/forecasts/aeo/pdf/0383(2013).pdf

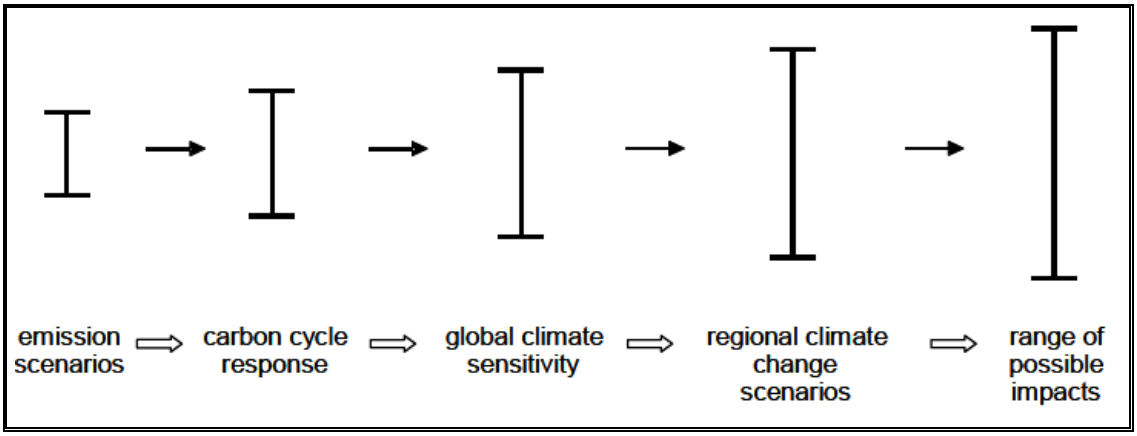
11 http://www.cbo.gov/ftpdocs/88xx/doc8893/01-14-GasolinePrices.pdf

12 http://www.eia.gov/oiaf/aeo/tablebrowser/aeo_query_server/?event=ehExcel.get File&study=AEO 2013 &region=0-0&cases=ref2013-d102312a&table=114-AEO 2013&yearFilter=0

13 Historical Vehicle Sales: www.bea.gov/national/xls/gap_hist.xls

are, in turn, less uncertain than the impacts of climate change on affected resources (such as terrestrial and coastal ecosystems, human health, and other resources […] Although the uncertainty bands broaden with each successive step in the analytic chain, all values within the bands are not equally likely; the mid-range values have the highest likelihood."[14]

Figure 4-4 Cascade of Uncertainties



Much of the uncertainty in assessing an individual project's impact on climate change surrounds the global nature of the climate change. Even assuming that the target of meeting the 1990 levels of emissions is met, there is no regulatory or other framework in place that would allow for a ready assessment of what any modeled increase in carbon dioxide emissions would mean for climate change given the overall California greenhouse gas emissions inventory of approximately 430 million tons of carbon dioxide equivalent. This uncertainty only increases when viewed globally. The Intergovernmental Panel on Climate Change has created multiple scenarios to project potential future global greenhouse gas emissions as well as to evaluate potential changes in global temperature, other climate changes, and their effect on human and natural systems. These scenarios vary in terms of the type of economic development, the amount of overall growth, and the steps taken to reduce greenhouse gas emissions. Non-mitigation Intergovernmental Panel on Climate Change scenarios project an increase in global greenhouse gas emissions by 9.7 up to 36.7 billion metric tons carbon dioxide from 2000 to 2030, which represents an increase of between 25 and 90 percent.[15]

The assessment is further complicated by the fact that changes in greenhouse gas emissions can be difficult to attribute to a particular project because the projects often cause shifts in the locale for some type of greenhouse gas emissions, rather than

[14] http://www.nhtsa.gov/staticfiles/rulemaking/pdf/cafe/FINAL_EIS.pdf. page 5-22

[15] Intergovernmental Panel on Climate Change (IPCC). February 2007. Climate Change 2007: The Physical Science Basis: Summary for Policy Makers. http://www.ipcc.ch/SPM2feb07.pdf.

causing "new" greenhouse gas emissions. It is difficult to assess the extent to which any project level increase in carbon dioxide emissions represents a net global increase, reduction, or no change; there are no models approved by regulatory agencies that operate at the global or even statewide scale.

California Environmental Quality Act Conclusion

Although the project includes a new highway segment and widening of a portion of an existing highway, both components accommodating more traffic volume and enhanced capacity, the redistribution of traffic because of the project is such that the resultant greenhouse gas emissions, for all alternatives, show between a 4 to 12 percent increase when compared with the no-build alternative scenario.

Both the future with project and future no build show increases in carbon dioxide emissions over the existing levels; the future build carbon dioxide emissions are higher than the future no-build emissions for Alternatives A, B, and C. In addition, as discussed above, there are also limitations with EMFAC and with assessing what a given carbon dioxide emissions increase means for climate change. Therefore, it is Caltrans' determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and California Environmental Quality Act significance, it is too speculative to make a determination regarding significance of the project's direct impact and its cumulative contribution to climate change. However, Caltrans is firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the following section.

4.5.3 Greenhouse Gas Reduction Strategies

Assembly Bill 32 Compliance

Caltrans continues to be actively involved on the Governor's Climate Action Team as the California Air Resources Board works to implement Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in Assembly Bill 32. Many of the strategies Caltrans is using to help meet the targets in the bill come from Former Governor Arnold Schwarzenegger's Strategic Growth Plan for California. The Strategic Growth Plan targeted a significant decrease in traffic congestion below 2008 level and a corresponding reduction in greenhouse gas emissions, while accommodating growth in population and the economy. The Strategic Growth Plan relies on a complete systems approach to attain carbon dioxide reduction goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements as shown in Figure 4-5.

Figure 4-5 Mobility Pyramid

Caltrans is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, transit-oriented communities, and high-density housing along transit corridors. Caltrans works closely with local jurisdictions on planning activities but does not have local land use planning authority. Caltrans also assists efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks; Caltrans is doing this by supporting ongoing research efforts at universities, supporting legislative efforts to increase fuel economy, and participating on the Climate Action Team. It is important to note, however, that the control of the fuel economy standards is held by the U.S. Environmental Protection Agency and California Air Resources Board.

Caltrans is also working towards enhancing the State's transportation planning process to respond to future challenges. Similar to requirements for regional transportation plans under Senate Bill 375 (Steinberg 2008), Senate Bill 391(Liu 2009) requires the State's long-range transportation plan to meet California's climate change goals under Assembly Bill (AB) 32.

The California Transportation Plan is a statewide, long-range transportation plan to meet our future mobility needs and reduce greenhouse gas emissions. The California Transportation Plan defines performance-based goals, policies, and strategies to achieve our collective vision for California's future, statewide, integrated, multimodal transportation system.

The purpose of the California Transportation Plan is to provide a common policy framework that will guide transportation investments and decisions by all levels of government, the private sector, and other transportation stakeholders. Through this policy framework, the California Transportation Plan 2040 will identify the statewide

transportation system needed to achieve maximum feasible greenhouse gas emission reductions while meeting the State's transportation needs.

Table 4.17 summarizes Caltrans' and statewide efforts that it is implementing to reduce greenhouse gas emissions. More detailed information about each strategy is included in the Climate Action Program at Caltrans (December 2006).

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012): is intended to establish a Department policy that will ensure coordinated efforts to incorporate climate change into Departmental decisions and activities.

Caltrans Activities to Address Climate Change (April 2013)[16] provides a comprehensive overview of activities undertaken by Caltrans statewide to reduce greenhouse gas emissions resulting from agency operations.

The following measures would also be included in the project to reduce greenhouse gas emissions and potential climate change impacts from the project:

- Caltrans and the California Highway Patrol are working with regional agencies to implement Intelligent Transportation Systems to help manage the efficiency of the existing highway system. An Intelligent Transportation System commonly consists of electronics, communications, or information processing used singly or in combination to improve the efficiency or safety of a surface transportation system.
- Landscaping reduces surface warming and, through photosynthesis, decreases carbon dioxide. The project proposes planting in the intersection slopes, drainage channels, and seeding in areas next to frontage roads and planting a variety of different-sized plant material and scattered skyline trees where appropriate but not to obstruct the view of the mountains. These trees would help offset any potential carbon dioxide emissions increase. Based on a formula from the Canadian Tree Foundation[17], it is anticipated that planting 40 trees would offset between 7 and 10 tons of carbon dioxide per year.
- According to Caltrans Standard Specification Provisions, idling time for lane closure during construction is restricted to 10 minutes in each direction. In addition, the contractor must comply with San Joaquin Valley Air Pollution Control District's rules, ordinances, and regulations in regard to air quality restrictions, including idling restrictions for trucks at the construction sites.

[16] http://www.dot.ca.gov/hq/tpp/offices/orip/climate_change/projects_and_studies.shtml

[17] Canadian Tree Foundation at http://www.tcf-fca.ca/publications/pdf/english_reduceco2.pdf. For rural areas, the formula is: # of trees/360 x survival rate = tones of carbon/year removed for each of 80 years.

Table 4.17 Climate Change/Carbon Dioxide Reduction Strategies

Strategy	Program	Partnership		Method/Process	Estimated Carbon Dioxide Savings (million miles traveled)	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review	Caltrans	Local Governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies and other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	0.975	7.8
Operational Improvements and Intelligent Transportation System Deployment	Strategic Growth Plan	Caltrans	Regions	State Intelligent Transportation System; Congestion Management Plan	0.07	2.17
Mainstream Energy and Greenhouse Gases into Plans and Projects	Office of Policy Analysis and Research; Division of environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational and Information Program	Office of Policy Analysis and Research	Interdepartmental, California Environmental Protection Agency, California Air Resource Board, California Energy Commission		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening and Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement B20 B100	0.0045	0.0065 0.045 0.0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	0.117	0.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries		2.5% limestone cement mix 25% fly ash cement mix > 50% fly ash/slag mix	1.2 0.36	4.2 3.6
Goods Movement	Office of Goods Movement	California Environmental Protection Agency, California Air Resource Board, Business, Transportation, and Housing, Metropolitan Planning Organizations		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.72	18.18

Source: *Air Quality Study Report* 2014.

- Consistent with the greenhouse gas mitigation measures of the Kern Council of Government 2014 Regional Transportation Plan Environmental Impact Report, the project would incorporate the use of energy-efficient lighting, such as light-emitting diode traffic signals. Light-emitting diode bulbs cost $60 to $70 a piece, but last 5 to 6 years, compared to the 1-year average lifespan of the incandescent bulbs previously used. The light-emitting diode bulbs themselves consume 10 percent of the electricity of traditional lights, which will also help reduce the project's carbon dioxide emissions.[18]

Other measures include the following:

- Support efforts that further analyze greenhouse gas emission contributions from goods movement through transportation corridors, trucking and other relevant freight movement practices.
- Support the use of grants, loans and incentives to assist local governments with the implementation of climate change response activities and greenhouse gas reduction strategies.
- Use circulation elements of general plans to ensure that development is consistent and well connected by alternative transportation modes (as required by Assembly Bill 1358 effective January 1, 2011).
- Promote reduced travel by providing park-and-ride lots.
- In transit-oriented areas, reduce parking requirements and provide car/vanpool parking areas.
- Encourage project site designs and subdivision street and lot designs that support walking, bicycling, and transit use:
    - Adopt design guidelines and standards promoting plans that encourage alternative transportation modes; and
    - Require certain sites to be created to allow convenient access by transit, bicycle, and walking.
- Accommodate projected population growth by identifying appropriate areas for urban and rural growth, economic development, and multi-modal transportation corridors that support smart growth principles.
- Encourage the design and development of an effective transportation system that integrates all modes into a seamless, reliable, cost-efficient system, including intelligent transportation solutions and high tech communication options.
- Support intermodal travel including park-and-ride, rideshare, bicycle, rail and transit programs.
- Support increased mass transit connectivity and accessibility.

[18] Knoxville Business Journal, "[Light-Emitting Diode] Lights Pay for Themselves," May 19, 2008 at http://www.knoxnews.com/news/2008/may/19/led-traffic-lights-pay-themselves/.

- Promote reduction of vehicle miles traveled.
- Promote landscaping strategies that will reduce greenhouse gas.
- Promote the use of light-emitting diode technology or comparable energy-efficient technology for traffic lights, rail signals and other features compatible with light-emitting diode or comparable energy-efficient technologies.
- Support the use of procurement practices that promote the use of energy-efficient products and equipment.
- Support and coordinate efforts that address strategies to reduce greenhouse gases into planning efforts. and
- Promote energy efficiency, solar energy production and other methods of reducing greenhouse gas production.

Adaptation Strategies

"Adaptation strategies" refer to how Caltrans and others can plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increasing variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility to be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the White House Council on Environmental Quality, the Office of Science and Technology Policy, and the National Oceanic and Atmospheric Administration, released its interagency task force progress report on October 28, 2011[19], outlining the federal government's progress in expanding and strengthening the Nation's capacity to better understand, prepare for, and respond to extreme events and other climate change impacts. The report provides an update on actions in key areas of federal adaptation, including: building resilience in local communities, safeguarding critical natural resources such as freshwater, and providing accessible climate information and tools to help decision-makers manage climate risks.

Climate change adaptation must also involve the natural environment as well. Efforts are underway on a statewide-level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

[19] http://www.whitehouse.gov/administration/eop/ceq/initiatives/adaptation

On November 14, 2008, then-Governor Schwarzenegger signed Executive Order S-13-08, which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change. This order set in motion several agencies and actions to address the concern of sea level rise.

In addition to addressing projected sea level rise, the California Natural Resources Agency (Resources Agency) was directed to coordinate with local, regional, state, and federal, public and private entities to develop a state Climate Adaptation Strategy. *The California Climate Adaptation Strategy* (December 2009)[20], which summarizes the best-known science on climate change impacts to California, assessed California's vulnerability to the identified impacts, and outlined solutions that can be implemented within and across state agencies to promote resiliency.

The strategy outline is in direct response to Executive Order S-13-08 that specifically asked the Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. Numerous other state agencies were involved in the creation of the Adaptation Strategy document, including the California Environmental Protection Agency; Transportation Agency (then called Business, Transportation and Housing); Health and Human Services; and the Department of Agriculture. The document is broken down into strategies for different sectors that include: public health; biodiversity and habitat; ocean and coastal resources; water management; agriculture; forestry; and transportation and energy infrastructure. As data continues to be developed and collected, the state's adaptation strategy will be updated to reflect current findings.

The National Academy of Science was directed to prepare a Sea Level Rise Assessment Report[21] to recommend how California should plan for future sea level rise. The report was released in June 2012 and included:

- Relative sea level rise projections for California, Oregon, and Washington taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge and land subsidence rates
- Range of uncertainty in selected sea level rise projections
- Synthesis of existing information on projected sea level rise impacts to state infrastructure (such as roads, public facilities, and beaches), natural areas, and coastal and marine ecosystems
- Discussion of future research needs regarding sea level rise for California

In 2010, interim guidance was released by The Coastal Ocean Climate Action Team as well as Caltrans as a method to initiate action and discussion of potential risks to the states infrastructure due to projected sea level rise. Subsequently, Coastal Ocean

[20] http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF

[21] *Sea Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future* (2012) is available at: http://www.nap.edu/catalog.php?record_id=13389.

Climate Action Team updated the Sea Level Rise guidance to include information presented in the National Academy's Study.

All state agencies that are planning to construct projects in areas vulnerable to future sea level rise are directed to consider a range of sea level rise scenarios for the years 2050 and 2100 to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. Sea level rise estimates should also be used in conjunction with information on local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data.

All projects that have filed a Notice of Preparation as of the date of the Executive Order S-13-08, and/or are programmed for construction funding through 2013, or are routine maintenance projects may, but are not required to, consider these planning guidelines. The Notice of Preparation was filed in 2008 for this project, and construction is scheduled to start in July 2016. Also, the proposed project is outside the coastal zone, and direct impacts to transportation facilities due to projected sea level rise are not expected.

Executive Order S-13-08 also directed the Transportation Agency (then called Business, Transportation, and Housing) to prepare a report to assess vulnerability of transportation systems to sea level rise affecting safety, maintenance and operational improvements of the system, and economy of the state. Caltrans continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

Currently, Caltrans is assessing which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change effects, Caltrans has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide planning scenarios become available, Caltrans will be able review its current design standards to determine what changes, if any, may be warranted to protect the transportation system from sea level rise.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding, increased frequency and intensity of storms and wildfires, rising temperatures, and rising sea levels. Caltrans is an active participant in the efforts being made in response to Executive Order S-13-08 and is mobilizing to be able to respond to the National Academy of Science Report on Sea Level Rise Assessment.

Chapter 5 Comments and Coordination

Early and continuing coordination with the general public and appropriate public agencies is an important part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required, and to identify potential impacts, mitigation measures, and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including project development team meetings, interagency coordination meetings, and an extensive public outreach program. This process, known as scoping, allows public agencies and the general public to learn about the project and to provide suggestions on alternatives and the types of impacts to be evaluated. As part of this effort, the draft environmental document was circulated for a 61-day review by agencies and members of the public from May 9 to July 8, 2014. Volume 3 has the comments received on the draft environmental document and the responses to each.

This chapter summarizes the results of Caltrans' efforts to identify, address, and resolve project-related issues through early and continuing coordination.

5.1 Coordination Plan

When this project was initiated, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) required the development of a Coordination Plan for projects where an Environmental Impact Report/Environmental Impact Statement was being prepared. The purpose of the plan was to improve agency and public involvement in the environmental process for transportation projects. The SAFETEA-LU legislation has been replaced with the 2012 passage of Moving Ahead for Progress in the 21st Century Act (MAP-21). Many of the requirements in the SAFETEA-LU legislation pertaining to coordination with other agencies have been carried forward into the MAP-21 requirements. A Coordination Plan was prepared by Caltrans in December 2008 to describe a communication process with participating and cooperating agencies. The following provides an overview of the agency coordination conducted to date.

5.1.1 Notice of Initiation

A project initiation meeting was held on Tuesday, March 4, 2008, from 4:00 p.m. to 8:00 p.m. in the Building Rotunda at the Kern County Administrative Offices at 1115 Truxtun Avenue in Bakersfield. An open house-type format was used to facilitate communication and the exchange of information between the Caltrans project team members and members of the public. The purpose of the meeting was to explain the project and alternatives to the public and interested parties, answer any questions they might have, and gather comments from anyone who had input.

To announce the meeting, Caltrans published a public notice in local newspapers**.** The notice was published in English in *The Bakersfield Californian* on February 12 and 26, 2008. The notice was published in Spanish in *El Popular* on February 29,

2008. In addition, a press release was sent to local media and those individuals that had been identified as interested parties.

A sign-in sheet was provided at the entrance of the meeting, and 383 people signed in. Caltrans received 414 comment cards, emails, or letters from that day through April 4, 2008. In addition, 61 people provided comments to a court reporter at the meeting to record testimony.

5.1.2 Process for Inviting Cooperating/Participating Agencies

Cooperating agencies are governmental agencies that either have approval authority on part of the project (such as issuing a permit) or special expertise with respect to an environmental issue being evaluated in the Environmental Impact Report/ Environmental Impact Statement. Participating agencies can be federal, state, tribal, regional, or local agencies, non-governmental organizations, or private entities that may have an interest in the project. Being a cooperating or participating agency does not mean that the agency supports a project.

On September 18, 2008, Caltrans sent letters of invitation to 10 agencies to become a participating agency and 11 agencies to become a cooperating agency on the project. Unless a federal agency responds or fits one of the following categories, the agency is assumed to be a participating or cooperating agency: (1) it has no jurisdiction or authority for the project; (2) it has no expertise or information relevant to the project; and (3) it does not intend to submit comments on the project. Cooperating and participating agencies are shown in Table 5.1.

Table 5.1 Cooperating and Participating Agencies List

Agency	Contact Person, Title	Accepted Invitation	Declined Invitation	Did not Respond	Agency (yes/no)
Cooperating Agencies					
* U.S. Army Corps of Engineers	Colonel Thomas C. Chapman, District Engineer			X	Yes
* U.S. Fish and Wildlife Service	Susan Moore, Field Supervisor			X	Yes
* U.S. Environmental Protection Agency	Carolyn Mulvihill, Environmental Review Office			X	Yes
Kern County	Craig Pope, Kern County Road Commissioner	X			Yes
city of Bakersfield	Theodore Wright, Thomas Roads Improvement Program Manager	X			Yes
Central Region Water Quality Control Board	Bridget Supple	X			Yes
California Department of Fish and Wildlife[1]	Don Koch, Director		X		No
California Environmental Protection Agency	Linda S. Adams, Secretary		X		No
California Department of Parks and Recreation, Office of Historic Preservation	Carol Roland State Historic Preservation Officer			X	No

Table 5.1 Cooperating and Participating Agencies List

Agency	Contact Person, Title	Accepted Invitation	Declined Invitation	Did not Respond	Agency (yes/no)
San Joaquin Valley Unified Air Pollution Control District, Southern Region	Seyed Sadredin, Air Pollution Control Officer			X	No
State Lands Commission	Paul D. Thayer, Executive Officer			X	No
Participating Agencies					
California Department of Water Resources	Charyce Hatler, Staff Environmental Scientist	X			Yes
California Highway Patrol	Lieutenant Terry Roberts	X			Yes
Native American Heritage Commission	Dave Singleton, Program Analyst	X			Yes
Golden Empire Transit District	Karen H. King, Chief Executive Officer	X			Yes
Kern County Department of Agriculture and Measurement Standards	Ruben J. Arroyo, Agricultural Commissioner	X			Yes
* Federal Transit Administration	Leslie Rogers, Regional Administrator			X	Yes
* U.S. Department of the Interior (Bureau of Reclamation)	Donald R. Glaser, Mid-Pacific Regional Director			X	Yes
* U.S. Department of Agriculture	Carolyn LoFreso, District Conservationist			X	Yes
* California Department of Water Resources	Lester A. Snow, Director			X	Yes
California Department of Food and Agriculture	A.G. Kawamura, Secretary			X	No

It is assumed that agencies with a star (*) will participate as the requested agency because of their expertise or interest in the project.
[1] Effective January 1, 2013, the California Department of Fish and Game changed its name to the California Department of Fish and Wildlife.

Coordination Meeting

A coordination webinar was conducted on August 26, 2009 for those agencies that had accepted the invitation to be a participating or cooperating agency. A webinar is a meeting held on a website; any person using a computer with internet access can attend the meeting. Representatives from the following agencies attended the webinar: California Department of Fish and Wildlife, U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, County of Kern, and the city of Bakersfield.

The purpose of the meeting was to update the attendees on the progress of the project; gain input on the project Purpose and Need; develop the project alternatives; and discuss methodology for the study plans. In addition, the meeting provided an opportunity to identify the permits and approvals needed for project implementation. The permits and approvals needed, as well as the status of these permits, are listed in Tables S.2 and 2.4.

Concerns were raised about the bridges that would cross the Kern River under Alternative A. The crossing of Kern River for Alternatives B and C would provide new bridge structures using the same general alignment used for the Westside Parkway crossing of the Kern River. The bridge structures for Alternative A would be farther south, resulting in impacts to a larger portion of the Kern River.

In response to the webinar invitation, the California Department of Fish and Wildlife also provided a written comment letter to Caltrans regarding its outstanding concerns about the project, including potential impacts to wetlands, riparian habitat, compatibility with the applicable conservation plans; and Section 4(f) consideration. A copy of the letter is provided in Appendix J, Key Correspondence, provided in Volume 2.

5.2 Scoping Process

The scoping process started with widespread notice to government agencies via publication of a Notice of Intent/Notice of Preparation announcing the start of an Environmental Impact Report/Environmental Impact Statement. The Notice of Intent was published in the *Federal Register* on September 19, 2008, in accordance with the National Environmental Policy Act. The Notice of Preparation was filed with the State Clearinghouse on September 19, 2008, in accordance with the California Environmental Quality Act. The State Clearinghouse posts the Notice of Preparation on its website and distributes it to state agencies. In addition, the Notice of Preparation was posted on the Caltrans District 6 website and with the Kern County Clerk/Recorder throughout the public review period (September 19, 2008 to October 20, 2008). A copy of the Notice of Intent/Notice of Preparation is provided in Appendix G in Volume 2. Comments on the Notice of Intent/Notice of Preparation were received from 29 agencies and included comments on a variety of environmental issues. Table 5.2 provides a summary of the issues raised in the responses to the Notice of Preparation.

5.2.1 Mailings

The Notice of Intent/Notice of Preparation was sent to federal, state, regional, and local government agencies, Native American groups, business groups, and other interested parties on September 18, 2008. These groups were also invited to the scoping meeting on October 2, 2008.

5.2.2 Public Noticing

Advertisements announcing the scoping meeting were published in local newspapers in both English and Spanish. An English advertisement was placed in *The Bakersfield Californian*, and a Spanish advertisement was placed in *El Popular* three weeks before and one week before the public meeting.

Table 5.2 Centennial Corridor Notice of Preparation Comment Summary Matrix

Comment Letter	Date of Letter	Procedural/ No Technical Comments	Physical Environment								Natural Environment		Social and Economic Environment												
			Geology and Soils	Mineral Resources	Agricultural Soils and Farmlands	Hydrology	Water Quality	Air Quality	Hazardous Waste	Paleontology	Plant and Animal	Waters of the U.S.	Land Use	Socioeconomic and Environmental Justice	Visual Resources	Traffic and Transportation	Noise	Cultural Resources – Historical	Cultural Resources – Archaeology	Public Services and Utilities	Energy	Section 4(f)	Fire	Aesthetics	Cumulative Impacts
Federal Agencies																									
Federal Emergency Management Agency	9/22/2008					x																			
US Environmental Protection Agency	10/17/2008	x				x	x	x			x	x		x		x									x
State Agencies																									
State Clearinghouse	9/19/2008	x																							
California Integrated Waste Management Board	9/22/2008	x																							
California Highway Patrol	9/22/2008	x														x									
California Department of Oil, Gas and Geothermal Resources	9/23/2008			x					x																
California Regional Water Quality Control Board	10/7/2008	x																							
Native American Heritage Commission	10/8/2008																		x						
Public Utilities Commission	10/20/2008	x											x			x									
California Department of Fish and Game[1]	10/20/2008					x		x	x		x	x	x			x	x					x	x	x	x
California Transportation Commission	10/31/2008	x																							
California Environmental Protection Agency	11/7/2008	x																							
California Department of Water Resources	11/10/2008					x																			
California State Lands Commission	Undated	x																							

Table 5.2 Centennial Corridor Notice of Preparation Comment Summary Matrix

Comment Letter	Date of Letter	Procedural/ No Technical Comments	Physical Environment								Natural Environment		Social and Economic Environment												
			Geology and Soils	Mineral Resources	Agricultural Soils and Farmlands	Hydrology	Water Quality	Air Quality	Hazardous Waste	Paleontology	Plant and Animal	Waters of the U.S.	Land Use	Socioeconomic and Environmental Justice	Visual Resources	Traffic and Transportation	Noise	Cultural Resources – Historical	Cultural Resources – Archaeology	Public Services and Utilities	Energy	Section 4(f)	Fire	Aesthetics	Cumulative Impacts
Regional and Local Agencies																									
County of Kern Auditor-Controller-County Clerk	9/22/2008	x																							
County of Kern Dept of Agriculture and Measurement Standards	9/22/2008	x																							
North of the River Recreation and Park District	9/22/2008																					x			
County of Kern Administrative Office	9/30/2008	x																							
Rosedale - Rio Bravo Water Storage District	10/2/2008	x																							
Kern County Department of Human Services	10/6/2008												x	x											
Kern County Resource Management Agency-Roads Dept	10/8/2008	x																							
city of Bakersfield	10/20/2008	x																							
Kern Water Bank Authority	10/21/2008						x				x														
city of Bakersfield Historic Preservation Commission	11/12/2008	x																							
Golden Empire Transit	9/26/2008	x																							
Businesses and Organizations																									
BNSF Railway	9/29/2008												x												
Westpark Homeowners Association/Luce Forward	10/14/2008												x	x			x							x	
Union Pacific	10/14/2008							x					x			x	x								
Chumash Council of Bakersfield	10/23/2008	x																							

[1] Effective January 1, 2013, the California Department of Fish and Game changed its name to the California Department of Fish and Wildlife

5.2.3 Scoping Meetings

Public Scoping Meeting

The public scoping meeting was held on Thursday, October 2, 2008, in the Kern County Administrative Offices Building Rotunda from 4:30 p.m. to 7:30 p.m. The purpose of the meeting was to provide the public with information on the project and alternatives, answer any questions, and gather comments from anyone who had input.

A total of 147 people signed the sign-in sheets. Caltrans received seven comment cards and two handwritten letters at the meeting. Also, 12 people provided comments to the onsite court reporter. The following issues were raised: preference for a specific alternative, air pollution and noise impacts, concerns about the Kern River Parkway, effects on property values, and neighborhood impacts.

Agency Scoping Meeting

An Agency Scoping Meeting was held on Thursday, October 2, 2008, at the Thomas Roads Improvement Program offices in Bakersfield. The purpose of the meeting was to explain the project and alternatives to agencies, answer any questions they might have, and gather comments from anyone who had input.

Five representatives from the following four agencies were in attendance: Kern County Department of Public Health, Kern County Agricultural Commissioner's Office, California Highway Patrol, and the city of Bakersfield Recreation and Parks Department.

5.3 Consultation and Coordination with Public Agencies

5.3.1 Resource and Regulatory Agencies

Caltrans began Section 7 consultation on November 20, 2007, under the Federal Endangered Species Act with the U.S. Fish and Wildlife Service for the six Thomas Roads Improvement Program projects, which include the Centennial Corridor. The California Department of Fish and Wildlife was included in the coordination process, but it was decided that the project would not require formal consultation pursuant to the California Endangered Species Act because there would be no "take" of endangered species based on the proposed avoidance, mitigation, and minimization measures. Through this consultation process, the San Joaquin Kit Fox Conceptual Strategy for the Thomas Roads Improvement Program was developed. Coordination addressed issues such as an approach for San Joaquin kit fox field surveys (June 2008), potential project-specific and program-level effects of the Thomas Roads Improvement Program (September 2010), and minimization options for project-specific impacts (August 2008 to present).

As part of the agency consultation, the Metropolitan Bakersfield Habitat Conservation Plan Trust Administrator provided written correspondence stating that the Trust Group concurs with the use of the Metropolitan Bakersfield Habitat Conservation Plan for compensatory mitigation required by the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife. The correspondence

also stated that payment could occur after approval of the final environmental document. See Appendix J in Volume 2 for the letter.

Formal project-specific Section 7 consultation for the San Joaquin kit fox began with the U.S. Fish and Wildlife Service on April 16, 2013. Based on coordination between Caltrans and U.S. Fish and Wildlife Service, the Biological Assessment evaluated Alternatives A, B and C. The Biological Assessment, submitted as part of the consultation package, was approved as complete by U.S. Fish and Wildlife Service on July 22, 2013. The Biological Opinion (Service file number 08ESMF00-2013-F-0373) from the Service on the effects on the San Joaquin kit fox was issued on December 20, 2013.

After the circulation of the Draft Environmental Impact Report/Environmental Impact Statement, Caltrans contacted the U.S. Fish and Wildlife Service to reinitiate formal consultation and get an updated Biological Opinion regarding minor changes to the project description. The reinitiated Biological Opinion (Service file number 08ESMF00-2013-F-0373-R001) was approved by U.S. Fish and Wildlife Service on February 24, 2015 and amended on July 30, 2015 and is provided in Appendix I, Volume 2.

5.3.2 Intergovernmental Consultation for Air Quality

Intergovernmental coordination through the Kern Council of Governments Transportation Conformity Working Group began in May 2012 regarding Clean Air Act conformity requirements. The agencies involved included the Kern Council of Governments, Caltrans, the Environmental Protection Agency, the San Joaquin Valley Air Pollution Control District, and the Federal Highway Administration.

The Transportation Conformity Working Group recommended preparing a qualitative analysis of the Centennial Corridor Project alternatives. A qualitative analysis was prepared per the Environmental Protection Agency guidance for qualitative hot spot analyses. The protocol was followed for the qualitative analysis that was completed for particulate matter for existing (2008) conditions and the No-Build Alternative and all three build alternatives for the 2038 design year. The results were shared with the Transportation Conformity Working Group on September 19, 2013 as part of the review of the environmental document.

On July 29, 2014 Caltrans submitted to the Federal Highway Administration a complete request for a project-level conformity determination for the Centennial Corridor Project. On August 7, 2014, the Federal Highway Administration provided its determination and concluded that the Centennial Corridor Project has met the project-level conformity requirements of 40 Code of Federal Regulations Part 93. The Project Level Conformity Determination Letter is provided in Appendix H, Volume 2.

Additionally, Caltrans has entered into a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District to implement emission-reducing programs. Caltrans will provide funds to the San Joaquin Valley Air

Pollution Control District to administer grant programs to improve local air quality within the project area. A copy of the Voluntary Emission Reduction Agreement can be found in Appendix L, Volume 2. Caltrans will continue to coordinate with the San Joaquin Valley Air Pollution Control District throughout the project development process to assist in implementing air quality improvements for the community and other air quality-related requirements during the construction of the project.

Caltrans has been coordinating with the U.S. Environmental Protection Agency in discussing the project's potential air quality impacts. Revisions to the environmental document have been incorporated to address the U.S. Environmental Protection Agency's air quality concerns as described in Volume 3 of the final environmental document and identified as Comment F-1. Based on the air quality analysis, the project would improve regional air quality in future years. Caltrans entered into a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District to address U.S. Environmental Protection Agency's comments on air quality. Additional information on coordination with the U.S. Environmental Protection Agency is provided in Section 5.3.9.

5.3.3 Native American Heritage Commission and Associated Cultural Resources Consultation

Through preparation of the technical studies for cultural resources, a request was made to the Native American Heritage Commission for a review of the Sacred Lands Inventory to determine if any known cultural properties are present within or adjacent to the Area of Potential Effects. The Native American Heritage Commission responded on June 21, 2007, stating that no Native American cultural resources are known to exist within or next to the Area of Potential Effects. In addition, the Native American Heritage Commission provided a list of individuals/organizations that may have knowledge of cultural resources in the project area. The 12 parties listed on the Native American Heritage Commission contacts list and 10 additional individuals identified by Caltrans were all contacted by certified letter on July 30, 2007, or September 25, 2007. The letters were followed by emails and/or telephone calls to each individual to ensure that the contacts received the original letter and had a chance to respond in time.

Several responses were received, including three letters from individuals requesting that additional information be sent to them about the project as it continues. On December 21, 2011, the three individuals who requested additional information were sent an updated informational letter describing the Centennial Corridor Project and requesting comments and any additional information of which they might be aware. No additional input has been received.

In addition to coordination with the Native American Heritage Commission, letters informing interested parties of the project were sent to area planning agencies, local governments, historical societies, and museums in August 2009 to solicit input on cultural resources.

Upon completion of the cultural resources studies, copies of the *Historic Property Survey Report*—which includes the Archaeological Survey Report, the Historic Resources Evaluation Report, the Extended Phase I (Geoarchaeological Study) and the California Historic Bridge Inventory Sheet—were sent for review to the following consulting parties:

- Kudzubitcwanap Palap Tribe
- Eshom Valley Band of Indians
- Native American Heritage Preservation Council
- Tule River Indian Tribe
- Carol Pulido, Frazier Park
- Santa Rosa Rancheria
- Kawaiisu Tribe
- Kern Valley Indian Council
- Tejon Indian Tribe
- Kitanemuk and Yowlumne Tejon Indians
- Yokuts, Tubatulabal
- Chumash Council of Bakersfield
- Tubatulabals of Kern Valley
- County of Kern
- city of Bakersfield
- State Historic Preservation Officer

A 30-day comment period began on February 15, 2013. This review coincided with Caltrans' initiation of Section 106 consultation with the State Historic Preservation Officer. On April 15, 2013, the State Historic Preservation Officer concurred that four properties (the Lester H. Houchin residence, the Rancho Vista subdivision, the property at 3904 Marsha Street, and the Friant-Kern Canal) within the Area of Potential Effects are eligible for the National Register of Historic Places. Refer to Appendix J of Volume 2, Key Correspondence, for these letters.

Following the concurrence from the State Historic Preservation Officer on the Historic Property Survey Report, a Finding of Effect on historic properties was prepared and submitted to the State Historic Preservation Officer and other consulting parties for review in March 2014. Comments were received from the State Historic Preservation Officer on April 10, 2014. Consultation with the State Historic Preservation Officer to address the identification efforts with regard to potential buried archaeological sites and adverse effects on Rancho Vista Historic District was continued after the circulation of the draft environmental document. A Memorandum

of Agreement addressing the Rancho Vista Historic District was signed by Caltrans on December 24, 2014 and by the State Historic Preservation Office on January 6, 2015. The signed Memorandum of Agreement can be found in Appendix J in Volume 2.

5.3.4 Coordination with California Department of Parks and Recreation

Section 6(f)(3) of the Land and Water Conservation Fund Act (16 U.S. Code §4601-4) contains provisions to protect federal investments in park and recreation properties and the quality of those assisted properties. As discussed in Section 3.1.1.3, Parks and Recreation, two Land and Water Conservation Fund grants were used for improvements at Yokuts Park. Therefore, this area would be subject to Section 6(f) anti-conversion requirements. Caltrans coordinated with the California Department of Parks and Recreation to demonstrate that there would be no conversion or impacts to property improved using Land and Water Conservation Fund grants.

5.3.5 Coordination with the City of Bakersfield on Parks

The city of Bakersfield and Caltrans met with Diane Hoover of the city Parks and Recreation Department on two occasions (January 26, and March 21, 2012) to discuss potential construction impacts from Alternatives A, B, and C on several city park facilities. These facilities included Centennial Park, Saunders Park, and the Kern River Parkway (Par Course). Potential impacts and proposed mitigation measures were discussed at the meetings. Based on city/Caltrans coordination, the city Parks Director approved the Draft Concept Landscape Plan for Saunders Park if Alternative C were to be selected; approved the mitigation measures proposed for the Kern River Parkway (Par Course) if Alternative A were to be selected; and approved the avoidance alternative (Alternative B) for Centennial Park. The proposed Draft Concept Landscape Plan and mitigation measures for each city park are discussed in the Section 4(f) analysis (Appendix B in Volume 2, Section 7.0).

During the above meetings, the Parks Director confirmed that Yokuts Park received grant funding from the Land and Water Conservation Fund in March 1990 to develop group picnic facilities. City Resolutions 43-89 and 32-90 approved the application for Land and Water Conservation Funds. A Section 6(f)(3) Boundary Map outlining the area for use of the funds was also developed. Section 6(f) includes an anti-conversion requirement that precludes the future conversion of any land that used Land and Water Conservation funding for improvements without approval from the Secretary of the Interior. The city concurred with the Section 6(f) funding in a letter dated May 2, 2012. Additional information is provided in a Kern River Parkway Acreage Estimate and Section 6(f) Funding Technical Memorandum, dated May 1, 2012 (this memorandum is provided in Appendix B in Volume 2, *Section 4(f) Evaluation*).

Caltrans also met with Don Anderson of the city Real Estate Department to discuss real estate property acquisitions along Westside Parkway and the Kern River near Mohawk Street Bridge. Mr. Anderson confirmed that the property was acquired for the sole purpose of building Westside Parkway facilities and not for parkland or other

uses. He confirmed the property boundaries purchased by the city and confirmed that other parcels (e.g., Wanamaker property) remained in private ownership.

5.3.6 High-Speed Rail Authority

City of Bakersfield and Caltrans staff members have met with representatives from the California High-Speed Rail Authority on the design compatibility of the Centennial Corridor and the High-Speed Rail. Copies of the plans for the Centennial Corridor and the High-Speed Rail alignment were exchanged because the improvements would be close to each other in the proximity of State Route 99 where Alternative C turns west; however, they would not conflict. This coordination effort started in early 2009 and has extended through 2012.

In addition, staff members from Caltrans and the city of Bakersfield have attended four California High-Speed Rail Technical Working Group meetings from June 2009 to April 2011.

5.3.7 Emergency Service Providers

Coordination occurred with the local emergency service providers. On March 6, 2012, staff with the Thomas Roads Improvement Program met with the city of Bakersfield Fire Department and Police Department to discuss potential concerns and review the modified access with each alternative. A similar meeting was held on March 13, 2012, with the County of Kern Fire Department and Sheriff Department. No specific concerns were identified. Coordination with the emergency service providers as part of the Transportation Management Plan would address closures and detours during construction (see Standard Condition SC-CI-1 in Section 3.6 Construction Impacts).

5.3.8 U.S. Department of Agriculture

There was coordination with the U.S. Department of Agriculture regarding the impacts to farmland from the improvements at the Stockdale Highway/State Route 43 (Enos Lane) intersection. Input from the Department of Agriculture was formally received on the Farmland Conversion Impact Rating Form. Due to the minimal impacts on farmland, evaluation of alternatives designs to provide greater protection of farmland was not required.

5.3.9 U.S. Environmental Protection Agency

After the circulation of the draft environmental document, the U.S. Environmental Protection Agency provided comments on the draft environmental document concerning air quality, environmental justice, community impacts, and noise impacts. Caltrans met with the U.S. Environmental Protection Agency staff at the end of the public review period to discuss their comments on the Centennial Corridor Project. U.S. Environmental Protection Agency's comments were addressed through revisions in this final environmental document and through formal responses provided in Volume 3 of this final environmental document.

5.3.10 Cost Estimate Review

The Federal Highway Administration California Division Office and Caltrans conducted a Major Project Cost Estimate Review of the cost and schedule estimates for the Centennial Corridor Project. The Cost Estimate Review was conducted to comply with the Federal Highway Administration's requirements for any major projects with a total estimated cost above $500 million. The objective of the Cost Estimate Review was to verify the accuracy and reasonableness of the project's current estimate for total cost and schedule, and to develop probability ranges for the estimate that represents the project's current stage of development.

This Cost Estimate Review was held from May 19th to the 21st, 2015, at the Caltrans District 6 office in Fresno, California, and is the first Cost Estimate Review for this project. This review was done for the entire Project. The cost risk analysis was performed on the Preferred Alternative (Alternative B) which included evaluation of 49 original risk parameters, of which 36 were determined to be minor risks. Most of the project funding has been and will be provided through combination of local, state, and federal funds. This project is broken down into two separate construction contracts, namely the Kern River Advanced Package and State Route 58 Connector. The Kern River Advance Package proposes to widen the existing Westside Parkway from approximately 0.5 mile west of Mohawk Street to Truxtun Avenue. The State Route 58 Connector proposes to extend State Route 58 from the existing offset at State Route 99 to the east end of the Westside Parkway. Both of these projects are elements of the Centennial Corridor Project and would begin construction when environmental approval of the project has been obtained. These two contracts involve the construction of structures, which typically takes the longest time to build. Construction of the Kern River Advanced Package and State Route 58 Connector is planned to begin in early 2016 and would be completed at the same time as the rest of the Centennial Corridor Project by 2018.

The project's base estimate is about $595 million in current years dollars. There is an 80 percent certainty that the total project costs will be between $568 million and $637 million in the year of expenditure dollars.

5.4 Public Participation

Public participation has been an important part of this project. A series of meetings, interviews, and other outreach methods with affected property owners, community groups, and interested agencies has been carried out throughout the project development period and will continue as the project moves forward. Representatives from the city of Bakersfield, Caltrans, the Thomas Roads Improvement Program, and the project consultant team have presented project information and answered questions at numerous public meetings.

Several methods were used to inform the public of meetings, including newspaper notices and invitations sent to affected property owners and the community.

There was a consistent set of issues raised throughout the public participation process. These issues were raised at the neighborhood meetings, as well as in the various focus group meetings, and individual interviews. The concerns include:

- Social impacts and impacts on the quality of life after the project is constructed.
- Objection to removal of homes.
- Concern regarding previous statements by officials indicating a transportation facility would not be located in the Westpark neighborhood.
- Impacts to community facilities (churches, schools, parks).
- Loss of affordable housing.
- Air pollution/health concerns.
- Impact to property values.
- Noise impacts.
- Traffic impacts.
- Possible impacts to the natural environment, including the Kern River.
- Impacts to historic resources.
- Visual impacts.

5.4.1 Neighborhood Meetings

Neighborhood meetings, important to the community impact evaluation process, were held in the vicinity of each of the build alternatives. The purpose of the neighborhood meetings was to explain the project and alternatives to the public and interested parties, answer questions, and gather public input. An open house-type format was used to allow the public to ask questions of the project team members and give input about project-related concerns.

Three neighborhood meetings were held in the project area. At each neighborhood meeting, it was announced that a one-on-one meeting or a focus group meeting could be requested (these types of meetings are discussed later in this section). Meeting announcements were mailed out in both English and Spanish. All meeting materials (displays and handouts) were available in both languages. Spanish-speaking staff was on hand at all neighborhood meetings. Comment cards, which could be turned in at the meeting or mailed in later, were handed out at the meeting.

The first neighborhood meeting was held on Thursday, May 22, 2008, at the Harris Elementary School Cafeteria/Multi-Purpose Room at 4110 Garnsey Lane in Bakersfield. Two identical sessions of the meeting, each lasting about 90 minutes, were held: one at 4:30 p.m. and the other at 7:30 p.m. At the first session, 235 people signed in. At the second session, 141 people signed in. A handout with a project questionnaire/survey asking about the neighborhood was available at each session. Caltrans received 60 completed project questionnaires.

The second neighborhood meeting was held on Tuesday, July 21, 2008, at 4:30 p.m. at the McKinley Elementary School Multi-Purpose Room at 601 Fourth Street in Bakersfield. Eighty-three people signed in. The same project questionnaire/survey used at the May 22, 2008, meeting was available. Caltrans received seven completed project questionnaires.

The third neighborhood meeting was held on Thursday, August 21, 2008, at 4:00 p.m. at the McKinley Elementary School Multi-Purpose Room at 601 Fourth Street in Bakersfield. Eighty-two people signed in. The same project questionnaire/survey used at the May 22, 2008, meeting was available. Caltrans received 11 completed project questionnaires.

A total of 78 neighborhood questionnaire/surveys and 414 written comments were received as a result of all the meetings held. Comments ranged from requests for maps and documents to requests to be added to the project mailing list to statements about Preferred Alternatives. Issues raised in the comments included impacts to seniors, concerns about the environment, social impact/quality of life, impacts to historic resources, and loss of homes.

5.4.2 Interviews

Community-based Organizations Interviews

Two community-based organizations—First United Methodist Church of Bakersfield and Stockdale Christian School (located at the First Assembly of God Church)—participated in interviews conducted by the project team between July 2008 and September 2008. These organizations expressed concerns with Alternatives A and B due to their close proximity to these two alternatives.

One-on-One Interviews

Residents of the project area were offered the opportunity to take part in one-on-one interviews with project planners. Residents taking part in the interview process were asked a series of 20 questions. The goal of the interviews was to gain input from individuals who live in the neighborhoods along the Centennial Corridor route who could be affected by the project. The data collected were used to assess the community identity and how community members identified their neighborhoods. Respondents were asked questions such as the length of time they had lived in the neighborhood, the boundaries of their neighborhood, how they viewed the quality of life in the neighborhood, and about organizations that represent or are active in their neighborhood. The full questionnaire is provided in the *Community Impact Assessment* (May 2015); the results are summarized in this document in the discussion of Community Character and Cohesion, Section 3.1.4.1.

A total of 49 interviews were conducted from July 2008 through September 2008. While the opportunity to take part in the one-on-one interviews was offered at neighborhood meetings conducted for each alternative, most of the interviewed individuals were from the Westpark neighborhood.

5.4.3 Focus Groups

Focus group meetings were small group meetings generally held at people's homes and included the resident and neighbors. Anyone could request to host a focus group meeting. Nine focus-group meetings with a total of 146 participants were held during the course of the planning process. Meetings were tailored to the issues of concern for each of the focus groups. These meetings allowed attendees to ask questions and interact with the project team. Eight meetings were held from late July 2008 to mid-August 2008; an additional meeting was held in October 2008.

5.4.4 Business Community Outreach

Outreach targeting the business community included a public information meeting on January 27, 2009 and a March 2009 business survey. About 40 businesses responded to the survey. Common concerns noted by survey respondents were that a neighborhood-serving business or church, if relocated, would not be able to serve the same clientele or membership. Several business survey comments noted concerns about the acquisition process; decrease in the city tax base; streets; and entry/exit of commercial establishments.

5.4.5 Citizens' Advisory Group Meetings

Since late 2008, 13 Citizens' Advisory Group meetings have been held. The Citizens' Advisory Group is made up of a maximum of nine members, plus three officers. The nine members include three members from each of the following areas: east of State Route 99; west of State Route 99; and service representatives (includes emergency services, school board or district, and transit/bicycle authority). The meetings were held on the following dates:

- December 4, 2008
- March 5, 2009
- May 28, 2009
- September 10, 2009
- January 7, 2010
- April 22, 2010
- December 16, 2010
- April 21, 2011
- February 23, 2012
- November 28, 2012
- February 21, 2013
- March 21, 2014
- May 21, 2014

The objective of the Citizens' Advisory Group is to keep Caltrans informed of the feelings in the community regarding the project. The Citizens' Advisory Group serves as a voice for interested parties that are represented by group members, but the group is not a decision-making body. Members of the Citizens' Advisory Group provide input to Caltrans, represent their community interests, and act as liaisons to their neighborhoods.

5.4.6 Neighborhood Surveys

Neighborhood surveys were used to solicit input, comments, and suggestions from the larger community. From March 18 to March 24, 2009, about 16,000 surveys were mailed to residents in the project area. Questions on the survey were the same as those presented in the one-on-one interviews conducted in individuals' homes as described above. This was done to gather consistent information from all neighborhoods that might be directly affected by the project.

The surveys were made available in English and Spanish. Recipients were asked to complete and return surveys within 21 days; the return postage was pre-paid. About 920 surveys were returned by members of the public; most (34 percent) came from the Westpark neighborhood.

The survey results, in general, indicated that members of the public see the need for the project, but most do not want the project to go through their own neighborhood for various reasons, including quality of life; hardship for displaced elderly people and impacts to the retired community; effect on the ability to walk to local retail uses and community facilities; increased noise and localized air quality emissions; and decreased property values.

5.4.7 Public Information Meeting/Open House

A Public Information Meeting/Open House was held on May 11, 2011, from 4:30 p.m. to 7:30 p.m. at the Kern County Administrative Offices Building Rotunda at 1115 Truxtun Avenue in Bakersfield. The meeting format was an open house, where the public was invited to attend at any time during the three-hour period. One hundred and ninety-seven people signed in. Several display boards, including the project alternatives under consideration, were placed throughout the room for attendees to view, and attendees were able to interact with project representatives.

Caltrans received 71 comment cards submitted at the meeting. Three additional comment cards were received after the meeting/open house. Many of the comment cards specifically stated the following about the project: a Preferred Alternative and concerns on property values; reduced neighborhood feel and amenities; and increased noise with elevated segments.

The Draft Environmental Impact Report/Environmental Impact Statement was prepared with these initial comments in mind, and was then circulated for a 61-day review period by agencies and the members of the public between May 9 and July 8, 2014. All comments received during the public review period have been considered and addressed in Volume 3.

5.4.8 Public Information Meeting/Section 4(f) Evaluation

A Public Information Meeting was held on December 6, 2012 from 4:00 p.m. to 7:00 p.m. to provide the community an update on the progress of the environmental studies and to present the findings of the Section 4(f) evaluation, which was the basis for identifying a preliminary Preferred Alternative.

A newsletter, which included a notice of the public meeting, was sent to 11,570 property owners and residents in the project study area. The mailing area included properties within 300 feet of the project's right-of-way, from Interstate 5 to Cottonwood Road. The newsletter was also sent to all property owners and residents of the Westpark neighborhood, encompassed by State Route 99, Stockdale Highway, and California Avenue.

The meeting was noticed in *The Bakersfield Californian* and in the Spanish language newspaper *El Popular* on November 23, 2012. The meeting was held at the Kern County Administrative Offices. About 500 people attended the meeting (459 signed in). Forty-six comment forms were filled out and submitted at the meeting.

Based on contact information provided at the meeting and in the newsletter, well over 100 people have contacted Caltrans and the Thomas Roads Improvements Program via email, phone call, and visits to the Thomas Roads Improvements Program office since the meeting.

Most of the comments received cited property inquiries or other right-of-way questions. Concerns were raised about the impacts that Alternative B would have on the Westpark neighborhood, including effects on community cohesion, increased air emissions and noise that would be experienced by remaining residents, and aesthetic impacts.

The Draft Environmental Impact Report/Environmental Impact Statement was prepared with these initial comments in mind, and was then circulated for a 61-day review period by agencies and the members of the public between May 9 and July 8, 2014. All comments received during the public review period have been considered and addressed in Volume 3.

5.4.9 Public Review of the Draft Environmental Document

Notices of Availability for the draft environmental document and notice of public hearings were sent to property owners, residents, business owners, and other interested individuals living within at least 300 feet of the build alternatives (Alternatives A, B and C). A total of 12,739 letters were mailed to inform the public of the availability of the draft environmental document. In addition, 277 members of the public, who had provided an address at a public information meeting for the project held in December 2012, received the draft environmental document Executive Summary, as well as a compact disk with the complete draft environmental document and technical studies. These members of the public are not included in Chapter 7, Distribution List, of this final environmental document. However, the members of the public who provided an address at the public meeting or those who indicated they wished to be added to the mailing list from public comments received (see Volume 3 of this final environmental document for comments received and the response to comments), have been added to the Centennial Corridor Project mailing list.

The Notice of Availability to review the draft environmental document and the invitation to the public hearing were prepared in English and Spanish. Public notices

announcing the availability of the draft environmental document included the date, time, and location of the public hearing. The public hearing was advertised in announcements that appeared in *The Bakersfield Californian*, a daily publication, on May 9 and June 4, 2014, and *El Popular*, a weekly Spanish-language newspaper, on May 15 and June 12, 2014. *The Bakersfield Californian* is a daily publication; *El Popular* is published weekly. Notices were also posted with the Kern County Clerk's Office. Availability of the environmental document was also announced in *The Federal Register* on May 9th, 2014. The Notices of Public Hearings were also made available on the Caltrans website (http://dot.ca.gov/dist6/environmental/projects/centennial/news_updates.html).

The draft environmental document was available for public viewing at the following locations:

- Caltrans District 6, 855 M Street, Suite 200, Fresno, CA 93721;
- Thomas Roads Improvement Program offices, 1600 Truxtun Avenue, 3rd Floor;
- Bakersfield Community Development Department—Planning Division, 1715 Chester Avenue;
- County of Kern Planning Department, 2700 M Street, Suite 100;
- Kern Council of Governments, 1401 19th Street, Suite 300;
- Beal Memorial Library, 701 Truxtun Avenue;
- Halloway-Gonzalez Branch Library, 506 East Brundage Lane
- Eleanor Wilson Branch Library,1901 Wilson Road;
- Bryce C. Rathbun Branch Library, 200 West China Grade Loop; and
- Southwest Branch Library, 8301 Ming Avenue.

The draft environmental document was available on the Caltrans District 6 website at: http://dot.ca.gov/dist6/environmental/projects/centennial/EnvironmentalDocuments.html.

The draft environmental document was circulated for a 61-day review by agencies and members of the public from May 9 to July 8, 2014.

The final environmental document will be made available at these same locations and on the Caltrans District 6 website.

5.4.10 Public Hearing

Caltrans, in cooperation with the city, held a public hearing for the project at the Kern County Administrative Center-Rotunda at 1115 Truxtun Avenue in Bakersfield, California, on June 11, 2014, from 4:00 p.m. to 7:00 p.m. Caltrans sponsored an informal, open house format public hearing where the public was invited to attend any time during the 3-hour period. The hearing was held to provide information about the project and solicit comments on the draft environmental document.

Upon arrival, attendees were asked to sign in so an attendance record could be kept. A total of 191 individuals attended the meeting. Attendees were also encouraged to visit the information stations in the lobby and view project maps and display boards. Project team members were available at the various stations to discuss the project and answer questions from the public. Attendees were encouraged to submit their comments and concerns about the project on forms provided at the comment station. Two court reporters were onsite to take verbal comments from the public. A bank of computers was available for attendees to use to submit comments.

Comments received at this meeting covered various topics, including consideration of other alternatives, design refinements, community impacts, property acquisitions, air quality, traffic concerns, noise concerns and health concerns. During the public comment period, a total of 83 comments were received on the draft environmental document. The comments and responses received from the public hearing are provided in Volume 3 of the final environmental document.

5.4.11 Consultation and Coordination with Public Agencies, Organizations, Native American Tribes and Elected Officials

In addition to making the draft environmental document available to the public, Caltrans and the city also solicited comments from numerous public agencies, organizations, Native American tribes, and elected officials. The full distribution list for the notification of the availability of the draft environmental document for public review is provided in Chapter 7 of this final environmental document. The comments and responses received from public agencies, organizations, Native American Tribes and elected officials are provided in Volume 3 of the final environmental document.

Chapter 6 List of Preparers

The following Caltrans staff and consultants contributed to the preparation of the draft and final environmental documents.

6.1 Caltrans Staff

Allam Alhabaly, Transportation Engineer. Bachelor of Science, California State University, Fresno, School of Engineering; 11 years in the environmental engineering unit. Contribution: Oversight review of the Noise Study Report.

Javier Almaguer, Senior Environmental Planner. B.S., Biology, California State University, Fullerton; 7 years of environmental planning experience. Contribution: Oversight review of Jurisdictional Delineation, Natural Environment Study, and Biology Section.

Bryan Apper, Senior Environmental Planner. Master of Arts, Environmental Planning, Consortium of the California State University, Long Beach; 33 years of environmental and transportation planning experience. Contribution: Oversight review of the environmental document, the Community Impact Assessment, and the Section 4(f) Report.

Jeanne Day Binning, Branch Chief/Senior Environmental Planner. Doctor of Philosophy, Anthropology, University of California, Riverside; more than 40 years of cultural resources management experience in the Great Basin and California. Contribution: Oversight review of the Archaeological Survey Report, the Extended Phase I Report, and the Historical Resources Evaluation Report.

Kirsten Helton, Senior Environmental Planner. B.A., Economics, California State University, Fresno; more than 20 years of environmental planning experience. Contribution: Oversight of environmental document and technical studies preparation.

Chuck Cesena, Senior Environmental Planner (Natural Sciences). Bachelor of Arts, Environmental Studies, University of California, Santa Barbara; 29 years of biology and environmental planning experience. Contribution: Oversight review of the Natural Environment Study and the Biological Assessment.

Brad Cole, Senior Landscape Architect (CA License Number 4518). Bachelor of Science, Landscape Architecture, California Polytechnic University, San Luis Obispo; 12 years of landscape architecture experience. Contribution: Oversight review of the Visual Impact Assessment.

Rajeev Dwivedi, Associate Engineering Geologist. Doctor of Philosophy, Environmental Engineering, Oklahoma State University, Stillwater; 19 years

of environmental technical studies experience. Contribution: Oversight review of the Water Quality Report.

Kevin Gallo, Landscape Architect (License Number 5538). Bachelor of Landscape Architecture, California Polytechnic State University, San Luis Obispo; 6 years of landscape architecture experience. Contribution: Oversight review of the Visual Impact Assessment.

Marie (Terry) Goewert, Associate Environmental Planner (Air Quality Specialist). Bachelor of Science, Foods and Nutrition, Colorado State University; 13 years of environmental compliance experience and 7 years of environmental planning experience. Contribution: Oversight review of Air Quality Study Report.

Srikanth Gopalkrishnarao, Professional Engineer: Hydraulics Engineer (Registered Civil Engineer). Masters in Environmental Engineering, South Dakota State University; 12 years as Hydraulics Engineer and 5 years as Civil/ Environmental Engineer. Contribution: Hydraulics report review; oversight review of the Floodplain Evaluation.

Peter Hansen, Engineering Geologist, Professional Geologist. Bachelor of Science, Geology, California State University, Fresno; 12 years of paleontology/ geology experience. Contribution: Oversight review of the Paleontological Evaluation Report.

Richard Helgeson, Professional Engineer, Senior Transportation Engineer. Bachelor of Science, Civil Engineering, California State University, Fresno; 16 years of civil engineering experience; 14 years of Transportation Engineering experience. Contribution: Engineering design oversight.

Krista Kiaha, Associate Environmental Planner. Master of Science, Anthropology, Idaho State University; 15 years of cultural resources experience. Contribution: Oversight review of the Archaeological Survey Report and the Extended Phase I Report.

Albert Lee, Senior Transportation Engineer. Master of Science, Civil Engineering, California State University, Fresno; 27 years of civil engineering experience. Contribution: Oversight review of the Traffic Study.

Steven McDonald, Senior Transportation Engineer, RCE; Bachelor of Science, Civil Engineering, California State University of Fresno; 19 years of experience in transportation engineering. Contribution: Traffic forecasting and operations.

Chanin McKeighen, Senior Right of Way Agent. Master of Arts, International Relations, California State University, Fresno; 12 years of experience with the California Department of Transportation, Right of Way. Contribution: Oversight review of the Relocation Impact Report and the Right-of-Way Data Sheets.

Frank Meraz, Senior Environmental Planner. Bachelor of Science, Biology, California State University, Fresno; 8 years of biology experience. Contribution: Oversight review of the Natural Environment Study.

Kristen Merriman, Associate Environmental Planner. B.A., Anthropology, California State University, Fresno; 13 years of environmental impact assessment experience. Contribution: Quality review.

Marissa L. Nishikawa, Professional Engineer, Caltrans National Pollutant Discharge Elimination System/Southwest Coordinator. Bachelor of Science, California State University, Fresno; 21 years of civil engineering experience. Contribution: Storm Water Quality and National Pollutant Discharge Elimination System.

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Ken J. Romero, Senior Transportation Engineer. Bachelor of Science, Civil Engineering, California State University, Fresno; 7 years of environmental technical studies experience. Contribution: Oversight review of the Noise Study Reports, Air Quality Reports, and Water Quality Reports.

Patricia Scrivner, Professional Engineer, Transportation Engineer. Bachelor of Science, Civil Engineering, California State University, Fresno; 20 years of transportation design experience. Contribution: Design oversight review.

Jane Sellers, Research Writer. Bachelor of Arts, Journalism, California State University, Fresno; more than 25 years of writing/editing experience. Contribution: Edited the environmental document during Quality Assurance/Quality Control review.

Lea Spann, Associate Environmental Planner. Bachelor of Arts, Environmental Studies, University of California, Santa Barbara; 20 years of hazardous waste/materials experience and 5 years of environmental planning experience. Contribution: Oversight review of technical studies.

Mary (Jeannie) Stevens, Transportation Engineer. Bachelor of Science, Civil Engineering, California State University, Fresno; 20 years of experience. Contribution: Oversight project management.

Jennifer H. Taylor, Environmental Office Chief, Double Bachelor of Arts in Political Studies and Organizational Sciences, Pitzer College; 26 years of experience in environmental and land use planning. Contribution: Oversight review of the environmental document.

Philip Vallejo, Associate Environmental Planner. Bachelor of Arts, History, California State University, Fresno; 7 years of experience in architectural history field. Contribution: Oversight review of the Historical Resources Evaluation Report.

Juergen Vespermann, Senior Environmental Planner. Engineering Degree, Fachhochschule Muenster, Germany; 23 years of transportation planning/environmental planning experience. Contribution: Oversight review of hazardous waste and paleontological resources reports.

Charles Walbridge, Associate Environmental Planner. Bachelor of Science, Biological Sciences, California State University, Fresno; 12 years of environmental planning experience. Contribution: Oversight review of the Natural Environment Study.

Brian Wickstrom, Associate Environmental Planner. Master of Arts, Cultural Resources Management, Sonoma State University; 38 years experience in California archaeology. Contribution: Oversight review of the Extended Phase I, Stage II Geoarchaeological Investigations Report.

Koko Widyatmoko, Professional Engineer, Transportation Engineer. Bachelor of Science, California State University, Fresno, School of Engineering; 12 years of experience in transportation engineering. Contribution: Oversight review of the Traffic Study Report.

Sam Wong, Senior Hydraulics Engineer, MSCE. University of Arkansas, Fayetteville, Arkansas; 15 years of hydrology and hydraulics design experience. Contribution: Oversight review of the Floodplain Evaluation.

6.2 Consultant Staff

AECOM

Stephanie Coppeto, Wildlife Biologist. Master of Science, Ecology, University of California, Davis; 8 years of experience in wildlife studies, project management/coordination, and Endangered Species Act consultation. Contribution: Performed San Joaquin kit fox den and sign surveys.

Cindy Davis, Senior Regulatory Specialist. Bachelor of Science, Biological Conservation, California State University, Sacramento; 16 years of experience as a regulatory specialist and project manager on projects addressing restoration; flood control and water storage; infrastructure; residential, commercial, and government buildings; and transportation. Contribution: Reviewed the San Joaquin kit fox information.

Leo Edson, Senior Wildlife Biologist. Bachelor of Science, Biological Sciences, California State University, Chico; 22 years of experience in environmental compliance and biological studies for transportation, energy, water, and residential development projects. Contribution: Reviewed the biological resources section of the Natural Environment Study.

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Josephine Alido, American Institute of Certified Planners, Project Manager. Master of Planning, University of Southern California; 24 years of experience in environmental planning throughout Southern California. Contribution: Assisted in the preparation of the environmental document.

Julia R. Black, Technical Writer. Bachelor of Arts, English, California State University, Fullerton; 11 years of writing and editing experience. Contribution: Performed technical editing of the Environmental Impact Report/Environmental Impact Statement, the Natural Environment Study, the Jurisdictional Delineation Report, and the Archaeological Survey Report.

Kathleen Brady, American Institute of Certified Planners, Principal of Technical Services. Bachelor of Science, Sociology, University of California, Riverside; 32 years of environmental planning experience. Contribution: Principal-in-Charge, managed the preparation of the environmental document.

Julie A. Cho, Project Manager. Master of Business Administration, University of California, Irvine; Master of Urban and Regional Planning, University of California, Irvine; 19 years of experience in the preparation and management of environmental compliance documents. Contribution: Assisted in the preparation of the environmental document.

Brian Daniels, Ornithologist. Bachelor of Science, Zoology, California State University, Long Beach; 36 years of experience in biological resources, specializing in ornithology. Contribution: Completed Swainson's hawk surveys.

Jade Dean, Geographic Information Systems Technician. Bachelor of Arts, Geography, California State University, Long Beach; 3 years of experience in Geographic Information Systems mapping. Contribution: Prepared figures for Geographic Information Systems information used in the Environmental Impact Report/ Environmental Impact Statement, the Natural Environment Study, and the Jurisdictional Delineation.

Pamela De Vries, Botanist. Master of Science, Biology, California State University, Fullerton; 21 years of experience in biology and restoration ecology. Contribution: General plant surveys, special-status plant habitat assessment, vegetation mapping, and focused special-status plant survey.

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Johnnie F. Garcia, Geographic Information Systems Specialist. Bachelor of Arts, Geography, University of California, Santa Barbara; 4 years of experience in Geographic Information Systems mapping. Contribution: Prepared figures and coordinated with applicable agencies for Geographic Information Systems information used in the environmental document, the Natural Environment Study, the Jurisdictional Delineation, and the Archaeological Survey Report.

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Lindsay Messett, Wildlife Biologist. Bachelor of Science, Ecology and Systematic Biology (Concentration: Wildlife Biology), California State Polytechnic University, San Luis Obispo; 12 years of experience in wildlife biology. Contribution: Conducted surveys for burrowing owl burrow and potential kit fox dens along Stockdale Highway and State Route 43.

Jason Mintzer, Wildlife Biologist. Master of Arts, Education, Vanguard University, Costa Mesa, California; California Biology/Life Science Teaching Credential, California Commission on Teacher Credentialing; 9 years of experience in herpetology. Contribution: Assisted with the jurisdictional delineation.

Kimberly Oldehoeft, Wildlife Biologist. Master of Science, Biology: Behavior and Conservation, California State University, Long Beach; 11 years of experience in wildlife biology and conservation biology. Contribution: Conducted burrowing owl surveys and assisted with special-status plant surveys.

Allison Rudalevige, Ecologist and Regulatory Technician. Master of Science, Biology, University of California, Riverside; 8 years of experience in biological and jurisdictional waters. Contribution: Completed burrowing owl surveys; assisted in the preparation of biological resources assessment sections of the environmental document; completed the jurisdictional delineation survey and prepared the Jurisdictional Delineation Report; and assisted in the preparation of the Natural Environment Study.

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ERM

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Anna Morgan, Environmental Engineer. Master of Science, University of California, Irvine; 13 years of experience in the field of environmental science and engineering. Contribution: Conducted the Initial Site Assessment.

Group Delta

Glenn Burks, Director of Environmental Services. Bachelor of Science, Chemical Engineering, University of California, San Diego; Ph.D Environmental Engineering, University of California, Los Angeles; Professional Chemical Engineer. 21 years of experience in Process Engineering; Phase II Soil Investigations; Environmental Compliance; Remedial Investigation, Remedial Design and Implementation including Green and Sustainable Remediation. Contribution: Oversight and author of the Preliminary Site Investigation and the Aerially Deposited Lead Investigation.

Kevin Garcia, Staff Geologist. Bachelor of Science, Geology, California State University, San Bernardino. 2 years of experience in Field Coordination, Health & Safety, Phase II Soil Investigations, Soil Handling and Management, and Reporting. Contribution: Site Supervisor, data analysis, and reporting assistance in the Aerially Deposited Lead Investigation, and Site Supervisor for the Preliminary Site Investigation of soils for the acquisition properties of concern.

Terry Otis, Senior Geologist. Bachelor of Science, Geology, California State University, Long Beach; Professional Geologist. 15 years of experience in geologic studies, geotechnical engineering, site assessment, and remediation. Contribution: Designated Professional Geologist for the Project's Preliminary Site Investigation.

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Steve Pitts, Senior Project Manager – Hazardous Materials. Bachelor of Arts, Industrial Arts, San Diego State University. 26 years of experience; Certified Asbestos Consultant, CDPH Lead Inspector/Assessor and Project Monitor, HAZWOPER Supervisor. Contribution: Performed asbestos and lead surveys and reporting.

Jerry Sherman, Hazardous Materials Unit Supervisor. Bachelor of Arts, Industrial Arts, San Diego State University. 27 years of experience; LEED AP, DOSH Certified Asbestos Consultant, CDPH Lead Inspector/Assessor, HAZWOPER Supervisor. Contribution: Performed asbestos and lead surveys and reporting.

HNTB

Stacey Benningfield, Associate Vice President. 30 years of experience in Environmental and Transportation Planning. Contribution: Visual Impact Assessment analysis.

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JRP Historical, LLC

Polly Allen, Architectural Historian. Master of Science, Historic Preservation, Columbia University; 3 years experience in completing Section 106 reports. Contribution: Conducted the field survey and research, and prepared building descriptions and evaluations for the Historic Resources Evaluation Report.

Joseph Freeman, Historian. Master of Arts, History, California State University, Riverside; 4 years of experience in completing Section 106 reports.

Contribution: Conducted the field survey and research, prepared building descriptions and evaluations, and contributed to the historic context for the Historic Resources Evaluation Report.

Rand F. Herbert, Principal/Partner. Master of Arts in Teaching, History, University of California, Davis; 34 years of cultural resource management experience. Contribution: Consulted on the development of the architectural Area of Potential Effects and provided overall guidance and edited the Historic Resources Evaluation Report.

Scott Miltenberger, Historian. Doctor of Philosophy, History, University of California, Davis; 5 years of experience in completing Section 106 reports. Contribution: Contributed to the historic context for the Historic Resources Evaluation Report.

Heather Norby, Historian. Master of Arts, History, University of California, Berkeley; 3 years experience in completing Section 106 reports. Contribution: Conducted the field survey and research, prepared building descriptions and evaluations, and contributed to the historic context for the Historic Resources Evaluation Report.

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Overland, Pacific & Cutler, Inc.

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Chapter 7 Distribution List

Notices of Availability of this final Environmental Impact Report/Environmental Impact Statement were sent to all property owners within 300 feet of the build alternatives (Alternatives A through C). In addition, notices were sent to interested parties who attended public meetings on the project or requested to be added to a notification list for the project.

Copies of this final document were provided on disks (DVDs) to the following agencies, elected officials, and organizations.

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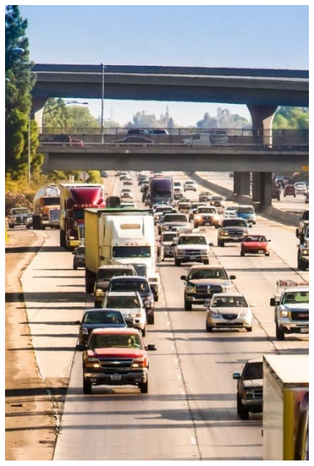
Centennial Corridor Project

City of Bakersfield and Kern County, CA
District 6 - KER - 58 - PM T31.7 to PM R55.6
District 6 - KER - 99 - PM 21.2 to PM 26.2

Project ID # 0600000484

SCH #2008091102

Final Environmental Impact Report/ Environmental Impact Statement and Section 4(f) Evaluation



Volume 2 of 3

Prepared by the
State of California Department of Transportation

The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by the California Department of Transportation under its assumption of responsibility pursuant to 23 U.S. Code 327.

December 2015

Caltrans

For individuals with sensory disabilities, this document is available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to: Department of Transportation, Attn: Ms. Jennifer H. Taylor, Office Chief, Central Region, Environmental Southern San Joaquin Valley, 855 M Street, Suite 200, Fresno, CA 93721; (888) 404-6375. Telecommunication Devices for the Deaf (TDD) users or individuals with a hearing or speech disability may contact the California Relay Services (TRS) to use a telephone system through a text phone (TTY) by dialing 711 from any telephone.

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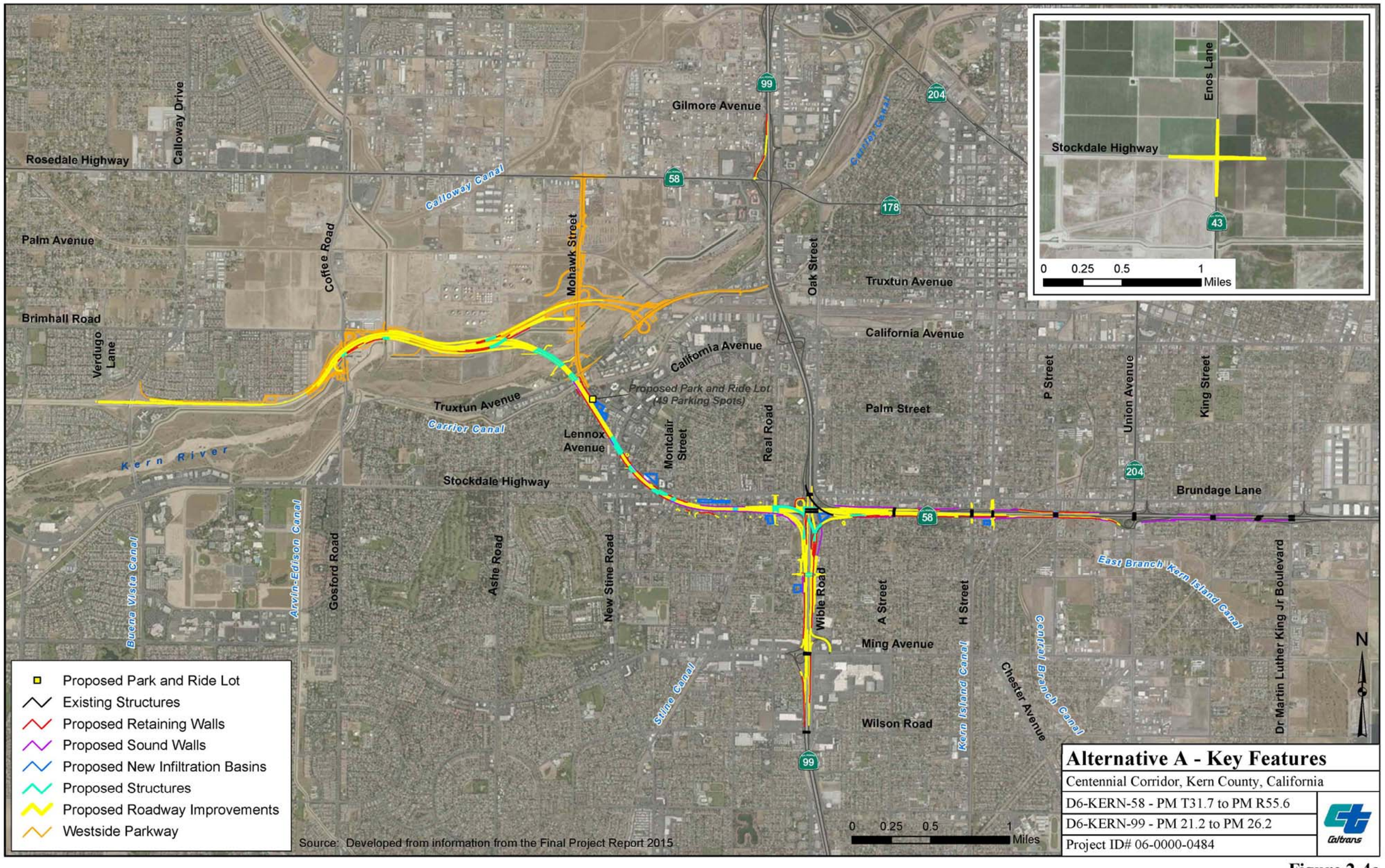
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Calloway Drive
Gilmore Avenue
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204
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178
Calloway Canal
Carrier Canal
Palm Avenue
Coffee Road
Mohawk Street
Oak Street
Truxtun Avenue
Brimhall Road
Verdugo Lane
California Avenue
Proposed Park and Ride Lot
(49 Parking Spots)
Truxtun Avenue
Carrier Canal
Lennox Avenue
Montclair Street
Real Road
Palm Street
P Street
Union Avenue
King Street
Kern River
Stockdale Highway
Brundage Lane
Buena Vista Canal
Arvin-Edison Canal
Gosford Road
Ashe Road
New Stine Road
Wible Road
A Street
H Street
East Branch Kern Island Canal
Central Branch Canal
Dr Martin Luther King Jr Boulevard
Ming Avenue
Stine Canal
Kern Island Canal
Chester Avenue
Wilson Road
Enos Lane
Stockdale Highway
43
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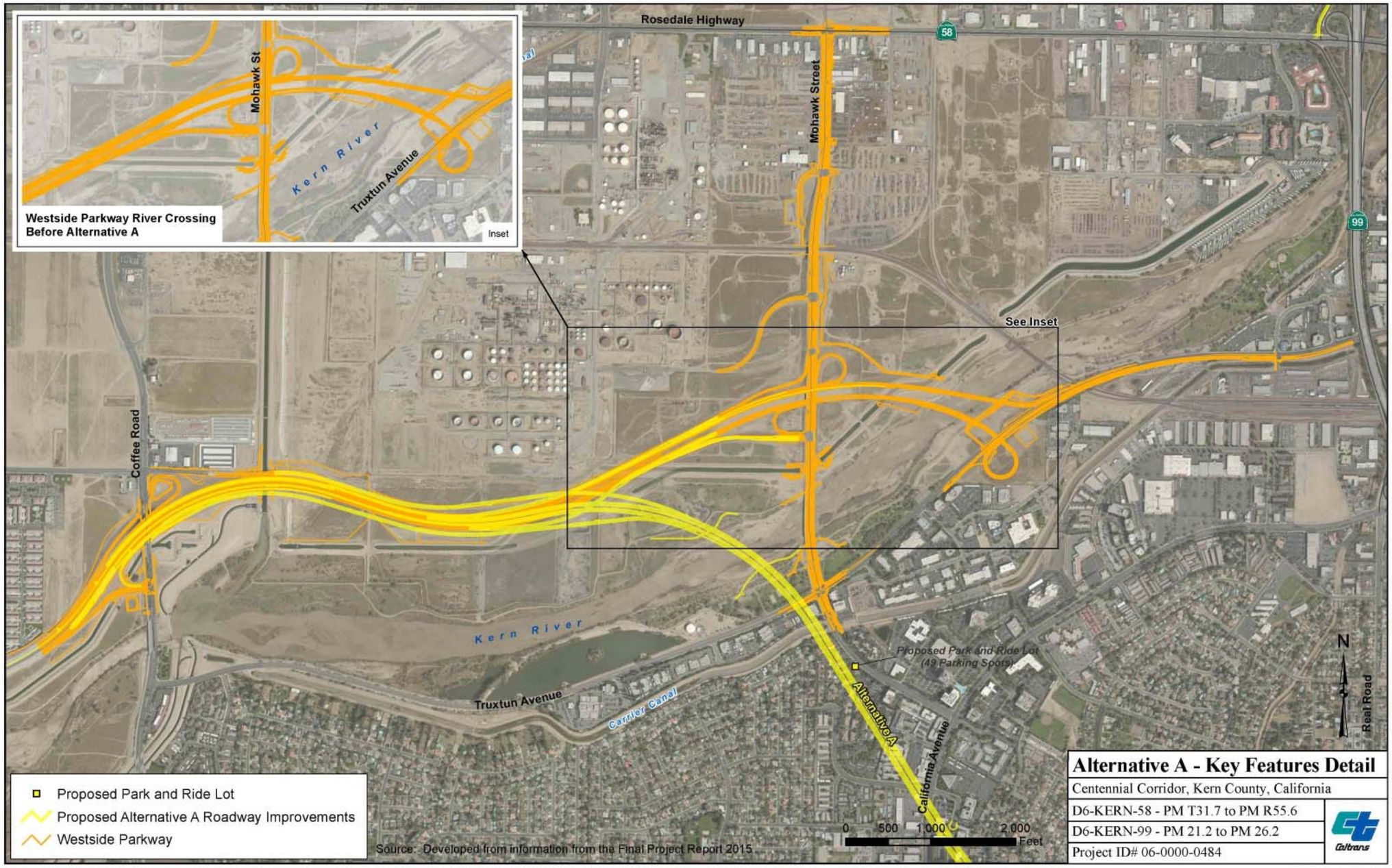
Proposed Park and Ride Lot
Existing Structures
Proposed Retaining Walls
Proposed Sound Walls
Proposed New Infiltration Basins
Proposed Structures
Proposed Roadway Improvements
Westside Parkway
Source: Developed from information from the Final Project Report 2015
0 0.25 0.5 1 Miles
Alternative A - Key Features
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 2-4a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Mohawk Street
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Kern River
Truxtun Avenue
Westside Parkway River Crossing
Before Alternative A
Inset
See Inset
Coffee Road
Kern River
Truxtun Avenue
Carrier Canal
Proposed Park and Ride Lot
(49 Parking Spots)
Alternative A
California Avenue
Real Road
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Proposed Park and Ride Lot
Proposed Alternative A Roadway Improvements
Westside Parkway
Source: Developed from information from the Final Project Report 2015
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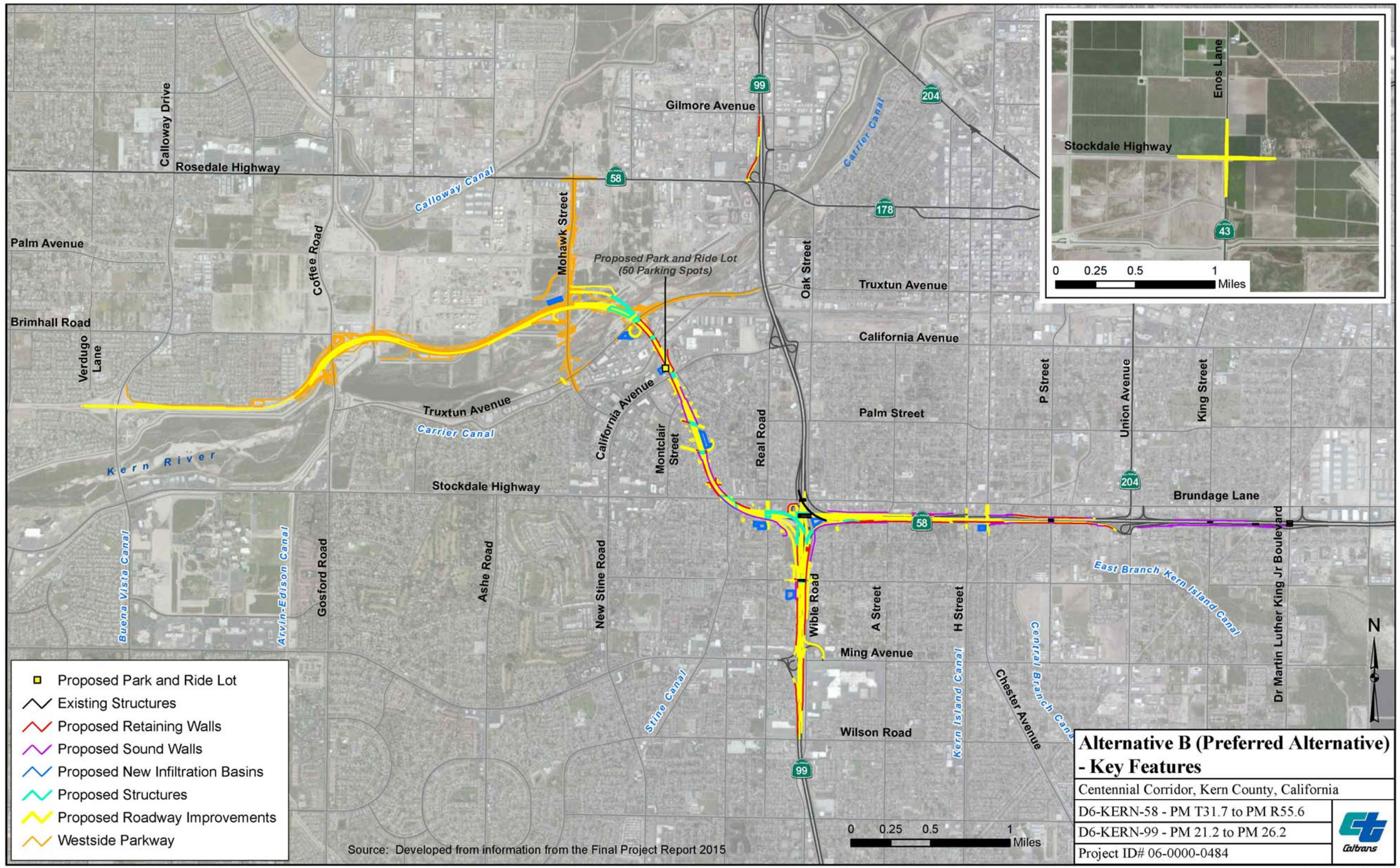
Alternative A - Key Features Detail
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 2-4b


Calloway Drive
Rosedale Highway
Calloway Canal
Gilmore Avenue
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204
Carrier Canal
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Palm Avenue
Coffee Road
Mohawk Street
Proposed Park and Ride Lot
(50 Parking Spots)
Oak Street
Truxtun Avenue
Brimhall Road
Verdugo Lane
California Avenue
P Street
Union Avenue
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Carrier Canal
California Avenue
Montclair Street
Real Road
Palm Street
Kern River
Stockdale Highway
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Dr Martin Luther King Jr Boulevard
Wible Road
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Ming Avenue
Stine Canal
Kern Island Canal
Chester Avenue
Central Branch Canal
Wilson Road
Enos Lane
Stockdale Highway
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Proposed Park and Ride Lot
Existing Structures
Proposed Retaining Walls
Proposed Sound Walls
Proposed New Infiltration Basins
Proposed Structures
Proposed Roadway Improvements
Westside Parkway
Source: Developed from information from the Final Project Report 2015
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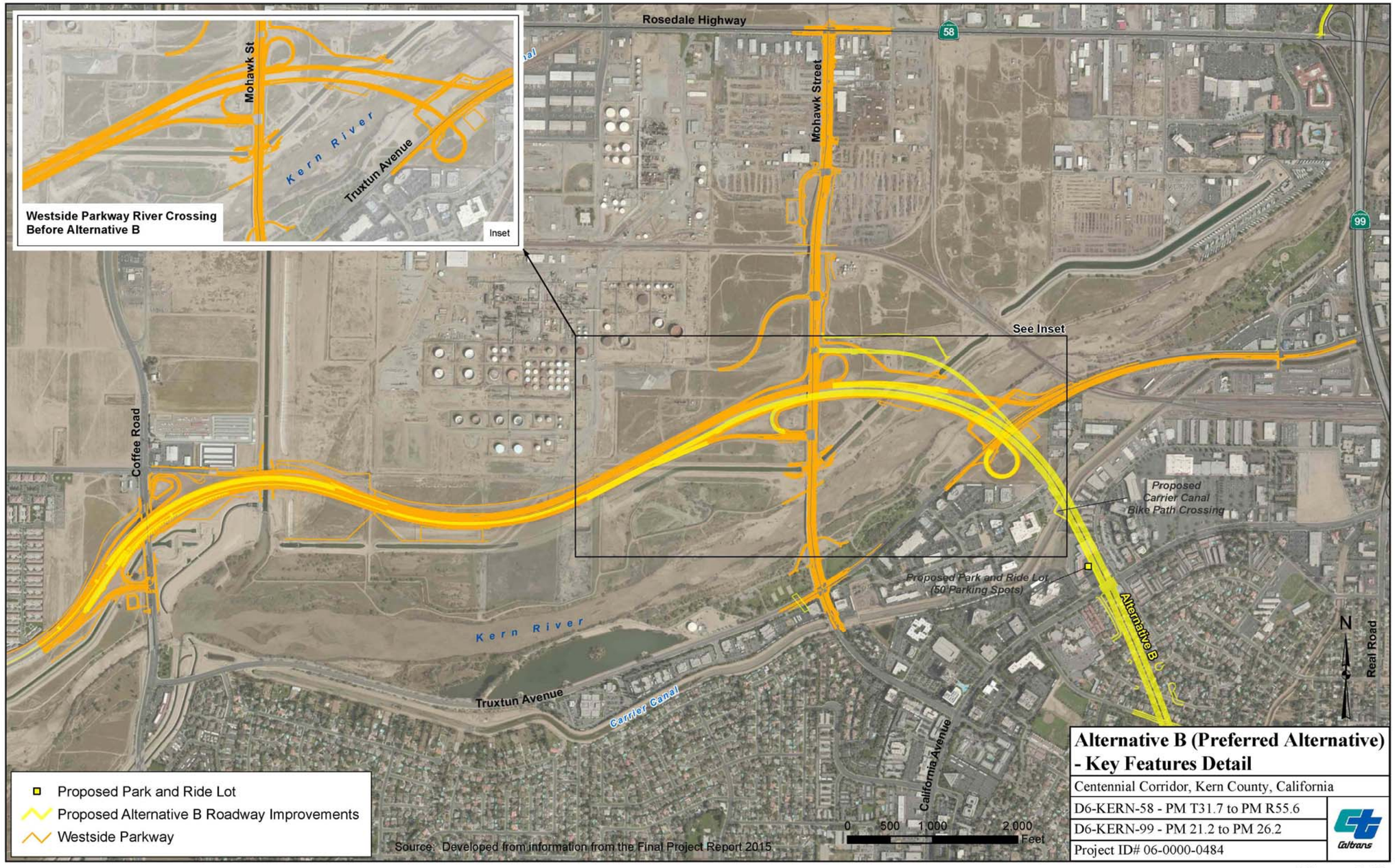
Alternative B (Preferred Alternative) - Key Features
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 2-5a


Rosedale Highway
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Kern River
Truxtun Avenue
Westside Parkway River Crossing
Before Alternative B
Inset
See Inset
Coffee Road
Proposed
Carrier Canal
Bike Path Crossing
Proposed Park and Ride Lot,
(50 Parking Spots)
Alternative B
Real Road
N
Kern River
Truxtun Avenue
Carrier Canal
California Avenue
Proposed Park and Ride Lot
Proposed Alternative B Roadway Improvements
Westside Parkway
Source: Developed from information from the Final Project Report 2015
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Feet
Alternative B (Preferred Alternative)
- Key Features Detail
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
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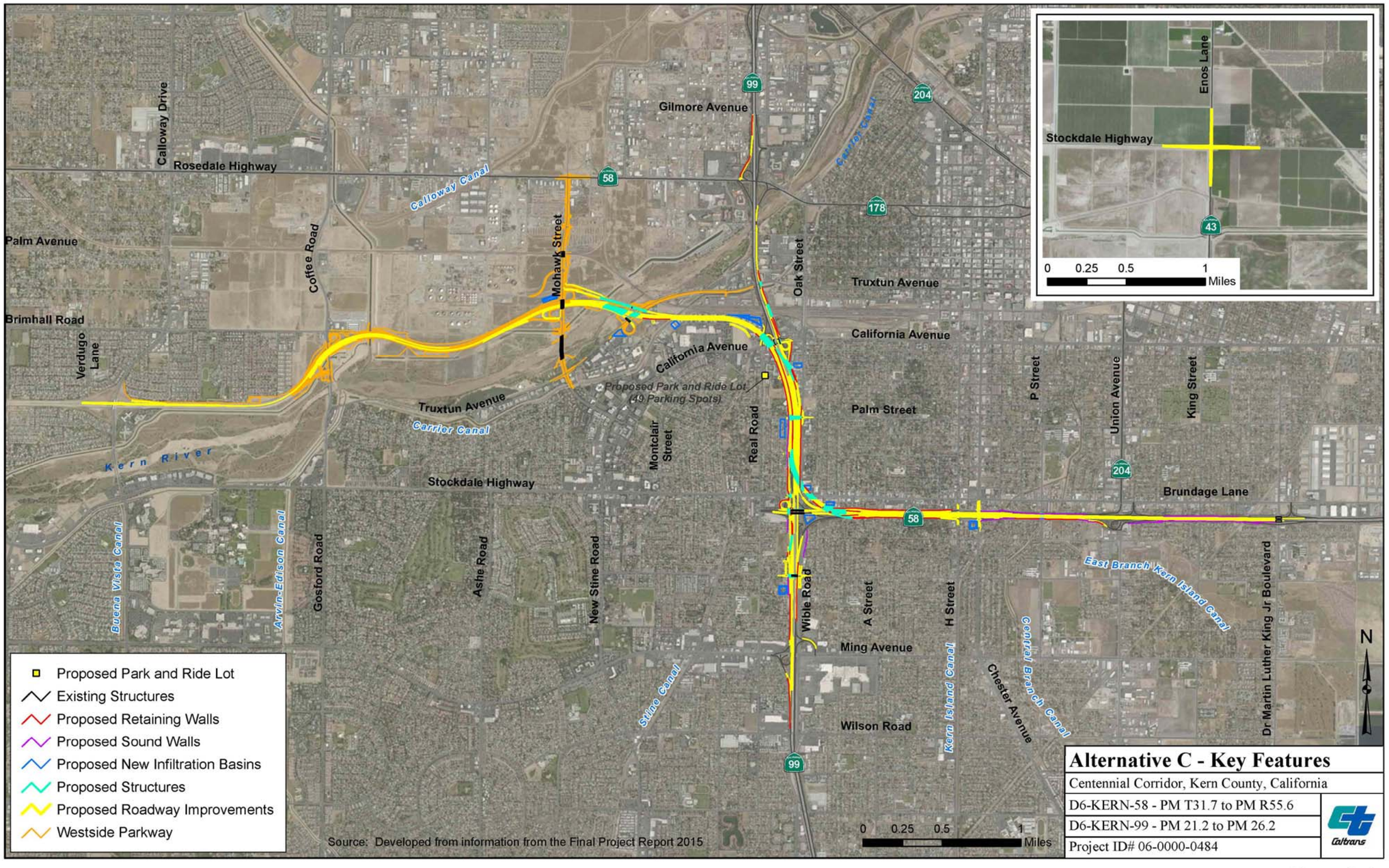
Figure 2-5b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Gosford Road
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Proposed Park and Ride Lot
Existing Structures
Proposed Retaining Walls
Proposed Sound Walls
Proposed New Infiltration Basins
Proposed Structures
Proposed Roadway Improvements
Westside Parkway
Source: Developed from information from the Final Project Report 2015
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Alternative C - Key Features
Centennial Corridor, Kern County, California
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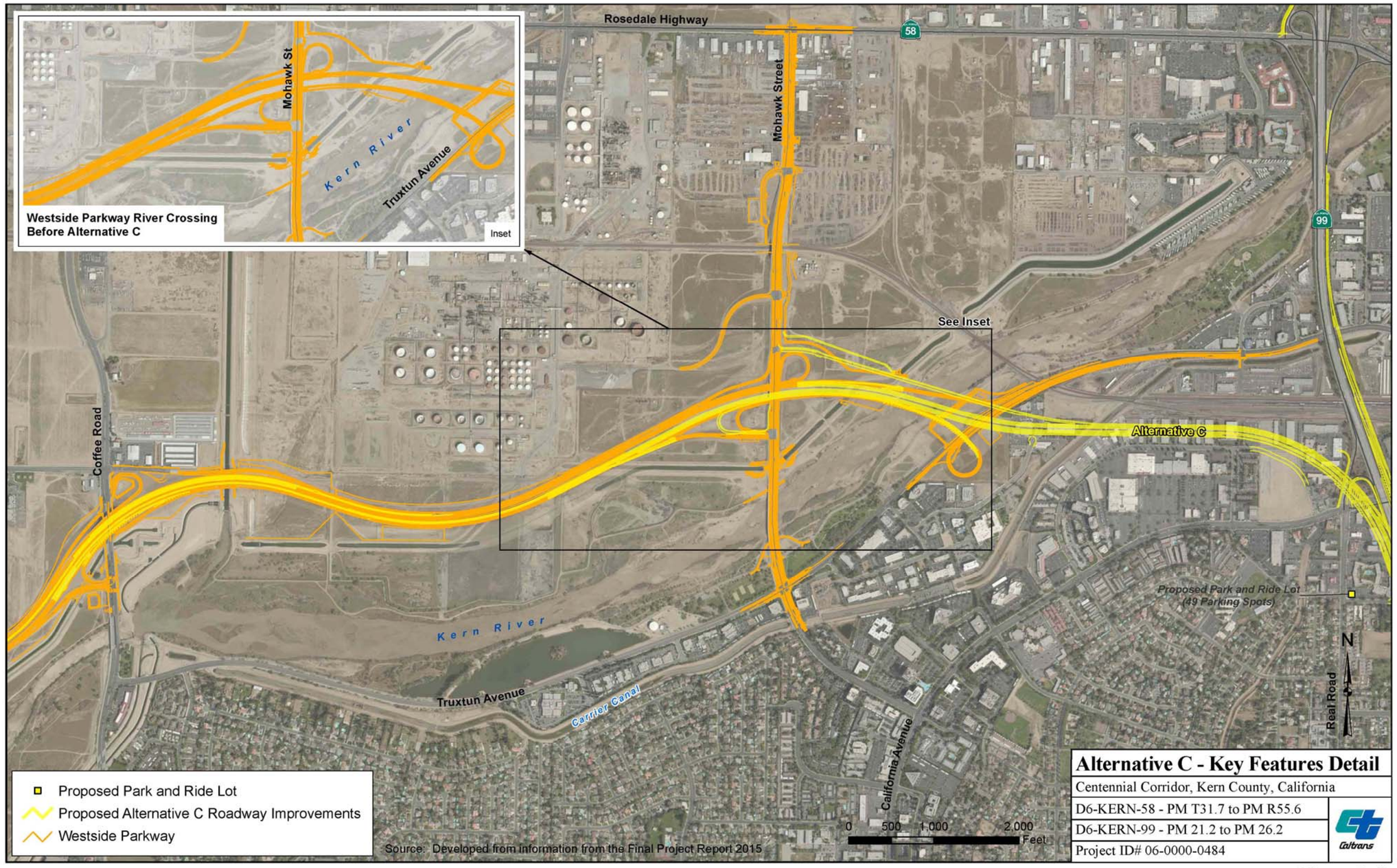
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 2-6a


Rosedale Highway
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Mohawk Street
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Alternative C
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Kern River
Truxtun Avenue
Carrier Canal
California Avenue
Real Road
Proposed Park and Ride Lot
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N
Mohawk St
Kern River
Truxtun Avenue
Westside Parkway River Crossing
Before Alternative C
Inset
Proposed Park and Ride Lot
Proposed Alternative C Roadway Improvements
Westside Parkway
Source: Developed from information from the Final Project Report 2015
0 500 1,000 2,000
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Alternative C - Key Features Detail
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
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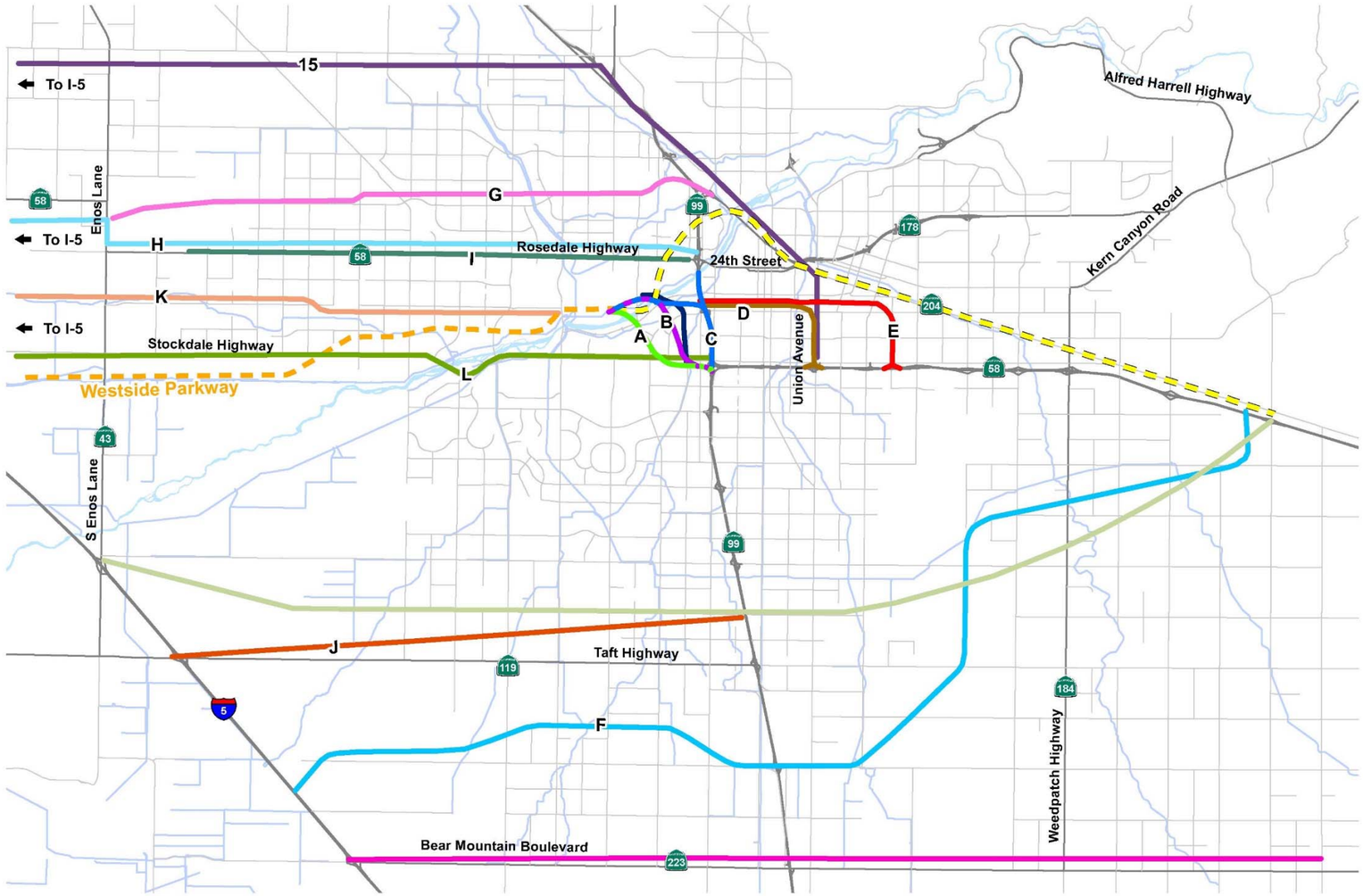
Figure 2-6b



Alternatives

- Alternative A
- Alternative B *
- Alternative C
- Shared by Alternatives A/B
- Shared by Alternatives B/C
- Alternative D
- Alternative E
- Alternative F
- Alternative G
- Alternative H
- Alternative I
- Alternative J
- Alternative K
- Alternative L
- Alternative 15
- Westside Parkway
- Public Alternative 1
- Public Alternative 2
- Public Alternative 3
- Public Alternative 4

Source: Information from Caltrans 2008

Not To Scale

*Preferred Alternative

Alternatives Considered but Eliminated from Further Discussion Prior to Draft EIR/EIS

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 2-7

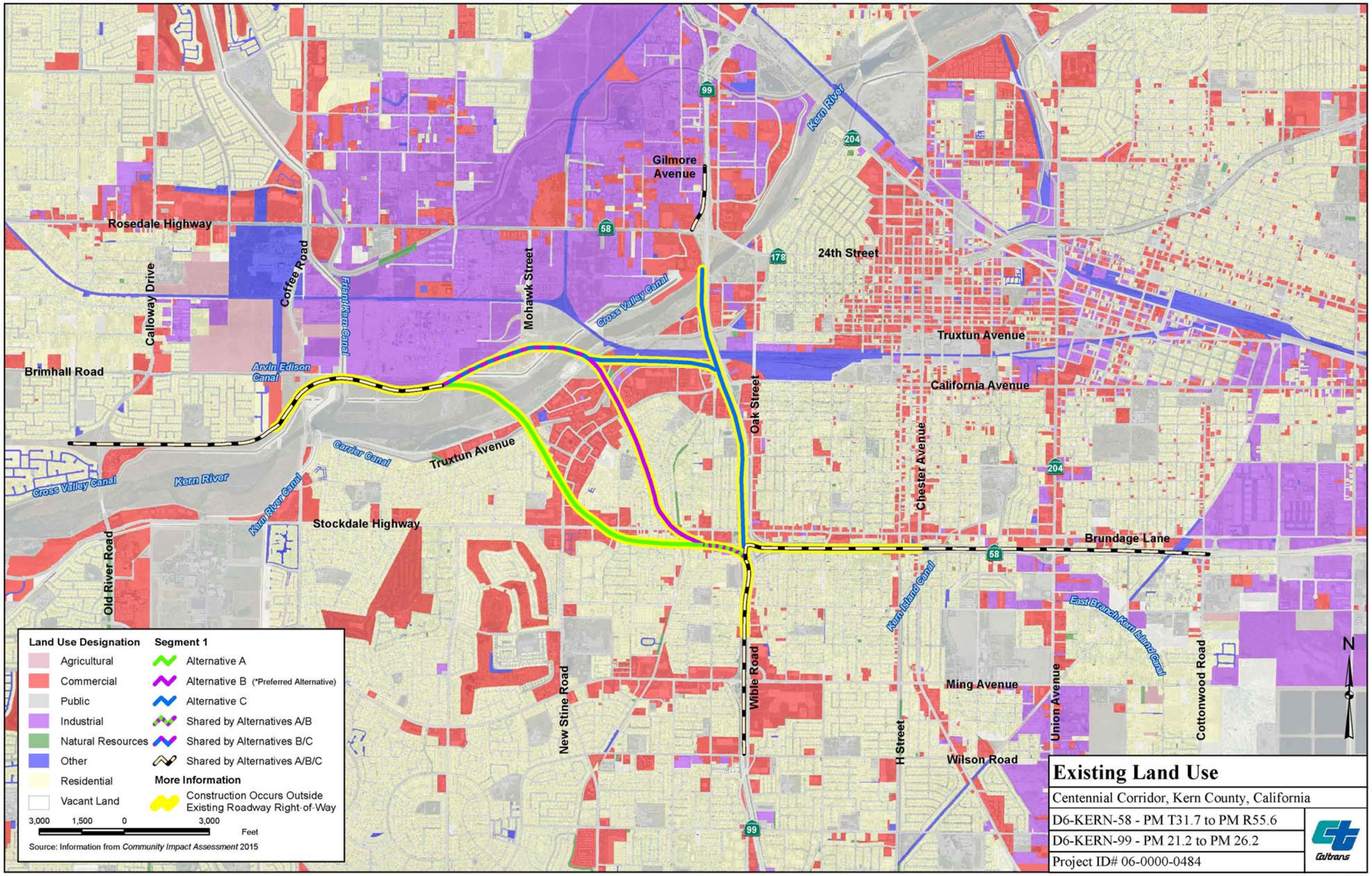

Gilmore Avenue
Rosedale Highway
Coffee Road
Calloway Drive
Friant-Kern Canal
Mohawk Street
Cross Valley Canal
Kern River
24th Street
Truxtun Avenue
California Avenue
Brimhall Road
Arvin Edison Canal
Oak Street
Carrier Canal
Truxtun Avenue
Cross Valley Canal
Kern River
Kern River Canal
Stockdale Highway
Old River Road
Chester Avenue
Brundage Lane
Kern Island Canal
East Branch Kern Island Canal
New Stine Road
Wible Road
H Street
Ming Avenue
Union Avenue
Cottonwood Road
Wilson Road
99
58
178
204
N
Land Use Designation
Agricultural
Commercial
Public
Industrial
Natural Resources
Other
Residential
Vacant Land
Segment 1
Alternative A
Alternative B (*Preferred Alternative)
Alternative C
Shared by Alternatives A/B
Shared by Alternatives B/C
Shared by Alternatives A/B/C
More Information
Construction Occurs Outside Existing Roadway Right-of-Way
3,000 1,500 0 3,000
Feet
Source: Information from Community Impact Assessment 2015
Existing Land Use
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-1

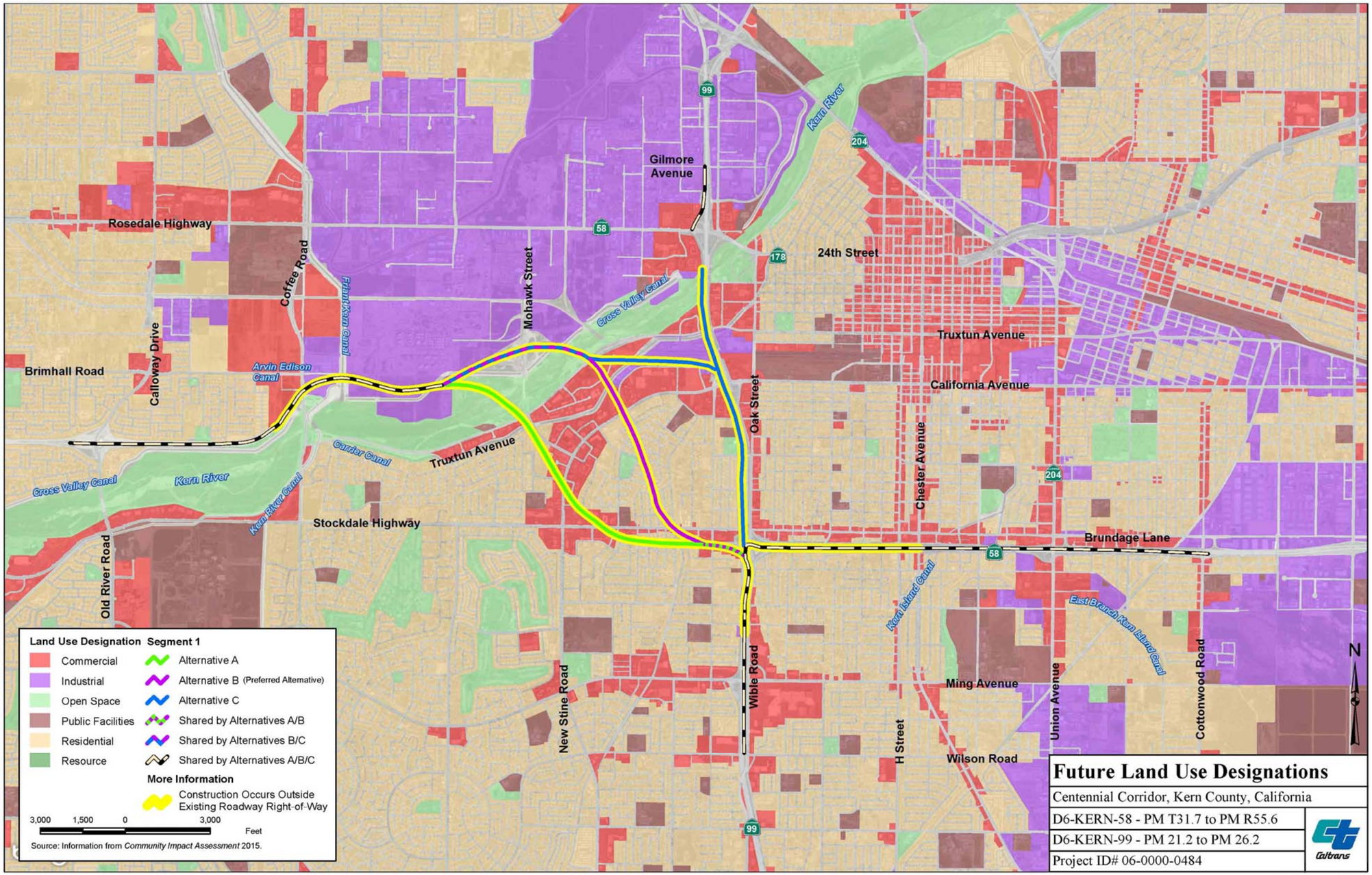

Rosedale Highway
Coffee Road
Calloway Drive
Brimhall Road
Arvin Edison Canal
Friant-Kern Canal
Mohawk Street
Gilmore Avenue
Cross Valley Canal
Kern River
24th Street
Truxtun Avenue
California Avenue
Oak Street
Chester Avenue
Carrier Canal
Kern River Canal
Stockdale Highway
Old River Road
Brundage Lane
Kern Island Canal
East Branch Kern Island Canal
New Stine Road
Wible Road
H Street
Ming Avenue
Union Avenue
Cottonwood Road
Wilson Road
99
58
178
204
N
Land Use Designation Segment 1
Commercial
Industrial
Open Space
Public Facilities
Residential
Resource
Alternative A
Alternative B (Preferred Alternative)
Alternative C
Shared by Alternatives A/B
Shared by Alternatives B/C
Shared by Alternatives A/B/C
More Information
Construction Occurs Outside Existing Roadway Right-of-Way
3,000 1,500 0 3,000
Feet
Source: Information from Community Impact Assessment 2015.
Future Land Use Designations
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-2

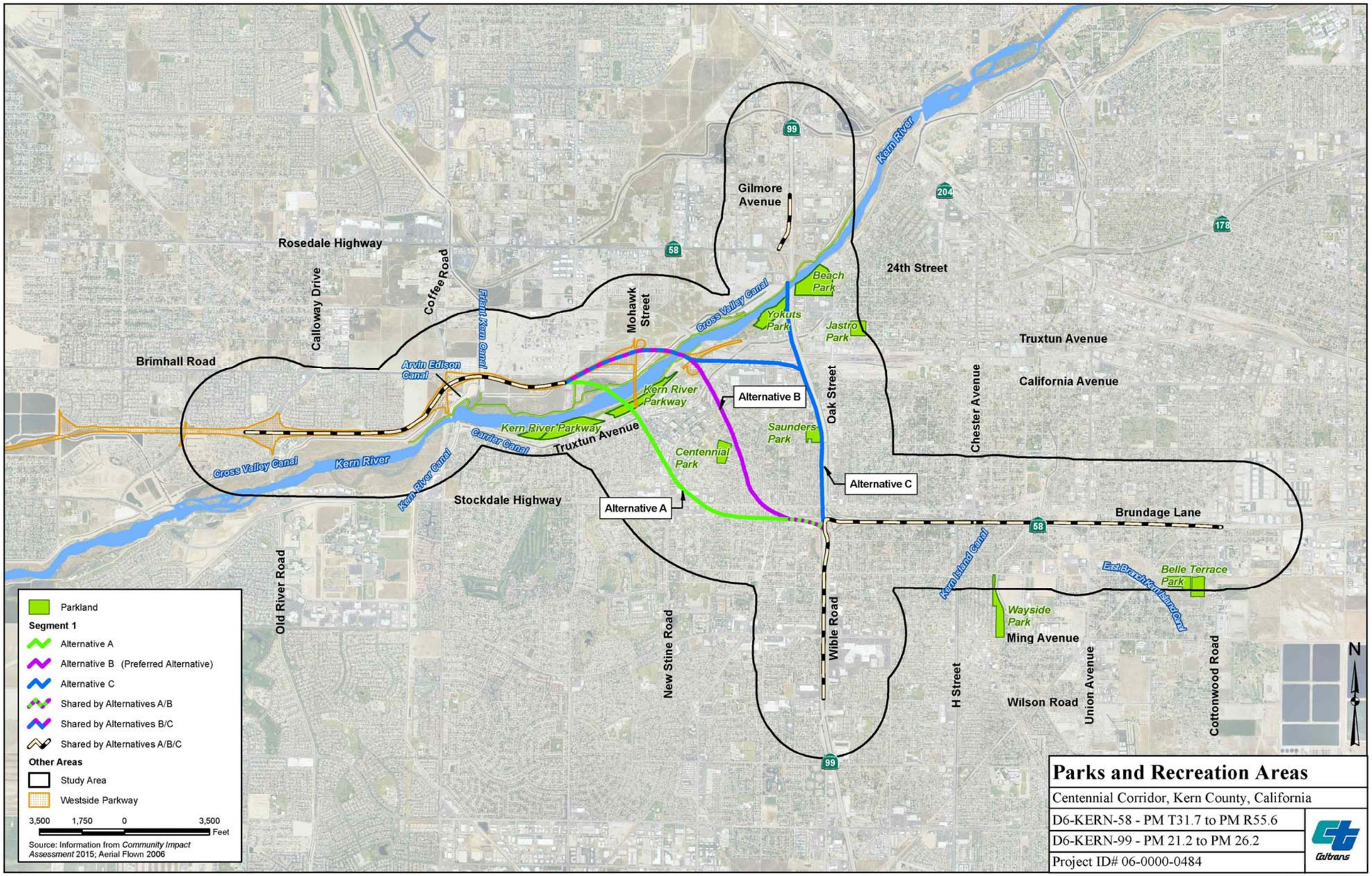
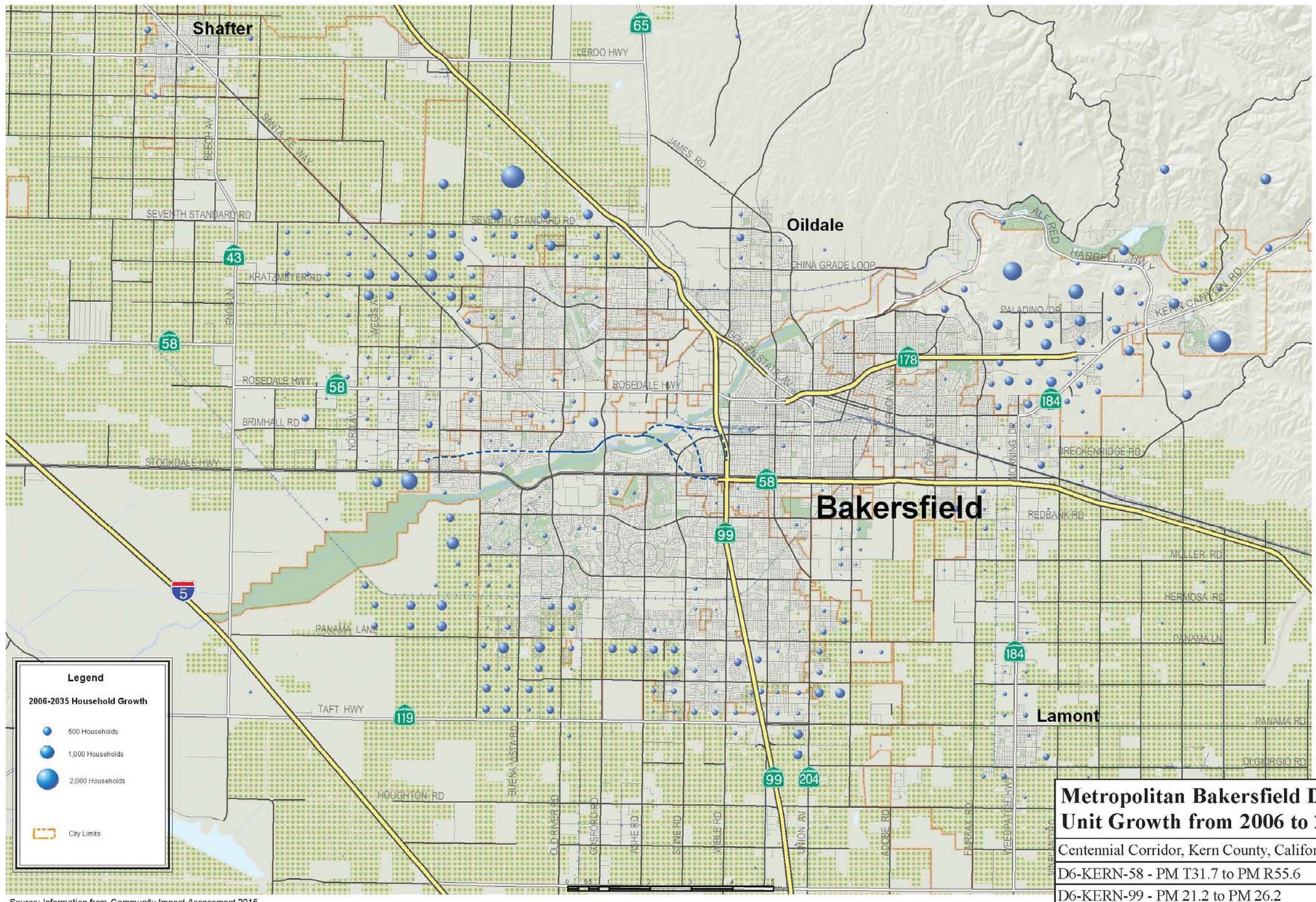

Gilmore Avenue
Rosedale Highway
Calloway Drive
Coffee Road
Friant-Kern Canal
Mohawk Street
Cross Valley Canal
Beach Park
Yokuts Park
Jastro Park
24th Street
Truxtun Avenue
California Avenue
Brimhall Road
Arvin Edison Canal
Kern River Parkway
Alternative B
Oak Street
Chester Avenue
Kern River
Carrier Canal
Saunders Park
Centennial Park
Alternative C
Cross Valley Canal
Kern River
Kern River Canal
Stockdale Highway
Alternative A
Brundage Lane
Old River Road
New Stine Road
Wible Road
Kern Island Canal
East Branch Kern Island Canal
Belle Terrace Park
Wayside Park
Ming Avenue
H Street
Union Avenue
Wilson Road
Cottonwood Road
Parkland
Segment 1
Alternative A
Alternative B (Preferred Alternative)
Alternative C
Shared by Alternatives A/B
Shared by Alternatives B/C
Shared by Alternatives A/B/C
Other Areas
Study Area
Westside Parkway
3,500 1,750 0 3,500
Feet
Source: Information from Community Impact Assessment 2015; Aerial Flown 2006
N
Parks and Recreation Areas
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-3



Source: Information from *Community Impact Assessment* 2015

Metropolitan Bakersfield Dwelling Unit Growth from 2006 to 2035

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-7

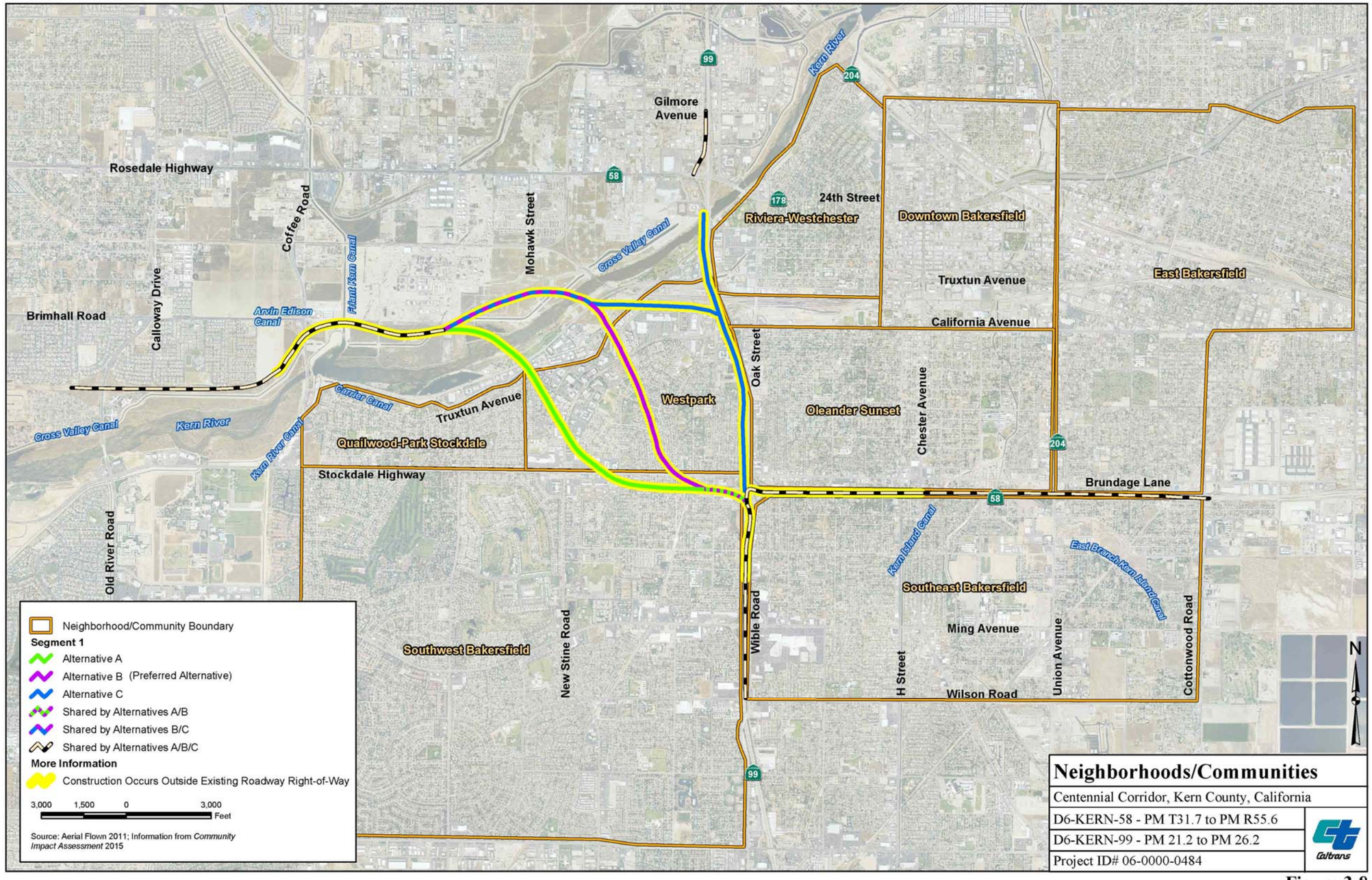

Rosedale Highway
Brimhall Road
Gilmore Avenue
Coffee Road
Calloway Drive
Mohawk Street
Arvin Edison Canal
Atlantic Kern Canal
Cross Valley Canal
Kern River
Kern River Canal
Carrier Canal
Truxtun Avenue
Quailwood-Park Stockdale
Stockdale Highway
Old River Road
New Stine Road
Southwest Bakersfield
Westpark
Oak Street
Riviera-Westchester
24th Street
Downtown Bakersfield
Truxtun Avenue
California Avenue
East Bakersfield
Oleander Sunset
Chester Avenue
Brundage Lane
Kern Island Canal
East Branch Kern Island Canal
Southeast Bakersfield
Ming Avenue
Wilson Road
Wible Road
H Street
Union Avenue
Cottonwood Road
99
58
178
204
Neighborhood/Community Boundary
Segment 1
Alternative A
Alternative B (Preferred Alternative)
Alternative C
Shared by Alternatives A/B
Shared by Alternatives B/C
Shared by Alternatives A/B/C
More Information
Construction Occurs Outside Existing Roadway Right-of-Way
3,000 1,500 0 3,000
Feet
Source: Aerial Flown 2011; Information from Community Impact Assessment 2015
N
Neighborhoods/Communities
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-8

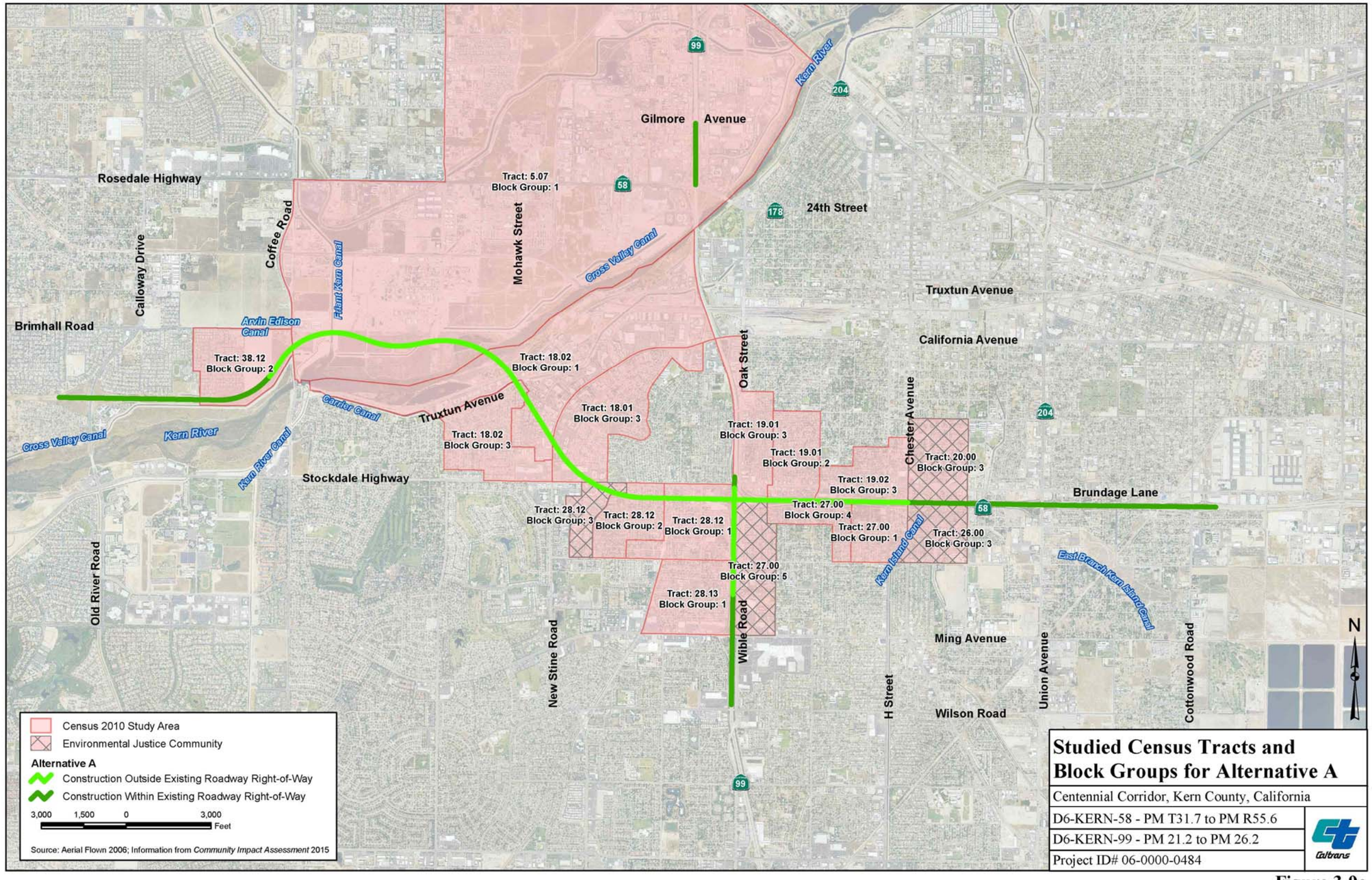

Gilmore Avenue
Rosedale Highway
Tract: 5.07
Block Group: 1
Kern River
24th Street
Coffee Road
Calloway Drive
Mohawk Street
Gross Valley Canal
Truxtun Avenue
Brimhall Road
Arvin Edison Canal
Tract: 38.12
Block Group: 2
Tract: 18.02
Block Group: 1
Oak Street
California Avenue
Chester Avenue
Carrier Canal
Truxtun Avenue
Tract: 18.01
Block Group: 3
Tract: 19.01
Block Group: 3
Cross Valley Canal
Kern River
Tract: 18.02
Block Group: 3
Tract: 19.01
Block Group: 2
Tract: 20.00
Block Group: 3
Kern River Canal
Stockdale Highway
Tract: 19.02
Block Group: 3
Brundage Lane
Tract: 28.12
Block Group: 3
Tract: 28.12
Block Group: 2
Tract: 28.12
Block Group: 1
Tract: 27.00
Block Group: 4
Tract: 27.00
Block Group: 1
Tract: 26.00
Block Group: 3
Kern Island Canal
East Branch Kern Island Canal
Tract: 27.00
Block Group: 5
Tract: 28.13
Block Group: 1
Old River Road
New Stine Road
Wible Road
Ming Avenue
H Street
Union Avenue
Cottonwood Road
Wilson Road
N
Census 2010 Study Area
Environmental Justice Community
Alternative A
Construction Outside Existing Roadway Right-of-Way
Construction Within Existing Roadway Right-of-Way
3,000 1,500 0 3,000
Feet
Source: Aerial Flown 2006; Information from Community Impact Assessment 2015
Studied Census Tracts and Block Groups for Alternative A
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-9a

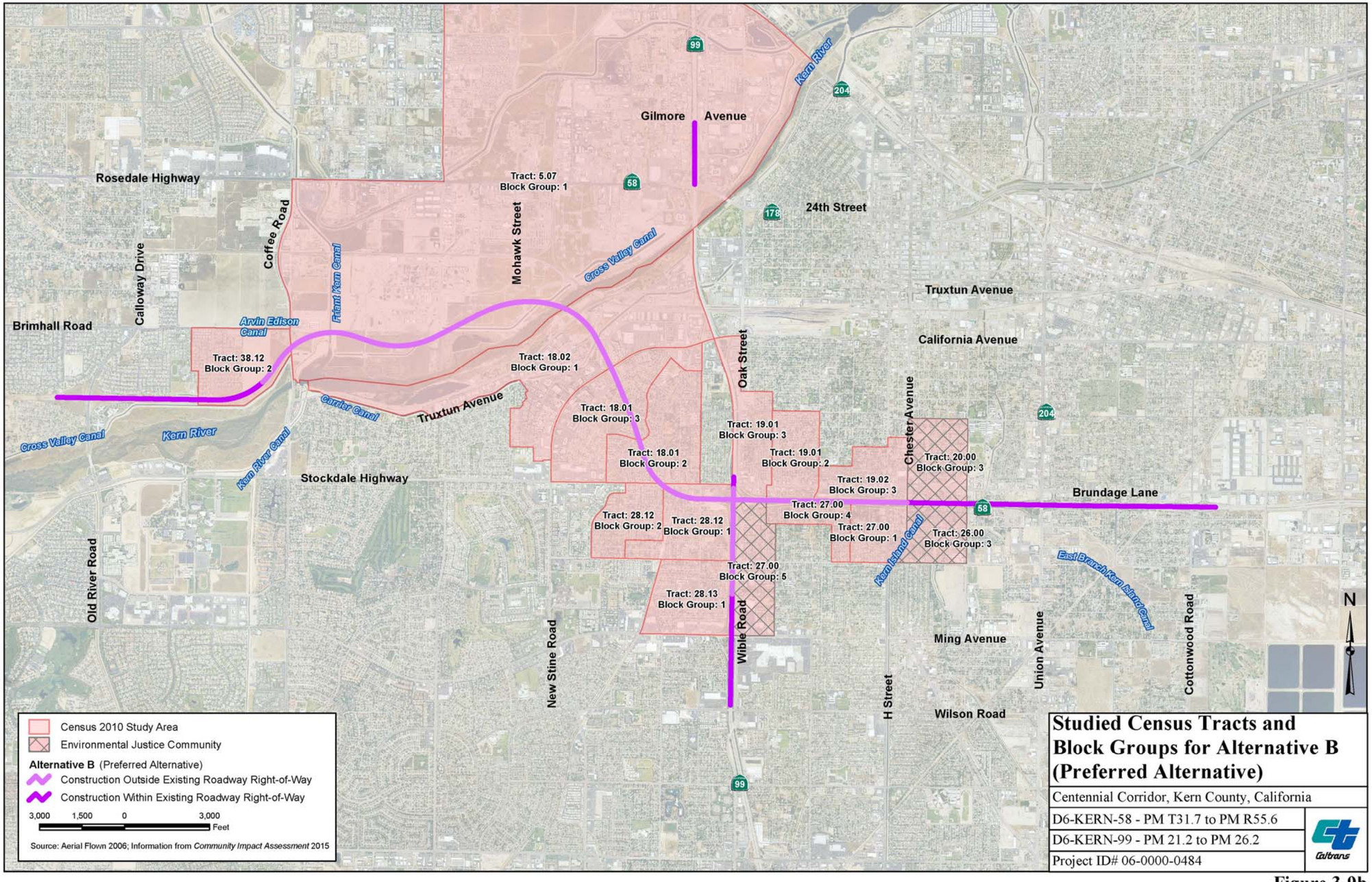

Gilmore Avenue
Rosedale Highway
Tract: 5.07
Block Group: 1
24th Street
Kern River
Coffee Road
Calloway Drive
Mohawk Street
Friant Kern Canal
Cross Valley Canal
Truxtun Avenue
Brimhall Road
Arvin Edison Canal
Tract: 38.12
Block Group: 2
Tract: 18.02
Block Group: 1
California Avenue
Oak Street
Carrier Canal
Truxtun Avenue
Tract: 18.01
Block Group: 3
Tract: 19.01
Block Group: 3
Chester Avenue
Cross Valley Canal
Kern River
Kern River Canal
Stockdale Highway
Tract: 18.01
Block Group: 2
Tract: 19.01
Block Group: 2
Tract: 20.00
Block Group: 3
Tract: 19.02
Block Group: 3
Brundage Lane
Tract: 27.00
Block Group: 4
Tract: 28.12
Block Group: 2
Tract: 28.12
Block Group: 1
Tract: 27.00
Block Group: 1
Tract: 26.00
Block Group: 3
Kern Island Canal
East Branch Kern Island Canal
Tract: 27.00
Block Group: 5
Tract: 28.13
Block Group: 1
Old River Road
New Stine Road
Wible Road
Ming Avenue
Union Avenue
Cottonwood Road
H Street
Wilson Road
N
Census 2010 Study Area
Environmental Justice Community
Alternative B (Preferred Alternative)
Construction Outside Existing Roadway Right-of-Way
Construction Within Existing Roadway Right-of-Way
3,000 1,500 0 3,000
Feet
Source: Aerial Flown 2006; Information from Community Impact Assessment 2015
Studied Census Tracts and Block Groups for Alternative B (Preferred Alternative)
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-9b

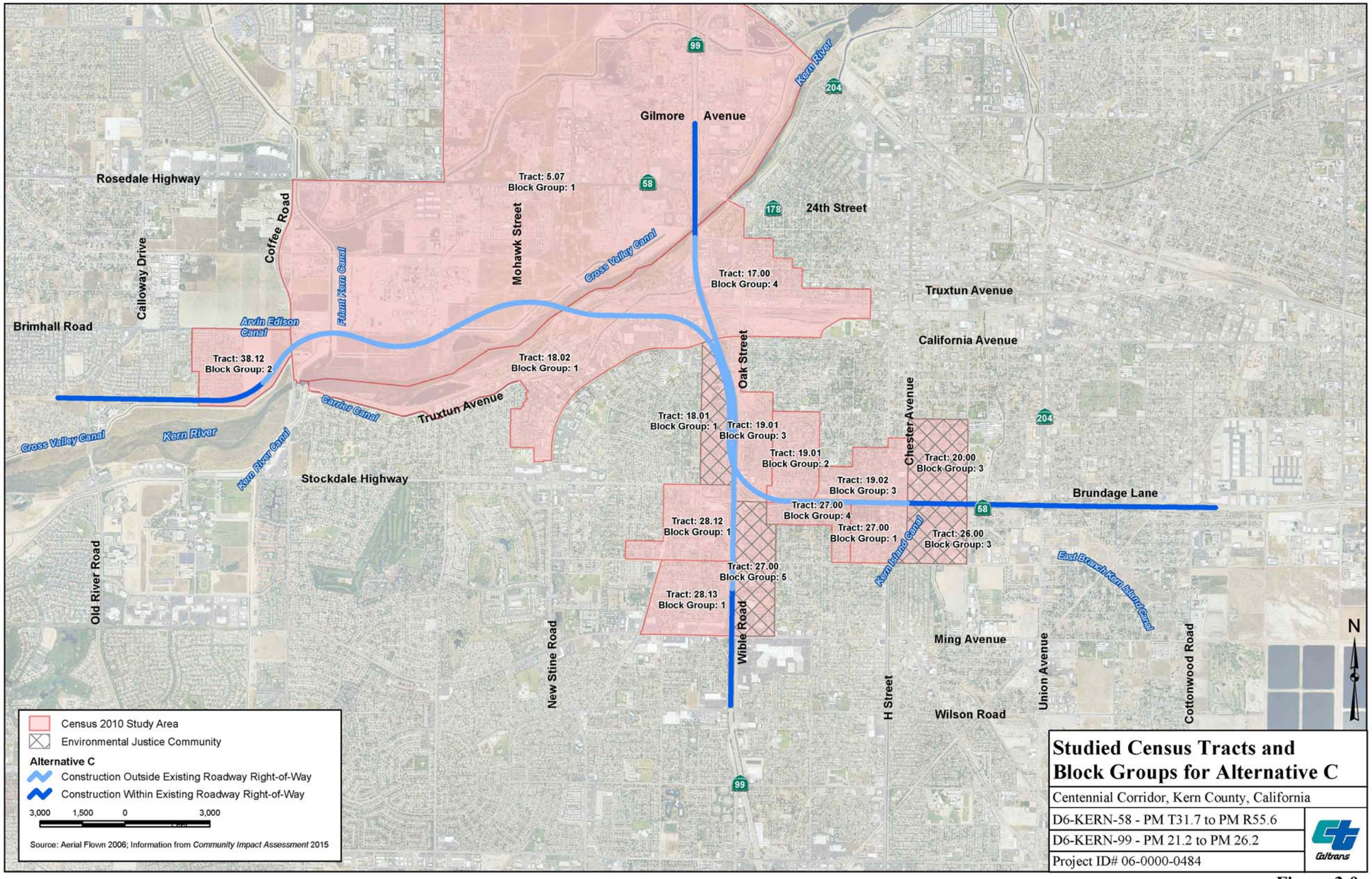

Gilmore Avenue
Kern River
Rosedale Highway
Tract: 5.07
Block Group: 1
Coffee Road
Mohawk Street
Calloway Drive
Friant Kern Canal
Cross Valley Canal
24th Street
Tract: 17.00
Block Group: 4
Truxtun Avenue
Brimhall Road
Arvin Edison Canal
Tract: 38.12
Block Group: 2
Tract: 18.02
Block Group: 1
Oak Street
California Avenue
Carrier Canal
Truxtun Avenue
Tract: 18.01
Block Group: 1
Tract: 19.01
Block Group: 3
Chester Avenue
Cross Valley Canal
Kern River
Kern River Canal
Tract: 19.01
Block Group: 2
Tract: 20.00
Block Group: 3
Stockdale Highway
Tract: 19.02
Block Group: 3
Brundage Lane
Tract: 27.00
Block Group: 4
Tract: 28.12
Block Group: 1
Tract: 27.00
Block Group: 1
Tract: 26.00
Block Group: 3
Kern Island Canal
East Branch Kern Island Canal
Tract: 27.00
Block Group: 5
Tract: 28.13
Block Group: 1
Old River Road
New Stine Road
Wible Road
Ming Avenue
H Street
Union Avenue
Cottonwood Road
Wilson Road
N
Census 2010 Study Area
Environmental Justice Community
Alternative C
Construction Outside Existing Roadway Right-of-Way
Construction Within Existing Roadway Right-of-Way
3,000 1,500 0 3,000
Source: Aerial Flown 2006; Information from Community Impact Assessment 2015
Studied Census Tracts and Block Groups for Alternative C
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-9c

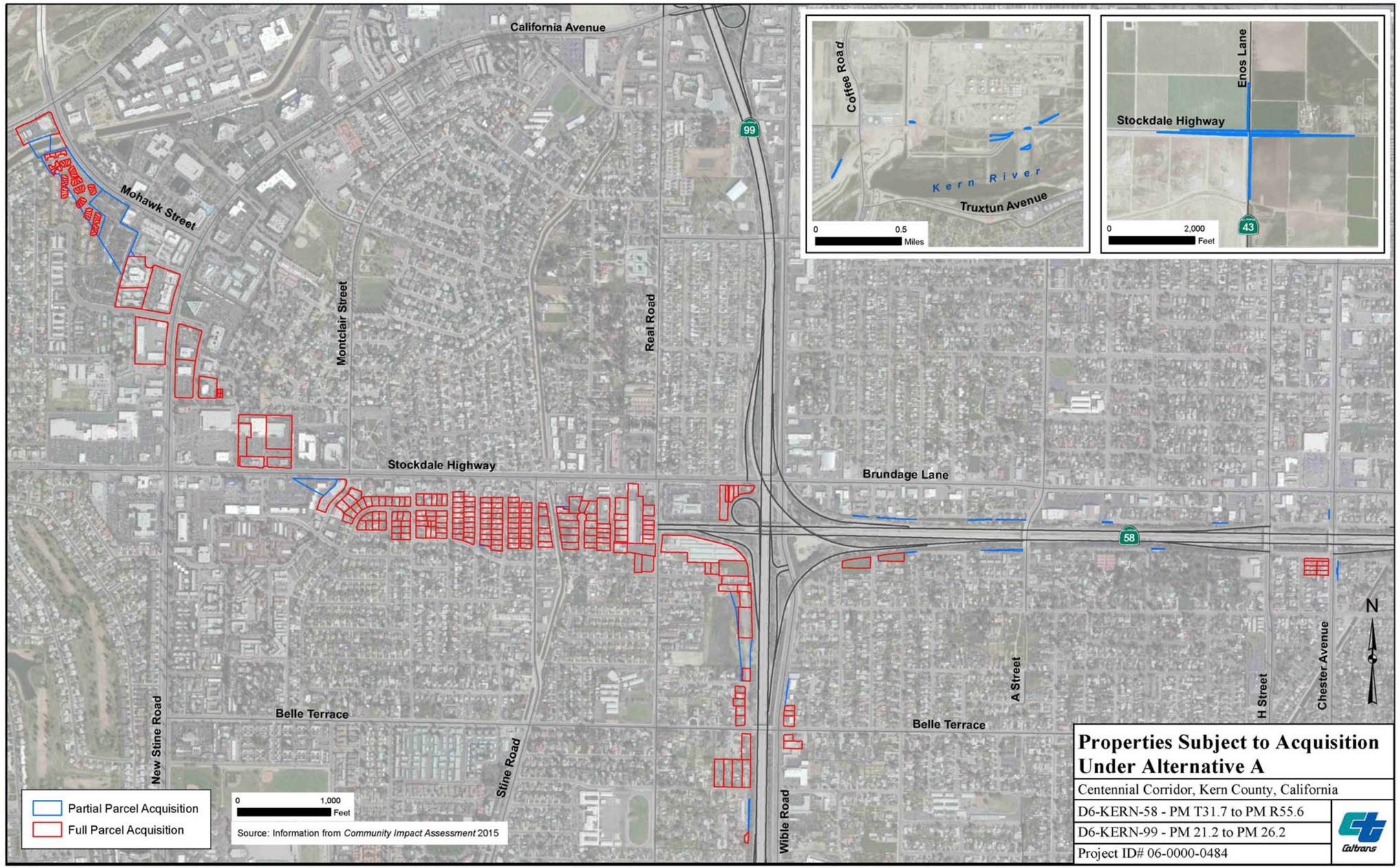

California Avenue
Mohawk Street
Montclair Street
Real Road
99
Stockdale Highway
Brundage Lane
58
Belle Terrace
New Stine Road
Stine Road
Wible Road
A Street
H Street
Chester Avenue
Belle Terrace
N
Partial Parcel Acquisition
Full Parcel Acquisition
0
1,000
Feet
Source: Information from Community Impact Assessment 2015
Coffee Road
Kern River
Truxtun Avenue
0
0.5
Miles
Enos Lane
Stockdale Highway
43
0
2,000
Feet
Properties Subject to Acquisition Under Alternative A
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-10a

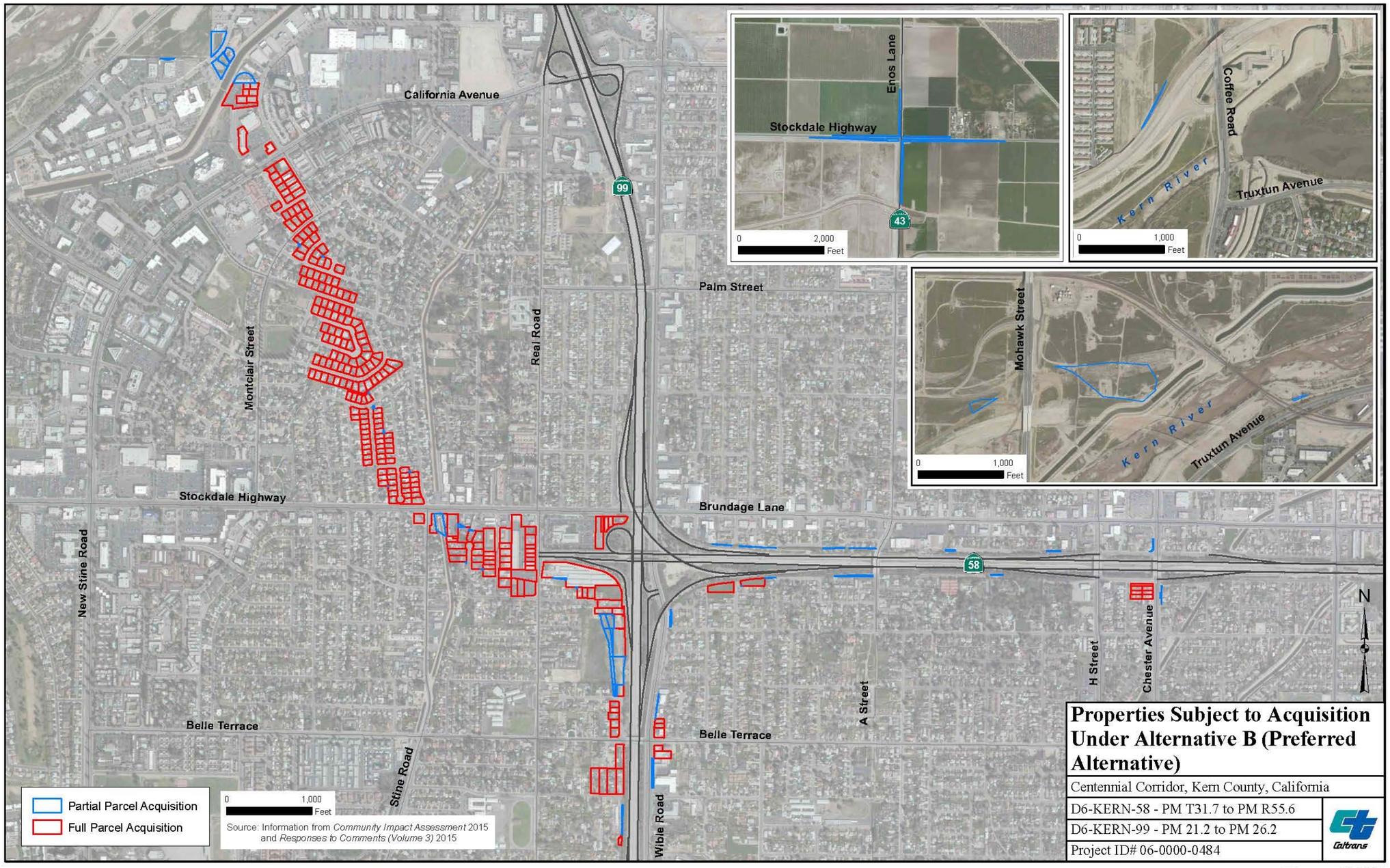

California Avenue
Stockdale Highway
Palm Street
Brundage Lane
Belle Terrace
Belle Terrace
Montclair Street
Real Road
New Stine Road
Stine Road
Wible Road
A Street
H Street
Chester Avenue
99
58
43
Enos Lane
Stockdale Highway
0 2,000 Feet
Coffee Road
Truxtun Avenue
Kern River
0 1,000 Feet
Mohawk Street
Truxtun Avenue
Kern River
0 1,000 Feet
N
Partial Parcel Acquisition
Full Parcel Acquisition
0 1,000 Feet
Source: Information from Community Impact Assessment 2015 and Responses to Comments (Volume 3) 2015
Properties Subject to Acquisition Under Alternative B (Preferred Alternative)
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-10b

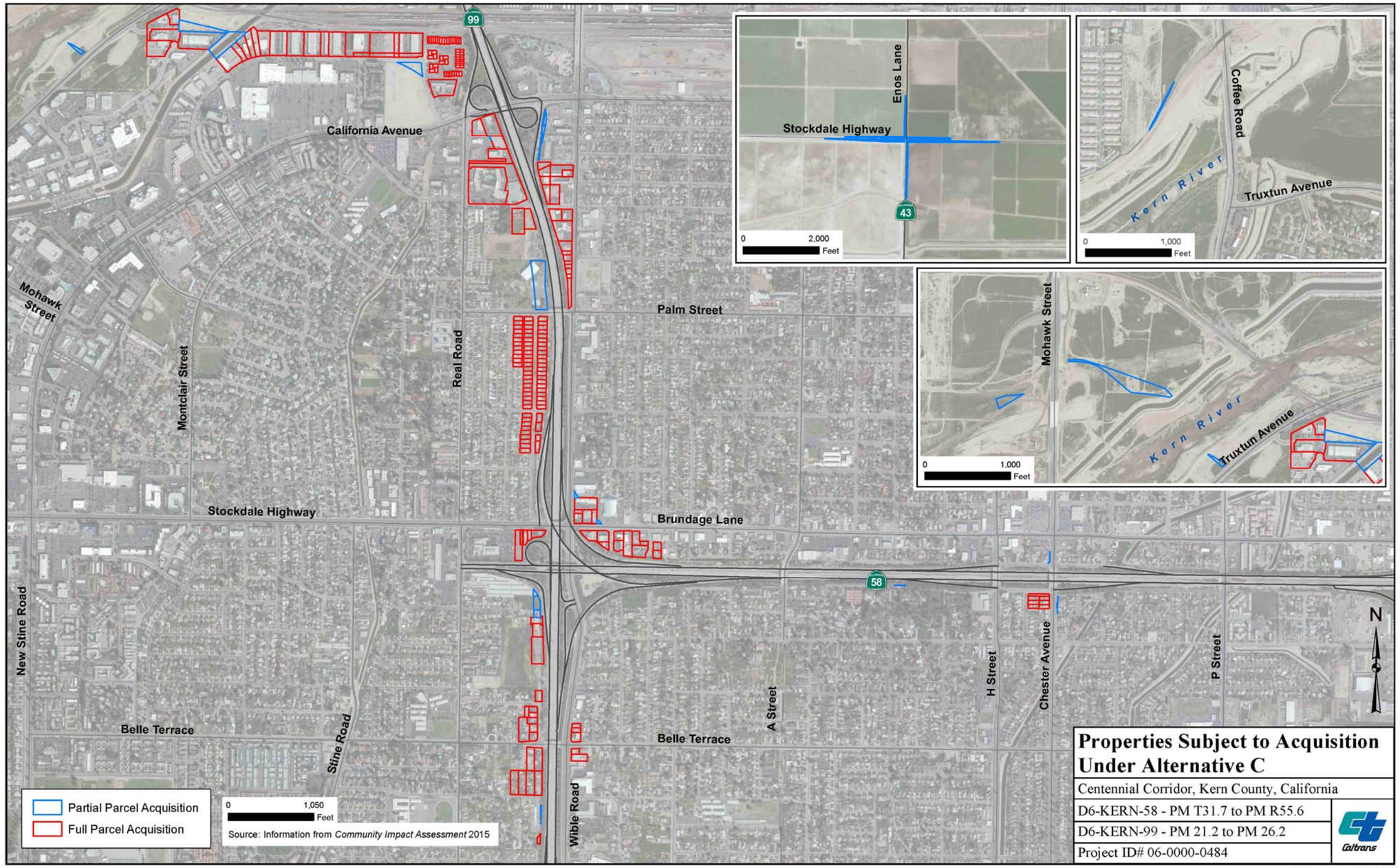
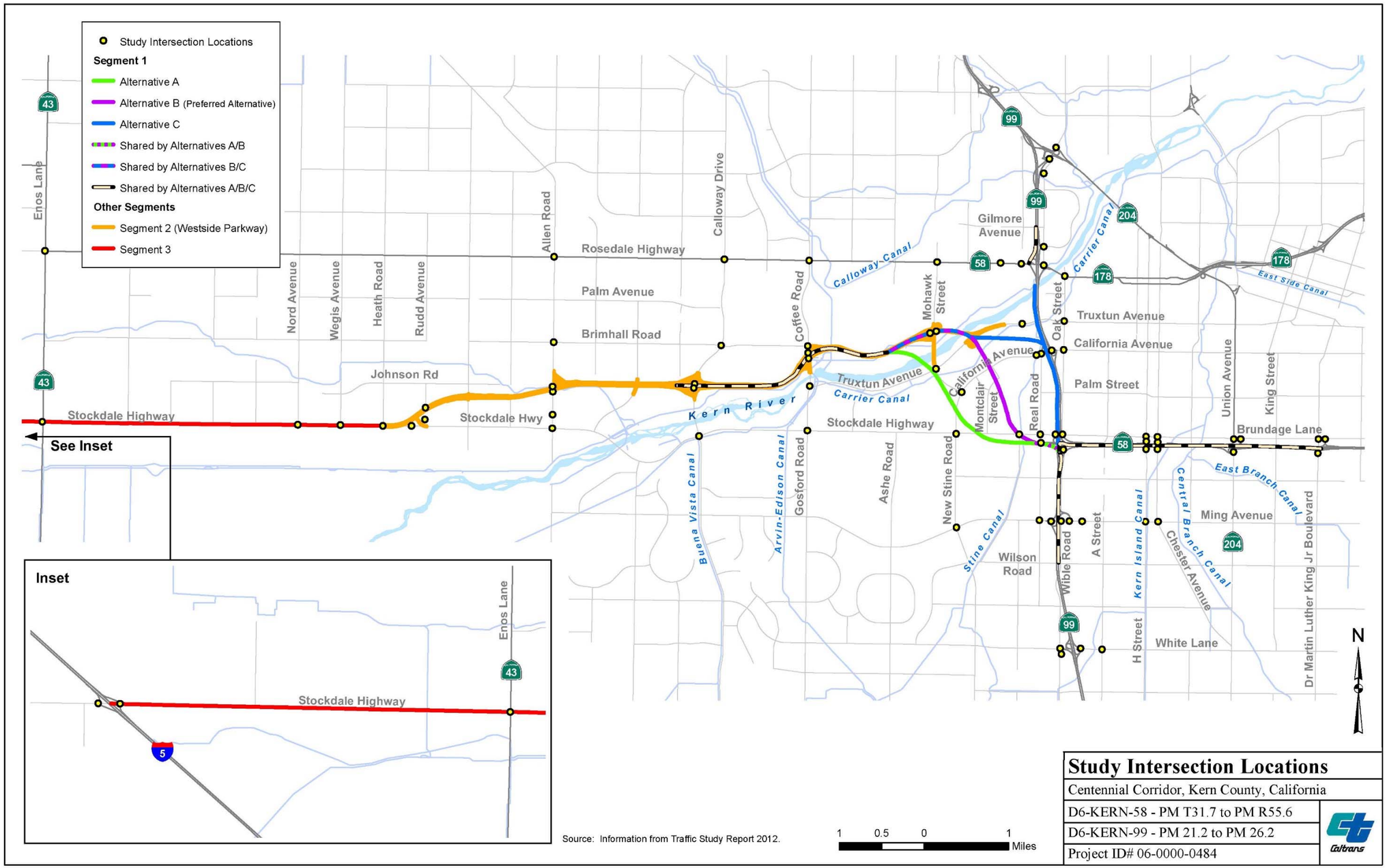

California Avenue
Palm Street
Stockdale Highway
Brundage Lane
Belle Terrace
Belle Terrace
Mohawk Street
Montclair Street
Real Road
New Stine Road
Stine Road
Wible Road
A Street
H Street
Chester Avenue
P Street
99
58
43
Enos Lane
Stockdale Highway
0 2,000 Feet
Coffee Road
Kern River
Truxtun Avenue
0 1,000 Feet
Mohawk Street
Kern River
Truxtun Avenue
0 1,000 Feet
N
Partial Parcel Acquisition
Full Parcel Acquisition
0 1,050 Feet
Source: Information from Community Impact Assessment 2015
Properties Subject to Acquisition Under Alternative C
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-10c



Study Intersection Locations

Centennial Corridor, Kern County, California

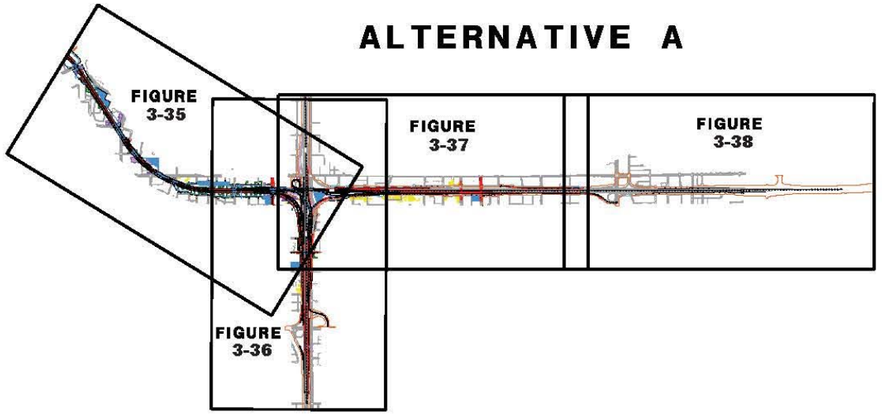
D6-KERN-58 - PM T31.7 to PM R55.6

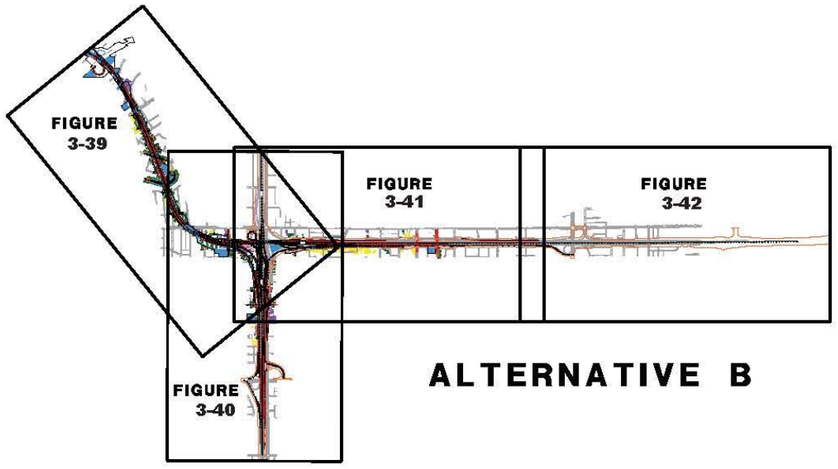
D6-KERN-99 - PM 21.2 to PM 26.2

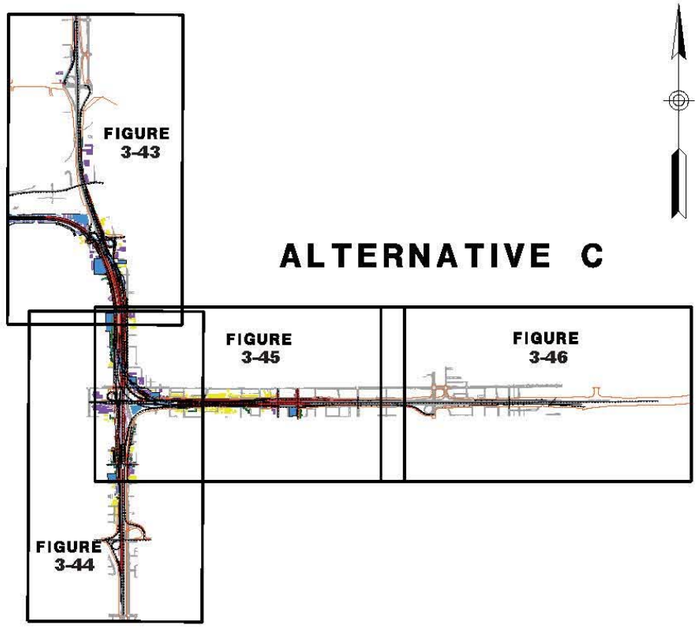
Project ID# 06-0000-0484

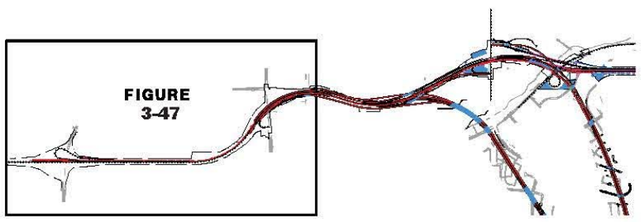
Caltrans

Figure 3-11









Centennial Corridor Key Map For Noise Measurement and Sound Wall Locations

Centennial Corridor, Kern County, California

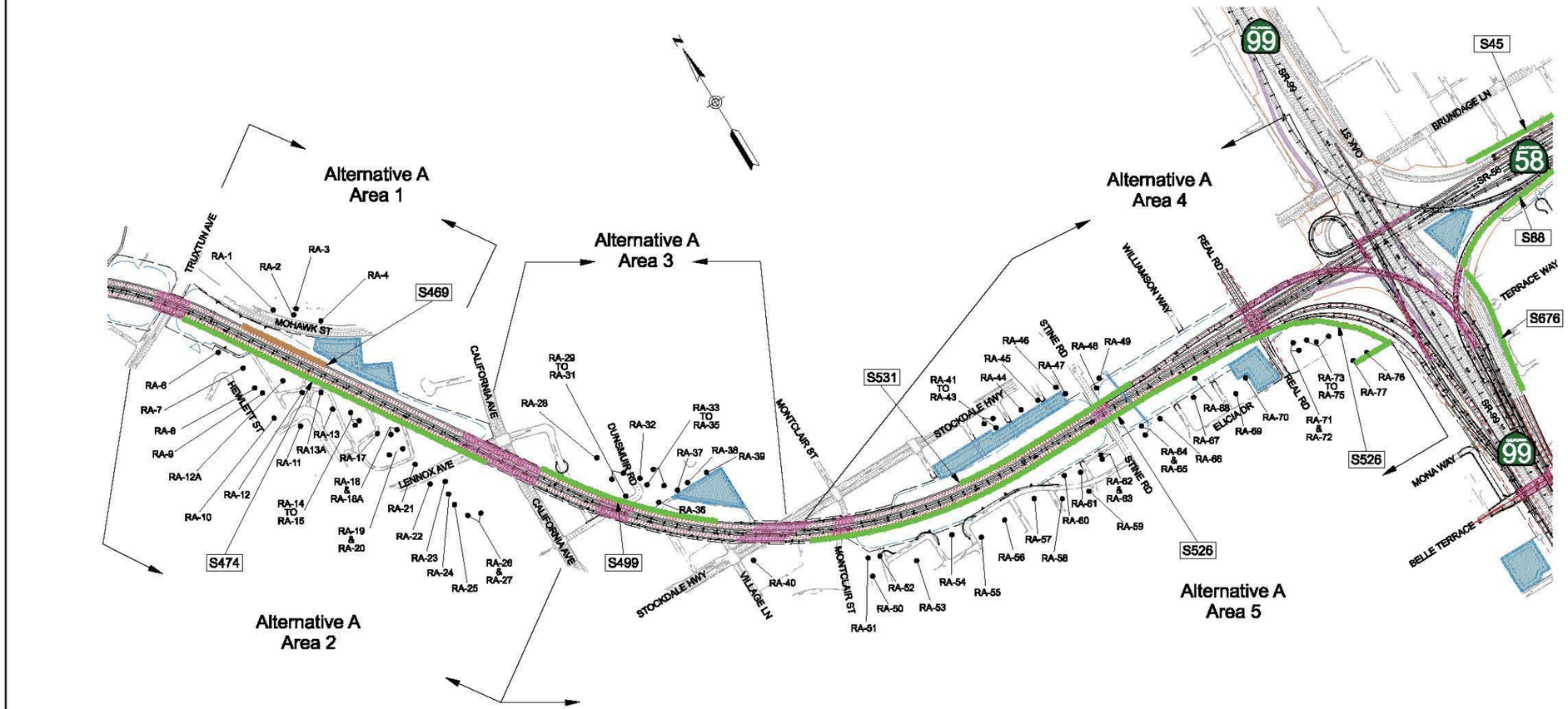
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Source: Information from the *Noise Abatement Decision Report* 2014 and *Noise Study Report* 2014

Figure 3-34



Source: Information from the *Noise Abatement Decision Report* 2014 and *Noise Study Report* 2014

Centennial Corridor Alt A Noise Measurement, Receiver, and Sound Wall Locations

Centennial Corridor, Kern County, California

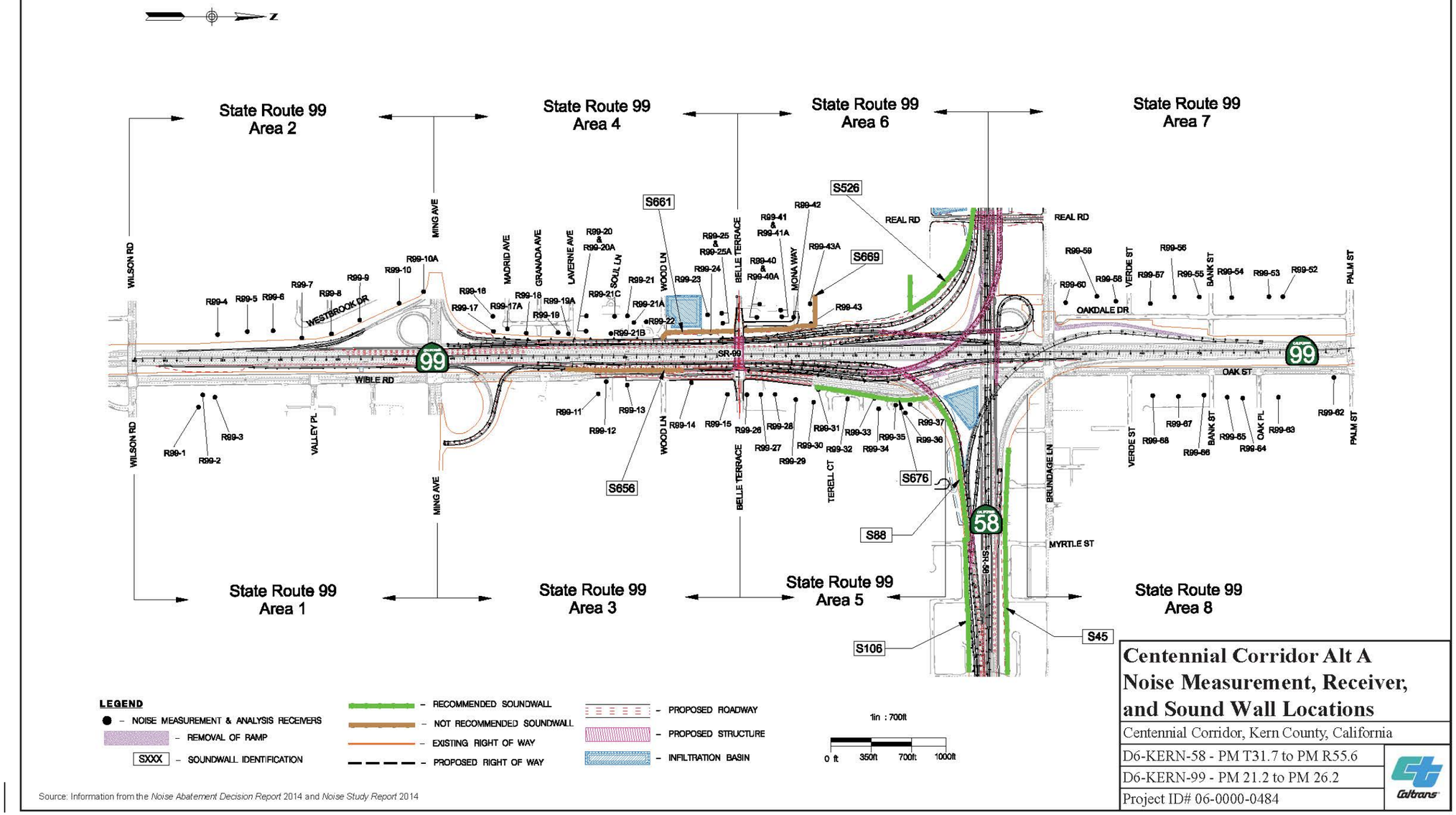
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-35



Source: Information from the *Noise Abatement Decision Report* 2014 and *Noise Study Report* 2014

Centennial Corridor Alt A
Noise Measurement, Receiver, and Sound Wall Locations

Centennial Corridor, Kern County, California

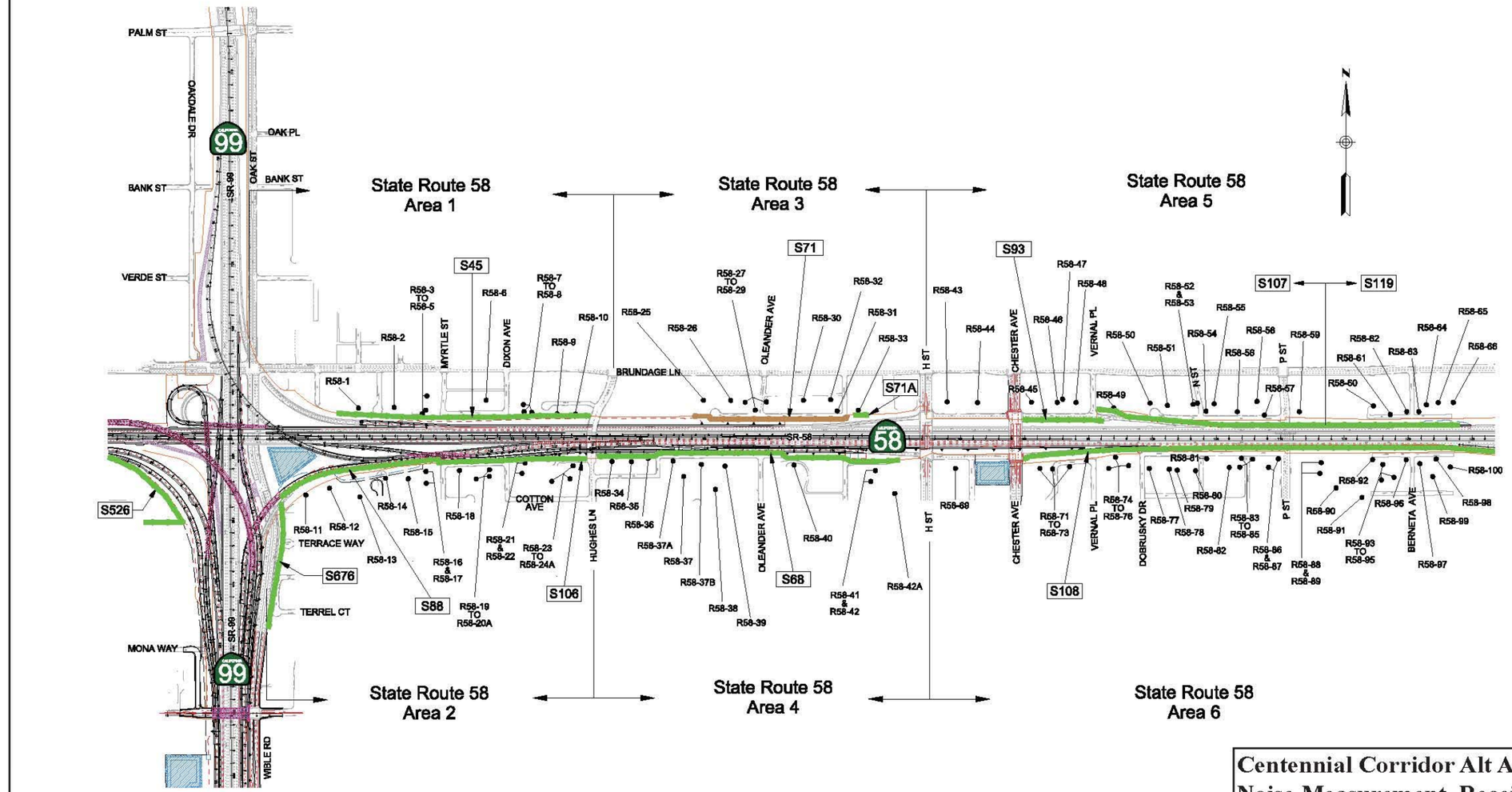
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-36



Source: Information from the *Noise Abatement Decision Report* 2014 and *Noise Study Report* 2014

Centennial Corridor Alt A Noise Measurement, Receiver, and Sound Wall Locations

Centennial Corridor, Kern County, California

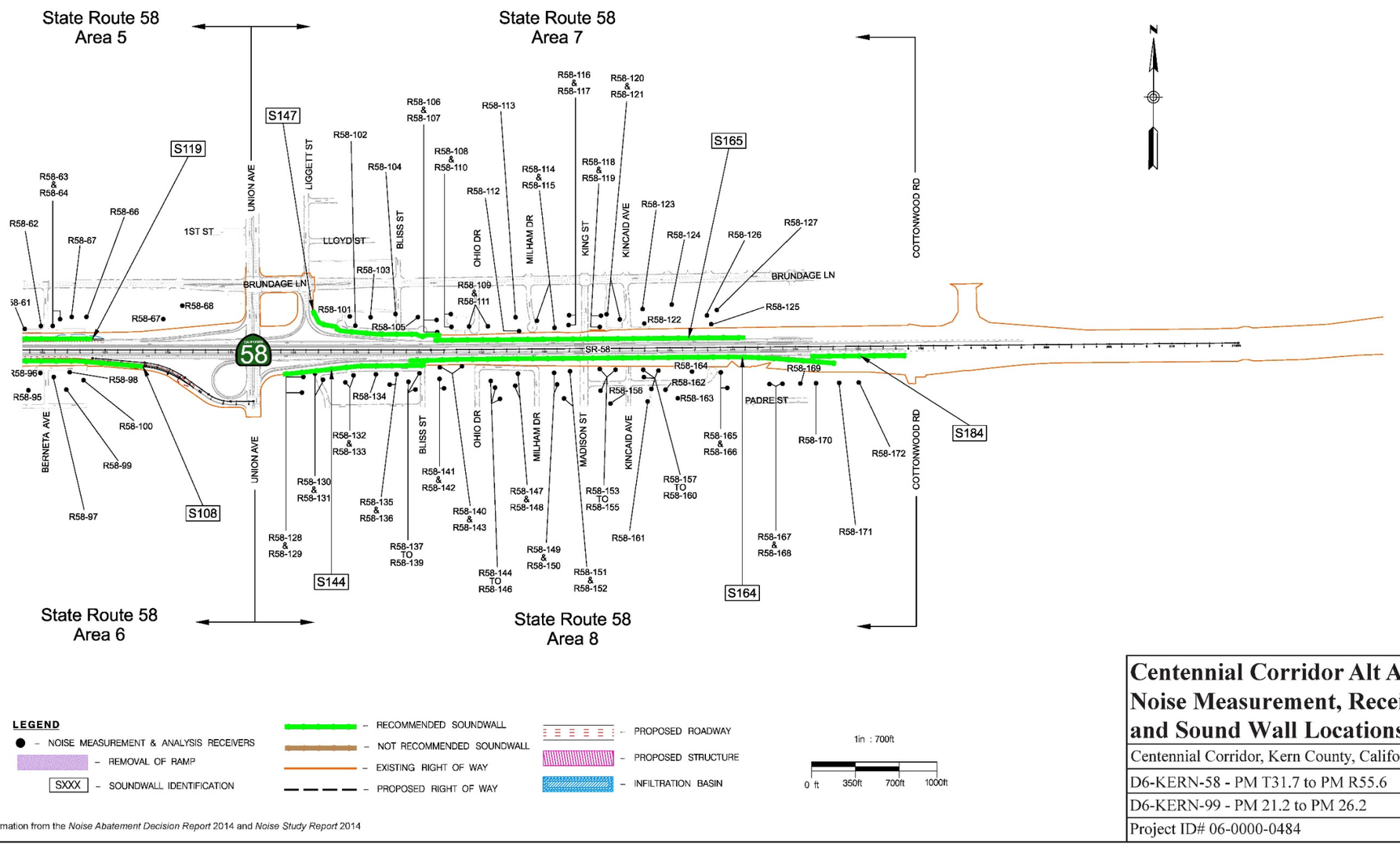
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-37



Source: Information from the *Noise Abatement Decision Report* 2014 and *Noise Study Report* 2014

Centennial Corridor Alt A Noise Measurement, Receiver, and Sound Wall Locations

Centennial Corridor, Kern County, California

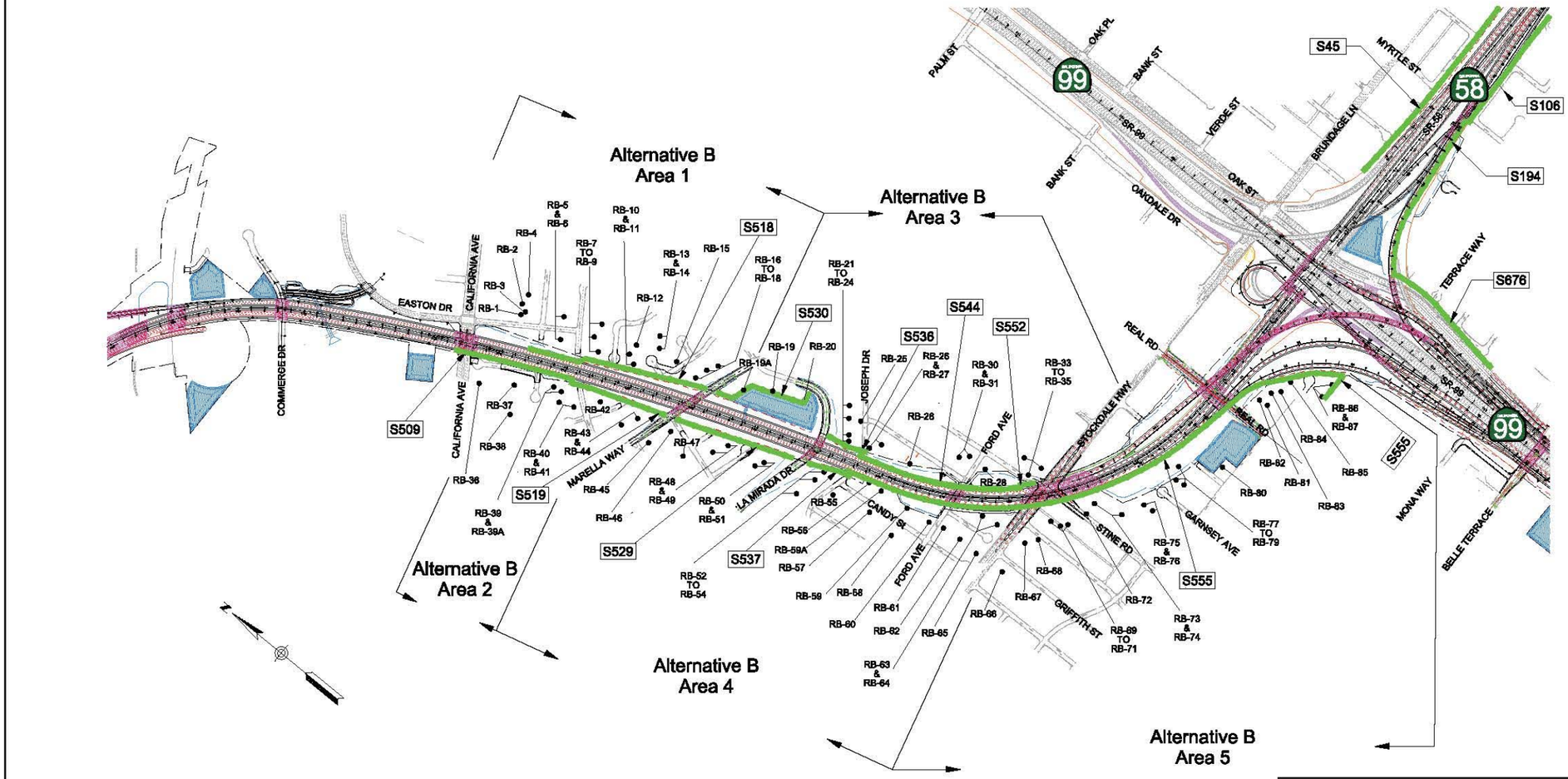
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-38



Source: Information from the *Noise Abatement Decision Report* 2014 and *Noise Study Report* 2014

Centennial Corridor Alt B (Preferred Alternative) Noise Measurement, Receiver, and Sound Wall Locations

Centennial Corridor, Kern County, California

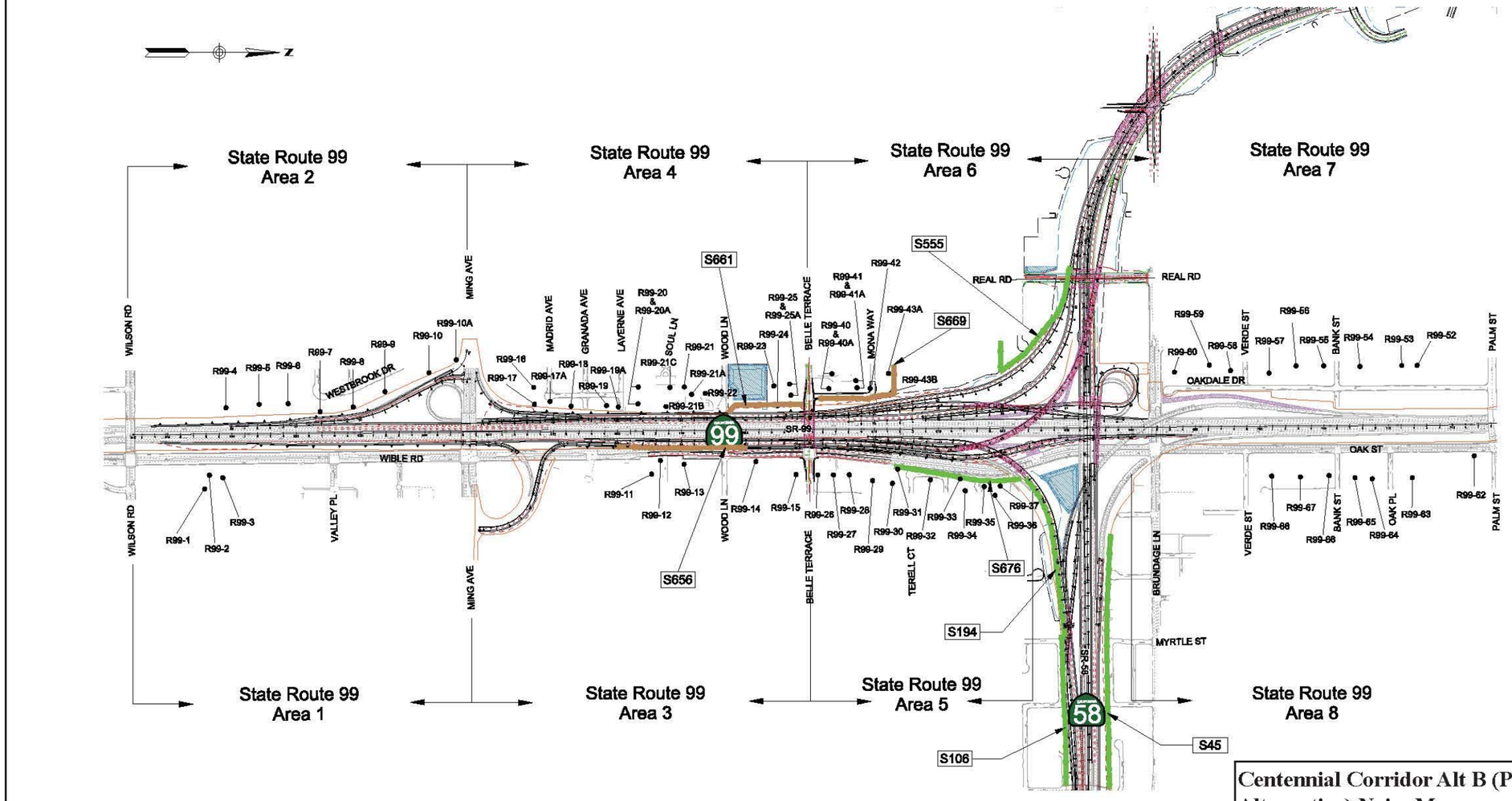
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-39



Source: Information from the *Noise Abatement Decision Report* 2014 and *Noise Study Report* 2014

Centennial Corridor Alt B (Preferred Alternative) Noise Measurement, Receiver, and Sound Wall Locations

Centennial Corridor, Kern County, California

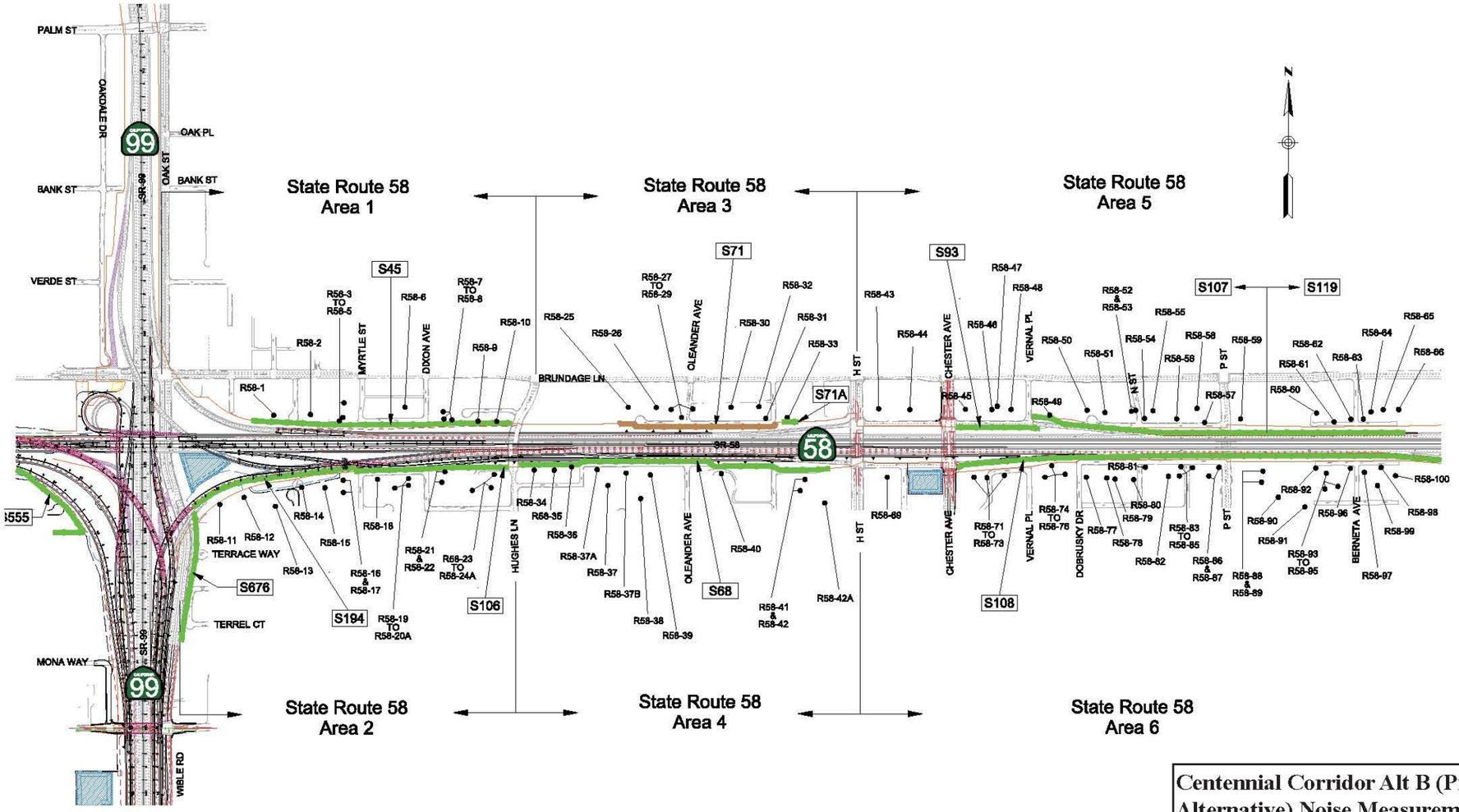
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-40



Source: Information from the *Noise Abatement Decision Report* 2014 and *Noise Study Report* 2014

Centennial Corridor Alt B (Preferred Alternative) Noise Measurement, Receiver, and Sound Wall Locations

Centennial Corridor, Kern County, California

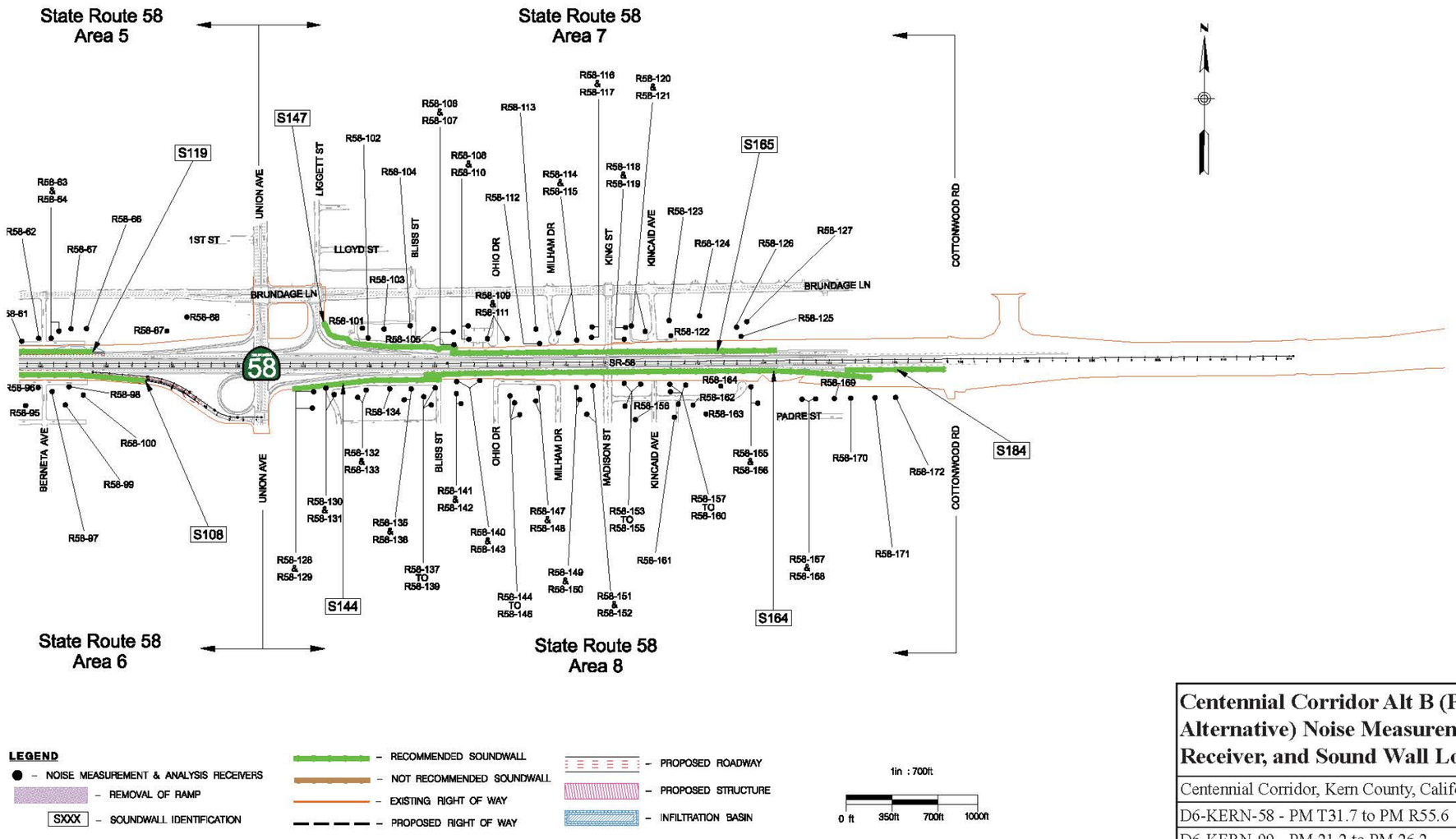
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-41



Source: Information from the *Noise Abatement Decision Report* 2014 and *Noise Study Report* 2014

Centennial Corridor Alt B (Preferred Alternative) Noise Measurement, Receiver, and Sound Wall Locations

Centennial Corridor, Kern County, California

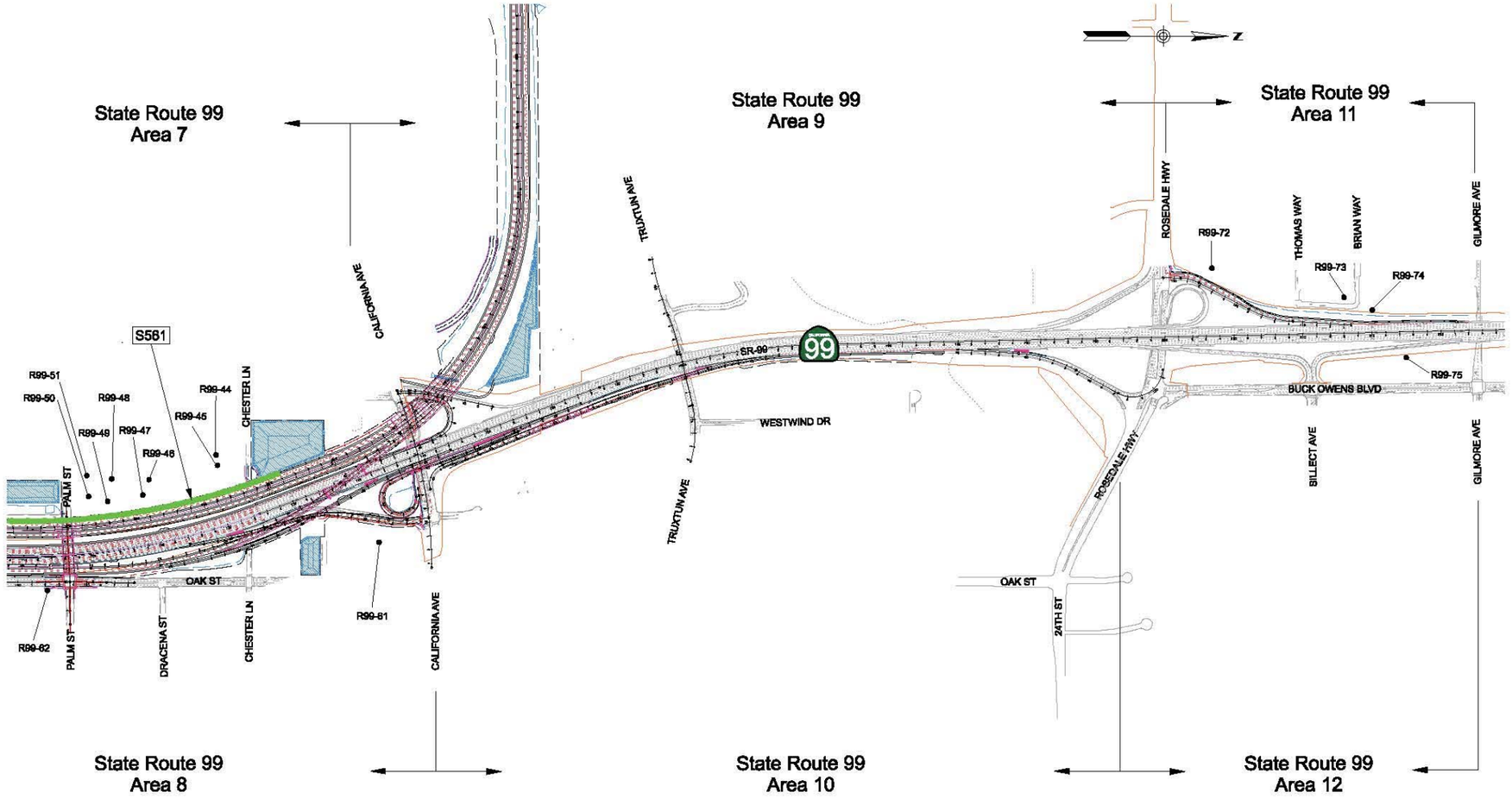
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-42



Source: Information from the *Noise Abatement Decision Report* 2014 and *Noise Study Report* 2014

Centennial Corridor Alt C
Noise Measurement, Receiver, and Sound Wall Locations

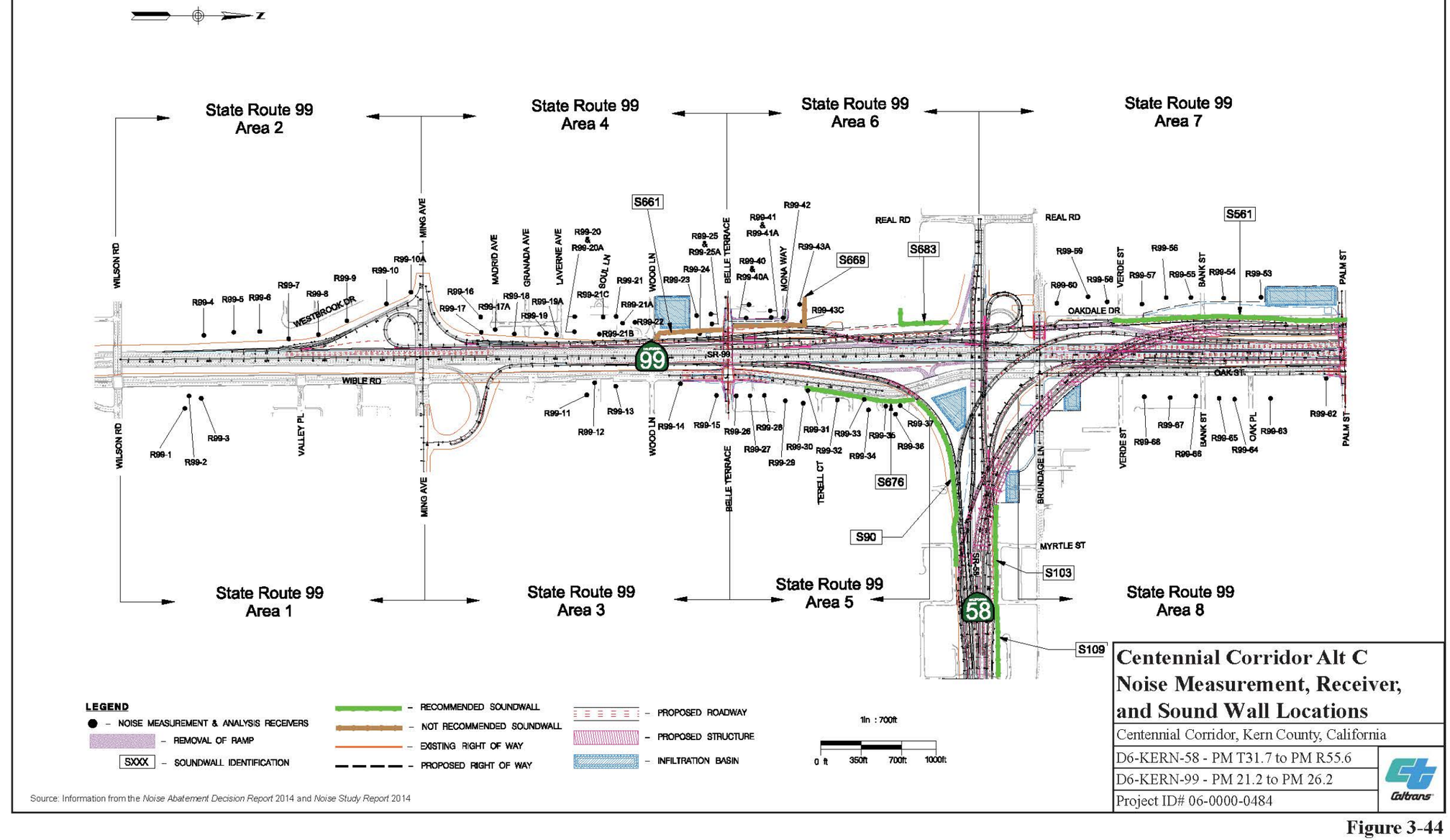
Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

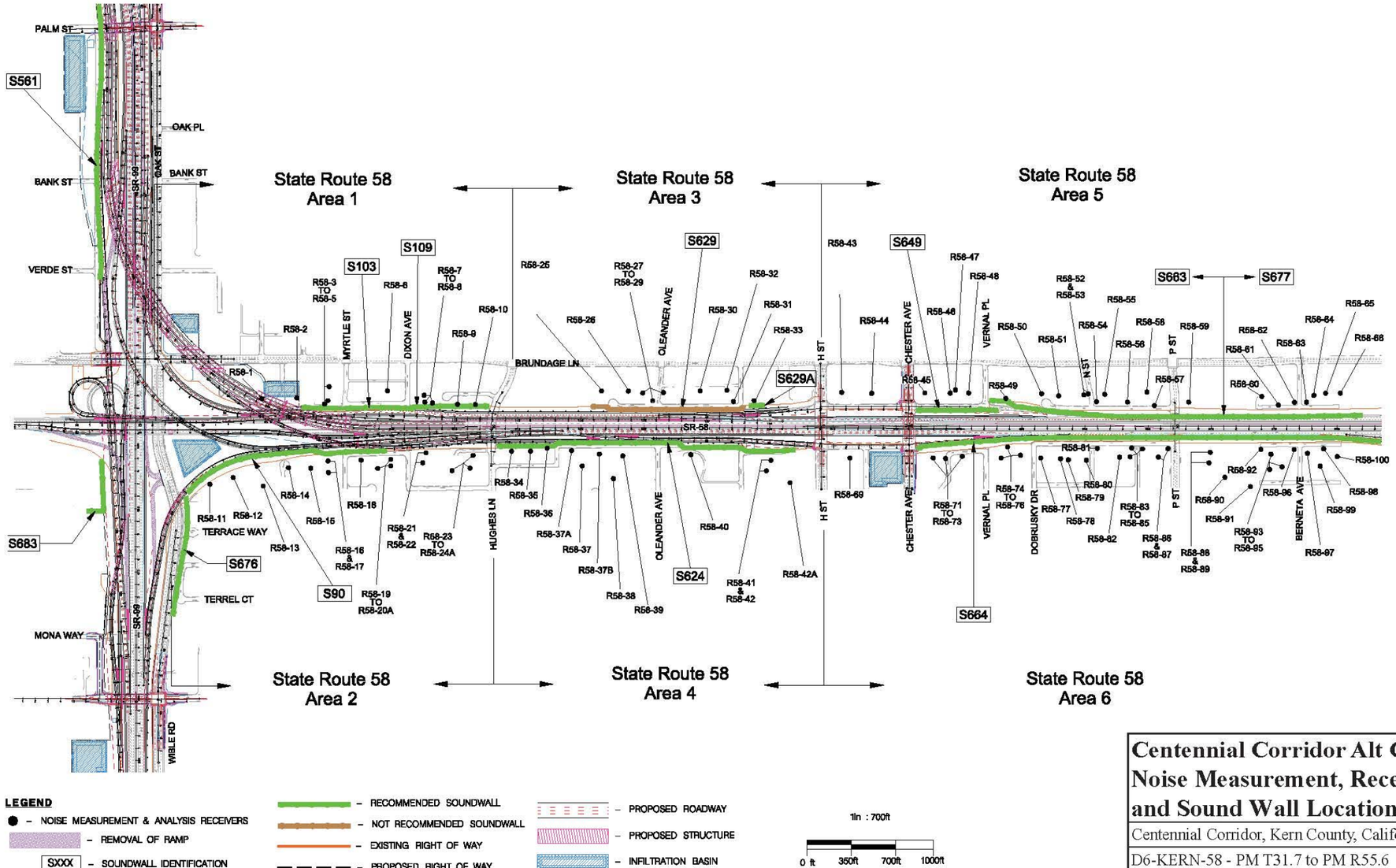
Project ID# 06-0000-0484

Figure 3-43



Source: Information from the *Noise Abatement Decision Report* 2014 and *Noise Study Report* 2014

Figure 3-44



Source: Information from the *Noise Abatement Decision Report* 2014 and *Noise Study Report* 2014

Centennial Corridor Alt C
Noise Measurement, Receiver, and Sound Wall Locations

Centennial Corridor, Kern County, California

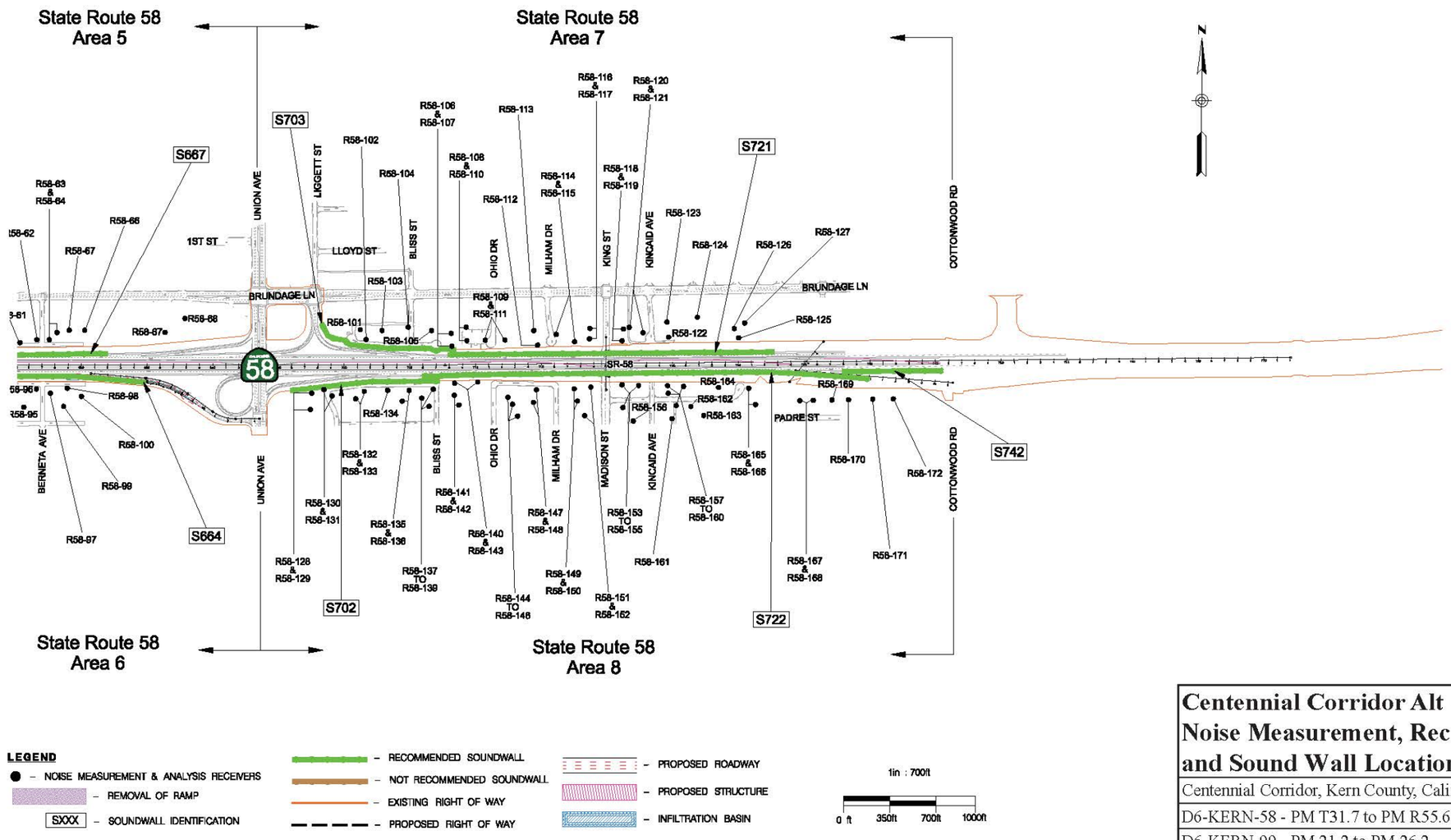
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-45



Source: Information from the *Noise Abatement Decision Report* 2014 and *Noise Study Report* 2014

Centennial Corridor Alt C
Noise Measurement, Receiver, and Sound Wall Locations

Centennial Corridor, Kern County, California

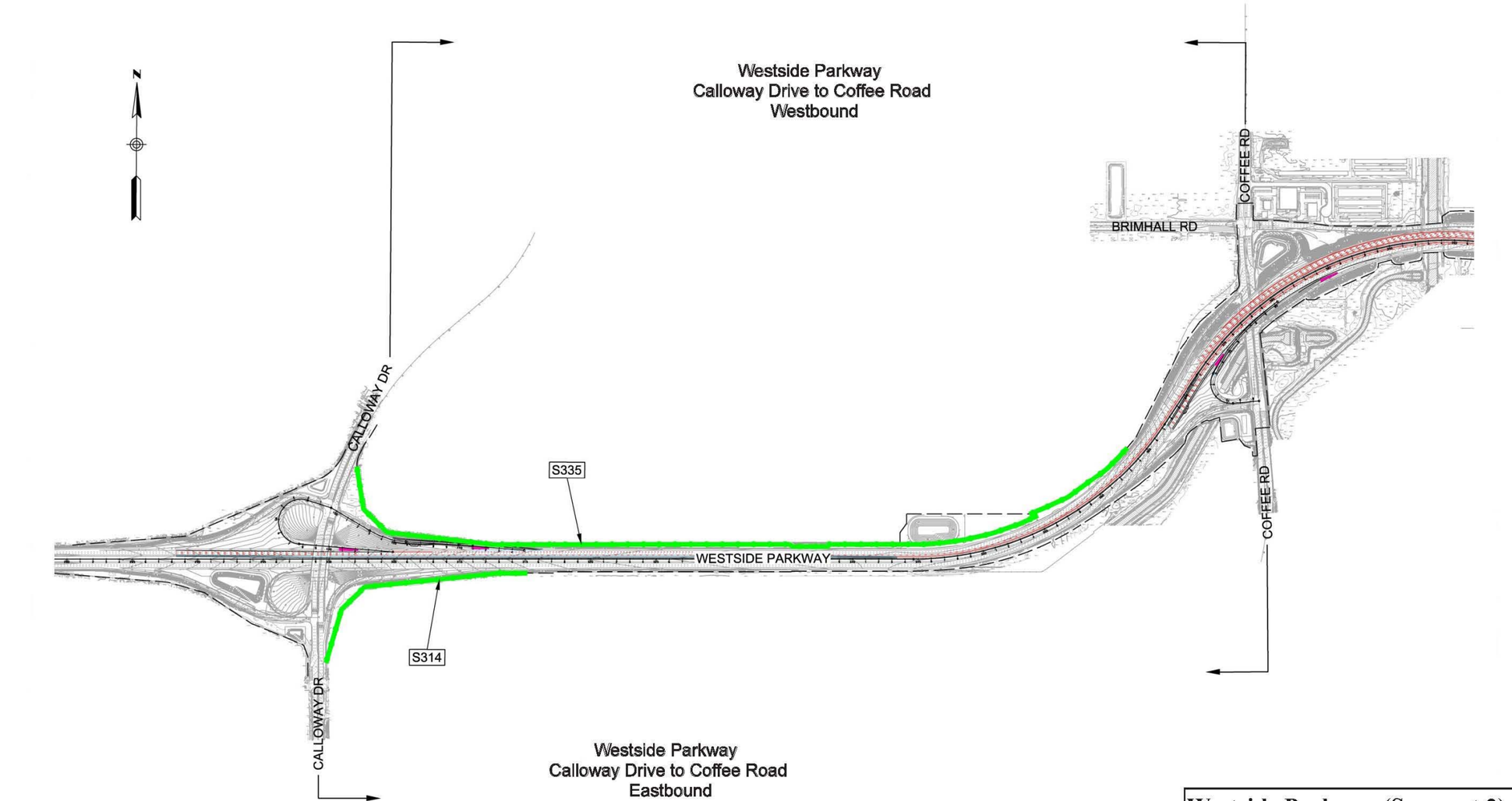
D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-46



Source: Information from the *Noise Abatement Decision Report* 2014 and *Noise Study Report* 2014

Westside Parkway (Segment 2)
Sound Wall Locations

Centennial Corridor, Kern County, California

D6-KERN-58 - PM T31.7 to PM R55.6

D6-KERN-99 - PM 21.2 to PM 26.2

Project ID# 06-0000-0484

Caltrans

Figure 3-47

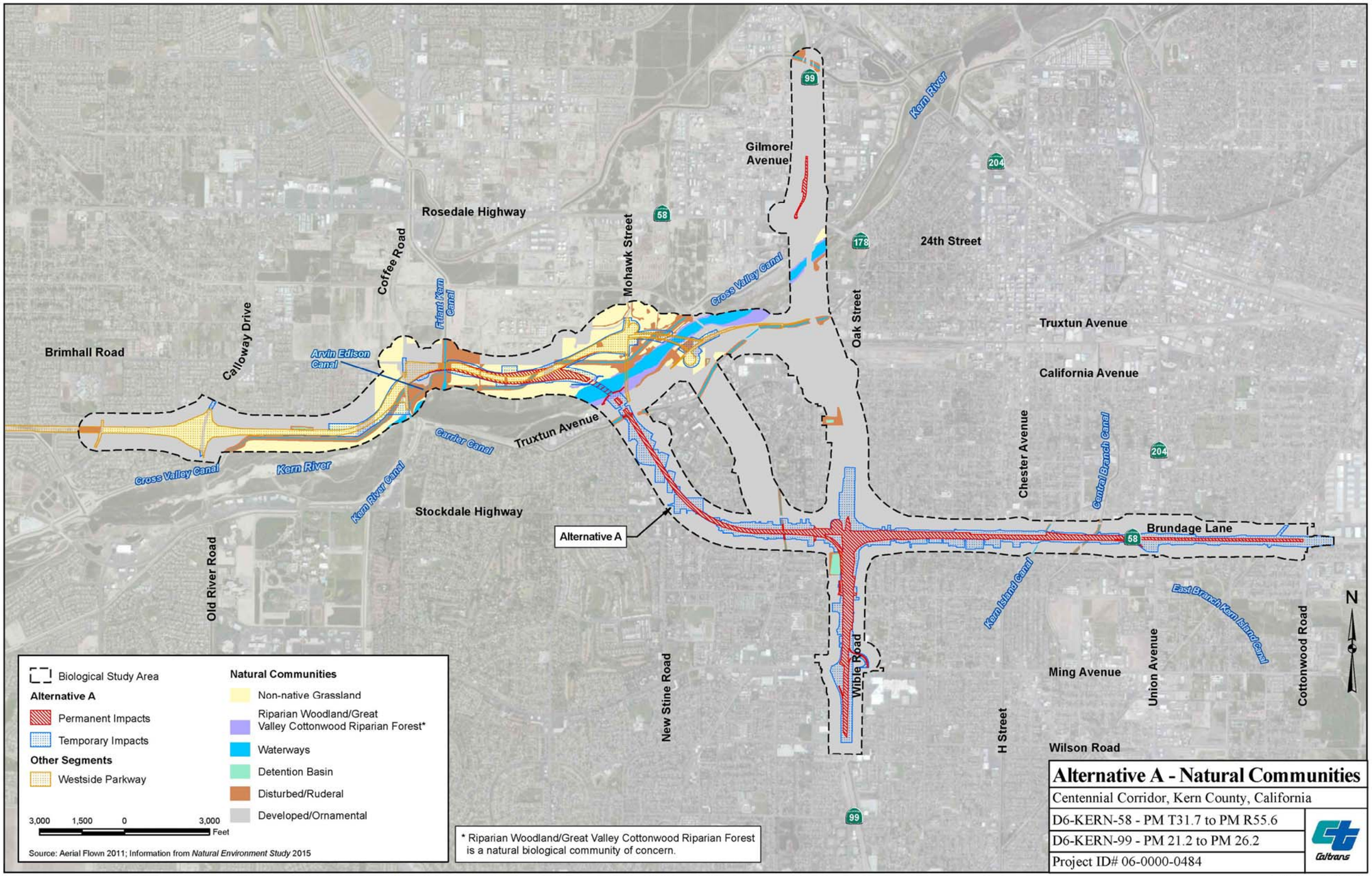

Rosedale Highway
Gilmore Avenue
Kern River
24th Street
Truxtun Avenue
California Avenue
Brimhall Road
Calloway Drive
Coffee Road
Friant-Kern Canal
Mohawk Street
Cross Valley Canal
Oak Street
Arvin Edison Canal
Carrier Canal
Truxtun Avenue
Cross Valley Canal
Kern River
Kern River Canal
Stockdale Highway
Alternative A
Chester Avenue
Central Branch Canal
Brundage Lane
Old River Road
Kern Island Canal
East Branch Kern Island Canal
Cottonwood Road
New Stine Road
Wible Road
Ming Avenue
Union Avenue
H Street
Wilson Road
N
Biological Study Area
Alternative A
Permanent Impacts
Temporary Impacts
Other Segments
Westside Parkway
Natural Communities
Non-native Grassland
Riparian Woodland/Great Valley Cottonwood Riparian Forest*
Waterways
Detention Basin
Disturbed/Ruderal
Developed/Ornamental
3,000 1,500 0 3,000 Feet
Source: Aerial Flown 2011; Information from Natural Environment Study 2015
* Riparian Woodland/Great Valley Cottonwood Riparian Forest is a natural biological community of concern.
Alternative A - Natural Communities
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-48

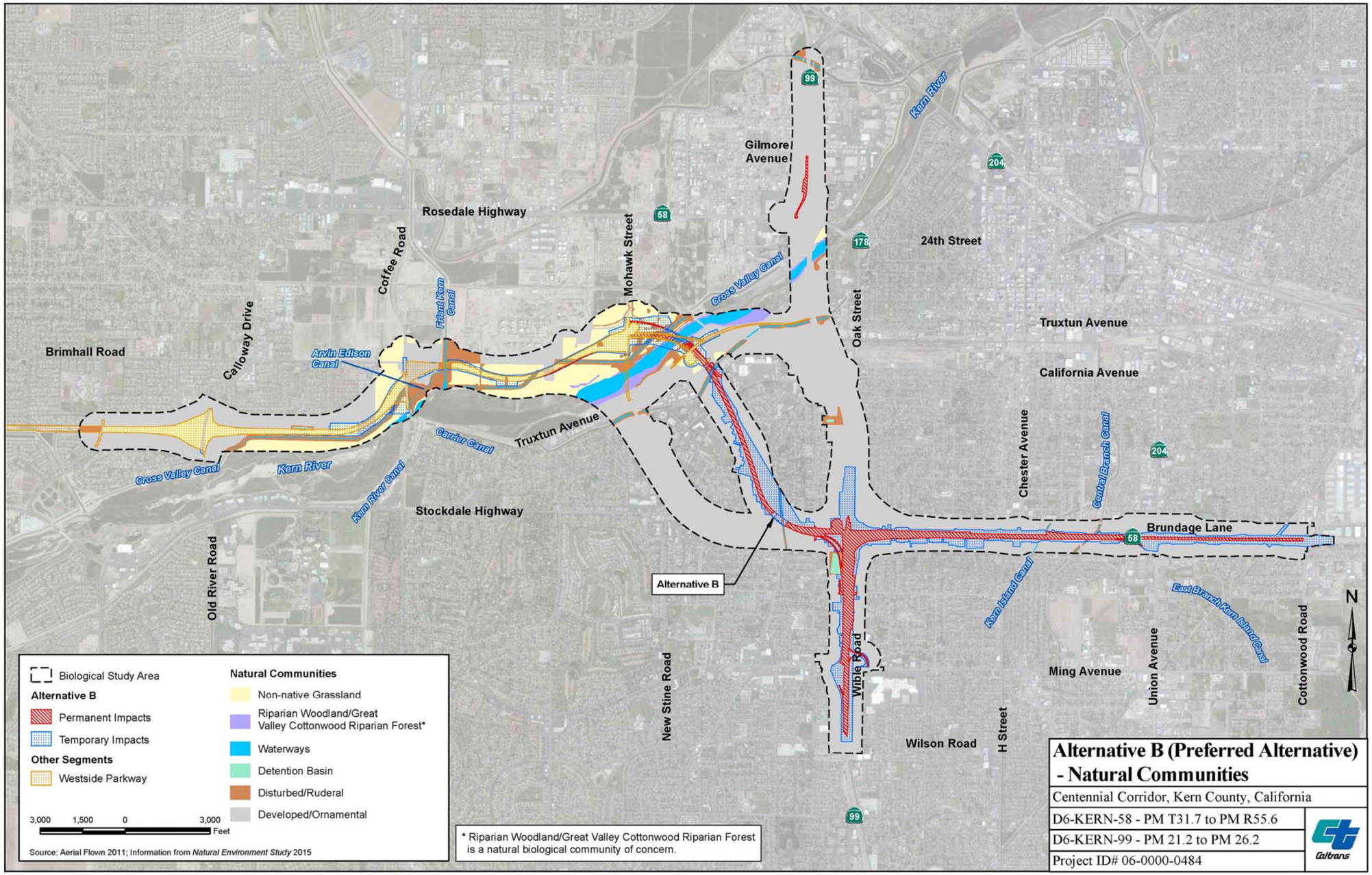

Gilmore Avenue
Kern River
Rosedale Highway
Coffee Road
Mohawk Street
Cross Valley Canal
24th Street
Oak Street
Truxtun Avenue
Brimhall Road
Calloway Drive
Arvin Edison Canal
Friant-Kern Canal
California Avenue
Carrier Canal
Truxtun Avenue
Chester Avenue
Central Branch Canal
Cross Valley Canal
Kern River
Kern River Canal
Stockdale Highway
Brundage Lane
Alternative B
Old River Road
Kern Island Canal
East Branch Kern Island Canal
Cottonwood Road
New Stine Road
Wible Road
Ming Avenue
Union Avenue
Wilson Road
H Street
N
Biological Study Area
Alternative B
Permanent Impacts
Temporary Impacts
Other Segments
Westside Parkway
Natural Communities
Non-native Grassland
Riparian Woodland/Great Valley Cottonwood Riparian Forest*
Waterways
Detention Basin
Disturbed/Ruderal
Developed/Ornamental
3,000 1,500 0 3,000 Feet
Source: Aerial Flown 2011; Information from Natural Environment Study 2015
* Riparian Woodland/Great Valley Cottonwood Riparian Forest is a natural biological community of concern.
Alternative B (Preferred Alternative) - Natural Communities
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-49

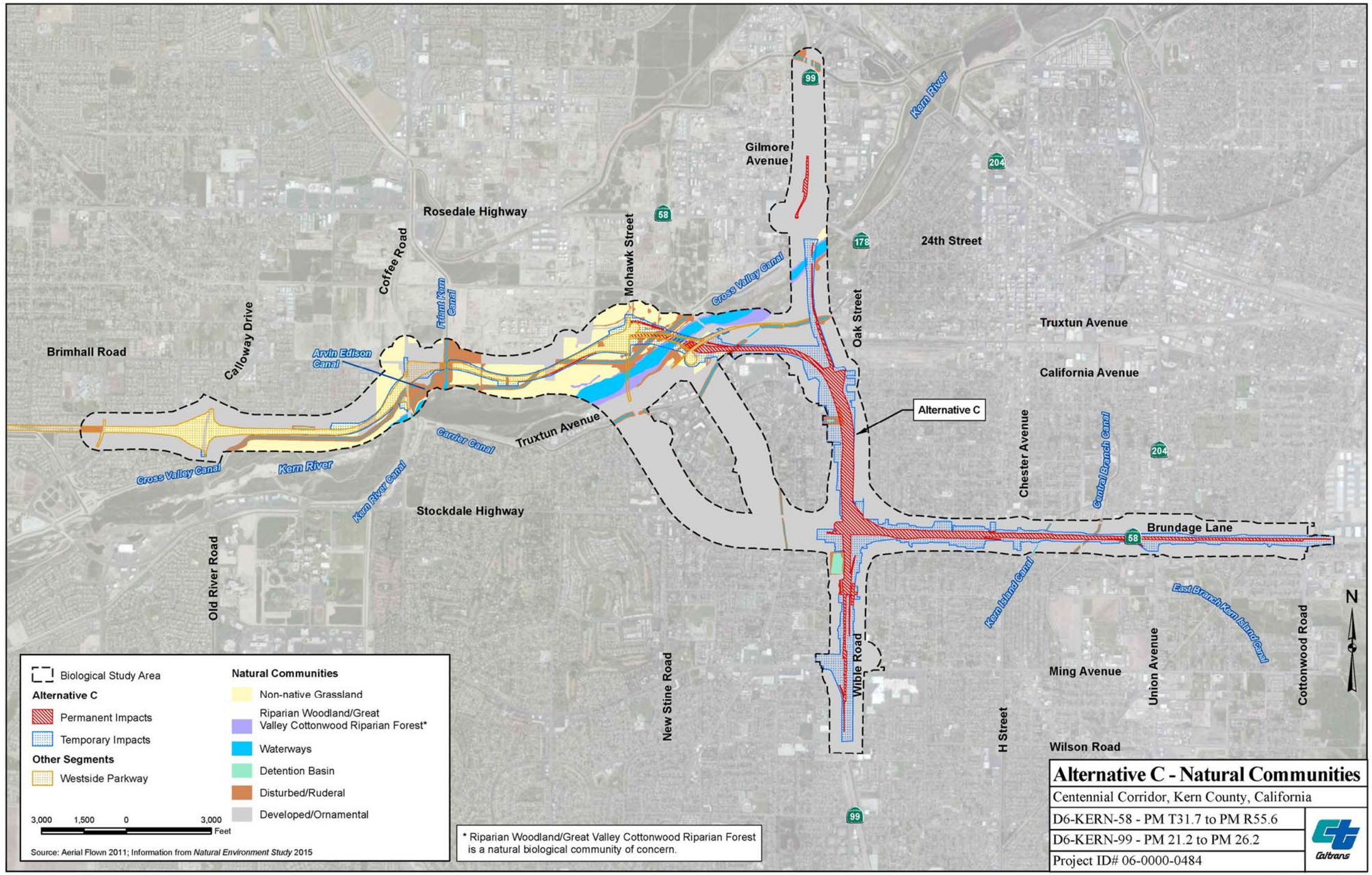

Gilmore Avenue
Kern River
Rosedale Highway
Coffee Road
Mohawk Street
Cross Valley Canal
24th Street
Oak Street
Truxtun Avenue
California Avenue
Brimhall Road
Calloway Drive
Arvin Edison Canal
Friant-Kern Canal
Alternative C
Carrier Canal
Truxtun Avenue
Cross Valley Canal
Kern River
Kern River Canal
Stockdale Highway
Chester Avenue
Central Branch Canal
Brundage Lane
Old River Road
Kern Island Canal
East Branch Kern Island Canal
New Stine Road
Wible Road
Ming Avenue
Union Avenue
Cottonwood Road
H Street
Wilson Road
N
Biological Study Area
Alternative C
Permanent Impacts
Temporary Impacts
Other Segments
Westside Parkway
Natural Communities
Non-native Grassland
Riparian Woodland/Great Valley Cottonwood Riparian Forest*
Waterways
Detention Basin
Disturbed/Ruderal
Developed/Ornamental
3,000 1,500 0 3,000
Feet
Source: Aerial Flown 2011; Information from Natural Environment Study 2015
* Riparian Woodland/Great Valley Cottonwood Riparian Forest is a natural biological community of concern.
Alternative C - Natural Communities
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-50

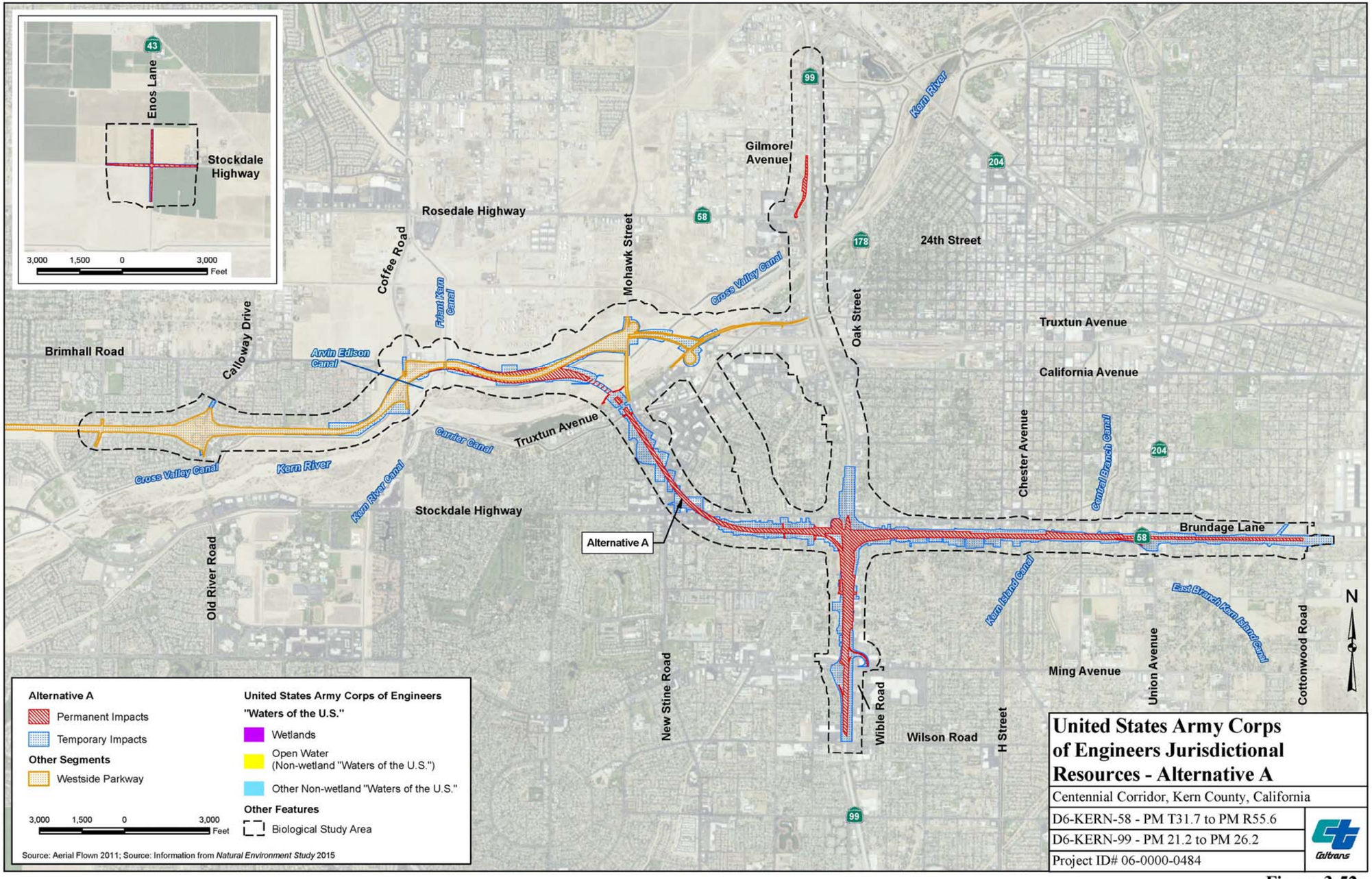

Enos Lane
Stockdale Highway
3,000 1,500 0 3,000 Feet
Rosedale Highway
Coffee Road
Friant-Kern Canal
Mohawk Street
Gilmore Avenue
Cross Valley Canal
Oak Street
24th Street
Truxtun Avenue
California Avenue
Kern River
Brimhall Road
Calloway Drive
Arvin Edison Canal
Carrier Canal
Truxtun Avenue
Cross Valley Canal
Kern River
Kern River Canal
Stockdale Highway
Alternative A
Old River Road
Chester Avenue
Central Branch Canal
Brundage Lane
Kern Island Canal
East Branch Kern Island Canal
Cottonwood Road
Union Avenue
Ming Avenue
New Stine Road
Wible Road
Wilson Road
H Street
N
Alternative A
Permanent Impacts
Temporary Impacts
Other Segments
Westside Parkway
3,000 1,500 0 3,000 Feet
United States Army Corps of Engineers
"Waters of the U.S."
Wetlands
Open Water
(Non-wetland "Waters of the U.S.")
Other Non-wetland "Waters of the U.S."
Other Features
Biological Study Area
Source: Aerial Flown 2011; Source: Information from Natural Environment Study 2015
United States Army Corps of Engineers Jurisdictional Resources - Alternative A
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-52a

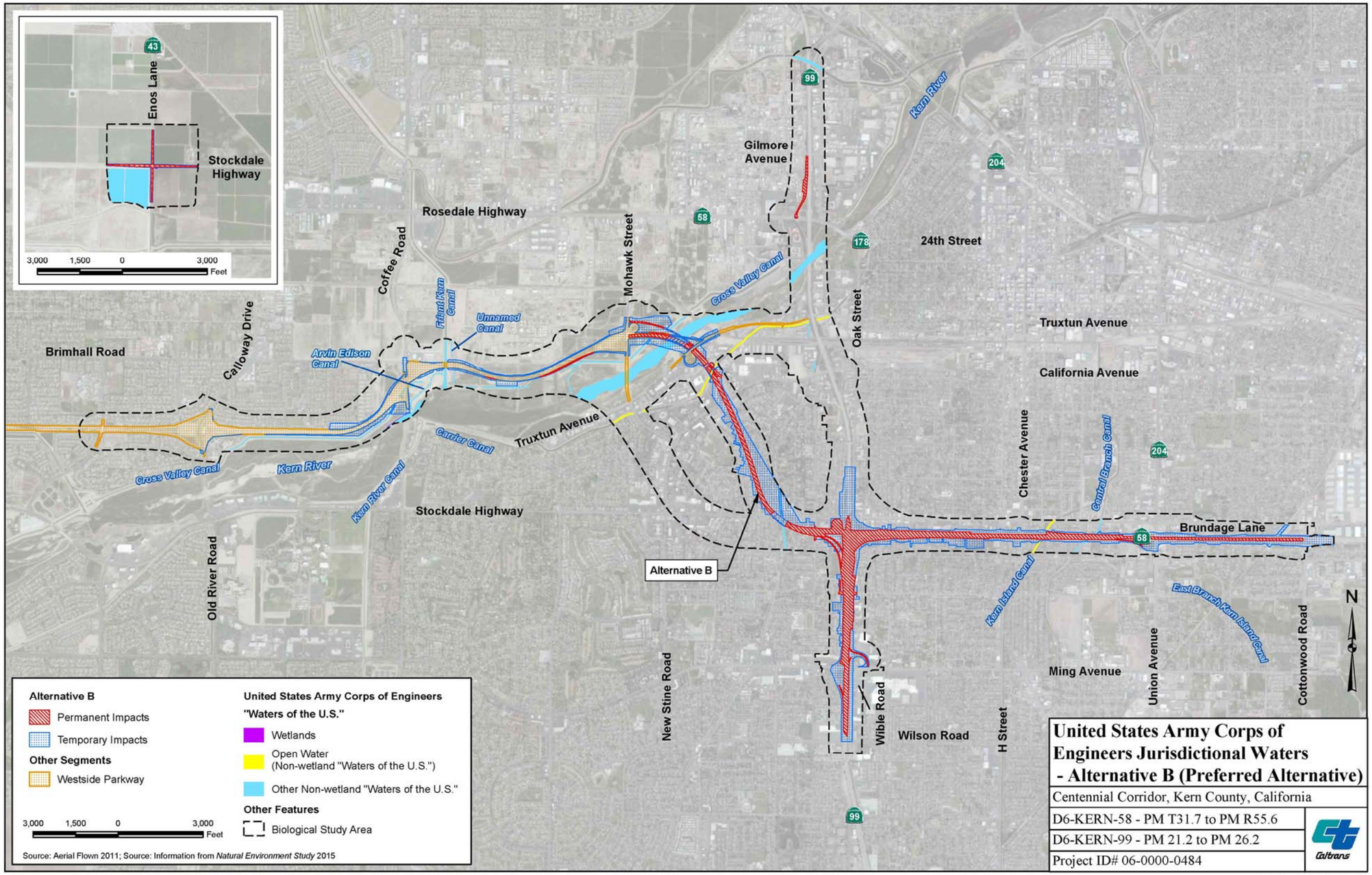

Enos Lane
Stockdale Highway
3,000 1,500 0 3,000 Feet
Rosedale Highway
Coffee Road
Mohawk Street
Gilmore Avenue
Kern River
24th Street
Oak Street
Truxtun Avenue
California Avenue
Chester Avenue
Brundage Lane
Brimhall Road
Calloway Drive
Arvin Edison Canal
Friant-Kern Canal
Unnamed Canal
Cross Valley Canal
Carrier Canal
Kern River Canal
Central Branch Canal
East Branch Kern Island Canal
Kern Island Canal
Old River Road
New Stine Road
Wible Road
Wilson Road
H Street
Union Avenue
Ming Avenue
Cottonwood Road
Alternative B
N
Alternative B
Permanent Impacts
Temporary Impacts
Other Segments
Westside Parkway
United States Army Corps of Engineers "Waters of the U.S."
Wetlands
Open Water (Non-wetland "Waters of the U.S.")
Other Non-wetland "Waters of the U.S."
Other Features
Biological Study Area
3,000 1,500 0 3,000 Feet
Source: Aerial Flown 2011; Source: Information from Natural Environment Study 2015
United States Army Corps of Engineers Jurisdictional Waters - Alternative B (Preferred Alternative)
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-52b

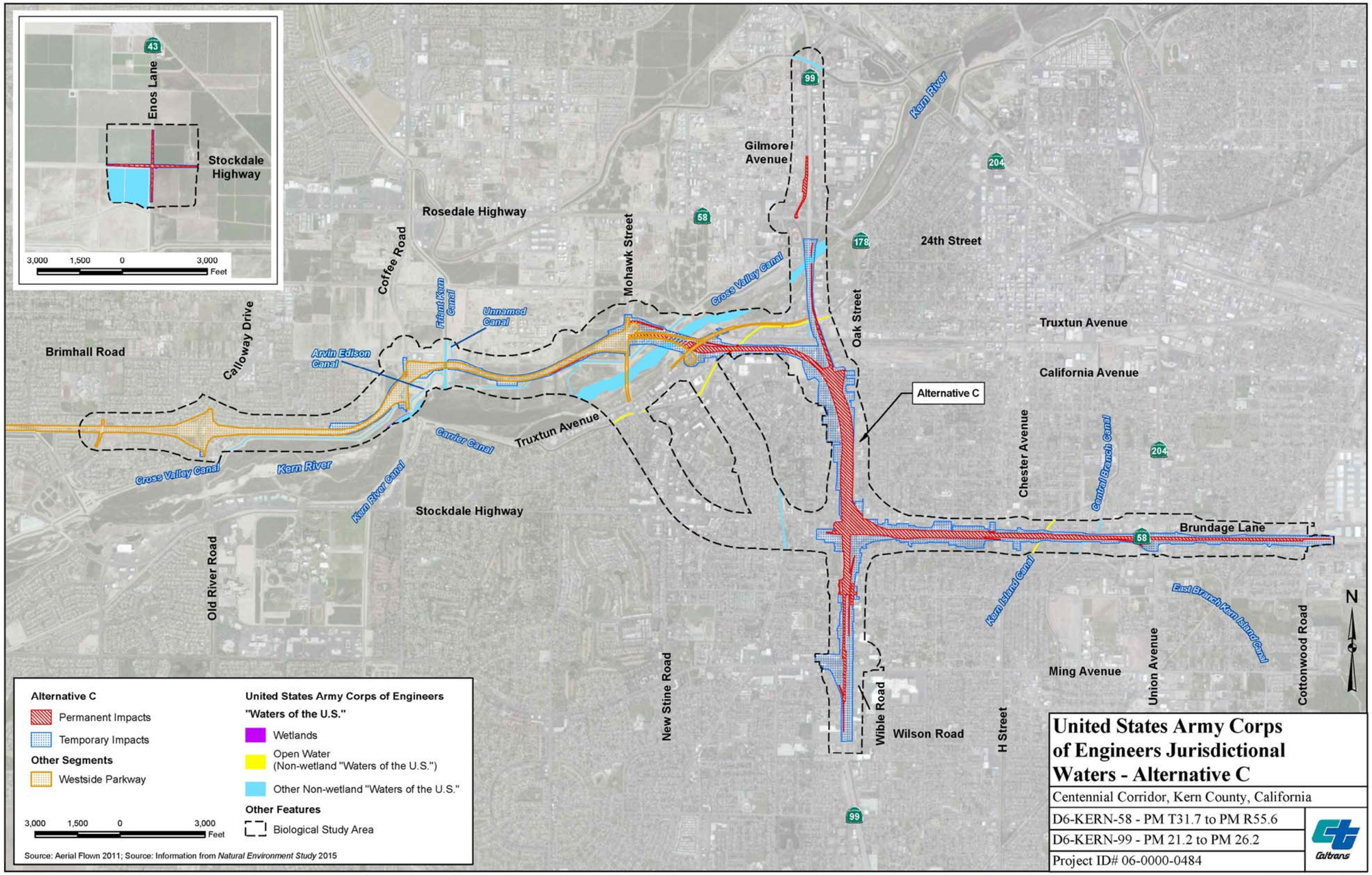

Enos Lane
Stockdale Highway
3,000 1,500 0 3,000 Feet
Rosedale Highway
Coffee Road
Mohawk Street
Gilmore Avenue
Kern River
24th Street
Oak Street
Truxtun Avenue
California Avenue
Chester Avenue
Brundage Lane
Cross Valley Canal
Friant-Kern Canal
Unnamed Canal
Arvin Edison Canal
Calloway Drive
Brimhall Road
Carrier Canal
Kern River Canal
Stockdale Highway
Old River Road
Alternative C
Kern Island Canal
East Branch Kern Island Canal
Cottonwood Road
Ming Avenue
Union Avenue
New Stine Road
Wible Road
Wilson Road
H Street
N
Alternative C
Permanent Impacts
Temporary Impacts
Other Segments
Westside Parkway
United States Army Corps of Engineers
"Waters of the U.S."
Wetlands
Open Water
(Non-wetland "Waters of the U.S.")
Other Non-wetland "Waters of the U.S."
Other Features
Biological Study Area
3,000 1,500 0 3,000 Feet
Source: Aerial Flown 2011; Source: Information from Natural Environment Study 2015
United States Army Corps of Engineers Jurisdictional Waters - Alternative C
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-52c

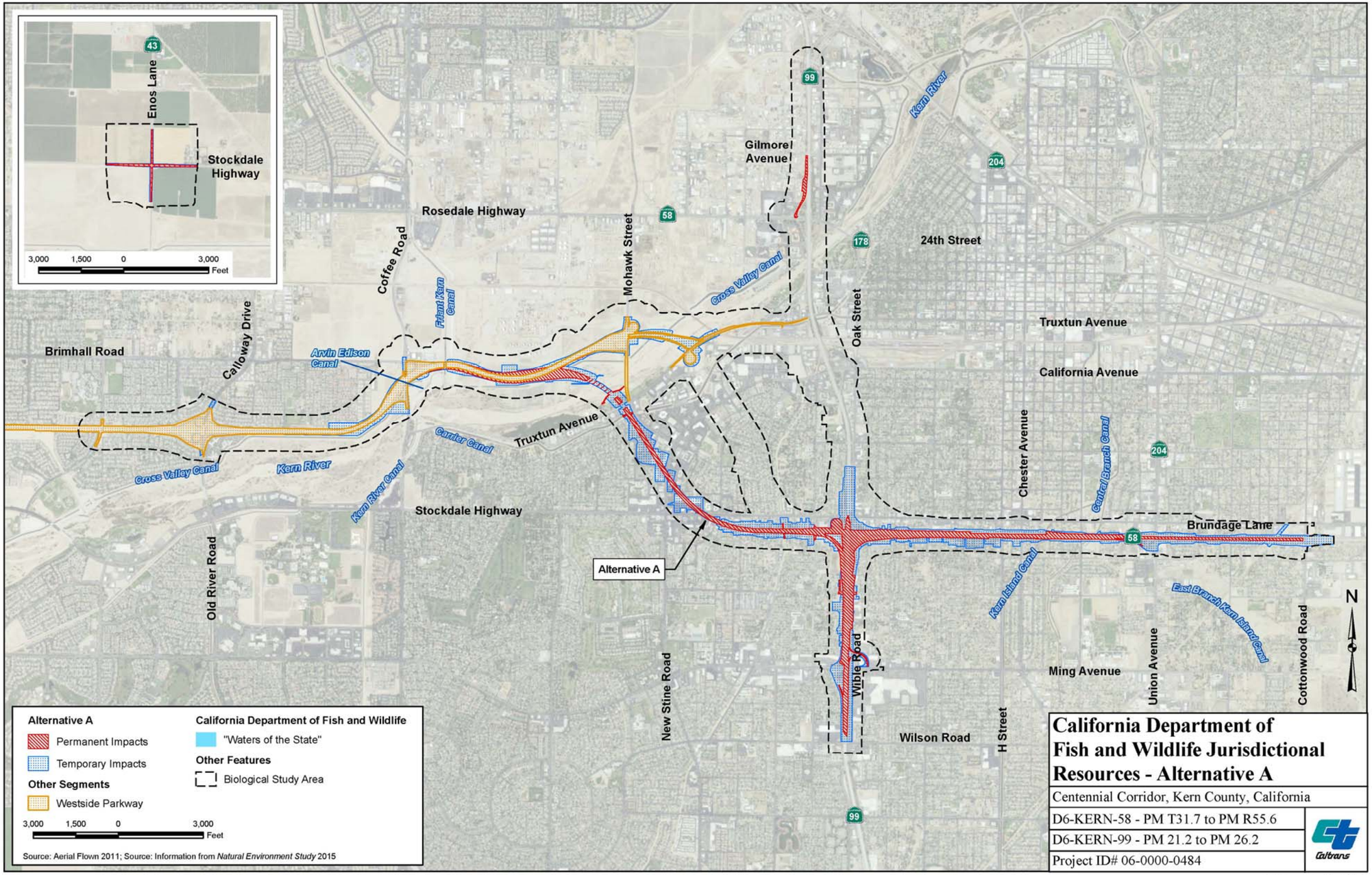

Enos Lane
Stockdale Highway
3,000 1,500 0 3,000 Feet
Rosedale Highway
Coffee Road
Friant-Kern Canal
Mohawk Street
Cross Valley Canal
Gilmore Avenue
Kern River
24th Street
Oak Street
Truxtun Avenue
California Avenue
Brimhall Road
Calloway Drive
Arvin Edison Canal
Carrier Canal
Truxtun Avenue
Cross Valley Canal
Kern River
Kern River Canal
Stockdale Highway
Old River Road
Alternative A
Chester Avenue
Central Branch Canal
Brundage Lane
Kern Island Canal
East Branch Kern Island Canal
Cottonwood Road
Union Avenue
Ming Avenue
New Stine Road
Wible Road
Wilson Road
H Street
N
Alternative A
Permanent Impacts
Temporary Impacts
Other Segments
Westside Parkway
California Department of Fish and Wildlife
"Waters of the State"
Other Features
Biological Study Area
3,000 1,500 0 3,000 Feet
Source: Aerial Flown 2011; Source: Information from Natural Environment Study 2015
California Department of Fish and Wildlife Jurisdictional Resources - Alternative A
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-53a

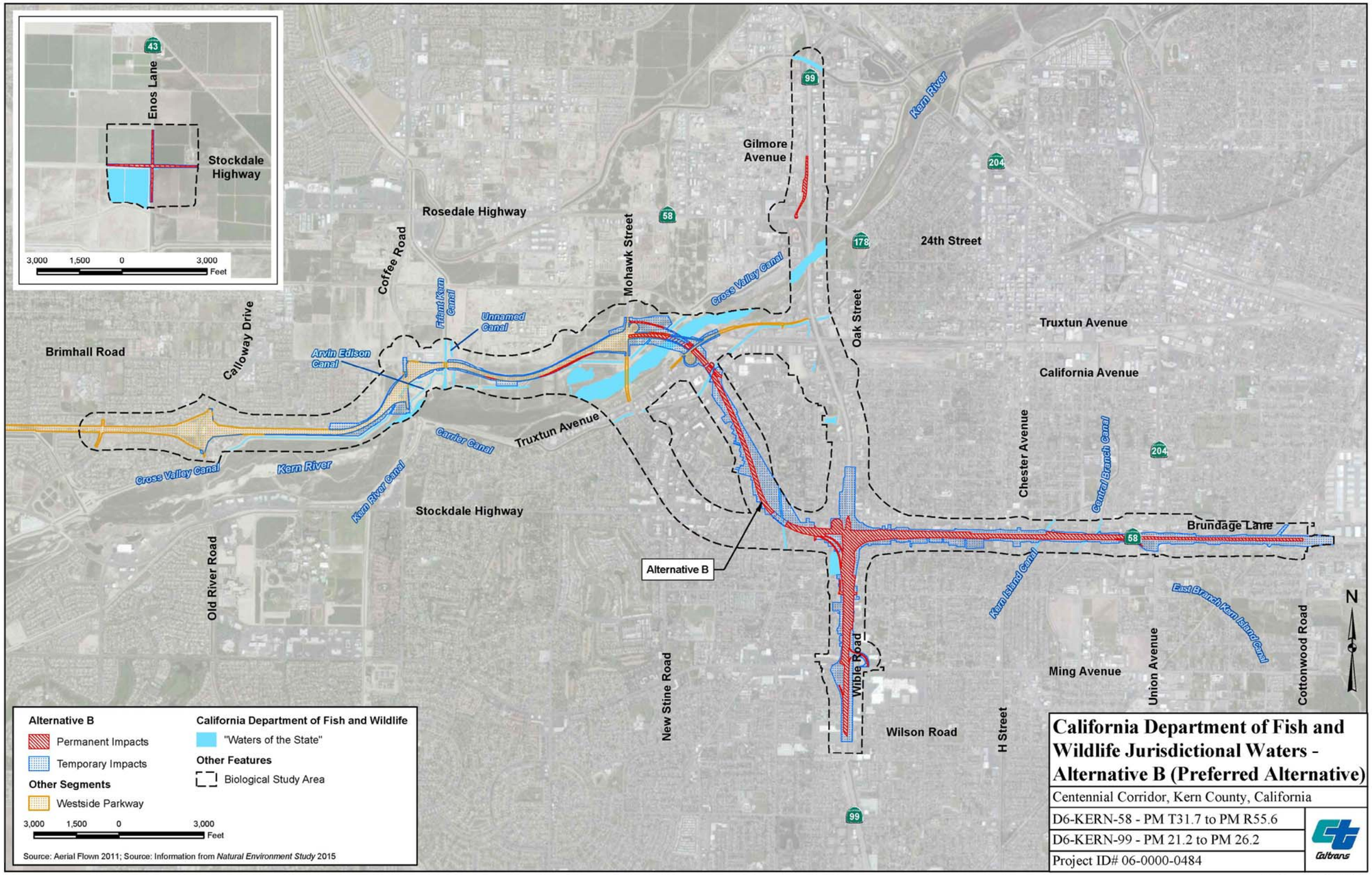

Enos Lane
Stockdale Highway
3,000 1,500 0 3,000 Feet
Rosedale Highway
Coffee Road
Mohawk Street
Gilmore Avenue
Kern River
24th Street
Oak Street
Truxtun Avenue
California Avenue
Chester Avenue
Brundage Lane
Ming Avenue
Union Avenue
Cottonwood Road
Brimhall Road
Calloway Drive
Arvin Edison Canal
Friant-Kern Canal
Unnamed Canal
Cross Valley Canal
Carrier Canal
Kern River Canal
Old River Road
New Stine Road
Wible Road
Wilson Road
H Street
Kern Island Canal
East Branch Kern Island Canal
Central Branch Canal
Alternative B
N
Alternative B
Permanent Impacts
Temporary Impacts
Other Segments
Westside Parkway
California Department of Fish and Wildlife
"Waters of the State"
Other Features
Biological Study Area
3,000 1,500 0 3,000 Feet
Source: Aerial Flown 2011; Source: Information from Natural Environment Study 2015
California Department of Fish and Wildlife Jurisdictional Waters - Alternative B (Preferred Alternative)
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-53b

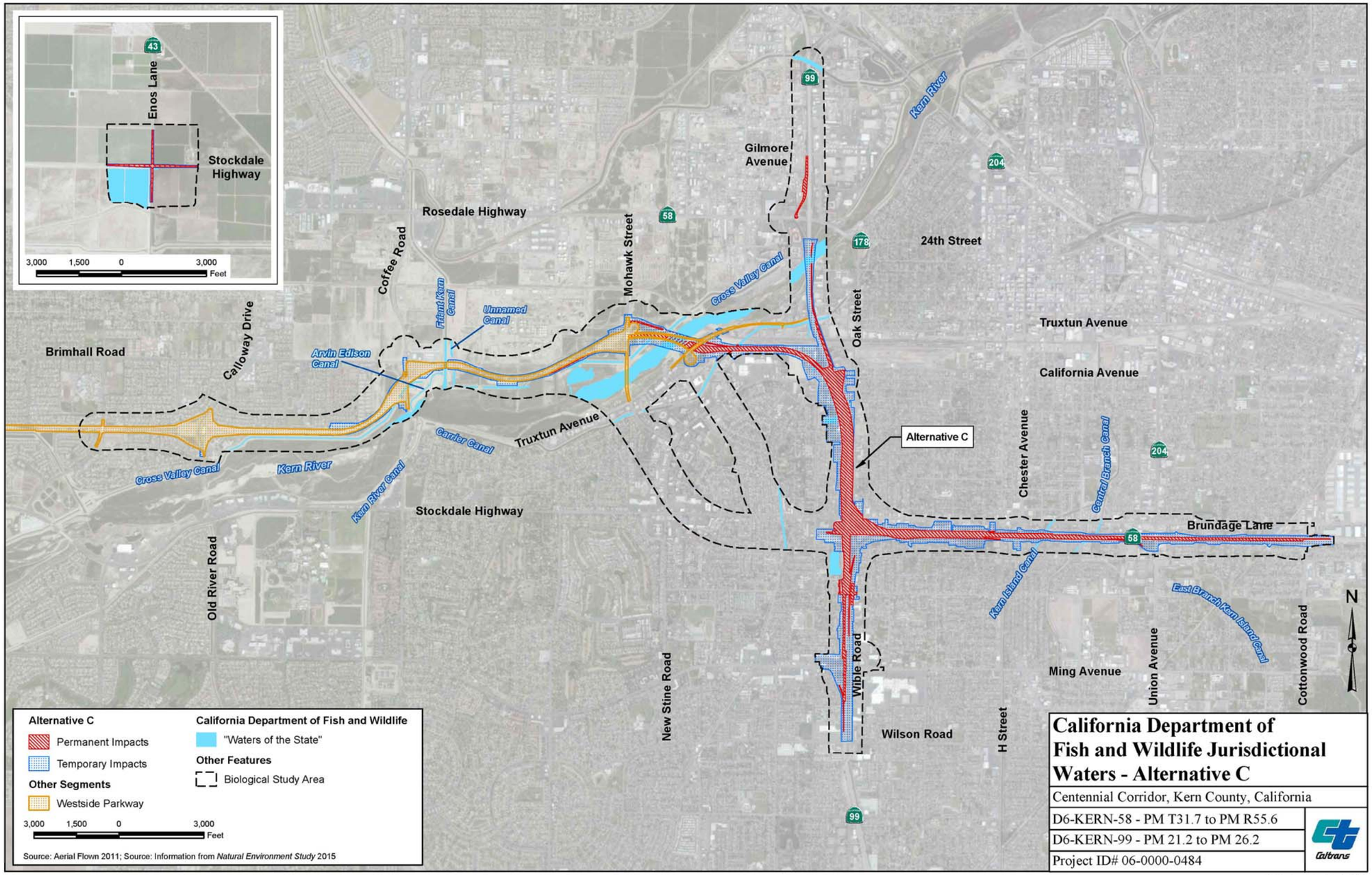

Enos Lane
Stockdale Highway
3,000 1,500 0 3,000
Feet
Rosedale Highway
Coffee Road
Mohawk Street
Gilmore Avenue
Kern River
24th Street
Oak Street
Truxtun Avenue
California Avenue
Chester Avenue
Brundage Lane
Brimhall Road
Calloway Drive
Arvin Edison Canal
Friant-Kern Canal
Unnamed Canal
Cross Valley Canal
Carrier Canal
Kern River Canal
Stockdale Highway
Old River Road
New Stine Road
Wible Road
Wilson Road
H Street
Kern Island Canal
East Branch Kern Island Canal
Union Avenue
Ming Avenue
Cottonwood Road
Alternative C
N
Alternative C
Permanent Impacts
Temporary Impacts
Other Segments
Westside Parkway
California Department of Fish and Wildlife
"Waters of the State"
Other Features
Biological Study Area
3,000 1,500 0 3,000
Feet
Source: Aerial Flown 2011; Source: Information from Natural Environment Study 2015
California Department of Fish and Wildlife Jurisdictional Waters - Alternative C
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-53c

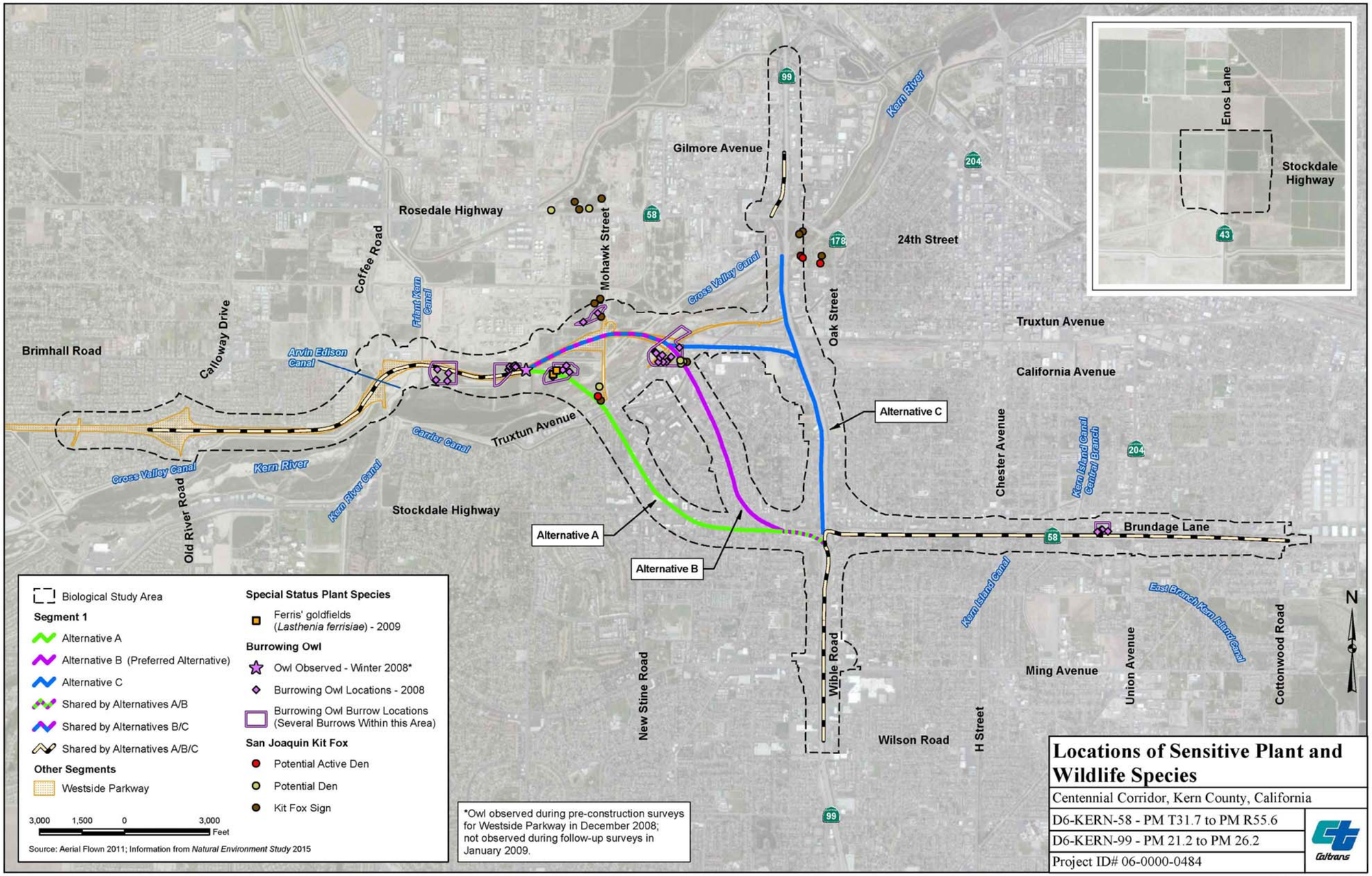

Enos Lane
Stockdale Highway
43
Gilmore Avenue
Kern River
99
204
Rosedale Highway
58
Mohawk Street
178
24th Street
Coffee Road
Friant Kern Canal
Cross Valley Canal
Oak Street
Truxtun Avenue
Calloway Drive
Brimhall Road
Arvin Edison Canal
California Avenue
Alternative C
Carrier Canal
Truxtun Avenue
Chester Avenue
Kern Island Canal Central Branch
Cross Valley Canal
Kern River
Old River Road
Kern River Canal
Stockdale Highway
Alternative A
Alternative B
Brundage Lane
58
Kern Island Canal
East Branch Kern Island Canal
New Stine Road
Wible Road
Ming Avenue
Union Avenue
Cottonwood Road
N
Wilson Road
H Street
99
Biological Study Area
Segment 1
Alternative A
Alternative B (Preferred Alternative)
Alternative C
Shared by Alternatives A/B
Shared by Alternatives B/C
Shared by Alternatives A/B/C
Other Segments
Westside Parkway
Special Status Plant Species
Ferris' goldfields (Lasthenia ferrisiae) - 2009
Burrowing Owl
Owl Observed - Winter 2008*
Burrowing Owl Locations - 2008
Burrowing Owl Burrow Locations (Several Burrows Within this Area)
San Joaquin Kit Fox
Potential Active Den
Potential Den
Kit Fox Sign
3,000 1,500 0 3,000
Feet
Source: Aerial Flown 2011; Information from Natural Environment Study 2015
*Owl observed during pre-construction surveys for Westside Parkway in December 2008; not observed during follow-up surveys in January 2009.
Locations of Sensitive Plant and Wildlife Species
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans

Figure 3-54

Appendix A California Environmental Quality Act Checklist

This checklist identifies physical, biological, social and economic factors that might be affected by the project. In many cases, background studies performed in connection with the projects indicate no impacts. A No Impact answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to California Environmental Quality Act, not National Environmental Policy Act impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☒	☐	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐
II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒
VI. GEOLOGY AND SOILS: Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

VII. GREENHOUSE GAS EMISSIONS: Would the project: a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document (refer to Section 4.5, Climate Change under the California Environmental Quality Act). While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☒	☐
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j) Inundation by seiche, tsunami, or mudflow	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	☒	☐	☐	☐
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒
XI. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒
XII. NOISE: Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING: Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐
XIV. PUBLIC SERVICES:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☒	☐	☐
Other public facilities?	☐	☐	☐	☒
XV. RECREATION:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC: Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

Centennial Corridor Project

Bakersfield and Kern County, California

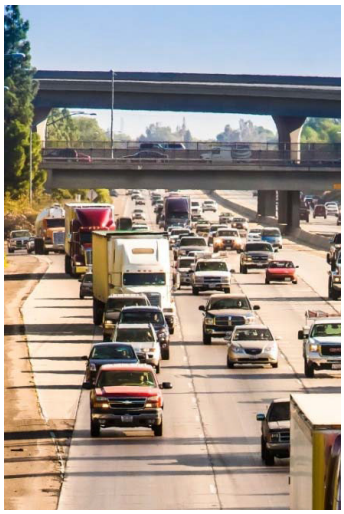
District 6 – KER – 58 - PM T31.7 to PM R55.6

District 6 – KER – 99 – PM 21.2 to PM 26.2

Project ID #: 0600000484

SCH# 2008091102

Final Environmental Impact Report/ Environmental Impact Statement and Section 4(f) Evaluation



Volume 3 of 3

Prepared by the

State of California Department of Transportation

The environmental review, consultation, and any other action required in accordance with applicable Federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S. Code 327.

December 2015

Caltrans

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Chapter 1 Introduction to Comments and Responses

1.1 What is in this Document

This Volume 3 of 3 accompanies the final environmental document (Volume 1 of 3 and Volume 2 of 3). Volume 3 addresses the comments received on the draft environmental document during the public review period between May 9 and July 8, 2014, and the public hearing on June 11, 2014. Copies of the draft environmental document were sent to the following libraries for the public review period:

- Kern County Library
- Beale Memorial Library
- Eleanor Wilson Branch Library
- Bryce C. Rathburn Branch Library
- Southwest Branch Library

All issues raised by the public were addressed through clarification of text in the final environmental document (see Volume 1 of 3 and Volume 2 of 3) or are responded to here in Volume 3 of 3. Minor project design changes have also been adopted.

1.2 Summary of Public Input

1.2.1 Summary of Comments on Draft Environmental Document

A total of 83 comments were received on the draft environmental document. These comments were received via mail, e-mail and at the public hearing. Of the 83 comments received, a total of 6 comments were taken by the court reporter during the public hearing. Note that some people submitted multiple letters and/or multiple copies of the same letter. Comments received on the draft environmental document during the public review period and at the public hearing consist of the following topics:

- Project Design Modifications;
- Property Values;
- Air Quality;
- Visual;
- Noise;
- Traffic;
- Water/Water Quality;
- Valley Fever and Other Health Risks;
- Crime/Transients;

- Quality of Life and Community Cohesion;
- Environmental Justice;
- Pedestrian and Bicycle Access;
- Cultural Resources;
- Blight; and
- Access to and from the Neighborhoods.

Comments received during the public review period are summarized below. Note that some people submitted multiple letters and/or multiple copies of the same letter. All received copies are documented in each chapter of this Volume 3 document.

Type of Comment	Number Received
Written comments from federal agencies	3
Written comments from state agencies	4
Written comments from regional agencies and organizations	2
Written comments from local agencies and organizations	1
Written comments from individuals (representing the general public)	64
Oral comments received at the June 11, 2014, public hearing	6
Written comments from Native American groups	1
Written comments from elected officials of Bakersfield	2

1.2.2 Responses to Comments

Caltrans appreciates all comments and input on this important transportation project. The project team would like to thank everyone that took the time to inquire, provide input and comments, and express their concerns. All public comments were individually reviewed and addressed through a formal response, as documented in this Volume (Volume 3) and/or through revisions made to appropriate sections of the final environmental document.

Chapter 2 Responses to Comments from Federal Agencies

This section provides comments received from Federal agencies on the draft environmental document. While Notices of Availability were sent to the following Federal agencies, few comment letters were received from the Federal agencies on the draft environmental document:

- United States Fish and Wildlife Service
- United States Environmental Protection Agency, Region IX
- United States Department of Agriculture
- United States Army Corps of Engineers
- National Park Service, Pacific West Region
- United States Department of the Interior

A total of three comment letters were received as summarized below.

Table 2.1 Summary of Comment Letters Received from Federal Agencies

Comment Code	Agency	Commenter Name	Date Letter Received	Comment Topic
F-1	U.S. Environmental Protection Agency	Jared Blumenfeld	7/8/2014	Air quality, health effects, environmental justice, community impacts, noise
F-2	U.S. Department of the Interior, Office of the Secretary, Office of Environmental Policy and Compliance	Patricia Sanderson Port	7/8/2014	Requested notification for any activities that may affect Reclamation facilities or right-of-way
F-3	U.S. Army Corps of Engineers (Sacramento District)	Leah M. Fisher	8/7/2014	Hydrological resources

Comment F-1

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

OFFICE OF THE
REGIONAL ADMINISTRATOR

Sharri Bender Ehlert, District Director
California Department of Transportation, District 6
855 M Street, Suite 200
Fresno, CA 93721

Subject: Comments on the Draft Environmental Impact Statement for the Centennial Corridor Project, Kern County, California (CEQ#20140140)

Dear Ms. Ehlert:

The U.S. Environmental Protection Agency has reviewed the Draft Environmental Impact Statement (DEIS) for the Centennial Corridor Project, a proposed new expressway extending approximately two miles from the existing Westside Parkway in Bakersfield to the State Route 58/State Route 99 interchange, eventually connecting to Interstate 5 west of the Westside Parkway. EPA's comments are directed to Caltrans per assumption of National Environmental Policy Act (NEPA) responsibility as described in the *Memorandum of Understanding Between the Federal Highway Administration (FHWA) and Caltrans Concerning the State of California's Participation in the Surface Transportation Project Delivery Pilot Program*. Our review and comments are provided pursuant to NEPA, the Council on Environmental Quality (CEQ) Regulations (40 CFR Parts 1500-1508), and our review authority under Section 309 of the Clean Air Act (CAA). F-1-1

As described further below and in the enclosed detailed comments, based upon the anticipated potential localized air quality impacts and lack of information important for analyzing and mitigating the project's potentially significant impacts on air quality, EPA has rated the Centennial Corridor Draft EIS as "*Environmental Objections – Inadequate Information*, (EO-3)" (see the enclosure "Summary of Rating Definitions"). A more meaningful analysis of localized air quality impacts and commitments for measures to reduce those impacts are necessary.

California's San Joaquin Valley has among the worst air quality in the United States, especially for fine particulate matter ($PM_{2.5}$). The proposed Centennial Corridor Project is located in an area of Bakersfield that modeling shows will be the last part of the San Joaquin Valley to attain EPA's National Ambient Air Quality Standard (NAAQS) for $PM_{2.5}$. As a result, any localized increase in direct emissions in the area above those already accounted for in the state's air quality plan could adversely affect the ability of the area to meet the NAAQS by the Clean Air Act's deadline. It is therefore critically important that potential impacts to air quality be accurately analyzed, disclosed, and reduced as much as possible. The Draft EIS does not adequately evaluate the potential for increases in $PM_{2.5}$ concentrations, in particular, within 1,000 feet of the proposed new and expanded freeway. Numerous studies have shown increased particulate matter concentrations in close proximity – within 500 to 1,000 feet – of major roadways. The Draft EIS also does not adequately quantify the potential for impacts due to construction emissions of $PM_{2.5}$ within this localized area. Both facility operation and construction appear likely to increase F-1-2

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localized $PM_{2.5}$ emissions along the new freeway alignments, either due to an overall increase in emissions or a shift in location. To the extent that a localized increase in emissions occurs during the 2015-2019 timeframe – when the area is predicted to continue to violate the $PM_{2.5}$ NAAQS – the proposed project may both contribute to a localized NAAQS violation and delay timely attainment of the standard. EPA does not have adequate information to evaluate whether the project conforms to California's State Implementation Plan for $PM_{2.5}$ in this area. F-1-2

This environmental review process highlights the need for developing a robust strategy to offset the anticipated localized air quality and health impacts that would result from introducing a high volume freeway in a region with some of the worst air quality in the nation. EPA recommends that additional measures be identified to reduce these impacts, particularly to protect children's health and to ameliorate or eliminate impacts to other sensitive receptors. Further, EPA recommends a revised Environmental Justice analysis, and mitigation to offset any impacts identified, with focused attention on the remaining population of residents that will be within close proximity to both the existing State Route 99 and the new Centennial Corridor. F-1-3

This additional analysis and information should be circulated publicly for comment prior to the publication of a Final EIS as either a Supplemental Draft EIS or as a revision to the relevant sections of the current EIS and associated technical material, in accordance with NEPA and Council on Environmental Quality's NEPA Implementation Regulations. In the attached detailed comments, we also provide recommendations regarding the assessment of impacts and other issues we recommend be addressed in the NEPA document.

We appreciate the opportunity to review this Draft EIS and look forward to working with Caltrans to address and resolve the issues outlined in this letter. If we are unable to resolve our concerns, this matter may be a candidate for referral to the Council on Environmental Quality for resolution. If you have any questions, please refer staff to Connell Dunning, Supervisor in our Environmental Review Section, at 415-947-4161. Please send a copy of the Final EIS to this office (mail code ENF 4-2) when it is electronically filed with our Washington, D.C. office.

Sincerely,

for Jared Blumenfeld
8 July 2014

Enclosures:
(1) Summary of EPA Rating Definitions
(2) EPA's Detailed Comments on the Centennial Corridor DEIS

cc via email: Jennifer Taylor, Caltrans
Robert Pavlik, Caltrans
Vincent Mammano, Federal Highway Administration
Seyed Sadredin, San Joaquin Valley Air Pollution Control District
Mark McLoughlin, California High Speed Rail Authority
Robert Ball, Kern Council of Governments

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SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

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U.S. EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE CENTENNIAL CORRIDOR PROJECT, KERN COUNTY, CALIFORNIA, JULY 8, 2014

Air Quality Impacts

The proposed Centennial Corridor Project is located in an area of Bakersfield that modeling shows will be the last part of the San Joaquin Valley to attain EPA's National Ambient Air Quality Standards (NAAQS) for fine particulate matter ($PM_{2.5}$). Attainment in that area will take the maximum time allowed under the Clean Air Act (CAA) and depends on additional reductions in direct $PM_{2.5}$ emissions in the Bakersfield area. The State is currently projecting attainment of the 2006 standard by the end of 2019. Evaluation of whether the area has attained will be based on ambient data from 2017 through 2019. Given that San Joaquin Valley Air Pollution Control District's (APCD's) 2012 Air Quality Plan shows attainment with no margin, even slight local increases in ambient $PM_{2.5}$ concentrations during the period 2017 to 2019 may make it difficult, if not impossible, for the area to show it has attained the standard.

The Draft EIS does not adequately evaluate the potential for localized increases in $PM_{2.5}$ concentrations from operations and construction. Construction of the Centennial Corridor Project will last from 2015 to 2018. These are key years for attainment of the 2006 $PM_{2.5}$ standard in the San Joaquin Valley. F-1-4

Recommendations:

Quantify construction emissions for criteria pollutants, especially $PM_{2.5}$, and mobile source air toxics. To the extent that it is possible to identify specific locations of elevated construction emissions, these should be provided.

Subsequent analysis should quantitatively evaluate the anticipated increase in $PM_{2.5}$ concentrations as a result of localized (segment-level) increases in emissions, especially for 2018. In terms of significance, any predicted increase in $PM_{2.5}$ concentrations in the area during this time frame will likely contribute to a NAAQS violation and delay attainment of the NAAQS, and should be addressed in the context of NEPA.

The Draft EIS analysis of environmental justice impacts resulting from localized increases in $PM_{2.5}$ concentrations due to project operations and construction is similarly inadequate. Since segments of the proposed project alternatives will pass through areas of potential environmental justice concern, any localized increase in $PM_{2.5}$ emissions could lead to an increase in $PM_{2.5}$ exposure for environmental justice populations.

Recommendations: F-1-5

To the extent that the revised $PM_{2.5}$ analysis in the subsequent analysis identifies geographic areas with potentially increased $PM_{2.5}$ concentrations from project operations and construction, it should also quantitatively evaluate the demographics of the populations living in areas of potentially increased $PM_{2.5}$ exposure. The demographics (including statistics for minority and low income populations) in those areas should be compared to similar statistics for a suite of reference communities, including Kern County, the City of Bakersfield, the State of California, and the entire United States.

Project air quality improvements are necessary to avoid contributing to localized NAAQS violations, to avoid a delay in timely attainment of the NAAQS, and to support the State and local air quality F-1-6

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goals of bringing the area into timely attainment of the NAAQS. In addition to the construction and operational mitigation measures described in our detailed comments, Caltrans should work closely with the San Joaquin Valley APCD and other local partners to pursue all practicable $PM_{2.5}$ mitigation within the project area. We note that the conformity analysis described in the Air Quality Study Report does not preclude the need for further air quality improvements in the context of NEPA.

Recommendations:
Caltrans should consider and commit to mitigation measures to reduce air quality impacts from both construction and operational emissions.

Caltrans should consider the widest possible range of operational emissions reductions in the project area, including upgrades to local fleets (such as delivery trucks/warehouses, school and city buses, garbage trucks, and street sweepers) and support for alternative fuel infrastructure (e.g., Liquid Natural Gas/Compressed Natural Gas, hydrogen, Electric Vehicle charging).

For construction, Caltrans should consider warm mix asphalt, deployment of Tier 4 or better nonroad engines, and electrification whenever possible.

To reduce exposure to mobile source-related emissions, Caltrans should pursue sound walls, vegetative barriers, and landscape corridors, as well as heating, ventilation, and air conditioning upgrades and indoor air filtration at schools, medical facilities, and other sensitive locations.

To mitigate $PM_{2.5}$ increases due to project operations and construction, especially in the 2015-2019 timeframe, Caltrans should work with partner agencies to pursue other localized $PM_{2.5}$ emissions reductions in the project area, including woodstove/fireplace changeouts; upgrades to chargrilling equipment, railway/rail yard equipment, and lawn and garden equipment; and paving unpaved roads/alleys F-1-6

To address the potential health impacts on the local community, Caltrans should work with partners to support asthma programs.

Caltrans should also work with EPA, the San Joaquin Valley APCD, and the California Air Resources Board to further identify local businesses where there would be opportunities to reduce $PM_{2.5}$ emissions.

In addition to compliance with existing San Joaquin Valley APCD rules and regulations, mitigation should also pursue deployment of best available control technology (BACT, described below). The Standard Conditions (p. 355; SC-CI-20 and others) should be revised to reflect the following provisions in order to minimize the air quality impacts of project construction:

- All project contractors must meet, or exceed the requirements of San Joaquin Valley APCD Rule 9510.
- Implementation of the on-site mitigation should utilize construction equipment that meets, or exceeds equivalent emissions performance to that of the EPA Tier 4 exhaust emissions standards for nonroad compression ignition engines and model year 2010 exhaust emissions standards for on-highway compression ignition heavy-duty vehicle engines.

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http://www.epa.gov/otaq/standards/heavy-duty/hdci-exhaust.htm
http://www.epa.gov/otaq/standards/nonroad/nonroadci.htm

- Use of cleaner fuels should also include electricity and hydrogen fuel as options.
- For truck idling, anything in excess of 5 minutes should be prohibited, in compliance with California ARB's Airborne Toxic Control Measure (ATCM) 2485.
  http://www.arb.ca.gov/regact/idling/idling.htm
  http://www.arb.ca.gov/msprog/truck-idling/factsheet.pdf
- Work with San Joaquin Valley APCD to specify the following:
  Seek to demonstrate and/or deploy heavy-duty technologies that exceed the latest EPA exhaust emission performance standards. For example, heavy-duty plug-in hybrid-electric vehicles-PHEVs, battery-electric vehicles-BEVs, fuel cell electric vehicles-FCEVs and/or advanced technology locomotives in partnership with the San Joaquin Valley APCD Technology Advancement Program.
  http://www.epa.gov/otaq/standards/heavy-duty/hdci-exhaust.htm
  http://www.epa.gov/otaq/standards/nonroad/nonroadci.htm
  http://www.epa.gov/otaq/standards/nonroad/locomotives.htm
  http://valleyair.org/grants/technologyadvancement.htm

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Consider the following additional Standard Conditions to ensure that best management practices for highway construction and operation are employed:

- Deploy BACT during construction and operation, including but not limited to:
  a) Soliciting bids that include use of energy and fuel-efficient fleets;
  b) Soliciting preference for construction bids that use BACT, particularly those seeking to deploy zero emissions technologies;
  c) Employing the use of alternative fuel vehicles and fueling infrastructure (e.g., LNG, CNG, hydrogen and/or electric vehicle charging);
  d) Using lighting systems that are energy efficient, such as LED technology;
  e) Using the minimum feasible amount of GHG-emitting construction materials that is feasible;
  f) Using cement blended with the maximum feasible amount of flash or other materials that reduce GHG emissions from cement production;
  g) Using lighter-colored pavement where feasible;
  h) Recycling construction debris to maximum extent feasible;
  i) Planting shade trees in or near construction projects where feasible;
  j) Utilize grid-based electricity and/or onsite renewable electricity generation rather than diesel and/or gasoline powered generators during construction; and
  k) Building sound walls and planting vegetative barriers along the corridor to minimize human exposure to near roadway emissions.

Health Effects

The proposed Centennial Corridor will place a high-volume roadway adjacent to hundreds of residences, several schools, and medical facilities. Although the Draft EIS did not analyze the number of residences remaining within a designated "buffer of impact" (i.e., within 500 feet of the centerline or edge of the new highway alignment), the Draft EIS does state that the preferred alternative will displace over 300 units, including over 900 residents. Because of the high number of displacements, there is likely a high number of remaining residences within close distance of the proposed new highway, raising the importance of fully assessing, disclosing, and identifying mitigation measures to

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address the potential health-related impacts, in addition to disclosing any increase in mobile source toxics, to the remaining adjacent residences.

While the Draft EIS includes disclosure of mobile source air toxics, it does not include any conclusions about possible health effects to the community. The Draft EIS (p. ES-9) concludes that, for the study area as a whole, mobile source air toxics (MSAT) emissions will be higher for all Build Alternatives, but that emissions will decrease due to anticipated technological and fuel improvements. According to the Air Quality Study report, however, some locations, such as Real Road, will experience elevated MSAT emissions when compared to the No Build Alternative. This is particularly important because this area is already adjacent to the high-volume State Route 99 and is proximate to an identified environmental justice community as identified in the Community Impact Assessment. Also, regardless of overall emissions changes, concentrating vehicle traffic may cause nearby residences (i.e., within 500 feet of the new highway) throughout the project area to be exposed to higher MSAT concentrations than they would otherwise experience without the project.

In addition to disclosing potential areas where MSAT impacts are anticipated, Caltrans should describe possible associated health effects and discuss mitigation to reduce those effects. As many studies suggest, including the South Coast Air Quality Management District study cited in the Draft EIS (p. 236), increased exposure to MSAT emissions is problematic to health. EPA does not agree with the conclusions in the DEIS (p. 236) that uncertainties in the science surrounding the analysis of mobile source air toxics make the results of such assessments "not useful to decision-makers". Given the potential presence of a new highway adjacent to hundreds of residents not previously living next to a high volume roadway, information surrounding the potential health effects is useful to decision-makers in designing the roadway and identifying mitigation to lessen possible impacts. Further, there is a need to inform residents about the possible health effects and incorporate their input into identifying mitigation measures to address possible impacts. F-1-7

Recommendations:
Describe the "remaining" population of residents that will not be relocated and will be within a 500 foot "buffer" of the new corridor.

Analyze and discuss the potential mobile source air toxic-related health impacts from the construction and operation at full build out of the corridor to possible receptors.

Describe possible mitigation measures to reduce impacts, such as improved filtration in central heating, ventilation, and air conditioning systems for concentrated sensitive receptors (Table 4.2) near the selected Build Alternative, and a community health clinic for affected residents.

Existing data, methodology, and guidance needed to assess health impacts and perform a risk characterization for air toxics are available on EPA's web site and are provided below:

- AERMOD may be used to model ambient concentrations of toxics at locations in the project area, given emissions from EMFAC. For guidance on how to conduct such analyses, consult the document, "Transportation Conformity Guidance for Quantitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas." (http://www.epa.gov/otaq/stateresources/transconf/projectlevel-hotspot.htm#pm-hotspot)
- Given ambient concentrations of air toxics, risk characterization can be done using EPA guidance and data:

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- EPA's Air Toxics Risk Assessment Reference Library (http://www.epa.gov/ttn/fera/risk_atra_main.html) describes how to conduct risk assessment "at the facility and community scale." Volume 1 of the library describes the process and basic technical tools for these analyses, and Volume 2 describes detailed procedures for source-specific or facility-specific risk assessment.
- EPA's IRIS web site (http://www.epa.gov/IRIS/), referenced on page 4-69, includes the "individual unit risk estimates", also known as "potencies" or "slope factors," which may be employed in the process of cancer risk assessment, and reference concentrations for noncancer risk assessment.
- EPA's Health Effects Notebook for Hazardous Air Pollutants also includes information on some of the MSATs, including benzene, 1,3-butadiene, formaldehyde, acetaldehyde, acrolein, and polycyclic organic matter (POMs) (http://www.epa.gov/ttn/atw/hlthef/hapindex.html). F-1-7
- Detailed cancer risk assessment guidance is available in the following EPA documents:
  - "Guidelines for Carcinogen Risk Assessment" (2005) (http://epa.gov/cancerguidelines/)
  - "Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens" (http://epa.gov/cancerguidelines/sup-guidance-early-life-exp-carcinogens.htm)

If necessary, exposure modeling can be performed using models available from EPA's web site:

- The Air Pollutants Exposure Model (http://www.epa.gov/ttn/fera/human_apex.html)
- The Hazardous Air Pollutant Exposure Model (http://www.epa.gov/ttn/fera/human_hapem.html)
- EPA's Exposure Factors Handbook (http://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252).

Children's Environmental Health and Safety

Executive Order 13045 on Children's Health and Safety directs each federal agency, to the extent permitted by law, to make it a high priority to identify and assess environmental health and safety risks that may disproportionately affect children, and to ensure that its policies, programs, activities, and standards address these risks. Analysis and disclosure of these potential effects under NEPA is necessary because some physiological and behavioral traits of children render them more susceptible and vulnerable than adults to environmental health and safety risks. Although the Draft EIS identifies communities and public schools located near the proposed project area, the Draft EIS does not clearly describe the potential direct, indirect, and cumulative impacts of the project on children's health. F-1-8

Recommendations:

Evaluate the potential direct, indirect, and cumulative health impacts of the construction and operation of the various project alternatives on children's health.

Clearly identify the project alternatives that have the least impact to children, as well as those alternatives that have the least impact on areas already significantly impacted by existing air pollution, high disease rates, and indicators of social vulnerability.

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Identify mitigation measures to reduce impacts from the proposed project's construction and operation to schools and child care centers near the proposed project area, including measures identified in the voluntary EPA School Siting Guidelines (http://www.epa.gov/schools/siting/download.html), and voluntary EPA Guidelines for States: Development and Implementation of a School Environmental Health Program (http://www.epa.gov/schools/ehguidelines/index.html). Engage local school districts, child care providers, and others to identify mitigation measures. F-1-8

Obtain and discuss relevant health data (e.g., asthma data) for children living near the proposed project area, if available. The analysis should consider the following:

- Potential respiratory impacts, including asthma, from air pollutant emissions and generation of fugitive dust;
- Potential noise impacts (see below) to health and learning, especially in areas where the project is located near homes, schools, childcare centers and parks; and
- Potential impacts from the use of chemicals, such as dust suppressants, and hazardous materials to children living near the proposed project areas.

The Draft EIS identifies schools and daycare centers near proposed build alternatives (Table 4-2) but does not fully discuss the noise impacts to them. Section 216 of the California Streets and Highways Code, cited in the Noise Study Report (p. 21), defines a noise impact when noise levels resulting from a proposed freeway project, exceed an equivalent sound level over one hour (Leg(h)) of 52 A-weighted decibels (dBA) in the interior or public or private elementary or secondary classrooms, libraries, multipurpose rooms, or spaces. The Draft EIS identifies some schools in the noise impacts analysis segments but does not provide the estimated indoor and outdoor noise levels for those schools. For example, the Draft EIS states that the closest school with an outdoor recreational area to any project alignment is Harris Elementary School, which is about 500 feet from the Alternative B alignment and 800 feet from the Alternative C alignment, and Table 4-2 on p. 3-90 identifies other schools and daycare centers, one within 300 feet of Alternative B. We did not find the noise estimates for the interiors of the nearby schools in the Draft EIS or Noise Study Report. F-1-9

Recommendation:
Identify the indoor and outdoor noise impacts at the nearby schools for the project alternatives. Compare these values with the State significance criteria identified in the Noise Report. Identify what mitigation measures would be appropriate.

Environmental Justice Analysis and Communities of Concern

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, directs each federal agency to make achieving environmental justice (EJ) part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. There is a growing body of evidence that low-income and minority communities are more vulnerable to pollution impacts than other communities, including deficits of both a physical and social nature that make the effects of environmental pollution more F-1-10

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burdensome.[1] Environmental justice concerns may arise from the potential human health, ecological, social, cultural, and economic impacts associated with a proposed project.

EPA is concerned that the EJ analysis did not fully account for the impacts to the remaining community, including identified EJ neighborhoods (Table 3.11), after the proposed relocations proceed. The Draft EIS does not address visual impacts and community disruption during the potentially prolonged partial relocation phase, with demolition and construction possibly being and implemented over a long timeframe. Caltrans should confirm no environmental justice impacts are anticipated in the remaining population not being relocated or, if such a confirmation is not possible, identify mitigation measures to alleviate anticipated impacts.

Also, the Draft EIS does not address the cumulative burden of a new highway facility for those communities of concern that may already be experiencing elevated environmental effects from their proximity to a major highway or arterial. In particular, the Preferred Alternative may create significant isolation for the community in Census Tract 18.01 Block Group 1 (Vol. 2, Figures 3-9b, 3-9c), between Real Road and State Route 99, as well as the "boxed in" area the DEIS (p. 91) identified west of South Real Road in Census Tract 28.12.

F-1-10

Recommendations:
Further discuss the impacts for the community in Census Tract 18.01/19.01 (Page 109), between Real Road and State Route 99, as well as the "boxed in" area the Draft EIS identified west of South Real Road in Census Tract 28.12. Identify how disproportionate impacts to these communities may be mitigated.

Identify mitigation measures for any additional direct and cumulative impacts, particularly any measures identified through renewed and continuous community engagement.

Analyze and disclose the impacts of the new corridor to the remaining population that will be adjacent to the new corridor, including visual impacts and limitation to connectivity via bicycle and pedestrian means.

Community Impacts during Relocation, Construction, and Operation

While EPA supports measures to minimize and mitigate impacts to communities of concern that are already provided in the Draft EIS, we believe further measures are also necessary to ensure that community cohesion is maintained and communities of concern are not disproportionately harmed by this project.

F-1-11

In particular, the *Draft Relocation Impact Report* and *Community Impact Analysis* both highlight Bakersfield's tight housing market, and as a result relocations will be protracted, and will likely cost more than statutory payment limits which taken together may present disproportionate impact to lower-income residents in the project area. Further, the Draft EIS does not address or propose mitigation for the impacts to pending relocation of residents and businesses during the protracted

1 EPA Symposium on the Science of Disproportionate Environmental Health Impacts, March 17 - 19, 2010. The fourteen scientific reviews commissioned by EPA and published in the American Journal of Public Health are listed on EPA's website: http://epa.gov/ncer/events/news/2011/10_25b_11_feature.html. The commissioned papers were published in the American Journal of Public Health in December 2011: http://ajph.aphapublications.org/toc/ajph/101/S1. See also EPA's Framework for Cumulative Risk Assessment: http://www.epa.gov/raf/publications/pdfs/frmwrk_cum_risk_assmnt.pdf

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period between their neighbor's relocation, and their own, including what plan Caltrans has for managing property whose occupants have left the property, or what impacts may result from timely demolition of vacant properties.

Regarding accessibility and cohesion, once a new highway is in place, community responses to surveys highlighted the value they place in their ability to access community resources by foot. However, the Draft EIS does not sufficiently address the additional impact of lost access to parks, churches, retailers, and neighbors from the Build Alternatives. Recently, more focus is being afforded the idea of integrating multimodal and pedestrian transportation solutions, including the Caltrans Complete Streets Program, the Kern COG Draft RTP/SCS, and SB375 Framework Core Actions, which identify goals promoting pedestrian and bicycle connectivity, including "more walkable communities," "creating walkable neighborhoods," and "enhancing biking and walking within established communities". In addition, the HUD-DOT-EPA Partnership for Sustainable Communities was formed to help communities by providing more transportation choices, promoting equitable housing, supporting existing communities, and valuing communities and neighborhoods.

Recommendations:
Consider revising the housing stock analysis dated November 2011 to see what changes have happened to the market by 2014, and how that may change some of the relocation pressures identified in the *Draft Relocation Impact Report*.

Commit to continuous community involvement, and provide information on how the public will be involved in the development of the mitigation relocation plan and how the plan will be implemented. The Draft EIS (p. 446) states that six years have elapsed since initial outreach to minority and low-income populations. Please update future environmental documents to identify coordination that has occurred since that time, as well as any community input since the Preferred Alternative was announced. F-1-11

Revise Mitigation Measure C-2 (Draft EIS p. 96) by providing a more robust strategy of the relocation/demolition/construction plan, with a goal of optimizing the maintenance of community character by limiting "piece-meal" parcel-by-parcel demolition/abandonment of properties. Address strategies for avoiding environmental justice impacts from implementation/compensation associated with the Relocation process, including timely demolition and management of vacant properties.

Review community cohesion concerns raised during previous public involvement to facilitate that identification of highest priority concerns and mitigation measures and use continuous community engagement to identify and mitigate likely visual/aesthetic and other community impacts during the protracted relocation, demolition, construction, and operation.

Include a comparison of walking distance and walking/bicycling access to parks, churches, retailers, school, and neighbor centers before and after the introduction of the new corridor for each alternative. Clearly indicate alternative routes, and distances, that will be required to access these areas once new alternatives are operational.

Consider additional bicycle/pedestrian connectivity measures, including vegetated and shaded recreational "decks" and overpasses to provide parkways and connections between communities that will be bisected and incorporate community input to identify access points for

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maximum cohesiveness. EPA recommends Caltrans use the adopted National Association of City Transportation Officials (NACTO) *Street Design Guide* for effective shaded design to encourage continued community cohesion. F-1-11

Coordinate with the High Speed Rail Authority for common community involvement in those areas that may experience impacts from both Centennial Corridor and High Speed Rail projects, especially as it pertains to relocation in similar markets.

Disclosing Noise Impacts

The Draft EIS contains extensive noise related impact analysis and associated conclusions regarding soundwall feasibility. While the DEIS acknowledges some unmitigated impacts, it does not fully disclose the noise levels that would not be mitigated where soundwalls were not found to be reasonable and feasible. The Preferred Alternative would leave some noise impacts unmitigated at levels well above the noise abatement criteria and possibly at levels that the Federal Interagency Committee on Urban Noise (FICUN) considers incompatible with residential land use. Examples of high noise levels include those represented by RB-16 (68 decibels (dB)), RB-46 (67 dB), RB-49 (69 dB), RB-69 (70 dB), RB-65 (71 dB), R99-12 and 13 (74 dB). Receivers R99-25 and R99-43C would experience a noise level of 75 dB, which is a high noise level. EPA indicates that hearing loss "may begin to occur in sensitive individuals, depending on actual noise levels received at-ear" at Day-Night Average Sound Levels (DNL) of 75 dB and has established a 75 dB level for an 8-hour exposure and 70 dB level for a 24-hour exposure as the average noise level standard requisite to protect 96% of the population from a greater than 5 dB permanent threshold shift (decrease in the ear's sensitivity or acuity to perceive sound)[2].

Recommendations: F-1-12

EPA recommends that Caltrans include a more robust characterization of noise impacts for those areas that would still receive high noise impacts, even with recommended soundwalls or where soundwalls were not found to be reasonable and feasible. Estimate the population affected by utilizing census data and disclose the number of people who would experience significant outdoor noise levels under each alternative.

For the residential receptors receiving significant noise levels as identified in the Draft EIS after mitigation, discuss indoor noise levels that would likely be experienced considering the Noise Level Reduction (NLR) typical of the homes in the area, both with windows open and closed.

Identify the number of residences that would exceed the noise abatement criteria (Activity level D) for indoor environments (52 dB) and those exceeding EPA's recommended noise level of ≤ 45 dB for indoor residential areas. For those residences that would still experience significant noise levels, consider identifying mitigation measures to achieve an outdoor to indoor NLR equivalent to 25 dB (for noise from 65-70 dB) and 30 dB (for noise from 70-75 dB).

2 *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (EPA, 1974), p. 20. Available: http://www.nonoise.org/library/levels74/levels74.htm

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Identify possible health effects that could be associated with the noise levels identified for the project after mitigation and consider committing to additional mitigation in light of potential health effects. F-1-12

In addition to the Detailed Comments provided above, please consider the following recommendations regarding the accuracy and characterization of the air quality analysis in the Draft EIS and the Air Quality Study Report (AQSR):

Characterization of No Build Alternative
Table S.1 of the Draft EIS (p viii) states that the No Build Alternative is "Inconsistent with the long-term air quality plans (Regional Transportation Plan)". Page 33 of the Air Quality Study Report further states,

> "The No-Build Alternative would not implement the proposed project improvements; thereby, it would not result in any operational air quality impacts including the beneficial impact of congestion management which would result from the build alternatives. The No-Build Alternative is not consistent with regional goals and policies for improvement of air quality within the Basin and would not be consistent with the projected regional growth and the local government goals and policies for reduction of air quality emissions within its respective jurisdiction." F-1-13

These statements are not substantiated and are misleading. The conclusion that the No-Build Alternative would not be consistent with local government goals and policies for reduction of air quality emissions in air quality plans assumes that no other options are available for reduction of emissions under the No-Build Alternative. In addition, the Regional Transportation Plan may show regional conformity with the No Build Alternative. Further, while congestion management may result in short term reduction of emissions, increased freeway capacity has also been shown to lead to longer term vehicle miles traveled (VMT) increases, which ultimately runs counter to regional goals for air quality improvement.

- Address the mischaracterization of the No Build Alternative, particularly with respect to air quality impacts.

General NAAQS comments
Table S.1 (p. viii) states that "predicted concentrations of 24-hour average" PM_{10} and $PM_{2.5}$ would be within applicable standards. This statement is misleading because concentrations of PM_{10} and $PM_{2.5}$ were not directly estimated in the Draft EIS or the supporting Air Quality Study Report.

- Please revise the reports to indicate that only total emissions of PM_{10} and $PM_{2.5}$ were estimated in the reports. F-1-14

In several places, the Draft EIS (p. 221 and elsewhere) and the AQSR states that the federal 1-hour ozone standard is not applicable. While the federal 1-hour ozone standard has been revoked, the San Joaquin Valley remains in nonattainment for the 1-hour standard and Clean Air Act anti-backsliding provisions still require that the area develop an implementation plan for the 1-hour standard.

- Evaluate all possible contributions to 1-hour ozone NAAQS violations or delayed attainment for that standard.

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The document states that "A qualitative analysis was done for particulate matter with a diameter less than 10 microns (PM_{10}) and fine particulate matter ($PM_{2.5}$). The modeling predicted concentrations of these air pollutants using a modeling protocol reviewed and approved by the Interagency Coordination Group (p. 116)" This statement suggests that a modeling protocol was approved and air quality dispersion modeling was conducted and results reported. A modeling protocol is typically done when quantitative air quality dispersion modeling is used to predict an actual ambient air quality concentration of PM_{10} or $PM_{2.5}$. However, as stated later in the DEIS and in the AQSR, only a qualitative analysis, displaying relative total regional emissions, was conducted for this project. No modeling protocol was approved and no predicted concentrations of air pollutants are included in the Draft EIS.

- Remove a conclusion that a modeling protocol was approved.

The document further states (p. 116) that "Results of the qualitative particulate matter and conformity analysis indicated that 24-hour average concentrations of particulate matter (PM_{10}) along the study area corridor would be less than the currently established applicable National Ambient Air Quality Standard. Concentrations of fine particulate matter ($PM_{2.5}$) along the study area corridor would not exceed no-build concentrations …." Without quantitative modeling results, the document cannot explicitly reference modeling concentrations for different project alternatives.

- Please remove reference to modeling concentrations for different project alternatives in subsequent environmental analysis.

F-1-14

Under Federal 8-hour ozone standards, there is a very limited discussion of ozone impacts and ozone plans. The San Joaquin Valley Air Basin was classified as a "serious" nonattainment area for the federal 8-hour ozone standard on April 14, 2004, and was given an attainment deadline of June 15, 2013. On June 4, 2010, EPA approved the Basin's reclassification to "extreme" nonattainment. The San Joaquin Valley APCD has implemented an Ozone Attainment Demonstration Plan since 2004. The 2004 Ozone Plan, which addressed the 1-hour ozone standard was withdrawn by California in late 2012. In 2013, the State adopted a revised 1-hour ozone plan that demonstrates that the area will attain the 1-hour ozone standard by 2017. The currently approved 8-hour ozone plan is the 2007 plan which was adopted by the District Governing Board on April 30, 2007, and was approved by CARB on June 14, 2007.

- Revise the conclusions (p. 23) regarding the changes in ozone standards and applicability of different deadlines for plans and attainment.

The document should include more data on air quality trends (six years is preferable) and include more recent data than is shown on page 231 of the Draft EIS. Both 2012 and 2013 ambient air monitoring data are quality assured, certified, and readily available.

- Address the need for more recent and complete data on air quality trends.

Localized CO modeling was performed in conjunction with emission factors from the CARB emission factor model EMFAC2007 (p. 240).

- Use EMFAC2011 for future revisions to the CO hot spot analysis.

Re-entrained road dust

The Draft EIS indicates that re-entrained PM_{10} road dust was estimated using the emission factor equations provided in the Fifth Edition, Volume I of the EPA's AP-42 document, dated November 1, 2006 (p. 247). The equations in AP-42 were updated in January of 2011.

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- Update the re-entrained road dust emissions using the 2011 version of AP-42.

It is not clear if re-entrained road dust, shown in Table 3.29 (p. 247), was based on the VMT for all 330 road segments and their associated VMT used to estimate the EMFAC2011 tailpipe, brake wear and tire wear PM_{10} emissions (presented in AQSR Table 4-5). The re-entrained road dust emissions in the document are less than 0.5% of the EMFAC emissions. This ratio is significantly smaller than the ratio of paved road dust to EMFAC emissions in the regional conformity analysis for Kern County. Even when rural roads are removed from the regional totals, paved road emissions are typically 40% of EMFAC emissions for freeway and arterial roadways. These emissions also increase with VMT. F-1-15

- Include estimates of total VMT for each alternative used to estimate the emissions in AQSR Tables 4-5 and 4-6 and the corresponding parts of the Final EIS.

Characterization of Regional and Localized Emissions

The Draft EIS (p. 247) indicates that overall regional emissions decrease between the no- build and the alternatives in the year of 2038 and concludes that due to these decreases, "the project will not cause any new particulate matter violations or worsen existing particulate matter violations in the project area." However, the Draft EIS states that all build alternatives would result in an "overall increase in the truck and total volumes along the Centennial Corridor within the project limits (p. 247)." As with any project that results in increased truck traffic, local increases in emissions could contribute to localized elevated ambient concentrations, even with decreases in regional emissions.

- Clarify that the regional decreases and their impact on regional concentrations may not completely offset localized increases in particulate emissions.

F-1-16

As mentioned previously, construction of the Centennial project will be ending in 2018. Evaluation of whether the area has attained will be based on ambient data from 2017, 2018, and 2019. Given that the San Joaquin Valley APCD 2012 Plan shows attainment with no margin, even slight increases in ambient $PM_{2.5}$ concentrations around the Bakersfield-California Avenue monitor during the period 2017 to 2019 may make it difficult, if not impossible, for the area to show it has attained the standard. Potential increases in emissions in a year within this timeframe should also be evaluated.

- Revise subsequent environmental documents to ensure that they appropriately characterize the attainment challenges for the project area.

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Response to Comment F-1

Comment Code	Response
F-1-1	The project conducted a qualitative analysis per U.S. Environmental Protection Agency guidelines and showed that the project would not cause or contribute to National Ambient Air Quality Standards violations in the project area. The Air Quality Study Report (February 2014) followed current air quality study protocol and indicated that the project as a whole would reduce emissions within the project area. To address localized emissions, Caltrans will implement minimization measures during construction of the project and betterments to reduce localized particulate matter emissions for the Preferred Alternative B alignment. Caltrans has entered into a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District to implement air quality improvement projects. As part of this agreement between San Joaquin Valley Air Pollution Control District and Caltrans, $1.5 million would be provided by Caltrans to execute emission reduction projects. These emission reduction projects include targeted improvements such as retrofitting diesel school buses, replacement of wood-burning stoves and provide heating, ventilation and air conditioning upgrades to qualified schools. In addition, trees would be planted within 500 feet of each side of the Preferred Alternative B alignment to control localized particulate matter emissions. Air quality improvements to be implemented as part of the Centennial Corridor Project are discussed in detail in Response F-1-6. Revisions to the final environmental document have been made in Section 3.2.6, Air Quality, and in Appendix F, Environmental Commitments Record.
F-1-2	Caltrans acknowledges that the Centennial Corridor Project is located in an area in Bakersfield that is nonattainment for fine particulate matter ($PM_{2.5}$). The U.S. Environmental Protection Agency commented that there is a lack of adequate information to evaluate whether the project's localized increases in fine particulate matter ($PM_{2.5}$) would affect the ability of the last part within the San Joaquin Valley (Bakersfield area) to attain the National Ambient Air Quality Standards and meet California's State Implementation Plan. The State Implementation Plan is a statewide plan for achieving the goals of the Federal Clean Air Act and how the National Ambient Air Quality Standards will be met. The Federal Clean Air Act also requires transportation improvement programs to conform to applicable portions of the State Implementation Plan for air quality. Air quality is given priority in the transportation program implementation, as discussed in the *Kern Council of Governments 2014 Regional Transportation Plan/Sustainable Communities Strategy*. This Regional Transportation Plan, developed by Kern County Council of Governments, including participation from the San Joaquin Valley Air Pollution Control District and California Air Resources Board, provides a framework for transportation projects to conform to the State Implementation Plan. The Federal Transportation Improvement Program is a plan for the incremental implementation of the long-range Regional Transportation Plan. Transportation projects listed in the Federal Transportation Improvement Program are designed to be consistent with, and implement, the Regional Transportation Plan. Both of these transportation plans were developed in accordance with the State Implementation Plan, which is the adopted strategy for the San Joaquin Valley to meet National Ambient Air Quality Standards for fine particulate matter ($PM_{2.5}$). In nonattainment areas, the Federal Highway Administration must provide a determination that the Federal Transportation Improvement Program conforms to the adopted State Implementation Plan and that the projects in this plan should not further exacerbate the existing air quality problems. The Centennial Corridor Project is included in the Federal Transportation Improvement Program (identified as KER050104) and the Regional Transportation Plan (identified as KER08RTP020) and has accounted for the project's emissions (including particulate matter) to conform to the State Implementation Plan. According to the *Kern Council of Governments 2014 Regional Transportation Plan/Sustainable Communities Strategy*, the Centennial Corridor Project provides regional air quality benefits and aids in the attainment for particulate matter standards by constructing "'missing links' (streets) to roadway network that reduce out-of-direction travel: Centennial Connector will provide

Comment Code	Response
	a major free-flow traffic connector that will improve air quality by reducing stop-and-go truck travel on local arterials." Because both of these transportation plans conform with California's State Implementation Plan and the Centennial Corridor Project is included in these transportation plans, the project would not delay the timely attainment of regional fine particulate matter ($PM_{2.5}$) standards or hinder the National Ambient Air Quality Standards to be met by the Clean Air Act's deadline in 2019, as commented by the U.S. Environmental Protection Agency. In August 2014, the Federal Highway Administration provided a project-level conformity determination that the "project will not create any new violations of the standards nor increase the severity or number of existing violations," and that the project "conforms to the State Implementation Plan." Implementation of the project would result in an overall reduction of particulate matter ($PM_{2.5}$ and PM_{10}) emissions within the project limits compared to the no-build scenario because of the reduction in vehicle idling and out-of-direction travel. Total particulate matter emissions for horizon year 2038 for the Preferred Alternative B have been calculated to be approximately 8 tons. Construction of the Preferred Alternative B alignment would shift traffic towards the new alignment and would result in a decrease in particulate matter at local arterials within this same segment area, including major arterials such as Rosedale Highway (decrease of 2.2 tons annually), Stockdale Highway (decrease of 2.7 tons annually), and Truxtun Avenue (decrease of 1.5 tons annually). Local minor roads will also experience a decrease in particulate matter emissions due to traffic shifting to the new freeway alignment. The result of the traffic shift from local arterials and minor roads would result in a shift of particulate matter concentrations. Residents located along the new alignment portion of State Route 58 (Preferred Alternative B segment) would be exposed to greater concentrations of particulate matter emissions due to their proximity to the new freeway; however, minimization measures during construction and air quality improvement projects would be implemented by Caltrans to offset increases in particulate matter emissions. Construction measures and proposed operational improvements are discussed in detail in F-1-6. To address localized increases in particulate matter along the Preferred Alternative B alignment, Caltrans has entered into a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District to provide funding for improvements to local air quality within the project area. This agreement would provide additional localized particulate matter reductions. See Appendix L of the final environmental document for more details on the Voluntary Emission Reduction Agreement. Utilizing the San Joaquin Valley Air Pollution Control District's highly successful grant administration program, the funds generated pursuant to this Voluntary Emission Reduction Agreement will be awarded to businesses, residents, and municipalities to generate real and quantifiable reductions in emissions for the Bakersfield area and the Central Valley. The following are some examples of how these funds may be utilized to reduce air pollution: • Grants to residents to purchase cleaner vehicles through the San Joaquin Valley Air Pollution Control District's Drive Clean Rebate Program. • Grants to residents through the San Joaquin Valley Air Pollution Control District's Tune-In Tune-Up program to repair older high-polluting vehicles. • Grants to residents to replace fireplaces and noncertified wood-burning stoves with clean-burning U.S. Environmental Protection Agency-certified units through the District's Burn Cleaner Incentive Program. • Grants to convert electricity or replace existing diesel-powered off-road equipment through the San Joaquin Valley Air Pollution Control District's Heavy-Duty Engine Program. • Grants to replace old trucks with new low-emissions trucks through the San Joaquin Valley Air Pollution Control District's Truck Voucher Program.

Comment Code	Response
	• Grants to replace older and high-polluting school buses through the San Joaquin Valley Air Pollution Control District's School Bus Replacement Program. The emissions reductions secured through Voluntary Emission Reduction Agreements are supplementary to existing regulations, achieving reductions earlier or beyond those required by regulations. Over the years, the San Joaquin Valley Air Pollution Control District has built a reputation for excellence in the implementation of these programs, as highlighted in multiple audits by state agencies that lauded the San Joaquin Valley Air Pollution Control District's incentive programs for their efficiency and effectiveness. The San Joaquin Valley Air Pollution Control District's incentive programs have invested over $1 billion in public and private funding for clean air projects by reducing more than 100,000 tons of emissions. With implementation of the programs listed above, the project area would experience construction emission reductions of: • Year 1 – 1.9 tons of reactive organic gas/33.6 tons of nitrogen oxide/7.6 tons of coarse particulate matter (PM_{10}) • Year 2 – 1.45 tons of reactive organic gas/16.5 tons of nitrogen oxide/7.3 tons of coarse particulate matter (PM_{10}) • Year 3 – 0.4 ton of reactive organic gas/2.55 tons of nitrogen oxide/0.7 tons of coarse particulate matter (PM_{10}) It should be noted that the reductions mentioned above would be implemented mainly within the Year 1 timeframe, and the reductions will carry over to future years, well beyond the construction years. With implementation of the Voluntary Emission Reduction Agreement programs listed above, the project area will experience operational emission reductions of: • 5 tons of reactive organic gas • 73 tons of nitrogen oxide • 5 tons of coarse particulate matter (PM_{10}) These emission reductions will be achieved throughout the 20-year design life of the project. The Voluntary Emission Reduction Agreement is provided in Appendix L of the final environmental document. In addition to implementing the Voluntary Emission Reduction Agreement, Caltrans and/or the construction contractor would implement and adhere to San Joaquin Valley Air Pollution Control District's Rule 9510. The purpose of this rule is to fulfill the District's emission reduction commitments in the particulate matter (PM_{10}) and ozone attainment plans, achieve emission reductions from the construction and use of development projects through design features and on-site measures, and provide a mechanism for reducing emissions from the construction of and use of development projects through off-site measures[1]. These measures would minimize construction-related emissions to residents living within 1,000 feet of the Preferred Alternative B alignment. Further discussion on Rule 9510 is also provided in Section 3.6 (Volume 1) and identified as SC-CI-20 (Appendix F in Volume 2). Caltrans recognizes the positive effects of nonmotorized transportation, such as bicycles, on the environment. By providing elements for a bicycle connection within the Centennial Corridor Project area, it is possible that an improved bicycle connection to an existing Class I and Class II bicycle facility could increase bicycle usage and reduce vehicle trips within the area. Based on comments received from the public, Caltrans will incorporate bicycle path connection elements to the Centennial Corridor over the Carrier Canal. In addition, the sidewalk connection from Joseph Drive to La Mirada Drive would link two parts of Westpark that currently have no direct access. This improvement would enhance bicycle/pedestrian connectivity and would result in minimal effects to the environment during construction. These features would be consistent with the city-wide plan for multi-use paths within the city of Bakersfield.

[1] https://www.valleyair.org/rules/currntrules/r9510.pdf

Comment Code	Response
F-1-3	Summaries of particulate matter ($PM_{2.5}$ and PM_{10}) emissions indicate that implementation of the project would result in reductions of particulate matter ($PM_{2.5}$ and PM_{10}) emissions compared to the no-build scenario. It should be noted that reductions in emissions within the project area are anticipated despite the overall increase in truck and total traffic volumes along all three alternatives. Additionally, traffic data did not include increased idling times on local streets that would occur without the project. Idling times would dramatically increase the particulate matter quantities for the No Build Alternative, with most of the concentrations added along Rosedale and Stockdale highways. The project as a whole will improve particulate matter emissions within the project limits, as shown in the particulate matter qualitative analysis. Please refer to Section 3.2.6 for further discussion regarding the particulate matter qualitative analysis. Despite the project-wide decrease in particulate matter emissions, increases in localized fine particulate matter ($PM_{2.5}$) concentrations due to project operations and project construction would occur and could affect residents living adjacent to the corridor. Betterments proposed as part of the Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District would reduce localized fine particulate matter ($PM_{2.5}$) emissions and provide additional benefits to residents living in the immediate vicinity (i.e., 1,000-foot zone) from the corridor. Specifically with regard to the U.S. Environmental Protection Agency's comment for quantitative data of the community demographics to understand increases in fine particulate matter ($PM_{2.5}$) for purposes of analyzing impacts to environmental justice populations, Table 4.1 in the final environmental document, and as shown below, identifies the number of residents living within 500 feet of each of the build alternatives broken down by Census block group data. This table used a bold face print to readily indicate to readers which of the block groups in the community are comprised of greater environmental justice populations. The demographic breakdown of the block groups is compared with the city of Bakersfield and Kern County percentages. Following the U.S. Environmental Protection Agency's suggestion, we have added to the table the overall California State and U.S. population demographic percentages for comparison purposes, as provided in Table 3.11 in the final environmental document and as shown below. As indicated in the final environmental document, only 3 of the Census Tract groups (out of 16) for the Preferred Alternative B alignment contain a higher percentage of minority populations compared to city and county averages (Census Tracts 20.00, 26.00, and 27.00). As discussed, the Centennial Corridor Project would not result in disproportionately high and adverse effects on environmental justice communities because of the equivalent distribution of the effects on all communities through which the Alternative B alignment passes; the other eight non-environmental justice Census Tracts would experience similar effects as the three environmental justice Census Tracts. Hence, there would be no impacts borne disproportionately by low-income and/or minority populations. Volume 2 of the environmental document provides the pertinent census tract maps (Figures 3-9a through 3-9c) for each of the three build alternatives. As the environmental document reflects in Table 4.2 and shown below, numerous sensitive receptors to air pollutants, such as schools, hospitals, medical facilities, and childcare centers, are located adjacent to the proposed alignments, and the table indicates the distance of the community facilities from each project alignment.

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Table 4.1 Number of Residents within 500 Feet of Project Alignments

Tract	Block	Alternative A	Alternative B (Preferred Alternative)	Alternative C
5.07	1	0	0	0
18.01	1	N/A	N/A	250
18.01	2	N/A	313	N/A
18.01	3	92	372	N/A
18.02	1	330	0	0
18.02	3	75	N/A	N/A
19.01	2	28	28	30
19.01	3	17	17	75
19.02	3	46	46	46
20.00	3	116	116	116
26.00	3	46	46	46
27.00	1	52	52	52
27.00	4	165	165	165
27.00	5	150	150	150
28.12	1	273	271	80
28.12	2	210	210	N/A
28.12	3	40	N/A	N/A
28.13	1	95	95	95
Total		1,735	1,881	1,105

N/A: not applicable.
Note: The bold face signifies block groups with an environmental justice population.
Source: Developed from the right-of-way maps, 2012.

Table 3.11 Race and Ethnic Composition of the Project Area Population By Block Group

Geographic Area	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Other Race/Two or More Races	Hispanic or Latino of Any Race
City of Bakersfield	131,311	26,677	2,265	20,496	357	8,172	158,205
	38%	8%	1%	6%	0%	2%	46%
Kern County	323,794	45,377	5,893	33,100	995	17,439	413,033
	39%	5%	1%	4%	0%	2%	49%
California	21,453, 394	2,299,072	362,801	4,861,007	144,386	1,054,283	14,013,719
	58%	6%	1%	13%	<1%	3%	38%
U.S.	196,817,552	38,929,319	2,932,248	14,674,252	540,013	9,009,073	50,477,594
	64%	13%	<1%	5%	<1%	3%	16%

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Table 4.2 Schools and Medical Facilities within Vicinity of Project Alignments

Community Facility	Approximate Distance (feet) from Alignment		
	Alternative A	Alternative B (Preferred Alternative)	Alternative C
Schools and Daycare			
Van Horn (Wayne) Elementary School	1,000	N/A	N/A
Roosevelt Elementary School	1,200	1,200	1,200
Little Red School House	N/A	0	1,900
Harris (Caroline) Elementary School	N/A	800	1,900
Stockdale Christian School	1,700	375	N/A
Sunshine Center	1,100	1,100	1,100
First United Methodist Church/First Experiences Preschool Assembly Manor	700	700	N/A
Millie Munsey Elementary School	1,400	1,400	1,400
Noah's Ark Pre-School	1,400	1,400	1,400
Vista High School	1,800	1,800	1,800
Claude Richardson Child Development Center	900	900	900
Sequoia Middle School	1,700	1,700	1,700
Stine Headstart	800	1,000	N/A
Day Care Center at Central California Economic Development	1,000	1,000	N/A
Child Haven Preschool	640	600	1,100
Five Star Day Care	140	140	110
Caring Corner Day Care Center	300	300	300
Medical Facilities			
Stockdale Podiatry	200	150	N/A
Kaiser Permanente - Stockdale Medical Offices	0	105	550
Brundage Medical Center	550	550	550
Houchin Blood Bank	800	N/A	N/A
DaVita Dialysis	1,980	1,000	1,980
Kern Radiology	N/A	N/A	1,320
Bakersfield Veteran's Affairs Community Clinic	N/A	N/A	1,980
Arthritis Association/Adaptive Aquatic Center	N/A	N/A	1,980
Lifehouse Parkview Healthcare Center	N/A	1,800	930
Truxtun Surgery Center	N/A	N/A	1,000
Healthsouth Bakersfield Rehabilitation Center	N/A	500	1,400
Bakersfield Family Medical	N/A	500	1,900
Kaiser Permanente Medical Care	900	1,400	N/A
First Choice Medical	800	650	1,800
Child and Adolescent Psychology Center	600	N/A	N/A

Note: Facilities sitting beyond 2,000 feet of the build alternatives are listed as not applicable (N/A). Facilities directly affected by a build alternative are identified with the number 0.

Source: *Community Impact Assessment,* 2015.

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	The community facilities are also graphically displayed on a map figure included within Figure 4-5 of the Community Impact Assessment. Based on the analysis documented in the final environmental document, there is no indication that either construction or operation of the proposed Centennial Corridor Project would result in disproportionately high and adverse impacts to minority or low-income populations. Hence, the environmental justice analysis provided in this final environmental document and the supporting *Community Impact Assessment* (2015) adequately analyzes potential impacts to low-income and minority populations. No further environmental justice analysis is needed. For more information on air quality please refer to Section 3.2.6, Volume 1, Air Quality of the final environmental document. Finally, under the California Environmental Quality Act, recirculation of this environmental document for public review is not required because new information added to the environmental impact report merely clarifies, amplifies or makes insignificant modifications in an adequate environmental impact report. Similarly under the National Environmental Policy Act, releasing of a supplemental environmental impact statement is not required for this project since there have been no substantial changes in the proposed action relevant to environmental concerns, nor have significant new circumstances or information relevant to environmental concerns been identified. Additionally, the information provided in the final environmental document provides all of the relevant information and clarification regarding the project including alternative evaluations and mitigation measures.
F-1-4	As noted in Response to Comment F-1-3, the project would result in lower particulate matter (PM_{10} and $PM_{2.5}$) emissions compared to the no-build scenario. This decrease in particulate matter emissions is the result of an increase in vehicle speeds and a reduction of congestion anticipated with implementation of the project. As previously mentioned in Response to Comment F-1-2, the project will not cause any new particulate matter violations or worsen existing particulate matter violations in the project area. The Centennial Corridor Project would not delay attainment for particulate matter ($PM_{2.5}$). Activities related to this project are consistent with the State Implementation Plan, and it has been determined that this project conforms to the requirements of the Clean Air Act. The project as a whole will improve particulate matter emissions within the project limits. Total particulate matter emissions for horizon year 2038 for the Preferred Alternative B have been calculated to be approximately eight tons annually. Construction of the Preferred Alternative B alignment would shift traffic towards the new alignment and would result in a decrease in particulate matter at local arterials within this same segment area, including major arterials such as Rosedale Highway (decrease of 2.2 tons annually), Stockdale Highway (decrease of 2.7 tons annually), and Truxtun Avenue (decrease of 1.5 tons annually). In addition to reductions of particulate matter at these local arterials within the Preferred Alternative B alignment, targeted air quality improvement projects would be implemented by Caltrans and the city of Bakersfield to offset localized emissions. Caltrans has entered into a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District to provide improvements to local air quality within the project area. Caltrans shall provide $1.5 million in funding to the San Joaquin Valley Air Pollution Control District for administration of the air quality emission reduction programs. This agreement would offset any localized particulate matter emissions to the greatest extent practicable. The San Joaquin Valley Air Pollution Control District believes that the total $1.5 million total air quality funds available for the Voluntary Emission Reduction Agreement would be used to execute "…Emission Reduction Projects through the District's Incentive Programs to achieve a betterment of air quality in the vicinity of the project" and will "…provide betterment of air quality in the area, by offsetting construction and operation emissions occurring in the vicinity of the new highway segment and existing highway segments that will be adding capacity." Construction emissions for particulate matter ($PM_{2.5}$) would be addressed through implementing minimization measures, compliance with the San Joaquin Valley Air

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	Pollution Control District's Rule 403, and provisions stated in the Voluntary Emission Reduction Agreement.
F-1-5	Despite the project-wide decrease in particulate matter outlined in Response F-1-3, increases in localized fine particulate matter ($PM_{2.5}$) concentrations due to project operations and construction would occur and could affect residents living adjacent to the corridor. Mitigation measures proposed as part of the Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District would offset the increase in localized fine particulate matter ($PM_{2.5}$) emissions and would mitigate impacts to residents living in the immediate vicinity (i.e., 1,000-foot zone) of the corridor. As mentioned in Response F-1-3, in regard to the U.S. Environmental Protection Agency's comment for additional demographic data to understand increases in fine particulate matter ($PM_{2.5}$) for purposes of analyzing impacts to environmental justice populations, please refer to Table 4.1 from the final environmental document, which identifies the number of residents living within 500 feet of each of the build alternatives broken down by Census block group data. By using a bold face print, this table allows readers to readily see which of the block groups in the community are comprised of the greater environmental justice populations. The demographic breakdown of the block groups is compared with the city of Bakersfield and Kern county percentages. Per U.S. Environmental Protection Agency's suggestion, the overall California State and U.S. population demographic percentages have been added to the table for comparison purposes. Also please note, as the final environmental document indicates, only 3 of the block groups (out of 16) for the Alternative B alignment contain a higher percentage of minority populations than do city and county averages. As discussed, the Centennial Corridor Project would not result in disproportionately high and adverse effects on environmental justice communities because of the equivalent distribution of the effects on all communities through which the Alternative B alignment passes. There would be no impacts borne disproportionately by low-income and/or minority populations. Volume 2 of the environmental document provides the pertinent Census tract maps (Figures 3-9a through 3-9c) for each of the three build alternatives. As the environmental document reflects in Table 4.2, numerous sensitive receptors to air pollutants, such as schools, hospitals, medical facilities, and childcare centers, are located adjacent to the proposed alignments, and the table indicates the distance of the community facilities from each project alignment. The community facilities are also graphically displayed on a map figure included within Figure 4-4 of the Community Impact Assessment. Based on the analysis documented in the final environmental document, there is no indication that either construction or operation of the proposed Centennial Corridor Project would result in disproportionately high and adverse impacts to minority or low-income populations.
F-1-6	Caltrans has considered the U.S Environmental Protection Agency's recommendations in reducing emissions during the operations and construction of the project. Some of the recommended measures are currently proposed to be part of the project. These include the construction of sound walls. As currently designed, the Preferred Alternative B alignment would construct 25 sound walls along the project area, ranging from 8 to 16 feet in height. These sound walls would be constructed to cover most of the project limits on either side of the Preferred Alternative B alignment, portions of State Route 99, and along State Route 58. As mentioned by the U.S. Environmental Protection Agency, these sound walls could reduce exposure to mobile source-related emissions. In addition to sound walls to reduce mobile source-related emissions, Caltrans will also provide landscaping and vegetation in disturbed areas as part of the project. Caltrans is also providing funding for additional air quality improvements to further reduce particulate matter emissions. Caltrans has completed a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District to address construction and operational emissions. As part of the Voluntary Emission Reduction Agreement, Caltrans will provide funds to the San Joaquin Valley Air

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	Pollution Control District, who will administer the programs. The Voluntary Emission Reduction Agreement will reduce localized particulate matter emissions by providing grants to businesses, residents, and municipalities; these grants would provide funding to implement targeted improvements along the Preferred Alternative B alignment. The $1.5 million dollars provided by Caltrans to San Joaquin Valley Air Pollution Control District to fund this Voluntary Emission Reduction Agreement will be used to awards fund to programs, businesses, residents, and municipalities to generate real and quantifiable reductions in emissions for the Bakersfield area and the Central Valley. As the name suggests, participation by Bakersfield residents is voluntary and is available to residents living within a certain distance of the project alignment. Historically, the San Joaquin Valley Air Pollution Control District's incentive programs have invested over $1 billion in public and private funding for clean air projects reducing more than 100,000 tons of emissions. ***Air Quality Improvements to Address Localized Operational Emissions*** Several improvements were considered to provide particulate matter emission reductions along the Alternative B alignment. The project team made a determination to conduct further research and analysis on the improvements that will provide the most benefit at a reasonable cost. These targeted improvements under consideration include: (1) retrofitting school buses with diesel engines; (2) wood-burning stove replacement; (3) heating, ventilation, and air conditioning upgrade and (4) tree planting. These improvements were assessed based on their potential to reduce localized emissions and feasibility of implementation. Caltrans, in cooperation with the San Joaquin Valley Air Pollution Control District and the city of Bakersfield, will implement a combination or all four of the abovementioned improvements. The proposed school bus diesel engine retrofit, wood-burning stove replacement and heating grants, ventilation and air-conditioning upgrade improvements would be part of the Voluntary Emission Reduction Agreement, funded by Caltrans to the San Joaquin Valley Air Pollution Control District, who in turn, will administer the abovementioned programs. These air quality improvement programs will provide particulate matter reductions and help address air quality related health issues. In addition, the Centennial Corridor Project will fund a voluntary tree-planting program within the city of Bakersfield to be administered by a non-profit organization, at a cost of $200,000. Environmental justice communities near the Preferred Alternative B alignment would receive priority in obtaining improvements. A description of each improvement and prioritization are described below. *School Bus Diesel Engine Retrofit* School bus retrofit is considered as an air quality improvement measure due to the current bus travel patterns within and adjacent to the Alternative B alignment. Most of the city's school buses are currently diesel-powered. There are 24 bus routes serving schools near or along the Centennial Corridor Alternative B alignment. With morning and afternoon routes combined, these buses cover an estimated 123.7 miles each day. Diesel bus emissions for 123.7 daily miles traveled over a school year (200 days) are estimated to be 8,026 grams (17.7 pounds) of particulate matter, 425,528 grams (938.1 pounds) of nitrogen oxide, and 9,574 grams (21.1 pounds) of hydrocarbons.[2] The importance of reducing school bus emissions will also have a benefit to the health of children who ride these diesel-fueled buses. "A child riding inside of a diesel school bus may be exposed to as much as four times the level of toxic diesel exhaust as someone riding in a car ahead of it. Under Federal law, these exposures translate into a significant risk of cancer to children."[3] Children are at more risk than adults for the

[2] Calculated emissions data from U.S. Environmental Protection Agency 2008 for diesel emissions; calculated emissions for natural gas from Solomon, *et al.,* 1998. Emissions estimate does not include idling times.

[3] Solomon, Gina M., Todd R. Campbell, Gail Ruderman Feur, Julie Masters, Artineh Samkian, and Kavita Ann Paul. 2001. No Breathing in the Aisles: Diesel Exhaust inside School Buses. Natural Resource Defense Council, Coalition for Clean Air. http://www.nrdc.org/air/transportation/schoolbus/schoolbus.pdf.

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	harmful effects of air pollution because their lungs are still developing and their breathing is more rapid. Replacement of the diesel engines of school buses will benefit the communities by the project area and school-age children that ride these bus routes. There are several alternatives for fuel sources that could be used for diesel-run school buses. The most salient fuel alternative is compressed natural gas, which is a gasoline alternative that burns cleaner than diesel and gasoline alternatives.[4] The cost to replace one diesel-powered bus with a compressed natural gas bus is $460,000, with a total cost of $11,040,000 to replace 24 buses currently operating within the Alternative B alignment. The cost to replace diesel-powered buses with compressed natural gas-powered buses is too high, considering a more cost-effective measure is available that would yield nearly the same results in terms of particulate matter reductions. A cost-effective mitigation measure to achieve the same, or better, emissions of a compressed natural gas bus, without replacing the diesel bus, would be to install a diesel retrofit device. The installation of one or a combination of available retrofit devices could result in maximum emission reductions as high as 95 percent for particulate matter, 75 percent for nitrogen oxide, 95 percent for hydrocarbons, and 90 percent for carbon monoxide. Available retrofit devices include diesel particulate filter closed crankcase ventilation, selective catalytic reduction, lean nitrogen oxide catalyst, or exhaust gas recirculation. Please note that no single device is able to reduce all four emission types; therefore, a combination of one or more retrofit devices should be considered depending on the targeted emission reductions objective. Depending on the devices chosen, the cost could range from $583.33 to $70,000 per retrofitted bus. The proposed school bus retrofit would be a funded improvement through the Voluntary Emission Reduction Agreement. Caltrans and the city would coordinate with the San Joaquin Valley Air Pollution Control District to provide details in its implementation. *Wood-Burning Stove Replacement* Wood-burning fires are known to emit smoke containing a range of microscopic particles that contribute to air pollution. The gases and particles emitted by wood-burning fires not only worsen overall air quality, but they can also lead to severe health problems such as bronchitis and chronic heart or lung disease (EPA Frequently Asked Questions).[5] Particulate matter emissions from burning traditional wood ranges from 41 to 79 grams per hour. Carbon emissions from traditional wood burning are also high, and they can range from 211 to 271 grams per hour.[6] Hydrocarbons released from wood-burning fires are found to range from 460 to 1,030 milligrams per hour. One feasible option to reduce emissions from wood-burning stoves and fireplaces is to install a gas fireplace. These fireplaces can be installed into an existing fireplace and are a self-contained unit within the home. These fireplaces can burn 35 to 40 percent cleaner than wood-burning fireplaces, and they can give the appearance of a traditional fireplace, as well as produce heat, without actually burning any wood. Gas logs are placed into the fireplace and are hooked up to the existing gas safety pilot valve. A wood stove replacement grant program has been implemented by the San Joaquin Valley Air Pollution Control District and garnered overwhelming participation from the public in the past; however, the proposed wood-burning stove replacement program would be a targeted measure for residents living adjacent to the Alternative B alignment. Implementation of the wood-burning stove replacement would prioritize environmental justice communities near the Preferred Alternative B alignment to obtain this improvement. The proposed wood-burning stove replacement would be a funded improvement through the Voluntary Emission Reduction Agreement. Caltrans and the

[4] U.S. Environmental Protection Agency (EPA). 2008. "Average In-Use Emissions from Urban Buses and School Buses". Online at http://www.epa.gov/otaq/consumer/420f08026.pdf.

[5] U.S. Environmental Protection Agency (EPA). No date. "Frequently Asked Questions: Available Online at: http://www.epa.gov/burnwise/faqconsumer.html#aregasstovescleaner.

[6] Firelogs vs. Wood Fires - What's the Right Choice for a Cozy Winter Fire?"Science 2.0. N.p., n.d. Web. 18 Mar. 2015.

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	city of Bakersfield would coordinate with the San Joaquin Valley Air Pollution Control District to provide details in its implementation. *Heating, Ventilation, Air Conditioning Upgrades* To the greatest extent practicable, Caltrans and the city of Bakersfield would provide heating, ventilation, and air conditioning upgrades to daycare centers, pre-schools, and schools within 1500 feet within the Preferred Alternative B alignment. Each of the school's existing heating, ventilation, air conditioning system will be separately evaluated for efficiency and practicability of an upgrade to reduce indoor particles related to health effects such as exacerbating symptoms of asthma. The complete heating, ventilation, and air conditioning unit may not necessarily require upgrades, but the existing air filtration component of the system is central in reducing indoor particulates and enhancing children's health. One criterion that would be utilized to determine the need for an upgrade is the minimum efficiency reporting values of the existing air filtration system based on a scale of 1 to 20, where 1 is low and 20 is high. According to the Environmental Protection Agency, minimum efficiency reporting values between 7 and 13 are likely to be almost as effective as true High-Efficiency Particulate Air filters in reducing the concentrations of most indoor particles linked to health effects.[7] Available data indicate that even for very small particles, High-Efficiency Particulate Air filters are not necessarily the preferred option. For these small particles, relatively large decreases in indoor concentrations (around 80 percent) are attainable with medium filter efficiency. The proposed minimum filter efficiency for the air filtration upgrade would be a value of 8, which would trap 70% of the air-borne particulates that are 3 to 10 microns in size. Increasing filter efficiency above a minimum efficiency reporting values greater than 13 results in only modest predicted decreases in indoor concentrations of these particles. Daycare centers, pre-schools, and schools with an air filtration rating of less than a minimum efficiency reporting value of 8 may be eligible for this upgrade as part of the Voluntary Emission Reduction Agreement. The heating, ventilation, and air conditioning units of schools along the new alignment would be upgraded to a minimum efficiency reporting value of 8 or greater and would remove particulate matter of at least 2.5 to 10 microns. This targeted air quality improvement would enhance the respiratory health and well-being of children. A complete replacement of the heating, ventilation, and air conditioning system would only be required if the air filtration component of an existing system cannot feasibly be upgraded to obtain the minimum efficiency value of 8. The proposed heating, ventilation, and air conditioning system would be a funded improvement through the Voluntary Emission Reduction Agreement. Caltrans and the city of Bakersfield would coordinate with the San Joaquin Valley Air Pollution Control District to provide details in its implementation. *Tree Plantings* Planting trees adjacent to the Preferred Alternative B alignment provides several benefits to the immediate area. Not only do trees provide aesthetic benefits, planting one large tree can absorb 10 pounds of air pollutants, including 4 pounds of ozone and 3 pounds of particulate matter each year. Studies indicate that a reduction of 30 to 80 percent of fine particulate matter at low wind speeds can be achieved, depending on the plant species. Tree plantings would be administered by a nonprofit organization(s) in Bakersfield. The Centennial Corridor Project will provide funds of $200,000 to a nonprofit organization, who will administer the voluntary tree planting program in order to plant as many trees as possible within 1,500 feet of the project until funds have been exhausted. The voluntary tree-planting program would allow property owners to have this air quality mitigation on their property if they are willing to take responsibility of watering and care for the tree(s). The estimate of $200,000 is based on the commercial-nursery

[7] U.S Environmental Protection Agency (EPA). 18 June 2015. "Residential Air Cleaners" Available Online at: http://www.epa.gov/iaq/pubs/residair.html#Air-Filters_Available-Evidence-of-Their-Usefulness

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	cost of providing one 24-inch boxed tree for each property within 500 feet of the freeway. Trees would be planted within private properties on a voluntary basis, with the highest priority of tree plantings to environmental justice communities within 1,000 feet of the Preferred Alternative B alignment, and secondly, properties within 500 feet of each side of the Alternative B alignment. If trees are available after the primary and secondary targeted areas, property owners within 1,500 feet of each side of the alignment would be given an opportunity for tree plantings. If trees are still available, they may be planted at other locations in consultation with and approved by the city of Bakersfield. *Sound walls* Sound walls are primarily implemented to abate noise impacts. According to the U.S. Environmental Protection Agency, research suggests that they can also serve as a barrier to reduce concentrations of traffic-related air pollutants immediately downwind of a roadway, depending on wall height, length and distance from the road. Pollutant concentrations also are generally lower for roads below grade with steep walls than near at-grade roads.[8] Along both sides of the Preferred Alternative B alignment, sound walls would be constructed and the roadway would be depressed from La Mirada Drive to Stine Road; the depressed roadway in conjunction of the construction of the sound wall would minimize pollutant concentrations. Preferred Alternative B would include the construction of a total of 25 sound walls that could directly minimize air quality impacts to residences behind the barriers. In conjunction with the proposed tree plantings for residences behind the proposed sound walls, research conducted by the U.S. Environmental Protection Agency believes that the "presence of sound walls, buildings and vegetation also has an impact on pollutant dispersion."[7] ***Air Quality Improvements to Reduce Construction-Related Emissions*** The Voluntary Emission Reduction Agreement will follow Rule 9510 set forth by the San Joaquin Valley Air Pollution Control District that will minimize any increases in particulate matter due to construction equipment. In addition, Caltrans would impose the following conditions to the construction contractor during construction of the Centennial Corridor Project: 1. Contractors must meet or exceed requirements of San Joaquin Valley Air Pollution Control District Rule 9510. 2. Construction equipment must meet or exceed U.S. Environmental Protection Agency Tier 4 exhaust emissions standards for non-road compression ignition engines and model year 2010 standards for on-highway compression ignition heavy-duty vehicle engines. 3. Use of cleaner fuels, such as electricity and hydrogen fuel options, if feasible. 4. Prohibited truck idling in excess of 5 minutes. 5. Work with San Joaquin Valley Air Pollution Control District to demonstrate and/or deploy heavy-duty technologies, such as heavy-duty plug-in hybrid-electric vehicles, battery-electric vehicles, fuel cell electric vehicles, and/or advanced technology locomotives. 6. Soliciting bids that include energy- and fuel-efficient fleets. 7. Soliciting preference for construction bids that use Best Available Control Technology, particularly those seeking to deploy zero emissions technologies. 8. Use of alternative fuel vehicles and fueling infrastructure, if feasible. 9. Use energy-efficient lighting systems, such as light-emitting diode. 10. Cement blended with maximum feasible amount of flash 11. Use lighter-colored pavement where feasible. 12. Recycle construction debris to maximum extent feasible. 13. Plant shade trees in or near construction projects where feasible.

[8] http://epa.gov/otaq/documents/nearroadway/420f14044.pdf

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	14. Use grid-based electricity and/or onsite renewable electricity generation rather than diesel and/or gasoline-powered generators during construction. The project as a whole will improve particulate matter emissions within the project limits, as shown in the particulate matter qualitative analysis shown in Table 3.28. Although the Centennial Corridor Project is not anticipated to worsen air quality within the general area of the alignment, Caltrans is providing improvements and minimization measures to reduce both operational and construction-related emissions.
F-1-7	In Comment F-1-7, the U.S. Environmental Protection Agency acknowledged that the Draft Environmental Impact Statement includes disclosure of mobile source air toxics, but notes that there were no conclusions about the potential health risk to the community. The following response amplifies the Draft Environmental Impact Statement that the study of mobile source air toxics, dose-response effects, and modeling tools is currently in a state where accurate information is incomplete or unavailable. Per the Federal Highway Administration's Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA (December 6, 2012), information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in mobile source air toxics emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to mobile source air toxics exposure associated with a proposed action. The U.S. Environmental Protection Agency is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments, and they have specific statutory obligations with respect to hazardous air pollutants and mobile source air toxics. The U.S. Environmental Protection Agency is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System, which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects."[9] Each report contains assessments of noncancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude. Other organizations are also active in the research and analyses of the human health effects of mobile source air toxics, including the Health Effects Institute. Two Health Effects Institute studies are summarized in Appendix D of the Federal Highway Administration's Interim Guidance Update on Mobile source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to mobile source air toxic compounds at high exposures are cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of mobile source air toxic compounds at current environmental concentrations[10] or in the future as vehicle emissions substantially decrease[11]. The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts – each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the mobile source air toxics health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70-year) assessments, particularly because unsupportable assumptions would have to be made

9 EPA, http://www.epa.gov/iris/
10 HEI, http://pubs.healtheffects.org/view.php?id=282
11 HEI, http://pubs.healtheffects.org/view.php?id=306

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	regarding changes in travel patterns and vehicle technology, which affects emissions rates, over that time frame, because such information is unavailable. It is particularly difficult to reliably forecast 70-year lifetime mobile source air toxic concentrations and exposure near roadways, determine the portion of time that people are actually exposed at a specific location, and establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable. There are considerable uncertainties associated with the existing estimates of toxicity of the various mobile source air toxics because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, which is a concern expressed by HEI.[12] As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for mobile source air toxic compounds and, in particular, for diesel particulate matter. The U.S. Environmental Protection Agency[13] and the Health Effects Institute[14] have not established a basis for quantitative risk assessment of diesel particulate matter in ambient settings. There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the U.S. Environmental Protection Agency as provided by the Clean Air Act to determine whether more stringent controls are required to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires the U.S. Environmental Protection Agency to determine an "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in 1 million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in 1 million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in 1 million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in 1 million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld the U.S. Environmental Protection Agency's approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable. Because of the limitations in the methodologies for forecasting the health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis. To further illustrate the points made above, the Federal Highway Administration reviewed health risk assessments for a hypothetical roadway under a National Cooperative Highway Research Program research project and three major roadway projects (FHWA-AZ-EIS-14-01-F): The Federal Highway Administration's review focused on the methodologies used in the studies and the findings related to the incremental health risk attributable to the projects. All four of the health risk assessments involved very conservative assumptions regarding emissions and exposure. For example, each of the studies assumes constant near-term emissions rates, even though national projections by the U.S. Environmental Protection Agency and the emissions analysis for this project [the same is true for the Centennial Corridor Project] show that there will be a large decline in emissions over the lifetime of the project. Likewise, all 4 of the modeling studies

12 HEI, http://pubs.healtheffects.org/view.php?id=282
13 EPA, http://www.epa.gov/risk/basicinformation.htm#g
14 HEI, http://pubs.healtheffects.org/getfile.php?u=395

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	assume constant breathing of outdoor air at a fixed location for either 30 years (1 study) or 70 years (3 studies). They assume that people will not change residence (which occurs every 8 years on average in the United States), change jobs (which occurs every 3 years on average), or travel to different parts of a metropolitan area over the course of a given day (even though people travel 26 miles per day on average). The studies even assume that students will remain at elementary schools 24 hours per day for 30 or 70 years. These assumptions are not realistic and introduce a considerable amount of uncertainty into the results. Even with these conservative assumptions, the 4 studies all report very low risk. Estimated incremental cancer risk from vehicle traffic at the worst-case location in each study ranged from 0.08 case of cancer per million people to 2 cases per million people. As a point of reference, the risk management framework in the U.S. Environmental Protection Agency's Air Toxics Risk Assessment Reference Library defines risk levels between 1 in 1 million and 100 in 1 million as "acceptable." (A risk level of "1 in 1 million" is frequently mentioned in discussions of cancer risk, but under U.S. Environmental Protection Agency risk assessment guidelines, this represents a level below which risk is considered "negligible" and is not a standard or other type of pass/fail threshold.) For noncancer health risks, the U.S. Environmental Protection Agency uses a metric known as the "hazard quotient," where the estimated risks for each pollutant are added together, and a total of less than 1 is considered acceptable. Each of the locations modeled in 3 of the studies had hazard quotients from vehicle emissions of less than 1, in most cases much less; the remaining study did not calculate a hazard quotient. In short, none of these health risk assessments for major roadway projects (including the 2 examples provided by the U.S. Environmental Protection Agency) identified health risks in excess of the "acceptable" thresholds in the U.S. Environmental Protection Agency's risk management framework. To help put these low health risks from roadway emissions into perspective, the Federal Highway Administration compared them with health risks from traffic fatalities. In 2010, there were 2.47 million deaths in the United States, and 32,728 of these were due to traffic fatalities, meaning that the risk of dying in a traffic accident in 2010 was 0.0106 percent. Converted to terms of risk per million people, this represents a risk of 106 in 1 million per year, or 7,420 in 1 million as a 70-year lifetime risk, consistent with cancer risk estimation. While this risk is very high, and while the Federal Highway Administration is actively working to improve highway safety, most people seem to consider this risk "acceptable" in the sense that they do not avoid vehicle trips to reduce it. In addition, if the mobile source air toxics risk estimates in the studies summarized above are correct, it means that the incremental risk of cancer from breathing air near a major roadway is several hundred times lower than the risk of a fatal accident from using a major roadway. The U.S. Environmental Protection Agency must make decisions regarding acceptable risk when it develops regulations to control hazardous air pollutants (air toxics) under Titles II and III of the Clean Air Act. The U.S. Environmental Protection Agency's National Emission Standards for Hazardous Air Pollutants for benzene emissions is based on attaining a risk level of no more than 100 cases of cancer per 1 million people. The U.S. Environmental Protection Agency's 2007 mobile source air toxics rule, covering vehicles, fuels, and fuel containers, is designed to result in a remaining risk of approximately 5 in 1 million. Both of these risk levels, considered acceptable by the U.S. Environmental Protection Agency as an outcome of its rulemaking processes, are much higher than the estimated risk from the highway projects that the Federal Highway Administration reviewed. Caltrans will monitor mobile source air toxic emissions between opening year (2018) and horizon year (2038) conditions and provide the U.S. Environmental Protection Agency relevant air quality data upon request. Caltrans will utilize data from an existing air quality monitoring station located 0.6-mile from the Alternative B alignment at 5558 California Avenue in the city of Bakersfield. Caltrans will request the San Joaquin Valley Air Pollution Control District to provide an additional air quality monitoring station adjacent the Preferred Alternative B alignment. Through advancement in vehicle and fuel composition technology, mobile source air toxic emissions would likely decrease

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	within the general area of the Preferred Alternative B alignment by horizon year (2038) conditions.
F-1-8	Executive Order 13045 provides, in part, that Federal agencies make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children and to ensure that their policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks. It further directs Federal agencies to protect children from environmental health and safety risks in carrying out their missions. For each "covered regulatory action" (e.g., any substantive action in rule making that is likely to result in a rule that is economically significant [Executive Order 12866] or rule making an agency has reason to believe may disproportionately affect children) submitted to the Office of Management and Budget Office of Information and Regulatory Affairs pursuant to Executive Order 12866, Federal agencies should include an evaluation of the effects of the planned regulation on children and why it is preferable. Caltrans does not believe the proposed alternatives would disproportionately affect children, nor are the proposed alternatives described in the Draft Environmental Impact Statement regulatory in nature. The Draft Environmental Impact Statement incorporates an assessment of the potential impacts of the proposed project on all populations, including children. As shown in Table 3.4, Effects on Parks by Alternatives, in the Final Environmental Impact Statement, the Preferred Alternative would have no impacts to parks within the project area. Additionally, community character and cohesion is analyzed in the Final Environmental Impact Statement in Section 3.1.4.1, Volume 1.This analysis identifies neighborhood schools and community facilities. Sensitive receivers for air are already included in the air quality analyses in accordance with state and Federal guidance. The Air Quality section in the Final Environmental Impact Statement, Section 3.2.6 in Volume 1, has addressed requirements under the National Environmental Policy Act. The National Ambient Air Quality Standards. Clean Air Act § 109(b)(1) requires the U.S. Environmental Protection Agency to promulgate primary National Ambient Air Quality Standards at levels that allow an adequate margin of safety and are requisite to protect the public health. As noted by the U.S. Environmental Protection Agency in its 2013 rulemaking for particulate matter, Clean Air Act § 109's legislative history demonstrates that the primary standards are "to be set at the maximum permissible ambient air level … which will protect the health of any [sensitive] group of the population" (78 *Federal Register* 3086 and 3090) (quoting S. Rep. No. 91-1196, 91st Cong., 2 Sess. 10 [1970]) (alterations in original). Accordingly, the Draft Environmental Impact Statement National Ambient Air Quality Standards based evaluation of criteria air pollutants included a health-based review of sensitive populations, including children, given the National Ambient Air Quality Standards' inherent consideration of those factors. Furthermore, the National Ambient Air Quality Standards-based assessment ensures adequate consideration of health based issues as "[t]he requirement that primary standards provide an adequate margin of safety was intended to address uncertainties associated with inconclusive scientific and technical information … and to protect against hazards that research has not yet identified" (78 *Federal Register* 3090). Likewise, as noted in Table 3.25, Volume 1, of the Final Environmental Impact Statement, 10 intersections were modeled for carbon monoxide concentrations. Receptor placement met the criteria for selecting modeling locations as specified in 40 *Code of Federal Regulations* § 93.123(a). (See also the responses to U.S. Environmental Protection Agency comments above, which address particulate matter, air quality conformity, and mobile source air toxics.) As mentioned in the response to comment F-1-6, Caltrans would provide funds to the San Joaquin Valley Air Pollution Control District for administering improvement programs to enhance children's health and safety. These improvements include heating, ventilation, and air conditioning (HVAC) upgrades to daycare centers, pre-schools, and schools within 1500 feet of the Preferred Alternative B. In addition, high-polluting diesel school buses would be retrofitted with a diesel filter to reduce bus

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	particulate matter emissions comparable to a compressed natural gas bus. These improvements would be funded through the Voluntary Emission Reduction Agreement. As part of the environmental commitments for this project, Caltrans will require that the construction contractor implement all applicable control measures included in the San Joaquin Valley Air Pollution Control District's *Guide for Assessing and Mitigating Air Quality Impacts*. Chemical stabilizers/ suppressants and other best available control and standard control measures will be used in construction areas to mitigate potential respiratory impacts, including asthma, from air pollutant emissions and the generation of fugitive dust. As indicated in minimization measure SC-CI-21 in Appendix F, construction areas near sensitive receptors are required to adhere to conditions to minimize exposure to construction-related hazardous materials and chemicals. Caltrans will also incorporate requirements into the contract specifications requiring that the construction contractor comply with the provisions of the National Emissions Standards for Hazardous Air Pollutants regulations as listed in the Code of Federal Regulations requiring notification and inspection for construction activities, thereby minimizing potential impacts from the use of chemicals and hazardous materials to children living near the project construction areas. Implementing the aforementioned minimization measures is anticipated to result in less than significant impacts to children living near project construction areas. *Noise* As stated in Section 3.2.7, Noise, in Volume 1 of the Final Environmental Impact Statement, more than 532 sensitive receivers were evaluated at exterior locations from a traffic noise perspective. All of the receivers represent noise-sensitive land uses in proximity to the proposed project, including homes, schools, and parks, and these receivers would have higher noise levels than similar facilities more distant from the proposed action. In response to comments by the U.S. Environmental Protection Agency, each modeled school was re-examined to determine whether noise impacts would result from the proposed freeway and whether appropriate mitigation of these impacts was provided (see Response to Comment F-1-9). Through this analysis, Caltrans has determined that the proposed project would not produce disproportionate impacts to children's environmental health and safety.
F-1-9	The frequent outdoor use areas along the proposed alignment were identified in the Noise Study Report and feasible and reasonable sound walls were considered for areas that would be impacted by the traffic noise. Harris School is approximately 800 feet from the roadway alignment and there are several rows of houses between the school and the roadway. Therefore the school would not be considered impacted in accordance to the Caltrans/Federal Highway Administration guidelines. A sound wall is considered for this area that will reduce traffic noise at the areas close to the roadway but it would not have any effect on the school due to the distance. Stockdale Christian School is located 375 feet from the edge of roadway and the predicted exterior noise levels would be 58 decibels for Alternative B. A 20- to 25-decibel drop in interior noise levels is normally expected when compared to exterior noise levels, which would put the interior noise level around 33 to 38 decibels, which is well below the Caltrans/Federal Highway Administration 52-decibel classroom noise limit. The final environmental document has identified schools or day care centers within the project area for potential noise impacts to schools and day care centers for all build alternatives within the project area. A map showing the location of the schools and day care centers are identified in Figure 3-3, and listed in Section 3.1.4.3, Environmental Justice, in Volume 1 of this final environmental document. Thorough research has been conducted to identify schools or day care centers within the project area. The noise study indicates that there are no schools within the Alternative A alignment, west of State Route 99 that would be impacted by traffic noise. Under Alternative C, there are no schools or day care centers close to the existing State Route 99, north of State Route 58, that would be impacted by traffic noise. For all analyzed build alternatives, there are no schools or day care centers near the existing State Route 58 that would

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	be impacted by traffic noise. Within the Preferred Alternative B project area, one school and two day care centers may be affected as a result of the project, as discussed below. ***Five Star Day Care Center*** Five Star Day Care Center is a day care center located west of State Route 99 and north of Bell Terrace, which is approximately 200 feet from the nearest future traffic lane for Alternative A and Preferred Alternative B. This day care center is identified as Receiver R99-40. This day care center will be demolished under Alternative C. The predicted exterior future traffic noise level at this receiver is 71 decibels. Assuming a 25-decibel noise reduction, the interior noise level would be 46 decibels at Receiver R99-40, which is below the interior noise abatement criteria of 52 decibels. ***Stockdale Christian School*** Stockdale Christian School is located 375 feet south of Alternative B west of State Route 99. This school is identified by Receiver RB-38. The predicted future exterior traffic noise level at the closest point of this school to the alignment is 58 decibels, which is below the noise abatement criteria of 67 decibels. The recommended sound wall at this area would reduce traffic noise to 57 decibels, which means the future interior noise level would be 31 decibels if building noise reduction of 32 decibels is assumed. ***Caring Corner Day Care Center*** Caring Corner Day Care Center, which is located east of State Route 99, south of State Route 58, is 300 feet from the right-of-way line. There is an existing 10-foot-high sound wall at this location that may be replaced a few feet closer to Wible Road due to the additional space requirements of the project. The future traffic noise level was not predicted at this location, but it was at the swimming pool area of the Ramada Inn next to this day care building. The swimming pool area, which is identified as Receiver R99-14 and is located 110 feet from the right-of-way line, would have a future exterior noise level of 73 decibels. The future noise level at the day care center would be at least 4 decibels less due to the distance attenuation; therefore, the anticipated exterior noise level would be 69 decibels. Assuming a noise reduction of 25 decibels, the future interior noise level would be 44 decibels, which is below the noise abatement criteria of 52 decibels. Based on the summary of the noise analysis provided above, interior noise levels at Five Star Day Care Center, Stockdale Christian School, and Caring Corner Day Care Center are not anticipated to exceed 52 decibels. To abate for exterior noise, the project will construct sound walls within the general area of Stockdale Christian School and Caring Corner Day Care.
F-1-10	Caltrans understands and acknowledges that there has been a growing recognition that minority and low-income populations are more vulnerable to pollution impacts and other factors deleterious to health and quality of life. While this was a major underpinning of Executive Order 12898 when issued in 1994, even stronger evidence has emerged since then owing to scholarly studies and scientific literature that have looked closer at the linkage between health and communities of color and other under-represented communities. In fact, the Caltrans Director issued a statewide Director's Policy (DP-#21) policy to ensure that minority and low-income populations are not discriminated against, treated unfairly, or made to suffer disproportionately from transportation decisions that benefit the whole. The environmental justice analysis included in the final environmental document (Section 3.1.4.3) has demonstrated that there is not a disproportionate adverse impact to minority or low-income populations associated with implementation of the Preferred Alternative. Census Tract 19.01 (Block Group 3) is not considered an environmental justice community. However, Census Tract 18.01 (Block Group 1), directly west of State Route 99 (shown in Figure 3-9c in Volume 2) is considered an environmental justice community. Neither of these Census tract block groups would be directly impacted by implementation of the Preferred Alternative B. The completion of Build Alternative C

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	would cut through both these Census Tracts. Neither of these Census tract block groups, which are not considered environmental justice communities, would be directly impacted by implementation of the Preferred Alternative B. Additional discussion has been included in the final environmental document in Section 3.1.4.1, Community Character and Cohesion, on the sense of enclosure that those residing within those homes located in a portion of Census Tract 28.12, west of South Real Road, may potentially experience. It should be noted, however, the sense of enclosure would actually apply to very few single family residences located west of Real Road, south of Stockdale Highway and north of the Preferred Alternative B alignment because of the presence of a new aerial freeway structure adjacent to the residences. The sense of enclosure would only apply to very few properties once the Preferred Alternative B is implemented due to the houses in the alignment footprint being acquired for the project while keeping the remaining Census Tract 28.12 whole. Surveys were completed in 2009 for the community within southwest Bakersfield, which includes Census Tract 28.12 and all of its Block Groups. Many respondents commented on the good freeway access (State Route 99 and State Route 58) offered by the neighborhood. At the same time, many respondents commented on noise from these highways as an existing problem and requested sound walls. Provision of noise walls to address existing sound from State Route 99 and State Route 58, addressing speeding traffic on local streets, improving street lighting, and sidewalks and street pavement conditions were listed many times as potential issues the Centennial Corridor Project could address. Multiple respondents commented that, in looking at the map, the project does not appear to affect their neighborhood. Many respondents expressed general support for the project and complained about congestion on State Route 58 (West) (Rosedale Highway). Sound walls, landscaping with trees, speed bumps, and stop signs as traffic-calming measures were listed as potential project features to help make the project more compatible with the neighborhood. Several respondents expressed interest in an elevated highway being built. As discussed in the environmental document in Section 3.1.7, Visual/Aesthetics, the Preferred Alternative B would have adverse effects on the visual character of the project area. Many residential properties would be relocated to build the new freeway, and the new freeway structures and sound walls would change the residential landscape and visual character of the bisected community. Though a lengthy segment of the new State Route 58 freeway will be depressed as it traverses the Westpark community, the presence of State Route 99 and existing State Route 58 requires that an elevated freeway and sound walls be built in those general areas located southeast of Westpark. Mitigation and minimization measures for softening the visual impacts of the new freeway include incorporating an overall design theme in keeping with the overall Westside Parkway design theme, including aesthetic concrete sound walls and bridge treatments with textural façades, and decorative lighting fixtures, to provide contrast and avoid a monolithic appearance. Furthermore, Caltrans, in an executed Memorandum of Agreement, as part of its National Historic Preservation Act Section 106 responsibilities, has agreed to incorporate hardscape and landscape features, including color and texture treatments that are compatible with the character of the Rancho Vista Historic District, which is located south of Stockdale Highway, in an executed Memorandum of Agreement. In addition, Caltrans will preserve as many mature trees as practical and has prepared a landscape plan that incorporates tree replacement at a 1:1 ratio (i.e., for every tree removed, a tree will be planted). In addition, as a compatibility feature and betterment, a $200,000 grant by the Centennial Corridor Project will be provided to a nonprofit organization(s) in Bakersfield to administer the voluntary tree planting program which will provide trees at no cost to willing homeowners located within 1,500 feet of the new freeway. Trees would be planted within private properties on a voluntary basis, with the highest priority of tree plantings to environmental justice communities within 1,000 feet of the Preferred Alternative B alignment, and secondly, properties within 500 feet of each side of the Alternative B alignment. If trees are available after the primary and secondary targeted areas, property owners within 1,500 feet of each side of the alignment would be given an opportunity for tree plantings. If trees are still available,

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	they may be planted at other locations in consultation with and approved by the city of Bakersfield. A positive impact would result from a new project feature consisting of construction of a sidewalk connection within the project right-of-way and a link of La Mirada Drive to the area of Westpark located near Joseph Drive, east of McDonald Way. This feature will be consistent with the overall city-wide plan for multiuse paths. This would allow a greater number of resident's potential means of nonmotorized modes of travel to access Centennial Park and have closer reach to other nearby community facilities, such as Harris Elementary School or Barnes and Noble Books/Starbucks. This eliminates what would have otherwise become a more circuitous pathway for residents of those houses located in the area of Joseph Drive and the surrounding neighborhood. The new sidewalk connection to be used by pedestrians and bicyclists will help correct an oversight that has existed since the early 1970s, which, intentional or not, allowed for the separation of community facilities based on the socioeconomic or demographic characteristics of its users, which we explore further below beginning with some background history and providing some demographic analysis. Most of the land that makes up today's Westpark was originally owned by the Kern County Land Company, but there are in some ways two Westpark neighborhoods. Whereas the houses on Joseph Drive and immediate streets south and east were built in the middle 1950s, those houses located on La Mirada Drive and streets north and west date their construction to the early to middle 1970s. The evolution of land use is visible by looking and comparing photographs available online through historicaerials.com. This lack of connectivity has deep historical roots. As part of its master-plan development for Westpark, the Stockdale Development Corporation, which owned the Kern County Land Company, saw the newer area it was developing with houses as more exclusive, beginning with its donation of 9 acres to the city of Bakersfield in 1969 for the creation of Centennial Park, which was highly touted in real estate ads as a community resource. The newer portion of the Westpark neighborhood was developed with more of a curvilinear street design approach, partially in reaction to the traditional postwar housing tract of the 1950s, which was being more widely criticized for its "sameness." The houses in the newer portion of Westpark were designed by a prominent local builder and designer of custom homes, John Deeter, whose name was featured as a selling point in local advertising. Not surprisingly perhaps, the older Westpark neighborhood (e.g., Joseph Drive), though shoulder-to-shoulder with and backing up to La Mirada Drive, was not connected with Centennial Park, and its street access orientation was more closely aligned with Stockdale Highway. This lack of connectivity had long-term implications for the community, which might be examined by some other means. Unfortunately, because of the way the U.S. Census Bureau collects and releases demographic and income data, we cannot get down to a street-by-street measurement of residency location of environmental justice populations because of the suppression of data and the need to protect the confidentiality of households; however, in that Census Tract 18.01 at La Mirada/Mira Loma Drive and Joseph Drive is broken down into two separate Block Groups, some comparative analysis is possible. Block Group 2, which includes Joseph Drive, had 12 percent higher Latino/Hispanic population as a total percentage compared to Block Group 3, which includes La Mirada Drive (44 versus 32 percent); Block Group 3 had a greater percentage of whites than Block Group 2 (50 versus 43 percent). In addition, while the U.S. Census Bureau does not provide income data at a Block Group level, we have other tools we can use as a proxy measuring stick. For example, our recent analysis found that the average house value for single-family residences located on Joseph Drive is perhaps 33 to 40 percent less than those houses on La Mirada Drive (Zillow.com data accessed in April 2015). Rents are also substantially less by several hundred dollars for houses located in the older section of Westpark compared to the newer section, as represented by these same two adjacent city streets. Even those houses with backyard swimming pools, as viewed in aerial

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	photographs, are in remarkable contrast between the two streets, which might offer still one more indication of the existing gap in the economic status between the two neighborhood areas. In summary, in improving connectivity for nonmotorized modes, the pedestrian and bike path at La Mirada Drive will help provide a linkage of the neighborhoods and provide greater opportunity for all segments of society to have access to Centennial Park.
F-1-11	The Uniform Relocation Act includes a relocation assistance program that provides for an advisory service and monetary benefit program for individuals and businesses being displaced as a result of a public project. At this stage it is expected that Alternative B would displace a total of 310 residential parcels and 121 industrial and commercial business parcels. Alternative B would relocate about 38 utility lines or facilities as well. The Final Relocation Impact Report (February 2015) identified that there may be about 500 to 600 available residential properties for rent or for sale in any particular month within the replacement area (a 15-mile radius from the State Route 58/State Route 99 interchange in the city of Bakersfield), and would supply adequate comparable housing replacements. As assessed in January 2015, 341 available commercial and/or industrial properties were identified for rent or purchase in the commercial sectors of Bakersfield and adjacent areas. It is evident that many replacement housing options for renters and buyers affected by the project are available in the immediate project area as well as the larger replacement area region. Please see the Final Relocation Impact Report prepared for this project for more information about relocation opportunities. All benefits and services will be provided equitably to all residential and business displacees without regard to race, color, religion, age, national origins, and disability as specified under Title VI of the Civil Rights Act of 1964. The advisory assistance program for individuals and businesses will assist in the relocation by discussing needs and preferences regarding the details of a move, explaining the rights and benefits available, and providing help in obtaining the monetary benefits for which individuals and businesses are eligible. Additionally, advisory assistance includes providing information on available replacement sites, including purchase and rental costs, and coordinating and educating landlords, property managers, and other real estate professionals to help secure replacement properties. The monetary benefits of the program for residential occupants include three types of payments available to eligible individuals being displaced from their primary place of residence: (1) a Replacement Housing Payment to assist with the cost of either purchasing or renting a replacement dwelling, (2) payment of closing or incidental costs associated with purchasing a replacement home, and (3) a moving payment to assist with the relocation of personal property. Research indicates that approximately 11.5 percent of Bakersfield's total households are considered extremely low income (defined as households with income below 30 percent of Area Median Income), and approximately 13 percent are very low income (defined as households with income between 31 percent and 50 percent Area Median Income). The 2010 U.S. Census showed that 20.6 percent were below the poverty line; a family of four is considered impoverished if its earnings are less than $22,050 annually. Therefore, it is likely that low-income displacees will be encountered in this project. Prior relocation experience with low-income individuals has revealed that individuals with low income typically require higher relocation payments of Last Resort (a mandatory allowance of the Uniform Relocation Act), and greater assistance in finding replacement housing because of their financial limitations. The city of Bakersfield, who is responsible for the right-of-way acquisition, will address this concern by developing a deep understanding of lower income relocation housing options, exploring thoughtful approaches to dealing with complicated credit issues, and performing due diligence to ensure the displacees' financial situation is well understood. The city of Bakersfield is considering various options for addressing issues with displacee's financial situations, including special loan programs, incentive

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	programs for landlords, and other financial assistance to allow all displacees to obtain housing in a timely manner and on a case-by-case basis. The U.S. Department of Housing and Urban Development conducted a comprehensive analysis of the Bakersfield-Delano housing market area in 2013. They found that the housing market was still somewhat soft but improving. The expanding housing supply is expected to offset some of the housing that will be removed from the local market as a result of the right-of-way acquisition needs of the Centennial Corridor Project, but the effects on the overall housing market are not substantially different than was reported in 2011. The draft environmental document reported the total housing stock available for replacement was about 547 units, which includes single- and multi-family units. An updated review of the housing stock was completed in January 2015, and it was included in the Final Relocation Impact Report and the final environmental document. Based on the review, approximately 496 units were available for potential replacement housing. The 9 percent reduction within 4 years shows housing resources have remained relatively stable. Based on the project's needs of 310 residential displacements, the current housing stock and options that the city of Bakersfield is considering for low-income and other special circumstances (e.g., elderly, minorities) will be adequate in addressing relocation needs of displacees. As described in Chapter 5, Comments and Coordination, of the final environmental document, Caltrans staff has attended meetings; conducted surveys; provided handouts and mailers; given presentations; and received input at local neighborhood meetings, city of Bakersfield/County of Kern-sponsored meetings, and numerous public meetings to update interested parties and the public on the project as it evolved over time. Outreach efforts to update interested parties and the public on the project also included organizations, such as local communities and planning groups, homeowners associations, Chambers of Commerce, City Council meetings, and local politician-sponsored meetings. These efforts began as early as 2001 and became more intensive in 2004. Efforts will continue to be made by Caltrans to ensure meaningful opportunities for public participation during the entire project planning and delivery process. These may include, but are not limited to, additional community meetings, informational mailings, a project Web site, and news releases to local media. The community outreach and public involvement programs for the project will continue to actively seek and effectively engage the affected communities. The final environmental document has been updated to reflect a public hearing held in 2014. Note that the city of Bakersfield, through the Thomas Roads Improvement Program office, has been proactive in its outreach for the right-of-way program. Two community meetings with a right-of-way focus have been conducted – one on December 6, 2012, and one on June 11, 2014 – to keep the affected property owners informed about the relocation claims process and benefits, as well as to provide the opportunity for the displacees to express their concerns about relocation issues. In addition, the city of Bakersfield, through the Thomas Roads Improvement Program office, has hired a right-of-way consultant, Overland, Pacific, and Cutler, to implement and manage the Centennial Corridor Project's right-of-way program. As recommended, additional measures beyond those originally outlined in Measure C-2 are being implemented and include an early acquisition program. This program will allow the affected property owners to engage in the right-of-way process early to mitigate hardship and environmental concerns, as well as to resolve the challenge relocate more than 300 businesses/residences required for the project in a short period of time. Following acquisition of required right-of-way, there is a possibility that acquired properties may sit vacant until construction activities begin. As a result, vacant properties may be undesirable for adjacent property owners whose property was not acquired for the Centennial Corridor Project. However, demolition of vacant structures on acquired right-of-way would be the first order of work once project construction begins; therefore, vacant structures subject to demolition would be demolished prior to other scheduled construction activities such as grading and paving. If a home or

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	building has been acquired for the project, Caltrans and the city of Bakersfield have developed a strategy to minimize vacant properties. To enhance safety and to minimize graffiti, and vagrancy problems associated with vacant buildings, Caltrans and the city of Bakersfield would reduce the amount of vacancy by implementing the following options for acquired properties: (1) rent the homes and businesses on a month-to-month basis to keep them occupied as long as possible in advance of demolition; or (2) demolish each building as soon as feasible after acquisition. This latter option would result in vacant lots interspersed in business areas and neighborhoods. With either option, proper management of acquired property is a key consideration. Caltrans has committed to mitigation providing all relevant materials related to relocation services to displacees in a nontechnical manner in Spanish and English. One or more of the relocation specialists assigned to the Centennial Corridor Project will be fluent in Spanish. Another mitigation measure agreed upon is to work with the Kern County Department of Human Services to develop and widely distribute a booklet that will include information in such areas as employment opportunities and workforce development; legal services; financial and tax consequences of relocation; possible homeowner credit-repair counseling; first-time buyer counseling; and other services for special needs populations, including disabled, low income, and senior citizens. The city of Bakersfield conducted a walkability analysis through Walk Score to address nonmotorized circulation through Westpark. Walk Score is a private company that provides community walkability information for any given address in its neighborhood through a database that is accessible on their Web site and some mobile applications. For each property address, a Walk Score is given (from 1 to 100; the higher the number the more "walkable" it is) based on the number of typical consumer destinations and amenities (e.g., grocery stores, restaurants, banks, dry cleaners, medical services, parks, schools) available within a 0.25-mile walking distance and the ease to which they are reached. The core philosophy for users of Walk Score is that "walkable neighborhoods with access to public transit, better commutes, and proximity to the people and places you love are the key to a happier, healthier, and more sustainable lifestyle." While the city of Bakersfield has an average Walk Score of 34 (out of 100), Westpark properties have Walk Scores as high as 69. The community is served by a wide variety of restaurants, coffee shops, medical service facilities, and public transit along California Avenue and Stockdale Highway. The only homes in the community with Walk Scores lower than the city average are located farthest from major arterials on N. Stine Road, Joseph Drive, and La Mirada Drive. With the proposed multipurpose trail and overcrossings at Marella Way and La Mirada Drive, the State Route 58 freeway segment is not expected to adversely impact walking distances or Walk Scores for any properties in the neighborhood. The Centennial Corridor Project includes many mitigation measures designed to address project-related community concerns. Specifically, these include replacement tree landscaping to provide visual screening and to blend with adjacent landscaping; use of retaining walls in applicable locations to reduce grading requirements; and incorporation of textural façades on retaining walls and sound walls to provide contrast and character and to help avoid a monolithic appearance. New architectural features will reflect context-sensitive solution principles, including structures, retaining walls, sound walls, lighting fixtures, and other freeway appurtenances, that are congruent with the neighborhoods that they are passing through. Preserving the essential character of the affected communities is vital to minimizing the impacts that a new highway would create. This will be accomplished by promoting the planting of trees and vegetation alongside the highway and sound walls to help screen and soften the overall presence of the infrastructure. Maintaining bicycle and pedestrian access within the Westpark community is an important aspect of community cohesiveness. The project will be designed to retain existing pedestrian and bicycle travel ways to the extent feasible. The existing Class II bike lanes on Stockdale Highway and California Street will not be impacted by the project. Caltrans will also minimize operational and construction impacts to existing and

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	planned bike routes and trails potentially affected by the project construction, to the extent feasible. The city of Bakersfield currently has a Master Bikeway Plan as part of its Metropolitan Bakersfield General Plan. The Bikeway Plan provides an overall goal to ensure connectivity between bike lanes and trails through the city. One of the goals of the Bikeway Plan is the ability of all communities in Bakersfield to easily access the Kern River Parkway Trail. Pedestrian and bicycle access across the freeway would be maintained at several key spots (i.e., California Street, Stockdale Highway, La Mirada Drive, Ford Street, and Marella Way) to help circulation from neighborhood sections that would otherwise be cut off. Bicycle-friendly design elements would be incorporated into the final design, whenever feasible; these elements would include marked outside shoulders, bicycle-friendly drainage system planning, and bike lanes at signalized intersections. Directional signs indicating how to access the Kern River Bicycle Trail will be placed in key locations are identified as part of the Bikeway Plan. Other bicycle and pedestrian access and connectivity points are not precluded and would continue to be evaluated during final design. Within the project, a bicycle/pedestrian trail will be placed parallel to the project across the Carrier Canal to connect California Avenue to Commerce Drive to maintain connectivity for the bike trail/lane network within the city. Please note that the option of removing the La Mirada Drive overcrossing from the Preferred Alternative B was also considered; however, after circulation of the draft environmental document, Caltrans decided to construct all of the proposed crossings, including maintaining the existing La Mirada Drive overcrossing to preserve connectivity. Accordingly, proposed overcrossings at La Mirada Drive and Marella Way, as well as the proposed undercrossing at Ford Avenue, would provide three local street connections between California Avenue and Stockdale Highway. The city and Caltrans have committed to a dedicated new pedestrian sidewalk for the benefit of residents in homes located on the south side of La Mirada Drive on the west and south of Joseph Drive on the east to better connect newly divided areas and shorten the route for pedestrians to access popular community facilities located on either side of the freeway, including Centennial Park, Harris Elementary School, and other neighborhood destinations. This proposed feature would upgrade bicyclist and pedestrian access via La Mirada Drive. In addition, the city currently has a Capital Improvement Program project to improve operations at the signalized intersection of Truxtun Avenue and Commercial Way. This project includes the installation of a north/south pedestrian crosswalk across Truxtun Avenue, which will encourage nonmotorized circulation south of Stockdale Highway and north of California Avenue. Caltrans staff has been coordinating with the California High-Speed Rail Authority since January 2009. Current coordination efforts include assessing relocation impacts related to the proposed high-speed rail alignment in Bakersfield. This coordination will continue as both projects evolve.
F-1-12	In identifying noise impacts, primary consideration is given to exterior areas of frequent human use. In situations where there are no exterior activity areas, or where the exterior activities occur far from the roadway are physically shielded in a manner that prevents an impact or exterior activities, the interior criterion is used as the basis for determining noise impacts. Evaluation location for the interior impacts (Category D) consists of auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios. Land uses that meet these standards along the Centennial Corridor Project are: Bakersfield fire station, Stockdale Christian School, Central Bakersfield Community Center/Clinica Sierra Vista, and Montessori Children's Center. Average noise reduction for open windows is 5 decibels, partially opened windows is 10 decibels and for closed windows is between 20 to 25 decibels. These findings were discussed in a research paper published by Napier University entitled "Open/Closed Window Research: Sound Insulation through Ventilated Domestic Windows." For

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	buildings with air conditioning units and interior circulation a noise reduction of 20 to 25 decibels is assumed. Therefore, exterior noise levels of 75 decibels would be reduced to an interior noise level of 50 to 55 decibels. Additionally, as stated previously, when the predicted peak-hour traffic noise is 75 decibels at a location, the daily exposure would be much less than 75 decibels because traffic noise subsides drastically during late night or early morning hours. As a result there is no possibility for hearing loss because people would not be continually exposed to such noise levels throughout the entire day. The Caltrans Technical Noise Supplement discusses the rate at which hearing damage is caused. The maximum allowable noise exposure over an 8 hours period is a level of 90 decibels. For each halving of the exposure time, the maximum noise level is allowed to increase 5 dBA. Therefore, the maximum allowable noise exposure (100%) is 90 decibels for 8 hours, 95 decibels for 4 hours, 100 decibels for 2 hours, 105 decibels for 1 hour, 110 decibels for 30 minutes, and 115 decibels for 15 minutes. Preparation of the *Noise Study Report* (March2014) for the Centennial Corridor Project follows the *Traffic Noise Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects* (May 2011), which was prepared by the Federal Highway Administration and Caltrans to comply with Title 23, Part 772 of the *Code of Federal Regulations*, "Procedures for Abatement of Highway Traffic Noise and Construction Noise." This guidance for highway traffic noise outlines the procedures for noise studies that are required for approvals that are required by the Federal Highway Administration and/or Federal –aid highway projects. The *Noise Study Report* (January 2013) for the Centennial Corridor Project was conducted in accordance with the Federal Highway Administration and Caltrans regulations and guidelines. In accordance with Federal Highway Administration requirements, achieving at least a 5-decibel noise reduction is considered providing the required abatement measure for the impacted outdoor frequent use areas. Because the Centennial Corridor Project requires approval from the Federal Highway Administration, the Noise Study Report was prepared in accordance with *Traffic Noise Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects* (May 2011). Based on the guidelines prepared by Federal Highway Administration and Caltrans, traffic noise impacts are determined using the peak noise hour of a day and not daily noise levels as it is done by U.S. Environmental Protection Agency or Federal Interagency Committee on Urban Noise. Therefore, when the predicted peak-hour traffic noise is 75 decibels at a location, the daily exposure would be much less than 75 decibels because traffic noise subsides drastically during late night or early morning hours. As a result there is no possibility for hearing loss because people would not be continually exposed to 8 hours of such noise levels. Traffic noise impacts and possible abatement measures are described to the extent that is required by the Federal Highway Administration and Caltrans requirements. As mentioned previously, the Centennial Corridor Project's noise study must adhere to *Traffic Noise Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects* (May 2011) because the project requires Federal Highway Administration approval. Estimating the number of people that would be exposed to certain interior or exterior traffic noise levels is not required in accordance with the Federal Highway Administration and Caltrans regulations. However, the following are specific descriptions of the receiver points that were identified by U.S. Environmental Protection Agency's comment as examples of high noise levels: • RB-16 – Future traffic noise level in the area represented by this receiver would be reduced by 4 decibels to 64 decibels as a result of constructing Sound wall S518. Further reduction cannot be achieved due to the opening in the sound wall for the Marella Way crossing. • RB-46 and RB-49 – Future traffic noise level in the area represented by these receivers would be reduced by Sound wall S529. It was determined that this sound wall would be feasible but not reasonable; however, Caltrans decided to recommend constructing the sound wall as a gap closure measure. This is

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	explained in the Noise Study Report and in the final environmental document. As a result of including Sound wall S529, a 5-decibel traffic noise reduction would be achieved at two houses represented by RB-49. This area would be considered fully abated according to the Federal Highway Administration regulations. A noise reduction of 1 decibel would be achieved at RB-46 (representing the nearest park location to the project alignment), and further reduction cannot be achieved due to the opening in the sound wall for the Marella Way crossing. • RB-65 and RB-69 – Full noise abatement cannot be provided for areas represented by these two receivers because they are exposed to traffic noise from Stockdale Highway in addition to the traffic noise from the elevated freeway for the Preferred Alternative B alignment. However, RB-65 and RB-69 would experience a 3-decibel and a 4-decibel noise reduction, respectively, from the proposed sound wall at the edge of structure as it is shown in the *Noise Study Report*. Further noise reduction at areas represented by these two receivers is not possible due to the noise from traffic on Stockdale Highway. • R99-12 and R99-13 – Feasible noise abatement of 5 decibels is possible at areas represented by Receivers R99-12 and R99-13 by installing Sound wall S656. However, it was not possible to meet Caltrans' Design Goal of at least a 7-decibel noise reduction at one impacted location due to traffic noise on Wible Road; therefore, a sound wall was not recommended for this area. These areas are presently exposed to the peak hourly noise levels of 68 to 69 decibels, and future traffic noise would reach 74 decibels. Assuming noise reduction of 25 decibels, the interior noise levels in the motel and two single-family houses would be 49 decibels, which is below the interior noise abatement criteria of 52 decibels. • R99-25 – Receiver R99-25 represents an outdoor use area that would experience a noise reduction of 6 decibels with the construction of Sound wall S661. Construction of this sound wall would fully abate the future traffic noise impacts in accordance with the Federal Highway Administration and Caltrans requirements. However, it was determined that this sound wall was not reasonable (cost effective); therefore, it was not recommended for construction. • R99-43C – Receiver R99-43C represents an outdoor use area that would experience a noise reduction of 7 decibels with the construction of Sound wall S669. Construction of this sound wall would fully abate the future traffic noise impacts in accordance with the Federal Highway Administration and Caltrans requirements. However, it was determined that this sound wall was not reasonable (cost effective); therefore, it was not recommended.

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F-1-13	The characterization of the No-Build alternative as being inconsistent with long-term Air Quality Plans (Regional Transportation Plans) can be substantiated with the decades long planning efforts between the city of Bakersfield, Caltrans, Federal Highway Administration, and the public. These iterative efforts began in the early 70s and included visioning in comprehensive planning, alternatives analysis in Major Investment Studies/Tier 1 Environmental Impact Statements, to detailed environmental analysis in this final environment document. The following planning studies have been completed for the Bakersfield area to address land use, transportation needs, and alternatives analyses: • 1990 Transportation Plan and Program, 1973 • Rosedale General Plan, 1980 • Analysis of the Westside Highway/State Highway 99 Interchange, 1982 • Preliminary Route Adoption Analysis for Route 58 from Interstate 5 to Route 99, 1985 • Route 178 Corridor Study • Final Environmental Impact Report for the Proposed General Plan Amendment to the Circulation Elements of the Kern County and Rosedale General Plans (Westside Thoroughfare), 1986 • Westside Corridor Study, 1988 • Metropolitan Bakersfield 2010 General Plan, 1990 • Metropolitan Bakersfield Major Transportation Investment Strategy, 1997 • Metropolitan Bakersfield Transportation Systems Study, 2001 • Tier 1 Route Adoption Project EIR/EIS, 2002 • Metropolitan Bakersfield General Plan (Updated), 2002 • Westside Parkway Environmental Assessment/Environmental Impact Report, 2006 In each phase of planning during the last 50 years, impacts to air quality was considered and evaluated with each alternative, with extensive modeling efforts and public input. Air quality can worsen with idling vehicles in congestion and increases in vehicle miles traveled. As a result of subsequent passing of regulations to improve air quality, which will be described further in this response, transportation plans and projects must meet Air Quality Conformity before implementation. The No-Build alternative may have some improvement in local circulation, but will result in continued congestion with increased traffic volumes as described in Section 3.16 (Traffic and Transportation) and may result in increased vehicle miles traveled with out-of-direction travel. In addition, implementation of the No-Build alternative, without congestion relief, may not meet transportation conformity and result in additional air quality mitigation or betterments to reduce idling vehicle emissions within the San Joaquin Valley Air Pollution Control District. As background, California's transportation planning process by its nature is designed to be responsive to the public's current needs and future concerns about their communities, including air quality impacts. Projects advance from the early formative visioning stages as part of the long-range transportation planning process encapsulated in a Regional Transportation Plan, which have a minimum of a 20-year time horizon. The planning regulations and processes demonstrate connections between land use, transportation, and air quality as established in Federal regulations and California statutes, which themselves are interrelated. The applicable regulations and statues are listed and summarized below: 23 United States Code 134-135, 49 United States Code 5303-5304, and through implementing regulations at 23 Code of Federal Regulations, Part 450, which created the Statewide and Nonmetropolitan Transportation Planning and the Transportation Planning program. A Metropolitan Planning Organization (MPO), such as Kern Council of Governments, establishes the investment priorities for a 20-year horizon of its Federal transportation funds for its region with a financially constrained project list, while addressing transportation from a regional perspective.

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	• Safe, Accountable, Flexible, Efficient Transportation Equity Act (2005): A Legacy for Users provides the framework for Federal regulations on statewide and metropolitan transportation planning, and the linking of planning and National Environmental Policy Act processes. • Moving Ahead for Progress in the 21st Century Act reaffirms SAFETEA-LU elements including, Planning and Environment Linkages underscores the nexus between systems-level long-range planning and project-level decision making in which the data, analyses, plans, studies, decisions, and commitments from earlier in the planning cycle horizon serve as a foundation for later transportation decisions and considerations, which are then carried into subsequent stages of project development and delivery. • California's General Planning Law (52 Cal 3d 531, 533 1990) is the "Constitution of General Planning" and requires cities and counties to regulate land use through means of a general plan containing "a circulation (i.e., transportation) element which is correlated with the land use element." These local plans, which undergo review as any other projects under the California Environmental Quality Act, are designed to identify and provide long-range protection for sensitive environmental resources, and focus development in a planned and orderly manner. • Senate Bill 375 (Chapter 728, Statutes of 2008), requires Metropolitan Planning Organizations to develop a Sustainable Communities Strategy as part of their long-range Regional Transportation Plan. Kern Council of Governments developed its first Sustainable Communities Strategy in March 2014. The Sustainable Communities Strategy presents land use, housing, and transportation strategies that are expected to support the region in meeting its Green Gas Emission reduction targets as established by the California Air Resources Board. The Metropolitan Planning Organization must submit its strategy with the California Air Resources Board in advance and must submit to the same agency its technical methodology for estimating the effects of its strategy on target reductions. Transportation planning data developed for long-range plans is a primary source of information used to assist in establishing the purpose and need of a project. Transportation data are drawn from corridor plans, regional models, and other sources that help identify corridors and facilities where transportation improvements will be needed in the long-range future. This information is summarized in the Regional Transportation Plans, Transportation Improvement Programs, and State Transportation Improvement Program. The goal is to complete certain activities while there is still maximum flexibility in the planning process, to make the entire life cycle of a transportation project more sensitive to the preservation and protection of significant environmental resources, and take into account other factors. While understanding some of the limitations, the planning regulations described above recognizes the importance of going beyond the preparation of National Environmental Policy Act documents for major transportation infrastructure projects as a starting point. There is a clear linkage between the decisions made in planning, as described above, and those to be made in the National Environmental Policy Act phase. The purpose and need sets the stage for the eventual consideration of the development of a reasonable range of alternatives to be studied. The purpose of the Centennial Corridor project is to ensure route continuity and relieve congestion between Route 58 and Interstate 5 within the city of Bakersfield. The need for this project originated from the projected and realized growth of this region, the delays that are being experienced on local roads and the absence of a major transportation corridor between these two regional highways. The No-Build option would not meet the need and purpose of this project, even with options such as multi-modal features and shared ride programs. Stakeholders, including residents and public officials from the regional agencies, such as the San Joaquin Valley Air Pollution Control District, have had numerous opportunities over the years to provide input on the various transportation plans, which have been discussed and debated in an open and transparent process through local,

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	regional and state government agency-sponsored public meetings, open houses, and formal public hearings. Public and agency input continue into the project development phase with environmental reviews on specific transportation projects. In addition, Regional Transportation Plans are subject to review under the California Environmental Quality Act, and the Kern Council of Governments has prepared Environmental Impact Reports for the periodic RTPs (and addendums), with input solicited from the public. As summarized in Section 3.2.6, the air quality analysis conducted for the Centennial Corridor Project indicated that the build alternatives resulted in lower regional emissions in the 20-year horizon compared to the No Build Alternative. Although vehicle miles traveled increased in the 20-year traffic volumes for the Preferred Alternative B, congestion relief and increased vehicle speeds resulted in lower emissions compared to the No Build Alternative. In addition, the Preferred Alternative B received an Air Quality Conformity Determination from the Federal Highway Administration in August 2014, indicating that the "project will not create any new violations of the standards nor increase the severity or number of existing violations," and that the project "conforms to the State Implementation Plan." Caltrans with the Project Development Team believes the selection of a No Build Alternative (i.e., by not providing the transportation infrastructure that the local and regional governmental planning process has long envisioned and prepared for) does not facilitate or support a smart mobility framework and provide for the growth for which the region and local government have strategically planned; instead there may be increased leapfrog development, urban sprawl and other unintended planning consequences. Considering the planning efforts completed to date, public/agency input, and project level air quality study analysis, the No-Build alternative will not meet local government goals and policies, including long-term air quality goals.
F-1-14	Per U.S. Environmental Protection Agency's comment and recommendations, Caltrans has incorporated the following changes to the final environmental document: • The reports have been revised to indicate that only total emissions of particulate matter (PM_{10} and $PM_{2.5}$) were estimated in the reports. See Table 3.28 of the final environmental document. • Caltrans has evaluated all possible contributions to 1-hour ozone National Ambient Air Quality Standards violations or delayed attainment for that standard (Federal 1-hour ozone). See Attainment Status subsection under Affected Environment section of Section 3.2.6 of the final environmental document. • The conclusion that a modeling protocol was approved has been removed. See Project-Level Conformity subsection under Environmental Consequences section of Section 3.2.6 of the final environmental document. • References to modeling concentrations for different project alternatives have been removed. See Project-Level Conformity subsection under Environmental Consequences section of Section 3.2.6 of the final environmental document. • The conclusions regarding the changes in ozone standards and applicability of different deadlines for plans and attainment have been revised. See Attainment Status subsection under Section 3.2.6, Affected Environment, of the final environmental document. • Caltrans has addressed the need for more recent and complete data on air quality trends. See Table 3.24 of the final environmental document. • Caltrans will not use EMFAC2011 because the carbon monoxide hot spot analysis will not be revised.

Comment Code	Response
F-1-15	Caltrans has updated the final environmental document to include re-entrained road dust emissions using the 2011 version of U.S. Environmental Protection Agency's AP-42 document. See Table 3.29 from the final environmental document.

Table 3.29 PM_{10} Re-entrained Road Dust by Project Alternatives (Year 2038)

Alternative	Total VMT	Re-entrained Dust (lb/day)
No-Build	3,986,596	0.57
Alternative A	3,557,527	0.51
Alternative B (Preferred Alternative)	4,154,021	0.59
Alternative C	3,866,240	0.55
Source: Air Quality Study Report, 2014.		

Caltrans has updated Tables 3.28 and Table 3.29, shown above and below, from Section 3.2.6 in the final environmental document to include estimates of total vehicle miles traveled for each alternative used to estimate the emissions in the Air Quality Study Report.

Table 3.28 Future Particulate Matter (PM_{10} and $PM_{2.5}$) Emission Reductions by Project Alternatives

Alternative	Total VMT (2038)	Existing (Lb/day)	Year 2018 (Lb/day)	Year 2018 % Emission Reduction when compared to No Build	Year 2038 (Lb/day)	Year 2038 % Emission Reduction when compared to No Build
Particulate Matter (PM_{10})						
No-Build	3,986,596	782.4	409.1		534.5	
Alternative A	3,557,527	--	Not calculated		467.1	-12.6%
Alternative B (Preferred Alternative)	4,154,021	--	407.6	-0.37%	534.3	-0.04%
Alternative C	3,866,240	--	Not calculated		503.0	-5.9%
Fine Particulate Matter ($PM_{2.5}$)						
No-Build		480.3	196.3		250.4	
Alternative A		--	Not calculated		217.4	-13.2%
Alternative B (Preferred Alternative)		--	195.5	-0.41%	246.1	-1.7%
Alternative C		--	Not calculated		233.7	-6.7%
Source: Air Quality Study Report, 2014.						

Comment Code	Response
F-1-16	As previously stated, the project as a whole will improve particulate matter emissions within the project limits; however, residents located along the new alignment portion of State Route 58 will experience an increase in traffic within the vicinity of their neighborhood. Construction of the Preferred Alternative B alignment would shift traffic towards the new alignment and would result in a decrease in particulate matter along local arterials within this same segment area. There are also local minor roads that will experience a decrease in particulate matter emissions due to traffic shifting to the new freeway alignment. Caltrans has entered into a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District to provide improvements to local air quality within the project area. This agreement is anticipated to offset any localized particulate matter impacts due to project emissions. Please refer to Appendix L for the complete Voluntary Emission Reduction Agreement (see also Responses F-1-6, F-1-14, and F-1-15 above that discuss construction and operation improvements). The San Joaquin Valley Air Pollution Control District believes that the $1.5 million air quality funds available for the Voluntary Emission Reduction Agreement would be used to execute "…Emission Reduction Projects through the District's Incentive Programs to achieve a betterment of air quality in the vicinity of the project" and will "…provide betterment of air quality in the area, by offsetting construction and operation emissions occurring in the vicinity of the new highway segment and existing highway segments that will be adding capacity." The evaluation years for conformity were reviewed by the San Joaquin Valley Interagency Consultation Group, comprised of, in addition to the Air District, representatives from each of the eight Valley Metropolitan Planning Organizations, Federal Highway Administration, Federal Transit Administration, U.S. Environmental Protection Agency, California Air Resources Board, and Caltrans (Headquarters, District 6, and District 10), with a conformity determination issued by Federal Highway Administration. Evaluation years are adequate and have followed the current San Joaquin Valley Interagency Consultation Group protocol. The fine particulate matter ($PM_{2.5}$) impacts were shown to be the greatest at future year 2038 due to substantial growth in vehicle miles traveled and brake and tire wear.

Comment F-2

F-2

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Pacific Southwest Region
333 Bush Street, Suite 515
San Francisco, CA 94104

IN REPLY REFER:
(ER 14/0295)

Filed Electronically

8 July 2014

Jennifer H. Taylor
Office Chief, Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation, District 6
855 M Street, Suite 200, Fresno, CA 93721

Subject: Draft Environmental Impact Report/Environmental Impact Statement and Section 4(f) Evaluation for the Centennial Corridor Project, Kern County, CA

Dear Ms. Taylor,

Thank you for the opportunity to comment on the Draft Environmental Impact Report/Environmental Impact Statement and Section 4(f) Evaluation for the Centennial Corridor Project, Kern County, CA.

We have the following comments to offer regarding this project:

The Bureau of Reclamation is looking at this DEIS/DEIR as it pertains to potential impacts to BOR facilities and/or ROW. Within this project area, any activity that impinges on Reclamation's facilities or ROW requires coordination, consultation, and approval from Reclamation's South-Central California Area Office prior to the action taking place. F-2-1

For further information, please contact David E. Hyatt Resource Management Division Chief (Acting) at 559-487-5139, DHyatt@usbr.gov, or at telephone 800-735-2929 for the hearing impaired.

Sincerely,

Patricia Sanderson Port

Patricia Sanderson Port
Regional Environmental Officer

1

F-2

cc:
OEPC Staff Contact: Dave Sire, (202) 208-6661; David_Sire@ios.doi.gov
USBR Contact: Theresa Taylor, ttaylor@usbr.gov
USBR Contact: David E. Hyatt, DHyatt@usbr.gov

2

Response to Comment F-2

Comment Code	Response
F-2-1	As currently designed, the Preferred Alternative B alignment will not affect Bureau of Reclamation property. Caltrans will contact the Bureau of Reclamation if construction activities could potentially impact Bureau of Reclamation facilities and/or right-of-way. It is acknowledged that any action that may potentially impact Bureau of Reclamation facilities would require coordination, consultation, and approval from the Bureau of Reclamation's South-Central California Area Office.

Comment F-3

F-3

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO CA 95814-2922

REPLY TO
ATTENTION OF

August 7, 2014

Regulatory Division SPK-2008-01813

State of California
Department of Transportation, District 6
Attn: Ms. Jennifer H. Taylor
855 M Street, Suite 200
Fresno, California 93721-2716

Dear Ms. Taylor:

We are responding to your May 7, 2014, request for comments on the *Draft Environmental Impacts Report/Environmental Impact Statement (EIR/EIS)(CEQ#20140140)* for the Centennial Corridor Project (KER – 58 – PM T31.7 to PM R55.6, KER – 99 – PM 21.2 to PM 26.2), dated May 2014.

Our jurisdiction within the study area is under the authority of Section 404 of the Clean Water Act (CWA) for the discharge of dredged or fill material into waters of the United States (WoUS). WoUS include, but are not limited to, rivers, perennial or intermittent streams, lakes, ponds, wetlands, vernal pools, marshes, wet meadows, and seeps.

Based on our regulations and policies, the Corps places high degrees of importance on the functional losses either directly or indirectly caused by the discharge of dredged or fill material into waters of the U.S., including wetlands. Therefore, to the extent practicable, the EIS should quantitatively and/or qualitatively address the anticipated **direct and indirect** effects to aquatic ecosystems in terms of sedimentation (e.g., sediment transport, accretion, aggradation, degradation, erosion, hydrologic regime, water quality, floodplain encroachment, and habitat integrity). As a matter of efficacy, the EIS should include a summary of the major impacts to water resources with accompanying aerial or topographic maps of sufficient scale that geo-spatially illustrate the potential **direct and indirect** effects associated with the discharge of dredged or fill material into waters of the U.S. F-3-1

Table S.1, Summary of Major Potential Impacts from Alternatives, identifies the amount of permanent and temporary impacts to "jurisdictional" WoUS; however, the jurisdictional status of these aquatic features has not been verified by this office. To date, our records indicate that Caltrans has not requested a jurisdictional determination for the study area; therefore, the location and quantity of WoUS within the study area is unknown. To ascertain the extent of WoUS within the study area, Caltrans should prepare a wetland delineation, in accordance with the "Minimum Standards for Acceptance of Preliminary Wetlands Delineations" and "Final Map and Drawing Standards for the South Pacific Division Regulatory Program", and submit it to this office for verification. F-3-2

F-3

Caltrans has preliminarily identified Alternative B as the preferred alternative; however, we cannot concur with this determination. It would be pre-decisional to assume that Alternative B would likely yield the Least Environmentally Damaging Practicable Alternative (LEDPA) until we have verified the extent of WoUS within the study area and have evaluated the alternatives for compliance with the U.S. Environmental Protection Agency's CWA § 404(b)(1) Guidelines (40 C.F.R. Part 230). F-3-3

Lastly, we strongly encourage Caltrans to make the most of timely mitigation planning opportunities by leveraging the resources of local, State, Federal, and non-profit entities to help with watershed wide identification of areas suitable for wetlands enhancement, restoration, creation and/or preservation in-perpetuity. To that end, the EIS should propose a meaningful suite of mitigation strategies that would avoid and minimize impacts and/or compensate for any unavoidable adverse impacts to aquatic resources. A draft mitigation plan and location of mitigation should be disclosed in the Final EIS and be submitted as part of the permit application. A final mitigation plan, approved by the Corps, is required if an Individual Permit is required for the proposed project. Any proposed mitigation should be in compliance with 33 C.F.R. Part 332 and 40 C.F.R. Part 230. F-3-4

We appreciate your coordination efforts and the opportunity to submit comments. Please refer to identification number SPK-2008-01813 in any correspondence concerning this project. If you have any questions, please contact me at our California North Branch Office, Regulatory Division, U.S. Army Corps of Engineers, 1325 J Street, Room 1350, Sacramento, California 95814-2922, by email at *Leah.M.Fisher@usace.army.mil*, or telephone at 916-557-6639. For more information regarding our program, please visit our website at *www.spk.usace.army.mil/Missions/Regulatory.aspx*.

Sincerely,

Leah M. Fisher
Sr. Project Manager, CA North Branch
Regulatory Division

cc:

Zac Appleton, U.S. Environmental Protection Agency, Region 9, Appleton.Zac@epa.gov
Paul Amato, U.S. Environmental Protection Agency, Region 9, Amato.Paul@epa.gov
Thomas Leeman, U.S. Fish and Wildlife Service, Thomas.Leeman@fws.gov
Matt Scroggins, CA Regional Water Quality Control Board, mscroggins@waterboards.ca.gov
Robert Pavlik, State of California, Department of Transportation, bob.pavlik@dot.ca.gov
CA Department of Fish and Wildlife, Central Region, reg4sec@wildlife.ca.gov

Response to Comment F-3

Comment Code	Response
F-3-1	Direct and indirect effects to aquatic ecosystems caused by the Centennial Corridor Project are discussed both quantitatively and qualitatively in Section 3.2.1, Hydrology and Floodplain; Section 3.2.2, Water Quality and Stormwater Runoff; and Section 3.3.1, Natural Communities. Based on preliminary design, adverse effects to aquatic resources are not anticipated; for this reason, aerial or topographic maps to geo-spatially illustrate potential impacts were not prepared as part of the environmental document.
F-3-2	The impacts provided in this final environmental document are based on estimates of the jurisdictional boundaries using the most up-to-date regulations, written policies, and guidance from the regulatory agencies. It is acknowledged that only the regulatory agencies can make a final determination on jurisdictional boundaries. Prior to public review of the draft environmental document, verification of jurisdictional waters and review of the Jurisdictional Delineation Report prepared for the Centennial Corridor Project were not provided to the U.S. Army Corps of Engineers. The *Jurisdictional Delineation Report* (March 2013) for the Centennial Corridor Project was completed prior to construction of the Westside Parkway and did not take into account the modifications/realignment of the canals that occurred as part of construction of the Westside Parkway. Subsequent field verification was conducted on August 2014 to ensure jurisdictional waters are accurately identified in this final environmental document. Section 3.3.2 has been updated to reflect jurisdictional waters within the area, and Figures 3-52 through 3-53 in Volume 2 have been revised to incorporate the latest jurisdictional delineation information. Based on the latest field review of Waters of the U.S. within the project area, it was determined that jurisdictional waters previously identified in the draft environmental document have been reduced due to construction of the Westside Parkway. As such, pursuant to Regulatory Guidance Letter 08-02, the latest Jurisdictional Delineation Report and request for a Jurisdictional Determination were submitted to U.S. Army Corps of Engineers on February 2015. If required, Caltrans and U.S. Army Corps of Engineers staff will conduct a field verification of jurisdictional waters within the project area. A concurrence letter from U.S. Army Corps of Engineers is anticipated to confirm the presence of Waters of the U.S. as presented in the revised Section 3.3.2 of this final environmental document. On March 24, 2015, a preliminary jurisdictional determination was received from the U.S. Army Corps of Engineers for the Centennial Corridor Project site. The U.S. Army Corps of Engineers concurred with the amount and location of wetlands and other water bodies for the Centennial Corridor Project. The Preliminary Jurisdictional Delineation Report is provided in Appendix M.
F-3-3	The draft environmental document identified permanent impacts of 1.01 acres. It is acknowledged that impacts to Waters of the U.S. greater than 0.5 acre require an Individual Permit and the preparation of a compulsory Least Environmentally Damaging Practicable Alternative; however, project design refinements and updated jurisdictional delineation resulted in significant reduction in impacts to Waters of the U.S. The Project Development Team further analyzed the preliminary design presented in the draft environmental document to determine if impacts to jurisdictional waters could be reduced. After the end of public review of the draft environmental document, minor design modifications to bridge structures spanning across the Kern River and project features near non-wetland areas resulted in reduced permanent and temporary impacts to jurisdictional waters. Based on the latest preliminary design, permanent impacts to construct the Preferred Alternative B would result in 0.009 acre of permanent impact to Waters of the U.S. within the project area. Temporary impacts are estimated to be 4.423 acres.

Comment Code	Response
	Based on the jurisdictional delineation update and the design refinements, permanent impacts to Waters of the U.S. as a result of project implementation will be about 0.009 acre compared to 1.01 acres identified in the Draft Environmental Impact Report/Environmental Impact Statement. A Nationwide Permit -14 is required if a project would discharge dredged or fill material into Waters of the U.S. for permanent impacts less than 0.5 acre; however, if impacts are less than 0.10 acre, the Centennial Corridor Project qualifies for a non-notifying permit. Based on the latest preliminary design plans, the Preferred Alternative B alignment will affect 0.009 acre of Waters of the U.S. and would qualify under the non-notifying provision. If project impacts to Waters of the U.S. are increased during the final design phase of the project and greater than 0.10 acre (but less than 0.5 acre), the project will obtain a Nationwide Permit -14. The Centennial Corridor Project would not result in permanent impacts to wetlands; hence, a Least Environmentally Damaging Practicable Alternative analysis and U.S. Army Corps of Engineers input and review on the selection of least damaging alternative does not apply. A Least Environmentally Damaging Practicable Alternative analysis was not prepared as part of this final environmental document, and the decision to select Alternative B as the Preferred Alternative does not require concurrence from U.S. Army Corps of Engineers.
F-3-4	Avoidance strategies were applied after the conclusion of the public review of the draft environmental document to reduce impacts to Waters of the U.S. Caltrans and the Project Development Team examined impacts at the canals within the project area and the Kern River due to the proposed bridge and crossing structures. The project's design team found opportunities for design refinements by reducing the number of bridge footings and the size of the structures within jurisdictional areas; these design refinements are incorporated in the preliminary design included in the final environmental document. To prevent inadvertent disturbance of jurisdictional areas during construction of the project, the project would implement minimization measures prior to construction activities. Within 50 feet of jurisdictional areas, the construction contractor would install fencing, flagging, lath, and rope or other devices to delineate jurisdictional areas. As mentioned in Response to Comment F-3-3, impacts to jurisdictional waters are 0.009 acre, which does not require a Section 404 Nationwide Permit -14. If final design plans result in permanent impacts to Waters of the U.S. greater than 0.10 acre, the project will obtain a Section 404 Nationwide Permit - 14 through U.S. Army Corps of Engineers, in which case Caltrans would provide mitigation measures and/or a mitigation plan to the Corps for permanent impacts. Caltrans has identified an In-Lieu Fee program opportunity for offsite restoration. If the Centennial Corridor Project is required to mitigate for impacts to jurisdictional waters, mitigation credits will be purchased from the Kern Water Authority's Conservation Bank or a similar entity. Final details for compensatory mitigation will be coordinated between Caltrans and the resource agencies during the final design phase of the project. Prior to beginning construction, a mitigation plan will be developed in coordination with U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and Regional Water Quality Control Board. Caltrans will reference the identification number SPK-2008-01813 in any correspondence concerning this project. Caltrans would continue to coordinate with U.S. Army Corps of Engineers during the final design phase of the project if the impacts to Waters of the U.S. have changed.

Chapter 3 Responses to Comments from State Agencies

This section provides comments received from California state agencies on the draft environmental document. A copy of the draft environmental document was sent to the following state agencies:

- California Department of Fish & Wildlife (Sacramento)
- California Transportation Commission
- California Department of Parks and Recreation
- California Emergency Management Agency
- California Department of Conservation
- Department of Water Resources
- California State Lands Commission
- California State Water Resources Control Board
- Central Valley Flood Protection Board
- Native American Heritage Commission
- California Natural Resources Agency
- California Highway Patrol
- Office of Historic Preservation
- California Air Resources Board

A total of four comment letters were received, as summarized below.

Table 3.1 Summary of Comment Letters Received from State Agencies

Comment Code	Agency	Commenter Name	Date Letter Received	Comment Topic
S-1	California Natural Resources Agency, Department of Conservation, Division of Oil, Gas, and Geothermal Resources	Michael Toland	6/13/2014	Safety (oil wells)
S-2	California Transportation Commission	Andre Boutros	6/26/2014	General comments
S-3	Central Valley Flood Protection Board	Scott Morgan Len Marino	6/24/2014	General comments, biological resources, hydrology
S-4	Department of California Highway Patrol	Scott Morgan T.S. Roberts	6/27/2014	Transportation, traffic

Comment S-1

S-1

NATURAL RESOURCES AGENCY — EDMUND G. BROWN JR., GOVERNOR

DEPARTMENT OF CONSERVATION

Managing California's Working Lands

Division of Oil, Gas, and Geothermal Resources

4800 STOCKDALE HIGHWAY • SUITE 100 • BAKERSFIELD, CALIFORNIA 93309

PHONE (661) 322-4031 • **FAX** (661) 861-0279 • **WEB SITE** conservation.ca.gov/dog

June 13, 2014

Jennifer H. Taylor
California Dept. of Transportation, District 6
855 M Street, Suite 200
Fresno, California 93721

Subject: Centennial Corridor, Alternative Routes A, B, and C in the Fruitvale Oil Field, Bakersfield

Dear Ms. Taylor,

The Department of Conservation's Division of Oil, Gas, and Geothermal Resources (Division) has reviewed the above-referenced project. The Division supervises the drilling, maintenance, and plugging and abandonment of oil, gas, and geothermal wells in California. The Division offers the following comments for your consideration.

Alternative routes A, B, and C (Alternatives) are situated inside the administrative boundaries of the Fruitvale Oil Field. A total of 14 plugged-and-abandoned wells (surface plugs) and 17 active wells (oil wells currently on production and waste-water injectors) have been identified as being situated within or just outside the approximated perimeters of the Alternatives. Please refer to attached *Well Location Maps A, B, and C*. Location coordinates for each surface plug and active well are listed in *Table 1*, comprising three pages.

Prior to the construction of any of the Alternatives, the Division suggests the California Department of Transportation submit a plan to the Division that addresses the following issues: S-1-1

1. Acknowledgement of the locations of buried surface plugs of previously abandoned wells as mapped by the Division.

2. Dependent on the Division's evaluation, the requirement by the Division to leak-test any previously abandoned well.

3. Dependent on the Division's evaluation, the requirement by the Division to reabandon any improperly abandoned wells to current Division regulations.

4. The recognition of the requirement to abandon to current Division regulations any active or idle wells located within the route of the chosen Alternative.

The Department of Conservation's mission is to balance today's needs with tomorrow's challenges and foster intelligent, sustainable, and efficient use of California's energy, land, and mineral resources.

S-1

Ms. Jennifer H. Taylor
Centennial Corridor Alternatives in the Fruitvale Oil Field
June 13, 2014

5. To interpret well abandonment requirements, the construction of well casing diagrams of all wells located within the route of the selected Alternative.

6. Identification and removal of oil-and-gas production pipelines, including any unknown, abandoned pipelines encountered during construction of the selected Alternative.

7. The recognition of a possible requirement to reroute existing active pipelines.

S-1-1

In order to address the above technical issues, the Division recommends that an oil well service company or consultant experienced in abandonments, reabandonments, and removal of oil-and-gas facilities be contracted to undertake and coordinate the work. A Notice of Intent to Abandon or Reabandon a well is required to be filed with the Division by the Operator-of-Record for each affected well. The Division does not issue permits for the removal of pipelines; however, existing regulations and safe practices shall apply.

Contact information for agents representing the current operators of active wells is as follows:

Michael Kranyak
San Joaquin Facilities Management, Inc.
5400 Rosedale Highway
Bakersfield, California 93308
(661) 631-8713

Stephen J. Griffin
Griffin Resources
1695 Mesa Verde Avenue, Suite 210
Ventura, California 93003
(805) 644-1013

Jeffrey A. Blesener
E & B Natural Resources Management Corporation
1600 Norris Road
Bakersfield, California 93308
(661) 679-1700

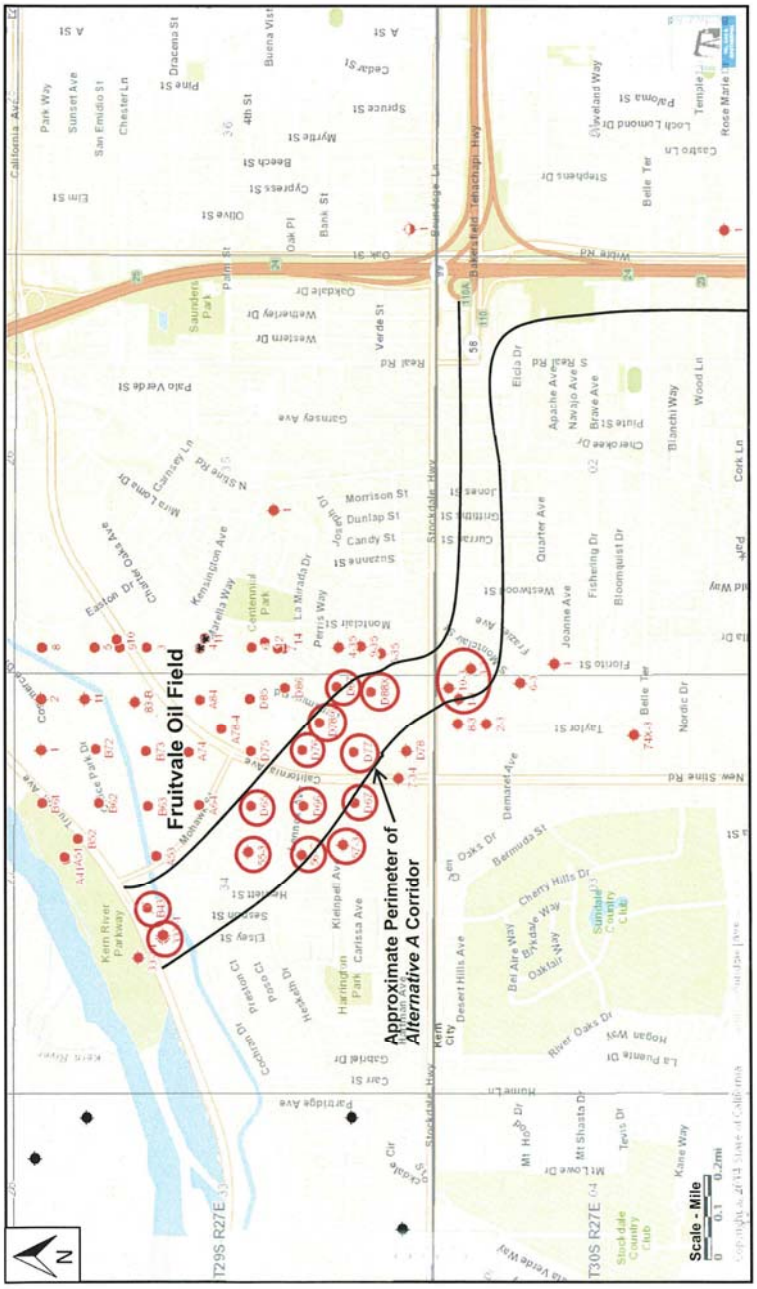
Thank you for the opportunity to comment on this project. Should any questions arise regarding technical issues described in this letter, please call Associate Oil and Gas Engineer **Dayne L. Frary** in the Bakersfield district office at **(661) 334-4601**.

Sincerely,

Michael Toland
Acting Senior Oil and Gas Engineer
Environmental Unit

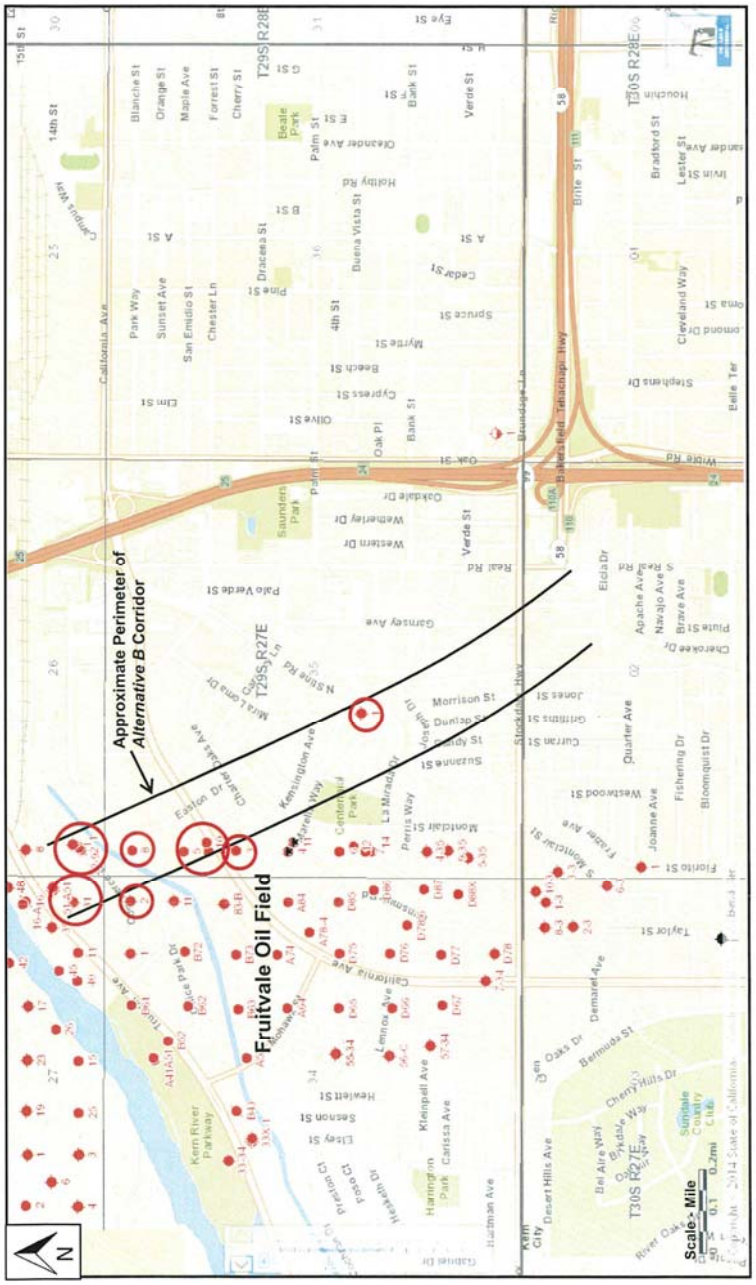
2

S-1



Well Location Map A
Centennial Corridor – Alternative A
Fruitvale Oil Field, Main Area
In Section 34, T.29S., R.27E. and Sections 2 and 3, T.30S., R.27E.
Source: CA DOGGR Online Well Finder
June 2014 **DLF**

S-1



Well Location Map B
Centennial Corridor - Alternative B
Fruitvale Oil Field, Main Area
In Sections 26, 27, 34, and 35, T.29S., R.27E.
Source: CA DOGGR Online *Well Finder*
June 2014 DLF

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Well Location Map C
Centennial Corridor – Alternative C
Fruitvale Oil Field, Main Area
In Sections 26 and 35, T.29S., R.27E.
Source: CA DOGGR Online *Well Finder*
June 2014 DLF

Only Well Located Within
Alternative C Property
Acquisition Boundaries

S-1

Table 1
Oil Wells Located Within Centennial Corridor
Alternative Routes A, B, and C

Field and Alternative Corridor	Operator of Record	Well	API Number	Well Status	Location in Feet	Elevation in Feet	Latitude NAD83	Longitude NAD83
Section 26 T29S, R27E								
Alternative B								
Fruitvale	E & B Natural Resources Mgmt. Corp. (E & B)	"Kernland" 1	029-06761	P&A	Fr SW cor 330N 330E	404 KB	35.369542	-119.055402
Fruitvale	E & B	"Kernland" 2	029-06762	Active	Fr SW cor 310N 345E	404 KB	35.369493	-119.055473
Fruitvale	Chevron U.S.A. Inc.	"KCL-D" 1	029-06983	P&A	Fr SW cor 330N 395E	404 KB	35.369754	-119.055265
Fruitvale	San Joaquin Facilities Mgmt. Inc. (SJFM)	"Nickel Fee" 1	029-08461	Active	Fr SW cor 1464N 102E	403 KB	35.372733	-119.056264
Alternative C								
Fruitvale	Chevron U.S.A. Inc.	"KCL-A2" 8	029-06982	P&A	Fr SW cor 992N 330E	405 KB	35.371409	-119.055486
Section 27 T29S, R27E								
Alternative B								
Fruitvale	SJFM	"Red Ribbon Ranch" 31	029-08127	P&A	Fr SE cor 395N 330W	404 KB	35.369753	-119.057752
Fruitvale	SJFM	"Red Ribbon Ranch" 51	029-08149	P&A	Fr SE cor 650N 150W	402 KB	35.370469	-119.057096
Fruitvale	SJFM	"Red Ribbon Ranch" 51-A	029-08150	P&A	Fr SE cor 650N 185W	404 KB	35.370469	-119.057216
Section 34 T29S, R27E								
Alternative A								
Fruitvale	Griffin Resources, LLC (Griffin)	"K.C.L." D77	029-00741	Active	Fr NE cor 4290S 990W	407 KB	35.356939	-119.059995
Fruitvale	ARCO Western Energy (ARCO)	"K.C.L." 55-34	029-06738	P&A	Fr SE cor 2310N 2310W	397 KB	35.360621	-119.064211
Fruitvale	Griffin	"K.C.L." B43	029-06739	Active	Fr ctr 990N 330W	400 KB	35.364098	-119.06662
Fruitvale	ARCO	"Stockdale" 57-34	029-06741	P&A	Fr SE cor 1090N 2150W	394 KB	35.357343	-119.063893

Provided by the California DOGGR - Bakersfield
June 2014 DLF

S-1

Table 1
Oil Wells Located Within Centennial Corridor
Alternative Routes A, B, and C

Field and Alternative Corridor	Operator of Record	Well	API Number	Well Status	Location in Feet	Elevation in Feet	Latitude NAD83	Longitude NAD83
Section 34 T29S, R27E								
Alternative A								
Fruitvale	ARCO	"K.C.L." 56-C	029-08248	P&A	Fr S/4 cor 1653N 331E	385 GL	35.358772	-119.064319
Fruitvale	Griffin	"K.C.L." D65	029-08249	Active	Fr S/4 cor 2317N 990E	396 KB	35.36053	-119.062269
Fruitvale	Griffin	"K.C.L." D66	029-08250	Active	Fr ctr 990S 990E	411 KB	35.358682	-119.062259
Fruitvale	Griffin	"K.C.L." D67	029-08251	Active	Fr SE cor 990N 1650W	421 KB	35.356923	-119.062131
Fruitvale	Griffin	"K.C.L." D76	029-08253	Active	Fr NE cor 3630S 990W	404 KB	35.358741	-119.059918
Fruitvale	Griffin	"K.C.L." D87	029-08257	Active	Fr NE cor 4060S 150W	404 KB	35.357538	-119.057183
Fruitvale	Griffin	"K.C.L." D88X	029-08258	Active	Fr NE cor 4460S 250W	407 KB	35.356356	-119.057395
Fruitvale	Griffin	"K.C.L." D78-6	029-08260	Active	Fr NE cor 3870S 600W	400 KB	35.35815	-119.058744
Fruitvale	Morton, Dolley, Campbell & Shell	"Kernco" X-1	029-08312	P&A	Fr ctr 707N 707W	402 KB	35.363571	-119.067774
Fruitvale	Morton, Dolley, Campbell & Shell	"Kernco" 33	029-08313	P&A	Fr ctr 707N 737W	397 GL	35.363555	-119.0679
Alternative B								
Fruitvale	Chevron U.S.A. Inc.	"KCL-Bellevue" 2	029-08180	P&A	Fr NE cor 330S 330W	402 DF	35.367769	-119.057706
Fruitvale	E & B Natural Resources Mgmt. Corp. (E & B)	"Kernland" 5	029-06765	Active	Fr NW cor 990S 330E	407 KB	35.365922	-119.055541
Fruitvale	E & B	"Kernland" 8	029-06768	Active	Fr NW cor 330S 330E	403 KB	35.367716	-119.055519

Provided by the California DOGGR - Bakersfield
June 2014 DLF

S-1

Table 1
Oil Wells Located Within Centennial Corridor
Alternative Routes A, B, and C

Field and Alternative Corridor	Operator of Record	Well	API Number	Well Status	Location in Feet	Elevation in Feet	Latitude NAD83	Longitude NAD83
Section 35 T29S, R27E								
Alternative B								
Fruitvale	E & B	"Kernland" 9	029-06769	Active	Fr NW cor 1300S 350E	408 KB	35.365043	-119.055542
Fruitvale	E & B	"Kernland" 10	029-06770	P&A	Fr NW cor 1250S 420E	407 KB	35.36512	-119.055183
Fruitvale	Oryx Energy Co.	"K.C.L." 1	029-08435	P&A	Fr SW cor 2070N 1990E	396 KB	35.359717	-119.049673
Section 2 T30S, R27E								
Alternative A								
Fruitvale	ARCO	"Stockdale" 3-3	029-06745	P&A	Fr NW cor 480S 10E	398 KB	35.352897	-119.05641
Section 3 T30S, R27E								
Alternative A								
Fruitvale	ARCO	"Stockdale" 1-3	029-06746	P&A	Fr NE cor 330S 330W	403 KB	35.353322	-119.057735
Fruitvale	ARCO	"Stockdale" 10-3	029-06750	P&A	Fr NE cor 200S 200W	404 KB	35.353659	-119.057258

Key
DF Derrick Floor
DH Dry Hole
GL Ground Level
KB Kelly Bushing
P&A Plugged and Abandoned

Provided by the California DOGGR - Bakersfield
June 2014 DLF

Response to Comment S-1

Comment Code	Response
S-1-1	A plan will be submitted to the Department of Conservation's Division of Oil, Gas and Geothermal Resources during final design. Additionally, coordination with oil companies will occur during the utility relocation process of final design.

Comment S-2

S-2

CARL GUARDINO, Chair
LUCETTA DUNN, Vice Chair
BOB ALVARADO
DARIUS ASSEMI
YVONNE B. BURKE
JAMES EARP
DARIO FROMMER
JAMES C. GHIELMETTI
FRAN INMAN
JAMES MADAFFER
JOSEPH TAVAGLIONE

SENATOR MARK DESAULNIER, Ex Officio
ASSEMBLY MEMBER BONNIE LOWENTHAL, Ex Officio

Andre Boutros, Executive Director

STATE OF CALIFORNIA

EDMUND G. BROWN Jr., Governor

CALIFORNIA TRANSPORTATION COMMISSION
1120 N STREET, MS-52
SACRAMENTO, CA 95814
P. O. BOX 942873
SACRAMENTO, CA 94273-0001
FAX (916) 653-2134
(916) 654-4245
http://www.catc.ca.gov

June 26, 2014

Ms. Jennifer H. Taylor, Office Chief, Central Region
Environmental Southern San Joaquin Valley
Caltrans District 6
855 M Street, Suite 200
Fresno, CA 93721

RE: Draft Environmental Impact Report/Draft Environmental Impact Statement (DEIR/DEIS) for the State Route (SR) 58 Centennial Corridor Project
06-KER-58, PM T31.7/R55.6, 06-KER-99, PM 21.2/26.2 (PPNO 3705)

Dear Ms. Taylor,

The California Transportation Commission (Commission), as a Responsible Agency, received the DEIR/DEIS prepared by the California Department of Transportation (Department) for the SR-58 Centennial Corridor Project in Kern County. This project will 1.) construct an approximately 8 mile long new section of freeway connecting the existing SR 58/SR 99 interchange with the eastern edge of Westside Parkway, 2.) construct operational improvements to the existing SR 58 east alignment and SR 99 to accommodate the new connection ramps, 3.) widen Westside Parkway to provide an auxiliary lane in each direction, and 4.) construct a series of improvements at the intersection of SR 43 and Stockdale Highway.

The Commission considered the DEIR/DEIS at its June 25, 2014 meeting. The Commission has no comments with respect to the project purpose and need, the alternatives studied, the impacts evaluated, and the evaluation methods used. However, the Commission recommends that the Department and its partners identify and secure the necessary funding to complete the project. S-2-1

As this project is programmed in the 2014 Statewide Transportation Improvement Program (STIP) and it is anticipated that the Commission will be asked to approve a new route adoption for SR 58, the Commission should be notified as soon as the environmental process is complete. The Commission cannot allocate funds to a project for design, right of way or construction, or approve a new public road connection or route adoption, until the final

S-2

environmental document is complete and the Commission has considered the environmental impacts of the project and approved the environmentally cleared project for future consideration of funding.

Upon completion of the CEQA process, prior to the Commission's action to approve the project for future consideration of funding, the Commission expects the lead and/or implementing agency to provide written assurance whether the selected alternative identified in the final environmental document is or is not consistent with the project programmed by the Commission and included in the Regional Transportation Plan. In the absence of such assurance of consistency, it may be assumed that the project is not consistent and Commission staff will base its recommendations to the Commission on that fact. The Commission may deny funding to a project which is no longer eligible for funding due to scope modifications or other reasons. S-2-1

If you have any questions, please contact Carrie Pourvahidi, Deputy Director, at (916) 653-3148.

Sincerely,

ANDRE BOUTROS
Executive Director

c: Katrina Pierce, Chief, Caltrans Division of Environmental Analysis
Ahron Hakimi, Executive Director, Kern Council of Governments

Response to Comment S-2

Comment Code	Response
S-2-1	Caltrans will coordinate with the California Transportation Commission after completion of the environmental process for funding allocation and route adoption for the Centennial Corridor Project. The formal process of securing the funding for construction and implementation will be advanced during the final design phase. As discussed in Section 1.1 of the final environmental document, funding for the project comes from multiple sources, including the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, which is Federal legislation that was signed into law on August 10, 2005. The following funding sources have been identified: • Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users Section 1301 = $90.44 million • Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users Section 1302 = $289.2 million • Other Federal sources = $12.97 million • State = $53 million • Kern County bond = $57.5 million • City of Bakersfield = $206.89 million As identified in the funding sources above, Caltrans will secure funding from these sources to construct the Preferred Alternative B. The escalated 2016/17 fiscal year cost of the Preferred Alternative B is estimated at $570 million. The California Transportation Commission will be notified once the environmental process is complete and when the final environmental document is available for review so that it may consider the project for future funding. Additionally, the California Transportation Commission will be provided written assurance upon completion of the environmental process that the selected alternative identified in the final environmental document is consistent with the project programmed by the California Transportation Commission and included in the Regional Transportation Plan.

Comment S-3

S-3

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit

Edmund G. Brown Jr.
Governor

Ken Alex
Director

June 24, 2014

Jennifer H. Taylor
California Department of Transportation, District 6
855 M Street, Suite 200
Fresno, CA 93721

Subject: Centennial Corridor
SCH#: 2008091102

Dear Jennifer H. Taylor:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on June 23, 2014, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

S-3

SCH#	2008091102
Project Title	Centennial Corridor
Lead Agency	Caltrans #6
Type	**EIR** Draft EIR
Description	The proposed project entails a new alignment for SR 58 to provide a continuous route along SR 58 from Cottonwood Road (post mile R55.6) on existing SR 58 East, east of SR 99 to I-5 (post mile T31.7). Improvements to State Route 99 from Wilson Road (post mile 21.2) to Gilmore Avenue (post mile 26.2) would also be required for the connection with SR 58. The action also includes: 1) route adoption/transfer for a continuous route from the existing freeway portion of SR 58 east of SR 99 to I-5 with the western portion on existing Stockdale Highway from Health Road to I-5; and 2) approval for construction of Segment 1, improvements within Segment 2, and intersection improvements at the Stockdale Highway and SR 43 intersection.

Lead Agency Contact

Name	Jennifer H. Taylor
Agency	California Department of Transportation, District 6
Phone	888 404 6375 *Fax*
email	
Address	855 M Street, Suite 200
City	Fresno *State* CA *Zip* 93721

Project Location

County	Kern
City	Bakersfield
Region	
Lat / Long	35° 21' 9" N / 119° 2' 35" W
Cross Streets	Various: Cottonwood Rd / SR-58, Coffee/Brimhall Rds, and Stockdale Hwy / I-5
Parcel No.	Various
Township	30S *Range* 27E *Section* 2 *Base*

Proximity to:

Highways	SR 99, 58, 204, 178, 43 & I-5
Airports	Bakersfield and Joe Gottieb
Railways	BNSF, UPRR
Waterways	Kern River, Friant-Kern, Stine, Carrier & Cross Vly canals
Schools	9 Elementary, 2 High School, 4 Jr. High Schools
Land Use	Residential, Commercial, Industrial, Agriculture

Project Issues Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Economics/Jobs; Fiscal Impacts; Flood Plain/Flooding; Geologic/Seismic; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Soil Erosion/Compaction/Grading; Traffic/Circulation; Toxic/Hazardous; Vegetation; Water Quality; Wetland/Riparian; Wildlife; Growth Inducing; Landuse; Cumulative Effects; Aesthetic/Visual

Reviewing Agencies Resources Agency; Department of Conservation; Department of Fish and Wildlife, Region 4; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Caltrans, Division of Aeronautics; California Highway Patrol; Air Resources Board; Air Resources Board, Transportation Projects; Regional Water Quality Control Bd., Region 5 (Fresno); Department of Toxic Substances Control; Native American Heritage Commission; Public Utilities Commission; Central Valley Flood Protection Board

Date Received 05/08/2014 *Start of Review* 05/08/2014 *End of Review* 06/23/2014

S-3

STATE OF CALIFORNIA – CALIFORNIA NATURAL RESOURCES AGENCY
EDMUND G. BROWN JR., GOVERNOR

CENTRAL VALLEY FLOOD PROTECTION BOARD
3310 El Camino Ave., Rm. 151
SACRAMENTO, CA 95821
(916) 574-0609 FAX: (916) 574-0682
PERMITS: (916) 574-2380 FAX: (916) 574-0682

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MAY 29 2014
STATE CLEARING HOUSE

May 28, 2014

Ms. Jennifer H. Taylor
California Department of Transportation, District 6
855 M Street, Suite 200
Fresno, California 93721

Subject: CEQA Comments: Centennial Corridor, Draft Environmental Impact Report, SCH No. 2008091102

Location: Kern County

Dear Ms. Taylor:

Central Valley Flood Protection Board (Board) staff has reviewed the subject document and provides the following comments:

The proposed project is located within the Kern River which is under Board jurisdiction. The Board enforces its Title 23, California Code of Regulations (23 CCR) for the construction, maintenance, and protection of adopted plans of flood control that protect public lands from floods. Adopted plans of flood control include federal-State facilities of the State Plan of Flood Control, regulated streams, and designated floodways. The geographic extent of Board jurisdiction includes the Central Valley, and all tributaries and distributaries of the Sacramento and San Joaquin Rivers, and the Tulare and Buena Vista basins (23 CCR, Section 2).

Pursuant to 23 CCR a Board permit is required prior to working in the Board's jurisdiction for the following: S-3-1

- Placement, construction, reconstruction, removal, or abandonment of any landscaping, culvert, bridge, conduit, fence, projection, fill, embankment, building, structure, obstruction, encroachment, excavation, the planting, or removal of vegetation, and any repair or maintenance that involves cutting into the levee (23 CCR Section 6);

- Existing structures that predate permitting, or where it is necessary to establish the conditions normally imposed by permitting. The circumstances include those where responsibility for the encroachment has not been clearly established or ownership and use have been revised (23 CCR Section 6);

- Vegetation plantings require submission of detailed design drawings; identification of vegetation type; plant and tree names (both common and scientific); quantities of each type of plant and tree; spacing and irrigation method; a vegetative management plan for maintenance to prevent the interference with flood control operations, levee maintenance, inspection, and flood fight procedures (23 CCR Section 131). S-3-2

S-3

Other local, federal and State agency permits may be required and are the responsibility of the applicant to obtain.

Board permit application forms and our complete 23 CCR regulations can be found on our website at http://www.cvfpb.ca.gov/. Maps of the Board's jurisdiction including all tributaries and distributaries of the Sacramento and San Joaquin Rivers, and Board designated floodways are also available on a Department of Water Resources website at http://gis.bam.water.ca.gov/bam/. S-3-2

Additional Considerations Related to Potential Impacts of Vegetation and Hydraulics

Accumulation and establishment of woody vegetation that is not managed may have negative impacts on channel capacity and may increase the potential for levee over-topping or other failure. When vegetation develops and becomes habitat for wildlife, maintenance to initial baseline conditions typically becomes more difficult as the removal of vegetative growth may be subject to federal and State resource agency requirements for on-site mitigation. The proposed project should include mitigation measures to avoid decreasing floodway channel capacity.

Adverse hydraulic impacts of proposed encroachments could impede flood flows, reroute flood flows, and/or increase sediment accumulation. The proposed project should include mitigation measures for channel and levee improvements and maintenance to prevent and/or reduce hydraulic impacts. If possible off-site mitigation outside of the Board's jurisdiction should be used when mitigating for vegetation removed at the project location. S-3-3

If you have any questions please contact James Herota at (916) 574-0651, or via email at james.herota@water.ca.gov.

Sincerely,

Len Marino, P.E.
Chief Engineer

cc: Governor's Office of Planning and Research
State Clearinghouse
1400 Tenth Street, Room 121
Sacramento, California 95814

Response to Comment S-3

Comment Code	Response
S-3-1	Caltrans thanks the Central Valley Flood Protection Board for participating in the environmental process for the Centennial Corridor Project. Caltrans acknowledges the Boards' jurisdiction over the Kern River under Title 23 California Code of Regulations, Section 2. The Centennial Corridor Project is proposing to construct a bridge structure and associated footings within and adjacent to the Kern River, which is subject to Title 23 California Code of Regulations, Section 6. The project's final design plans would ensure that any improvements within the Kern River would maintain the existing capacity of the river. Coordination with the Central Valley Flood Protection Board would begin during the design phase of the project, and an Encroachment Permit from the Central Valley Flood Protection Board would be obtained prior to construction per Title 23 California Code of Regulations, Section 6, due to construction within the Kern River.
S-3-2	Vegetation plantings within the Kern River will not be conducted by the Centennial Corridor Project; therefore, Title 23 California Code of Regulations, Section 131 does not apply to the project. The appropriate regulatory permits from Federal and other State agencies (if applicable) would be obtained prior to construction. Caltrans acknowledges that work in the Kern River requires approvals from Central Valley Flood Protection Board, California Department of Fish and Wildlife, U.S. Army Corps of Engineers, and the Regional Water Quality Control Board. Regulatory permitting requirements are summarized in Table 2.4 of the final environmental document (Volume 1).
S-3-3	There will be no plantings or other vegetation within the Kern River associated with the project; therefore, accumulation and establishment of woody vegetation within the Kern River is not anticipated. There are no impacts to channel capacity. If vegetation removal is necessary within the channel, such activities would be conducted in accordance with applicable resource agency permit conditions. Therefore, mitigation measures to remove woody vegetation from the Kern River channel after the project is constructed are not required. As discussed in Section 3.2.1, Hydrology and Floodplain, of the final environmental document (Volume 1), mitigation measures would be implemented to minimize floodplain impacts and preserve the beneficial floodplain values of the project area. The proposed drainage system would keep the existing drainage patterns and direct onsite runoff to existing and proposed infiltration basins through the onsite drainage system. Because all runoff would be retained within these basins, there would be no changes in offsite flow rate or quantity as a result of the project. Direct runoff into the Kern River and canals would be avoided through roadway design and with infiltration basins located along the roadway. Stormwater on pavements would generally drain as surface flow to the outside edge of the freeway/roadway travel lanes or toward the median. Storm drain inlets would then collect the stormwater and direct it into infiltration basins. Several existing drainage facilities would be improved or rerouted to new infiltration/retention basins as a result of the project. Because bridge abutments and piers would be built within the Kern River floodplain, there would be a small decrease in storage capacity of the floodplain; however, the decrease in storage capacity due to the increase in impervious surface area would be minor compared to the size of the Kern River watershed. With conveyance of increased runoff to infiltration basins instead of the river, risks to the river's floodplain due to the added impervious surfaces would be eliminated. Given these considerations, impacts would be minimal and would not result in a significant risk to the floodplain or its beneficial use. As such, Standard Condition SC-FP-1 will be incorporated into the project design to minimize flood flow impacts on the Kern River. These design components are intended to minimize potentially adverse hydraulic impacts. Based on the results of the hydraulic analysis in Section 3.2.1, hydraulic impacts to the Kern River and flood control facilities are not anticipated.

Comment S-4

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit

Edmund G. Brown Jr.
Governor

Ken Alex
Director

June 27, 2014

Jennifer H. Taylor
California Department of Transportation, District 6
855 M Street, Suite 200
Fresno, CA 93721

Subject: Centennial Corridor
SCH#: 2008091102

Dear Jennifer H. Taylor:

The enclosed comment (s) on your Draft EIR was (were) received by the State Clearinghouse after the end of the state review period, which closed on June 23, 2014. We are forwarding these comments to you because they provide information or raise issues that should be addressed in your final environmental document.

The California Environmental Quality Act does not require Lead Agencies to respond to late comments. However, we encourage you to incorporate these additional comments into your final environmental document and to consider them prior to taking final action on the proposed project. S-4-1

Please contact the State Clearinghouse at (916) 445-0613 if you have any questions concerning the environmental review process. If you have a question regarding the above-named project, please refer to the ten-digit State Clearinghouse number (2008091102) when contacting this office.

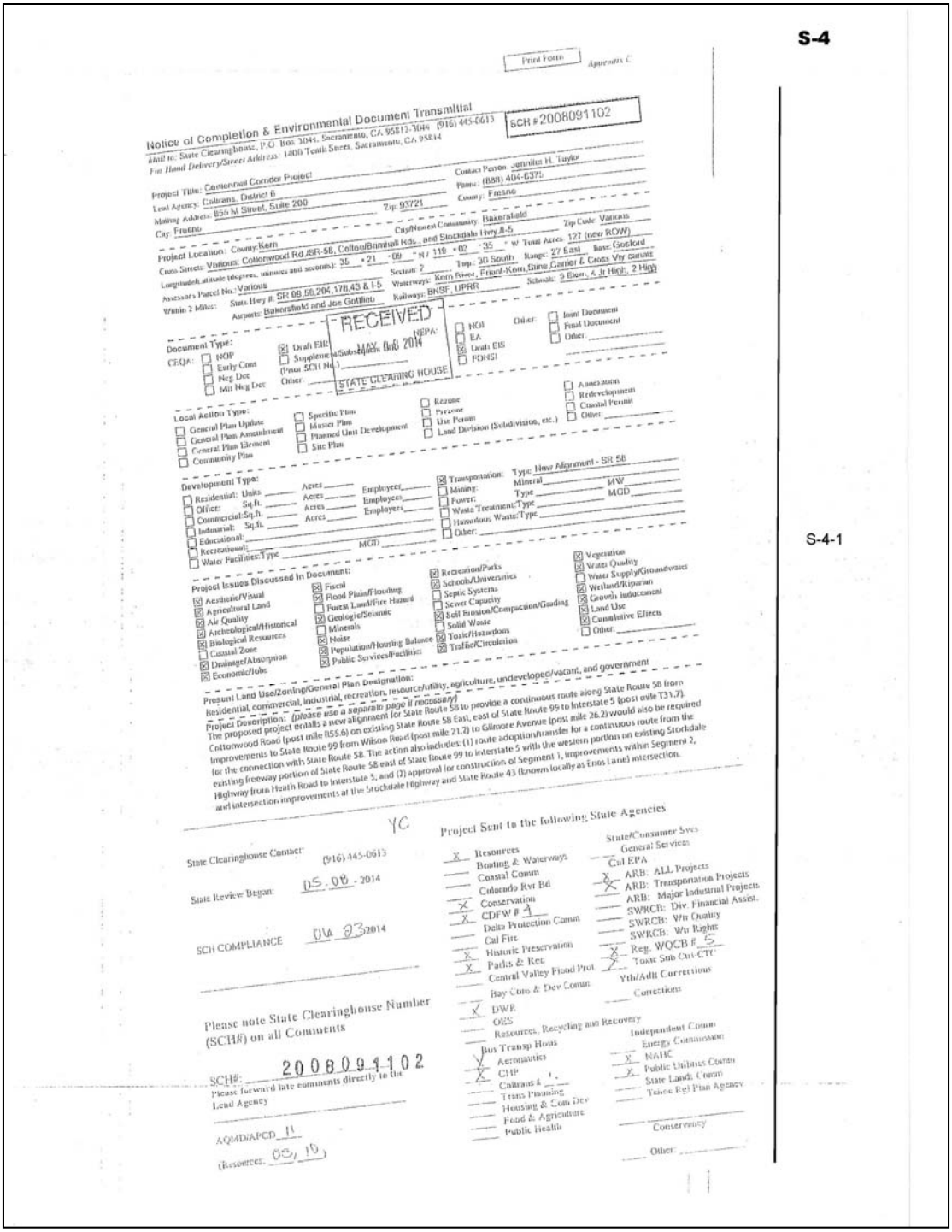
Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

S-4



Print Form

Agencies C

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613

For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH # 2008091102

Project Title: Centennial Corridor Project

Lead Agency: Caltrans, District 6

Mailing Address: 855 M Street, Suite 200

City: Fresno Zip: 93721

Contact Person: Jennifer H. Taylor

Phone: (888) 404-6371

County: Fresno

City/Nearest Community: Bakersfield

Project Location: County: Kern Zip Code: Various

Cross Streets: Various: Cottonwood Rd./SR-58, Calloway/Brimhall Rds., and Stockdale Hwy./I-5 Total Acres: 127 (new ROW)

Longitude/Latitude (degrees, minutes and seconds): 35 ° 21 ' 09 " N / 119 ° 02 ' 35 " W

Assessor's Parcel No.: Various Section: ? Twp.: 30 South Range: 27 East Base: Gosford

Within 2 Miles: State Hwy #: SR 99,58,204, 178,43 & I-5 Waterways: Kern River, Friant-Kern, Stine Canal & Cross Vly canals

Airports: Bakersfield and Joe Gottlieb Railways: BNSF, UPRR Schools: 9 Elem., 4 Jr High, 2 High

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MAY 06 2014

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Document Type:

CEQA: ☐ NOP ☐ Early Cons ☐ Neg Dec ☐ Mit Neg Dec ☒ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.) ☐ Other:

NEPA: ☐ NOI ☐ EA ☒ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other:

Local Action Type:

☐ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan ☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan ☐ Rezone ☐ Prezone ☐ Use Permit ☐ Land Division (Subdivision, etc.) ☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☐ Other:

Development Type:

☐ Residential: Units Acres Employees
☐ Office: Sq.ft. Acres Employees
☐ Commercial: Sq.ft. Acres Employees
☐ Industrial: Sq.ft. Acres Employees
☐ Educational:
☐ Recreational:
☐ Water Facilities: Type MGD
☒ Transportation: Type: New Alignment - SR 58
☐ Mining: Mineral
☐ Power: Type MW
☐ Waste Treatment: Type MGD
☐ Hazardous Waste: Type
☐ Other:

Project Issues Discussed in Document:

☒ Aesthetic/Visual ☒ Agricultural Land ☒ Air Quality ☒ Archeological/Historical ☒ Biological Resources ☐ Coastal Zone ☒ Drainage/Absorption ☒ Economic/Jobs ☒ Fiscal ☒ Flood Plain/Flooding ☐ Forest Land/Fire Hazard ☒ Geologic/Seismic ☐ Minerals ☒ Noise ☒ Population/Housing Balance ☒ Public Services/Facilities ☒ Recreation/Parks ☒ Schools/Universities ☐ Septic Systems ☐ Sewer Capacity ☒ Soil Erosion/Compaction/Grading ☐ Solid Waste ☒ Toxic/Hazardous ☒ Traffic/Circulation ☒ Vegetation ☒ Water Quality ☒ Water Supply/Groundwater ☒ Wetland/Riparian ☒ Growth Inducement ☒ Land Use ☒ Cumulative Effects ☐ Other:

Present Land Use/Zoning/General Plan Designation:

Residential, commercial, industrial, recreation, resource/utility, agriculture, undeveloped/vacant, and government

Project Description: (please use a separate page if necessary)

The proposed project entails a new alignment for State Route 58 East, east of State Route 99 to Interstate 5 (post mile T31.7). Cottonwood Road (post mile R55.6) on existing State Route 58 East, east of State Route 99 (post mile 21.2) to Gilmore Avenue (post mile 26.2) would also be required improvements to State Route 99 from Wilson Road (post mile 41.2) to Gilmore Avenue for a continuous route from the for the connection with State Route 58. The action also includes: (1) route adoption/transfer for a continuous route from the existing freeway portion of State Route 58 east of State Route 99 to interstate 5 with the western portion on existing Stockdale Highway from Heath Road to Interstate 5, and (2) approval for construction of Segment 1, improvements within Segment 2, and intersection improvements at the Stockdale Highway and State Route 43 (known locally as Enos Lane) intersection.

YC

State Clearinghouse Contact: (916) 445-0613

State Review Began: 05-08-2014

SCH COMPLIANCE DUE 06 2014

Please note State Clearinghouse Number (SCH#) on all Comments

SCH#: 2008091102

Please forward late comments directly to the Lead Agency

AQMD/APCD 11

(Resources: 05, 15)

Project Sent to the following State Agencies

X Resources
Boating & Waterways
Coastal Comm
Colorado Rvr Bd
X Conservation
X CDFW # 1
Delta Protection Comm
Cal Fire
X Historic Preservation
X Parks & Rec
Central Valley Flood Prot
Bay Cons & Dev Comm
X DWR
OES
Resources, Recycling and Recovery

Bus Transp Hous
Aeronautics
X CHP
X Caltrans # 6
Trans Planning
Housing & Com Dev
Food & Agriculture
Public Health

State/Consumer Svcs
General Services
Cal EPA
X ARB: ALL Projects
ARB: Transportation Projects
ARB: Major Industrial Projects
SWRCB: Div. Financial Assist.
SWRCB: Wtr Quality
SWRCB: Wtr Rights
X Reg. WQCB # 5
Toxic Sub Ctrl-CTC
Yth/Adlt Corrections
Corrections

Independent Comm
Energy Commission
X NAHC
X Public Utilities Comm
State Lands Comm
Tahoe Reg Plan Agency

Conservancy

Other:

S-4-1

S-4

State of California—Transportation Agency EDMUND G. BROWN Jr., Governor

DEPARTMENT OF CALIFORNIA HIGHWAY PATROL
4040 Buck Owens Boulevard
Bakersfield, CA 93308
(661) 864-4444
(800) 735-2929 (TT/TDD)
(800) 735-2922 (Voice)

LATE
6/23/14
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June 19, 2014

File No.: 420.12269.12904

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JUN 26 2014
STATE CLEARING HOUSE

State Clearinghouse
1400 Tenth Street, Room 121
Sacramento, CA 95814

To whom it may concern:

The Bakersfield Area of the California Highway Patrol (CHP) received a "Notice of Completion" of the environmental document for the proposed Centennial Corridor Project, State Clearinghouse #2008091102. The proposal concerns construction of new freeway on-ramps and off-ramps, new traffic lanes, and freeway interchanges on State Route (SR) 58, SR 99, and the SR-99 interchange with Wilson Road. The project site is entirely within the limits of the City of Bakersfield and the jurisdiction of the CHP Bakersfield Area.

Upon review, Bakersfield Area has determined that during the construction phase, this project will significantly impact the flow of traffic for both the north and southbound lanes on SR-58 and SR-99, thus increasing traffic incidents. Accordingly, additional resources will be needed to mitigate traffic congestion as well as restore order in the event of a significant occurrence. Upon project completion, response times to emergency incidents will improve. S-4-2

Any question regarding this response can be directed to Sergeant Blaine Haight at BHaight@chp.ca.gov or by telephone at (661) 864-4444.

Sincerely,

LT, FOR

T. S. ROBERTS, Captain
Commander
Bakersfield Area

cc: Central Division
Special Projects Section

Safety, Service, and Security *An Internationally Accredited Agency*

S-4

State of California Transportation Agency

Memorandum

Date: June 16, 2014

To: Bakersfield Area (420)

From: DEPARTMENT OF CALIFORNIA HIGHWAY PATROL
Special Projects Section

File No.: 063.A07471.A14985.Noc.Doc

Subject: ENVIRONMENTAL DOCUMENT REVIEW AND RESPONSE
SCH#2008091102

Special Projects Section (SPS) recently received a "Notice of Completion" environmental document from the State Clearinghouse outlining the information contained in the attached profile.

After a preliminary review, we believe this project will not have a significant impact on statewide departmental operations. However, because of your geographical proximity to the site, you are in a better position to provide a more accurate assessment of any traffic-related matters that may affect your local Area operations. Information and procedures outlined in the *Transportation Planning Manual*, HPM 41.1, Chapter 6, "Environmental Impact Documents," should serve as a guideline when reviewing transportation-related documents. S-4-3

If you determine departmental input is advisable, please provide your written comments referencing the above SCH number to the State Clearinghouse, 1400 Tenth Street, Room 121, Sacramento, CA 95814. Your comments must be received no later than June 23, 2014. Please forward a copy of your written comments to SPS.

If you have any questions, please call Analyst Suzann Ikeuchi at (916) 843-3374.

R. M. NANNINI, SSM III
Commander

Attachment

cc: Central Division
Assistant Commissioner, Field

Safety, Service, and Security *An Internationally Accredited Agency*

CHP 51 (Rev. 05-11) OPI 076

Response to Comment S-4

Comment Code	Response
S-4-1	Caltrans thanks the State Clearinghouse for circulating the Draft Environmental Document and for forwarding comments to us.
S-4-2	Caltrans thanks the California Highway Patrol for providing input on the Centennial Corridor Project. During construction of the Centennial Corridor Project, less than significant temporary traffic impacts are anticipated due to traffic disruptions from lane and road closures. Please refer to Section 3.6 of the final environmental document (Volume 1) regarding construction-related traffic impacts. To minimize potential impacts to traffic and circulation on State Route 58, State Route 99, and interchanges within the project area, a Traffic Management Plan would be developed prior to construction to reduce the impacts of traffic congestion and detours during construction. The Traffic Management Plan would be prepared in consultation with the city of Bakersfield and all emergency service providers within the project study area, including the Bakersfield area California Highway Patrol, to address potential construction-related impacts to service providers. Based on the temporary nature of the roadway closures, implementation of a Traffic Management Plan and public outreach program (Standard Conditions SC-CI-8 and SC-CI-9, respectively) would minimize impacts related to increased travel time and distance.
S-4-3	Caltrans thanks the California Highway Patrol Special Projects Section for providing input on the Centennial Corridor Project. If Caltrans determines that input from the California Highway Patrol Special Projects Section is required, a written correspondence will be sent to the contact person provided in your comment letter.

Chapter 4 Responses to Comments from Regional Agencies and Organizations

This section provides comments received on the draft environmental document from local/regional agencies and organizations. A copy of the draft environmental document was sent to the following regional agencies and organizations:

- Kern Regional Transit
- Central Valley Regional Water Quality Control, Region 5 (Fresno)
- Kern County Council of Governments
- San Joaquin Valley Air Pollution Control District
- Kern County Planning Department
- Kern County Fire Department
- Kern County Roads Department
- Eastern Kern County Air Pollution Control District
- Kern County Sheriff's Department
- Kern County Parks and Recreation
- Kern Delta Water District

A total of two comment letters were received as summarized below.

Table 4.1 Summary of Comment Letters Received from Regional Agencies

Comment Code	Agency	Commenter Name	Date Letter Received	Comment Topic
R-1	Kern Council of Governments	Ahron Hakimi, Executive Director	5/23/2014	Nonmotorized transportation (bicycle)
R-2	San Joaquin Valley Air Pollution Control District	Arnaud Marjollet, Director of Permit Services	7/7/2014	Air quality, permits

Comment R-1

R-1

Kern Council of Governments

May 23, 2014

Jennifer H. Taylor, Office Chief
Central Region, Environmental, Southern San Joaquin Valley
855 M Street, Suite 200
Fresno California 93721

Ms. Taylor:

Kern Council of Governments formally requests that the Centennial Corridor project include a bicycle crossing from Easton Drive to Commerce Drive over the canal. This improvement would improve the bicycle network in Bakersfield and help reduce greenhouse gas emissions.

The Centennial Corridor presents the opportunity to continue bicycle infrastructure on smaller streets by crossing California Avenue at Easton Drive and then crossing the canal to Commerce Drive and Commercial Way. The City of Bakersfield is improving the traffic signal at Commercial Way and Truxtun Avenue to add a pedestrian crossing and bicycle access across Truxtun to the Class 1 bike path. When the project is complete, a family-friendly bicycle route would be provided from southeast Bakersfield all the way to Southwest Bakersfield.

The Centennial Corridor provides an opportunity to greatly improve bicycle access to the existing Class 1 bike path on the Kern River Parkway. By improving that access, the project will help reduce greenhouse gas emissions. Improving bicycle access is also consistent with Caltrans' Complete Streets Policy and FHWA's pedestrian and bicycle guidance.

The City of Bakersfield adopted a Bicycle Transportation Plan in November of 2013. The plan proposed more than 100 miles of family-friendly bikeways and routes that avoid high-traffic and high-speed arterials.

R-1-1

Centennial presents another opportunity to provide bikeways that would not be available without the project. The existing route extends from the Palm Avenue crossing at State Route 99 without any on- or off-ramps, then proceeds through the Westpark neighborhood to California Aveune. Bicyclists have to ride on arterial streets like California Avenue and Mohawk to reach the Class 1 bike path and the numerous destinations that can be accessed from it, such as California State University Bakersfield.

Kern COG believes that adding a bicycle crossing from Easton Drive to Commerce Drive over the canal is an efficient use of taxpayer dollars that will help reduce vehicle miles traveled and greenhouse gas emissions while improving our quality of life.

Thank you very much for your time and consideration.

Sincerely,

Ahron Hakimi

Ahron Hakimi
Executive Director

1

Kern Council of Governments
1401 19th Streets, Suite 300 Bakersfield CA 93301 661-861-2191 Facsimile 661-324-8215 TTY 661-832-7433 www.kerncog.org

Response to Comment R-1

Comment Code	Response
R-1-1	Caltrans recognizes the positive effects of nonmotorized transportation, such as bicycles, on the environment. Preferred Alternative B is the only alternative that incorporates a bicycle connection within the Centennial Corridor Project area. It is possible that an improved bicycle connection to an existing Class I and Class II bicycle facility could increase bicycle usage Caltrans has decided to include a bicycle and pedestrian connection between California Avenue and Commerce Drive as part of the project. This decision was made in response to public requests for a bicycle connection spanning over the Carrier Canal. This improvement would enhance bicycle and pedestrian connectivity and support the goals outlined in the city's 2013 Bicycle Transportation Plan.

Comment R-2

R-2

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

July 7, 2014

Jennifer H. Taylor
California Department of Transportation
Central Region, Environmental Southern San Joaquin Valley
855 M Street, Suite 200
Fresno, CA 93721

Project: Draft Environmental Impact Report/Statement for the Centennial Corridor Project

District CEQA Reference No: 20140316

Dear Ms. Taylor:

The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed the project referenced above consisting of a proposal to construct a new alignment for State Route 58 from Cottonwood Road (post mile R55.6) on existing State Route 58 East to Interstate 5 (post mile T31.7). The project will also include improvements to State Route 99 from Wilson Road (post mile 21.2) to Gilmore Avenue (post mile 26.2). The project is located within metropolitan Bakersfield and Kern County, CA. The District offers the following comments:

1. In Table 3.23 of the Draft Environmental Impact Report/Statement (Draft EIR/EIS), the District recommends amending the project area attainment status as follows: R-2-1
   a. Hydrogen Sulfide (State): unclassified
   b. Visibility Reducing Particles (State): unclassified
   c. Vinyl Chloride (State): attainment

   In addition, the State carbon monoxide attainment status listed in Table 2-2 of the Air Quality Study Report should be revised to state, "attainment/unclassified."

   More information on the San Joaquin Valley Air Basin's attainment status can be found on the District's website at the following link:
   http://www.valleyair.org/aginfo/attainment.htm

2. The Federal and State sulfur dioxide (SO2) standards listed on page 15 of the Air Quality Study Report should be revised as follows: R-2-2

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com

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a. 1-Hour SO2 (State): 0.25 ppm
b. 1-Hour SO2 (Federal): 0.075 ppm (75 ppb)
c. 3-Hour SO2 (Federal): 0.5 ppm

R-2-2

3. Pages xiv and 47 of the Draft EIR/EIS state that District Rule 8210 limits fugitive particulate matter emissions during construction activities. The District does not have a Rule 8210; this sentence should be revised to state District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). R-2-3

4. Page 14 of the Air Quality Study Report states that the Federal 1-hour ozone standard does not apply in California. This sentence should be revised and clarify that the Federal 1-hour ozone standard was revoked on April 30, 2004, effective June 15, 2005 (http://www.gpo.gov/fdsys/pkg/FR-2004-04-30/pdf/04-9153.pdf). As a result, most of the requirements, including the transportation conformity requirements, under this standard were revoked; however, EPA upheld some of the other requirements and the District in turn submitted the *2013 Plan for the Revoked 1-Hour Ozone Standard* to EPA in 2013 to fulfill the remaining Clean Air Act requirements. Please see the District's Ozone Plans webpage for additional information: http://www.valleyair.org/Air_Quality_Plans/Ozone_Plans.htm R-2-4

5. In Section 2.2.1 (Attainment Status) of the Air Quality Study Report, it states that "EPA has proposed to approve the District's 2007 PM10 Maintenance Plan and Request for Redesignation in the Federal Register on April 18, 2008. On September 25, 2008, EPA approved the request for Redesignation to attainment/maintenance for the SJVAB." The following dates should be revised as follows: R-2-5

   "EPA has proposed to approve the District's 2007 PM10 Maintenance Plan and Request for Redesignation in the Federal Register on April 25, 2008 (73 FR 22307). On November 12, 2008 (73 FR 66759), EPA approved the request for Redesignation to attainment/maintenance for the SJVAB."

6. Section 2.5 (Local Regulations) of the Air Quality Study Report should be revised as follows:

   a. Page 23 under *Federal 8-hour standards* should be revised to state that the Valley was classified as a serious nonattainment area on April 30, 2004 (69 FR 23951) and that EPA approved the Valley's reclassification to extreme nonattainment on May 5, 2010 (75 FR 24409). R-2-6

b. Page 24 under *PM10* should be revised to state that EPA redesignated the Valley to attainment of the PM10 NAAQS on November 12, 2008 (73 FR 66759).
c. Page 24 under *PM2.5* should also mention that the District held workshops for the *2012 PM2.5 Plan* on June 27, 2012 and October 9, 2012, in addition to the April 27, 2012 date already listed. R-2-6

7. In Section 4.2.1 (Criteria Pollutants) of the Air Quality Study Report, the project related construction criteria pollutant emissions are presented and evaluated against District Rule 9510 (Indirect Source Review) applicability thresholds and the District's thresholds of significance.

   a. The information shows that the construction emissions are expected to exceed the 2 tons per year of NOx or 2 tons per year of PM10 applicability threshold of District Rule 9510. Therefore, the District agrees with the conclusion that the project is subject to District Rule 9510. The rule is intended to reduce a project's impact on air quality through project design elements or mitigation by payments of applicable off-site mitigation fees. Compliance with the rule will reduce the project construction exhaust NOx and PM10 emissions by 20 percent and 45 percent respectively. It should be noted that although compliance with District Rule 9510 reduces project specific impacts on air quality, it may not be sufficient to reduce project specific emissions to less than significant levels.

      Any applicant subject to District Rule 9510 is required to submit an Air Impact Assessment (AIA) application to the District no later than applying for final discretionary approval, and to pay any applicable off-site mitigation fees before issuance of the first building permit. If approval of the subject project constitutes the last discretionary approval by your agency, the District recommends that demonstration of compliance with District Rule 9510, including payment of all applicable fees before issuance of the first building permit, be made a condition of project approval. Information about how to comply with District Rule 9510 can be found online at: http://www.valleyair.org/ISR/ISRHome.htm. R-2-7

      Based on a review of District records, the District has not received an AIA application for this project.

   b. Additionally, the project would be determined to have a significant impact on air quality if the criteria pollutant emissions exceed 10 tons per year NOx, 10 tons per year ROG, and 15 tons per year PM10. As presented in *Table 4-9*

Estimate of Construction Emissions, the project related criteria pollutant emissions exceed the District's threshold of significance for NOx and is determined to have a significant impact on air quality. Therefore, the District recommends implementing all feasible mitigation measures to reduce air quality impacts to less than significant.

c. *Recommended Mitigation:* A feasible mitigation measure is the mitigation of project emissions through a Voluntary Emission Reduction Agreement (VERA). The District believes that mitigation through a VERA is feasible in many cases, and recommends the environmental document be revised to include a discussion of the feasibility of implementing a VERA to mitigate project specific impacts to less than significant levels.

A VERA is a mitigation measure by which the project proponent provides pound-for-pound mitigation of emissions increases through a process that develops, funds, and implements emission reduction projects, with the District serving a role of administrator of the emissions reduction projects and verifier of the successful mitigation effort. To implement a VERA, the project proponent and the District enter into a contractual agreement in which the project proponent agrees to mitigate project specific emissions by providing funds to the District. The funds are disbursed in the form of grants for projects that achieve emission reductions. Thus, project specific impacts on air quality can be fully mitigated. Types of emission reduction projects that have been funded in the past include electrification of stationary internal combustion engines (such as agricultural irrigation pumps), replacing old heavy-duty trucks with new, cleaner, more efficient heavy-duty trucks, and replacement of old farm tractors. R-2-7

In implementing a VERA, the District verifies the actual emission reductions that have been achieved as a result of completed grant contracts, monitors the emission reduction projects, and ensures the enforceability of achieved reductions. The initial agreement is generally based on the projected maximum emissions increases as calculated by a District approved air quality impact assessment, and contains the corresponding maximum fiscal obligation. However, because the goal is to mitigate actual emissions, the District has designed flexibility into the VERA such that the final mitigation is based on actual emissions related to the project as determined by actual equipment used, hours of operation, etc., and as calculated by the District. After the project is mitigated, the District certifies to the lead agency that the mitigation is completed, providing the lead agency with an enforceable

mitigation measure demonstrating that project specific emissions have been mitigated to less than significant.

The District has been developing and implementing VERA contracts with project developers to mitigate project specific emissions since 2005. It is the District's experience that implementation of a VERA is a feasible mitigation measure, and effectively achieves the emission reductions required by a lead agency, by mitigating project related impacts on air quality to a net zero level by supplying real and contemporaneous emissions reductions. R-2-7

Additional information on implementing a VERA can be obtained by contacting District CEQA staff at (559) 230-6000.

8. The Draft EIR/EIS did not perform a health risk assessment (HRA) for the construction and operational phases; however, it includes a qualitative assessment on the air toxics impacts for the operational phase of the project and compares the emissions under each of the alternatives to show that the total toxics emissions under all three alternatives will be less than under the No-Build Alternative.

   The project will traverse the middle of the Westpark neighborhood of Bakersfield. The population of this neighborhood that will remain after construction of this project will be exposed to higher levels of toxic air contaminants than before the construction and operation of this new freeway segment. It is likely that the health impact of the operation of the segment will be significant because of the diesel particulate emissions from heavy trucks on the new freeway and emissions of other toxics from gasoline-powered vehicles. The proponents have not provided any technical basis for the assertion in this Draft EIR/EIS that the exposure of sensitive receptors to substantial pollutant concentrations will be less than significant. Therefore, the District recommends that an HRA be performed for both the construction and operational phases of the project. If found to be significant, all available mitigation measures should be identified and considered. R-2-8

   More information on TACs, prioritizations and HRAs can be obtained by:

   - E-mailing inquiries to: hramodeler@valleyair.org; or
   - Visiting the District's website at: http://www.valleyair.org/busind/pto/Tox_Resources/AirQualityMonitoring.htm

9. The proposed project may be subject to District Rules and Regulations, including: Regulation VIII (Fugitive PM10 Prohibitions), Rule 4102 (Nuisance), Rule 4601 (Architectural Coatings), and Rule 4641 (Cutback, Slow Cure, and Emulsified R-2-9

Asphalt, Paving and Maintenance Operations). In the event an existing building will be renovated, partially demolished or removed, the project may be subject to District Rule 4002 (National Emission Standards for Hazardous Air Pollutants). The above list of rules is neither exhaustive nor exclusive. To identify other District rules or regulations that apply to this project or to obtain information about District permit requirements, the applicant is strongly encouraged to contact the District's Small Business Assistance Office at (559) 230-5888. Current District rules can be found online at: www.valleyair.org/rules/1ruleslist.htm. R-2-9

10. The District recommends that a copy of the District's comments be provided to the project proponent. R-2-10

If you have any questions or require further information, please call Angel Lor, at (559) 230- 5808.

Sincerely,

Arnaud Marjollet
Director of Permit Services

For: Chay Thao
Program Manager

AM: al

Response to Comment R-2

Comment Code	Response
R-2-1	Caltrans agrees with the requested revisions. The project area attainment status has been revised for hydrogen sulfide (State), visibility-reducing particles (State), and vinyl chloride (State) in Table 3.23 of the final environmental document. In addition, the State carbon monoxide attainment status listed in Table 2.2 of the Air Quality Study Report has been revised to state "attainment/unclassified."
R-2-2	The Federal and State sulfur dioxide standards listed on page 15 of the Air Quality Study Report have been revised.
R-2-3	The final environmental document has been revised to state District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities) instead of Rule 8021. Please refer to Section 2.2, Permits and Approvals Needed.
R-2-4	The Air Quality Study Report has been revised to state and clarify that the Federal 1-hour ozone standard was revoked on April 30, 2004, but that the U.S. Environmental Protection Agency upheld other requirements to fulfill remaining requirements of the Clean Air Act.
R-2-5	The dates of "request for redesignation" and "U.S. Environmental Protection Agency approval" for the San Joaquin Valley Air Pollution Control District's 2007 Particulate Matter (PM_{10}) Maintenance Plan have been revised in the Air Quality Study Report. The revised Air Quality Study Report indicates the request for redesignation occurred on April 25, 2008 and U.S. Environmental Protection Agency approved of the request on November 12, 2008.
R-2-6	Section 2.5 of the Air Quality Study Report has been revised to state that the: • The Central Valley was classified as a serious nonattainment area on April 30, 2004; • The U.S. Environmental Protection Agency approved the Central Valley's reclassification to extreme nonattainment on May 5, 2010; • The U.S. Environmental Protection Agency redesignated the Central Valley to attainment of the Particulate Matter (PM_{10}) National Ambient Air Quality Standards on November 12, 2008; • The San Joaquin Valley Air Pollution Control District held workshops for the 2012 Particulate Matter ($PM_{2.5}$) Plan on June 27 and October 9, 2012, in addition to the April 27, 2012, date already listed.
R-2-7	Caltrans acknowledges that the Centennial Corridor Project is subject to San Joaquin Valley Air Pollution Control District's Rule 9510 (Indirect Source Review). Per Rule 9510, a completed Air Impact Assessment application is required prior to the construction of the proposed project to minimize construction related emissions for nitrous oxides (NOx) and particulate matter (PM_{10}). Caltrans and the construction contractor will work with the San Joaquin Valley Air Pollution Control District to obtain approval of the Air Impact Assessment and remit any applicable off-site mitigation fees. Caltrans has completed a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District to address construction and operational emissions. The Voluntary Emission Reduction Agreement will offset any localized particulate matter impacts due to project emissions. The project as a whole will improve particulate matter emissions within the project limits as shown in the particulate matter qualitative analysis. Information about the Voluntary Emission Reduction Agreement can be found in Section 3.2.6 of the final environmental document.

Comment Code	Response
R-2-8	Caltrans will not conduct a health risk assessment because the project was considered less than significant with regard to air impacts. Based on the results of the mobile source air toxics emissions within the studied roadway, a significant decrease (50 percent) in mobile source air toxic emissions can be expected for the project alternatives as compared with the base year (2008) levels through future year levels. The decrease is expected to occur for all priority mobile source air toxics. This is directly due to the improved pollution emission performance of a modernizing fleet, including diesel-fueled vehicles, which is a trend that is expected to continue throughout the planning horizon. This finding is consistent with the Federal Highway Administration-projected trend. For more information regarding project air impacts, please refer to Section 3.2.6, Volume 1, of the final environmental document. The air study concluded that the project would reduce emissions within the project limits and that all localized air impacts would be offset by improved traffic circulation and by implementing a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District to further reduce emissions above and beyond what was anticipated from the project during construction and operation. Implementation of targeted air quality improvements would further reduce emissions and minimize potential health impacts to residents and sensitive receptors. These air quality improvements under consideration include: (1) retrofitting school buses diesel engines to reduce emissions; (2) wood-burning stove replacement; (3) heating, ventilation, air conditioning upgrades to qualified schools and (4) tree planting. These improvements were assessed based on their potential to reduce localized emissions and feasibility of implementation. Caltrans, in cooperation with the San Joaquin Valley Air Pollution Control District and the city of Bakersfield, will implement a combination or all four of the abovementioned improvements.
R-2-9	Caltrans agrees that the project may be subject to San Joaquin Valley Air Pollution Control District Rules and Regulations, including: Regulation VIII, Rule 4102, Rule 4601, Rule 4641, and Rule 4002.
R-2-10	Caltrans has included the San Joaquin Valley Air Pollution Control District's comments on the project in the final environmental document. Comments on air quality have also been forwarded to the city of Bakersfield and Kern Council of Governments for their input. The final environmental document has been revised to address the San Joaquin Valley Air Pollution Control District's comments.

Chapter 5 Responses to Comments from Local Agencies and Organizations

This section provides comments received from local agencies and organizations on the draft environmental assessment. A copy of the draft environmental document was sent to the following regional agencies and organizations:

- Greater Bakersfield Chamber of Commerce
- Sierra Club, Kern-Keweah Chapter
- Kern County Historical Society
- Kern County Engineering, Surveying and Permit Services, Floodplain Management Section
- Stockdale Christian School
- Hall Ambulance
- Kern Economic Development Corporation
- Kern County Superintendent of Schools
- Bakersfield City School District
- Kern County Black Chamber of Commerce
- Kern County Hispanic Chamber of Commerce
- City of Bakersfield Public Works
- Bakersfield Police Department
- Historic Preservation Commission City of Bakersfield
- City of Bakersfield Planning Division
- City of Bakersfield Water Resources Department
- City of Bakersfield, Parks and Recreation
- Bakersfield Fire Department
- Golden Empire Transit District
- Kern High School District

One comment letter was received from local agencies and organizations as summarized below.

Table 5.1 Summary of Comment Letters Received from Local Agencies

Comment Code	Agency	Commenter Name	Date Letter Received	Comment Topic
LA-1	Kern County-Engineering, Surveying and Permit Services, Floodplain Management Section	Jason Scheer	5/15/2014	General

Comment LA-1

LA-1

Office Memorandum

KERN COUNTY

To: CalTrans
Jennifer Taylor

Date: May 15, 2014

From: Engineering, Surveying and Permit Services
Floodplain Management Section
Aaron Leicht, by Jason Scheer

Phone: (661) 862-5083
Email: ScheerJ@co.kern.ca.us

Subject: Draft Environmental Impact Report
Centennial Corridor Project

From the information supplied, we have no comments or recommendations regarding the above project. LA-1-1

Response to Comment LA-1

Comment Code	Response
LA-1-1	Caltrans thanks you for your participation in the public review process for the Centennial Corridor Project. Your response is acknowledged.

Chapter 6 Responses to Comments from the General Public

Throughout the 61-day comment period, a total of 64 members of the public submitted written comments related to the project. A copy of each written comment and the response to each question/comment are presented in this chapter. Multiple letters submitted by the same individual are grouped together and treated as one set of written comments. When the comment letters from the same individual are duplicated (sent in more than one copy), only one letter is responded to.

Table 6.1 Summary of Comment Letters Received from the General Public

Comment Code	Commenter Name	Date Letter Received
GP-1	Wayne Clausen	7/7/2014
GP-2	Joe D. Rose	7/3/2014
GP-3	David Bainton	7/8/2014
GP-4	Rosa Adame	7/8/2014
GP-5	Michael Werlinich	7/5/2014
GP-6	Carmen Genter	6/28/2014
GP-7	Emily Gellman	7/7/2014
GP-8	Jamie Williams	7/5/2014
GP-9	Peterson Law Group (John S. Peterson)	7/7/2014
GP-10	Dr. Jana L. Swearengin and Karen S. Eggemann	7/7/2014
GP-11	Rosalie Trepicone	6/28/2014
GP-12	Anonymous	7/8/2014
GP-13	Mary Ruth Brown	6/11/2014
GP-14	Bakersfield First Assembly of God	7/2/2014
GP-15	Kern Minority Construction Association (Marvin Dean)	6/30/2014
GP-16	Time Trial Investments (Gary Trenda)	6/25/2014
GP-17	Hendrik and Martha Hinse	6/11/2014
GP-18	Daniel Cronquist	6/11/2014
GP-19	Mark Cronquist	6/11/2014
GP-20	Larry and Irma Gladwell	6/11/2014
GP-21	Vicky Gresham	6/11/2014
GP-22	Karen Landers	6/11/2014
GP-23	Lisa Anderson	6/11/2014
GP-24	Mike Lee	6/11/2014

Comment Code	Commenter Name	Date Letter Received
GP-25	Roberta Bender	6/11/2014
GP-26	Mary Ellen Hutchison	6/11/2014
GP-27	Elizabeth Waggoner	6/11/2014
GP-28	Hank and Mardi Hinse	6/11/2014
GP-29	Stockdale Christian Schools	5/19/2014
GP-30	Jack M. Rademacher	5/14/2014
GP-31	Frank and Maris Sosa	5/25/2014
GP-32	Kenneth M. Cannon	5/27/2014
GP-33	Pam Binns	5/16/2014
GP-34	Marc and Shannon Caputo	7/8/2014
GP-35	Quinn Miller	6/29/2014
GP-36	Bike Bakersfield (Jason Cater)	6/18/2014
GP-37	Larry Sharette	7/3/2014
GP-38	Brian and Sharon Self	7/4/2014
GP-39	Robert Schmidt	6/11/2014
GP-40	Bob Smith	6/11/2014
GP-41	Leah Pineda	6/11/2014
GP-42	Diane Hamlin	6/11/2014
GP-43	Brad Barbeau	6/11/2014
GP-44	Bonnie Doyle	6/11/2014
GP-45	Cindy Parra	6/11/2014
GP-46	Robert Braley	6/11/2014
GP-47	Jay Gauthier	6/11/2014
GP-48	Jason Cater	6/11/2014
GP-49	Alfredo Buendia	6/15/2014
GP-50	Mike P.	6/17/2014
GP-51	Brian Holle	6/20/2014
GP-52	Joanne Bender	7/2/2014
GP-53	Juston Pack	7/5/2014
GP-54	Frank Jones	7/8/2014
GP-55	Janice Malouf	7/8/2014
GP-56	Debi	7/8/2014
GP-57	Susan Wyatt	7/8/2014
GP-58	Randa Hunter and Vanessa Vangel	7/8/2014
GP-59	Gary Crabtree	6/19/2014
GP-60	Ray Clanton	6/10/2014

Comment Code	Commenter Name	Date Letter Received
GP-61	Alan Booth	6/11/2014
GP-62	Jonathon Mills	6/12/2014
GP-63	Jose Espinoza	7/8/2014
GP-64	Shelley Kraft	7/13/2014

Note: When a letter did not indicate the date, July 8, 2014, last day of the review period, was used.

Comment GP-1

GP-1

Wayne Clausen
12304 Arbor Park Pl
Bakersfield, CA 93311

July 7, 2014

Jennifer H. Taylor, Office Chief
California Department of Transportation
855 M Street, Suite 200
Fresno, CA 93721

RE: Centennial Corridor Draft Environmental Impact Report/Environmental Impact Statement

Dear Ms. Taylor:

The Draft Environmental Impact Report/Environmental Impact Statement (DEIR/DEIS) for the Centennial Corridor Project is erroneous in its analysis of potential significant impacts regarding traffic and safety for Segment 3, i.e., Stockdale Highway. The DEIR/DEIS and Final Traffic Study Report (Volume I) assume that Segment 3 will be built to four lanes from future developer improvements [see page 34 of 38 of the Final Traffic Study Report (Volume I) Executive Summary]. The problem with this assumption is that most of the land use on the north and south sides of Stockdale Highway, from I-5 to Nord Road, is designated for Intensive Agriculture (R-IA) and Mineral Petroleum (R-MP) land use (see Kern County Land use map west in the attached CD and Western Rosedale land use map attached to this letter). There will be no developer improvements for this segment of the Project. There are a few pockets of urban land use designations along the segment but most are already developed without additional road improvements. Caltrans has no local land use authority to require property owners to construct additional lanes or road improvements. Regarding adverse traffic safety hazards, this assumption is dangerous for a project that will dump interstate freeway truck and vehicular traffic onto a two lane rural road. The existing land use designations along Segment 3 need to be identified and analyzed in the DEIR/DEIS.

GP-1-1
GP-1-2
GP-1-3
GP-1-4

Section 2.8 (page 73) of the Final Traffic Study Report (Volume I) states that there were 378 traffic accidents, with two fatalities, on State Route 58 (between Real Road and Cottonwood Road) from August 2007 to March 2010. Most of this segment of State Route 58 is a divided four lane highway. If such terrible events can occur in a three year time period on that segment of State Route 58, a two lane undivided interstate freeway on Segment 3 will cause greater traffic accidents and deaths. The Project's potential significant traffic safety hazards in Segment 3 are not identified or analyzed in the DEIR/DEIS. The traffic safety hazard analysis needs to be added to the DEIR/DEIS and the document re-circulated for public review and comment.

GP-1-5

GP-1

The Executive Summary in the Final Traffic Study Report (Volume I) concludes on page 35 of 38 that the signals and intersection improvements at Stockdale Highway and Enos Lane/Nord Road/Wegis Avenue will maintain an acceptable level of Service for Segment 3. The conclusion is based on the false assumption that four lanes will be constructed for Segment 3 through developer improvements [see page 304 in the Final Traffic Study Report (Volume I)]. GP-1-6

On page 307 of the Final Traffic Study Report (Volume I), Segment 3 is analyzed as a two-lane, two-way rural highway with the conclusion that "Stockdale Highway operates, and will continue to operate, below Caltrans (District 6) level of service threshold of the transition between LOS C and LOS D for rural roads (Stockdale Highway west of Enos Lane) or the transition between LOS D and LOS E for urban roads (Stockdale Highway east of Enos Lane)." The Final Traffic Study Report does not identify which highway classification (Class I or Class II) was utilized for the 2000 Highway Capacity Manual analysis for Segment 3. The Final Traffic Study Report does identify or demonstrate the 2000 Highway Capacity Manual calculation for the analysis. The Final Traffic Study Report does not identify the traffic forecasts utilized in the calculation. Identifying this information is critical because the Project is proposing to dump interstate freeway traffic, not two lane rural highway traffic, onto a two lane rural road. It seems obvious that if interstate freeway traffic was identified and utilized in a 2000 Highway Capacity Manual calculation for a two lane undivided rural road, the project would fail to meet Caltrans' level of service standards. GP-1-7

The recently adopted (June 19, 2014) Kern Council of Governments' 2014 Regional Transportation Plan identifies the future State Route 58 from I-5 to Heath Road at Stockdale Highway as an unconstrained "Beyond 2040 – Major Highway Improvement" (KER08RTP114). This of course means that Segment 3 will be a two lane undivided interstate freeway for the next 30 years. The Final Traffic Study Report (Volume I) states that heavy truck volumes in Kern County will increase by 87% over the next 30 years (page 336). Figure 6-6 on page 337 of the Final Traffic Study Report identifies most of the heavy truck flow occurring on State Route 58. Based on the above, it is clear the Project will have significant traffic safety hazards in Segment 3. The DEIR/DEIS fails to identify or analyze the Project's adverse significant effects on the environment regarding traffic and traffic safety hazards. GP-1-8

GP-1

The Final Traffic Study Report (Volume I) states on page 13-38 of the Executive Summary that its purpose is to analyze the performance of the three build alternatives and the no build alternative. The performance analysis only covers Segment 1 and Segment 2. No performance analysis has been prepared for Segment 3. Proposing an interstate freeway on a two lane rural road (Segment 3) requires the same performance analysis to adequately identify and analyze the potential significant traffic safety hazards of the Project. GP-1-9

There is an existing at-grade rail crossing on Stockdale Highway just east of Enos Lane. Adjacent to this crossing is a private rail spur facility that can receive hundreds of rail cars. The railroad blocks traffic on Stockdale Highway when delivering rail cars or crossing Segment 3. The Final Traffic Study Report (Volume I) and DEIR/DEIS do not identify this at-grade crossing, the number of times traffic is stopped at the at-grade crossing, or the duration of the stops. The adverse traffic and safety hazard impacts from the at-grade crossing and proposed interstate freeway traffic on Segment 3 must be identified and analyzed in the DEIR/DEIS. GP-1-10

If Segment 3 does not facilitate interstate truck and vehicular access to I-5 for the reasons noted above, the freeway traffic will exit on Allen Road to utilize Rosedale Highway for access to I-5. Interstate freeway traffic on Allen Road would have a potential significant impact on traffic, safety, and air pollution for the adjacent and surrounding residential neighborhoods between the Westside Parkway and Rosedale Highway. This potential significant impact on the environment is not identified or analyzed in the DEIR/DEIS. GP-1-11

The DEIR/DEIS does not identify or analyze the City Bakersfield's adopted habitat management plan (HMP) for protecting the federally listed Buena Vista Lake Shrew (BVLS) (see BVLS HMP in the attached CD). The DEIR/DEIS does not analyze the potential significant impacts of the Centennial Corridor Project on the BVLS and BVLS HMP. Two U.S. Fish and Wildlife Service memos in the Economic Analysis for the proposed listing of BVLS critical habitat conclude adverse modification and jeopardy are one and the same for the BVLS (see Appendix C and Appendix D in the May 21, 2013 Economic Analysis document provided in the attached CD). Construction of the Centennial Corridor Project across the Kern River may block available Kern River water to the City of Bakersfield's 2,800 acre kern fan water recharge facility. The City of GP-1-12

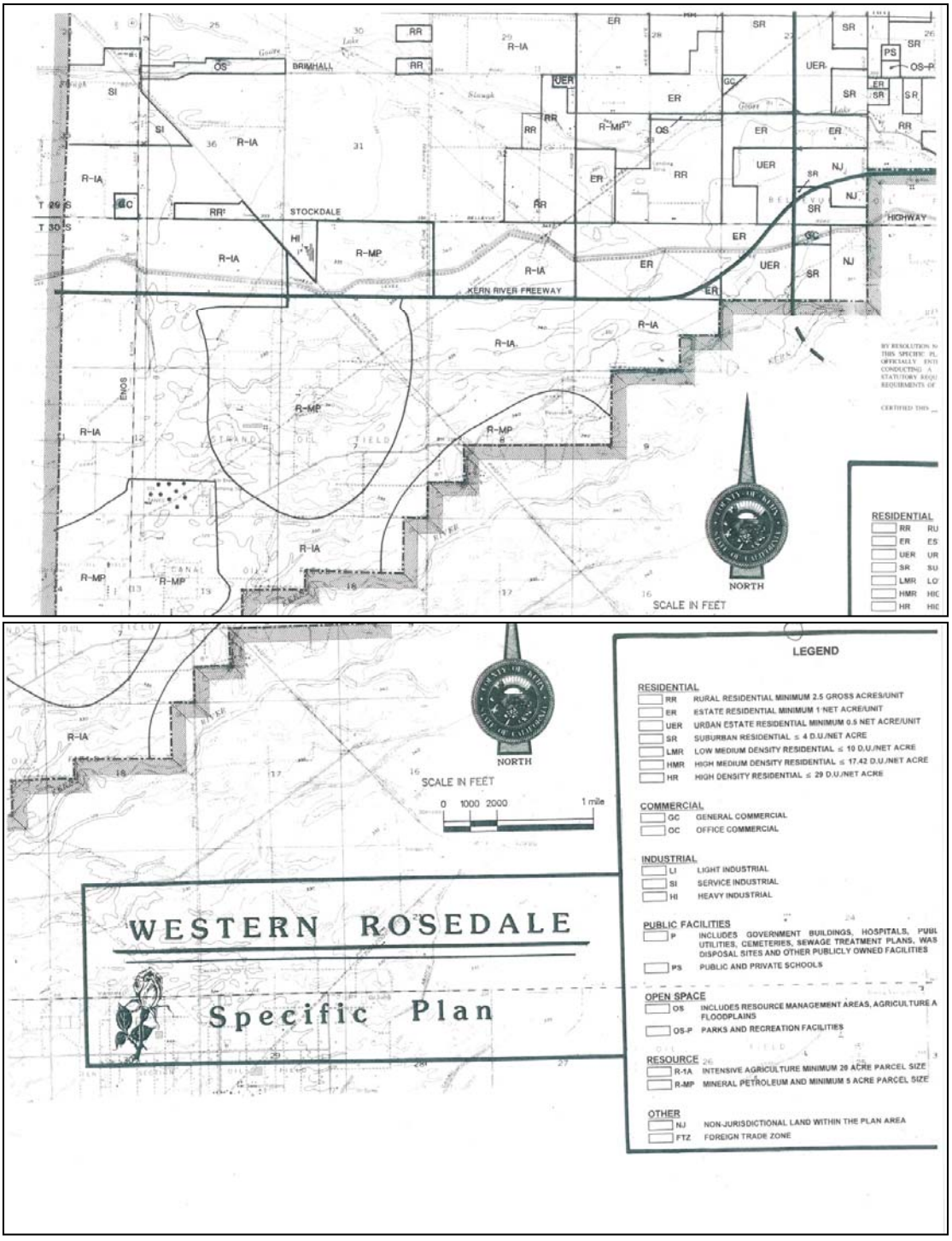
GP-1

Bakersfield's 2,800 acre kern fan water recharge facility contains suitable BVLS habitat as described in the yearly monitoring reports of the BVLS HMP (provided in attached CD). GP-1-12

The DEIR/DEIS needs to be revised and updated as noted and re-circulated for public review and comment. Please inform me when the revised DEIR/DEIS is made available to the public. GP-1-13

Sincerely,

Wayne Clausen


WESTERN ROSEDALE
Specific Plan
NORTH
SCALE IN FEET
0 1000 2000 1 mile
LEGEND
RESIDENTIAL
RR RURAL RESIDENTIAL MINIMUM 2.5 GROSS ACRES/UNIT
ER ESTATE RESIDENTIAL MINIMUM 1 NET ACRE/UNIT
UER URBAN ESTATE RESIDENTIAL MINIMUM 0.5 NET ACRE/UNIT
SR SUBURBAN RESIDENTIAL ≤ 4 D.U./NET ACRE
LMR LOW MEDIUM DENSITY RESIDENTIAL ≤ 10 D.U./NET ACRE
HMR HIGH MEDIUM DENSITY RESIDENTIAL ≤ 17.42 D.U./NET ACRE
HR HIGH DENSITY RESIDENTIAL ≤ 29 D.U./NET ACRE
COMMERCIAL
GC GENERAL COMMERCIAL
OC OFFICE COMMERCIAL
INDUSTRIAL
LI LIGHT INDUSTRIAL
SI SERVICE INDUSTRIAL
HI HEAVY INDUSTRIAL
PUBLIC FACILITIES
P INCLUDES GOVERNMENT BUILDINGS, HOSPITALS, PUBL UTILITIES, CEMETERIES, SEWAGE TREATMENT PLANS, WAS DISPOSAL SITES AND OTHER PUBLICLY OWNED FACILITIES
PS PUBLIC AND PRIVATE SCHOOLS
OPEN SPACE
OS INCLUDES RESOURCE MANAGEMENT AREAS, AGRICULTURE A FLOODPLAINS
OS-P PARKS AND RECREATION FACILITIES
RESOURCE
R-1A INTENSIVE AGRICULTURE MINIMUM 20 ACRE PARCEL SIZE
R-MP MINERAL PETROLEUM AND MINIMUM 5 ACRE PARCEL SIZE
OTHER
NJ NON-JURISDICTIONAL LAND WITHIN THE PLAN AREA
FTZ FOREIGN TRADE ZONE
BRIMHALL
STOCKDALE
KERN RIVER FREEWAY
HIGHWAY
ENOS
R-IA
R-MP
RR
ER
UER
SR
NJ
GC
HI
SI
OS
PS
OS-P

Response to Comment GP-1

Comment Code	Response
GP-1-1	Construction of Segment 3 of the Centennial Corridor from the west end of the Westside Parkway to Interstate 5 is one of two "unconstrained" (non-funded) projects that were considered in the final traffic study. Segment 3 was previously evaluated in the approved *Route 58 Route Adoption Project, A Tier I Environmental Impact Statement/ Environmental Impact Report* (Caltrans, 2001). Segment 3 will not be built until traffic demand indicates widening is needed and there is sufficient funding for construction. In the interim, Stockdale Highway, from Westside Parkway to Interstate 5, would be temporarily adopted as State Route 58, under Build Alternatives A, B, and C. It is noted that in the interim, Stockdale Highway would be designated as a State Route, as opposed to a two-lane undivided interstate freeway as indicated by the commenter. However, the Centennial Corridor Project does include intersection improvements at Stockdale Highway and Enos Lane within the Segment 3 alignment. Improvements at this intersection are needed to enhance traffic operations and safety where two highways (proposed State Route 58 and State Route 43) intersect. Traffic studies have to make assumptions about future conditions in order to model what traffic may be in the future for No-Build and Build alternatives. This is why a built out Segment 3 was included in the Traffic Study for the design year. The Metropolitan Bakersfield General Plan Circulation Element identifies Stockdale Highway from Interstate 5 to Nord Road as a future freeway. Land developer improvements are assumed under the No Build Alternative and Build Alternatives A, B, and C as a condition of entitlement or using funds collected by the Metropolitan Bakersfield Transportation Impact Fee Program. Figure 3-5 of the Traffic Study (Chapter 3) technical report illustrates the Proposed Phase IV Improvements included under the Transportation Impact Fee Program. The graphic illustrates the inclusion of the widening of Stockdale Highway to four lanes from Nord Road to Enos Lane and the installation of traffic signals and intersection improvements at Stockdale Highway and Wegis Avenue and at Stockdale Highway and Nord Road. These intersection improvements and land additions are assumed under all year 2038 no-build and build analysis scenarios. Please see Chapter 3 of the Traffic Study, which explains the travel forecast model, land use assumptions, population projections, future roadway network assumptions for both design year (2038) and opening year (2018) of Segment 2, and anticipated traffic volumes with and without the project.
GP-1-2	Caltrans acknowledges that your statement describes current conditions. Cumulative projects and planned growth in the metropolitan Bakersfield area may lead to changes in the area's zoning, leading to a potential increase in development intensity in the area. Future land use designations surrounding the alternatives for Centennial Corridor are identified in the *Metropolitan Bakersfield General Plan* (2002, as amended) and the *Kern County General Plan* (2007) as shown in Figure 3-2 (provided in Volume 2). Caltrans would not require property owners to construct additional lanes as part of this project; however, the city of Bakersfield and/or County of Kern may require certain roadway improvements if development occurs. The Centennial Corridor Project would make improvements at Stockdale Highway and State Route 43, which would require right-of-way acquisition of Prime Farmland to construct the intersection improvements. However, due to the small size of land required (approximately 4 acres), substantial impacts to farmland operations are not expected. The land owners would receive appropriate compensation allowed by law as described in Section 3.1.4.2, Relocations and Real Property Acquisition.

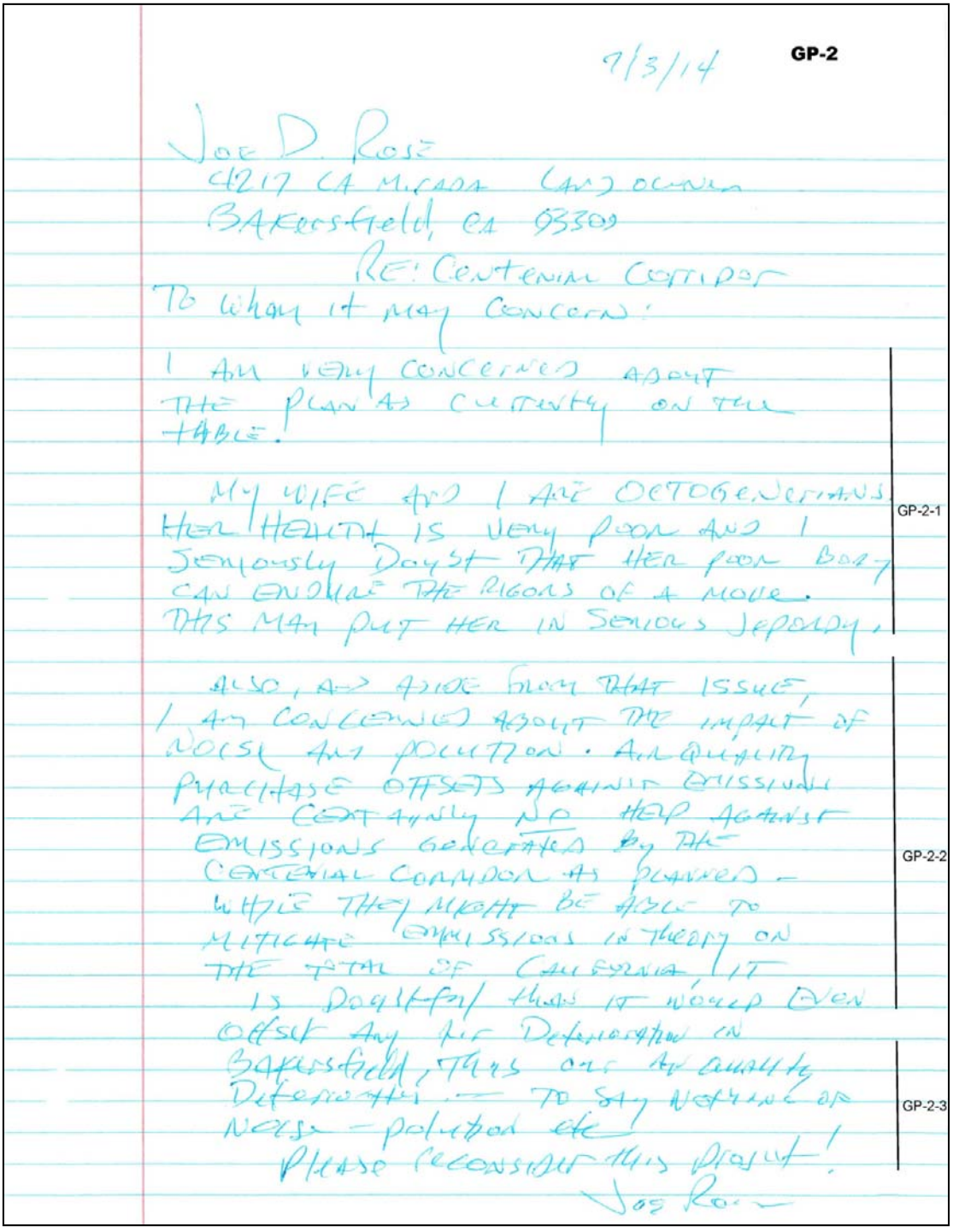
Comment Code	Response
GP-1-3	As discussed in the final environmental document, the build alternatives would result in safety benefits associated with considerably less congestion on local streets. Between Interstate 5 and Nord Road, the proposed State Route 58 would remain a two-lane highway; the traffic study indicates that traffic volumes at this segment in 2038 would be adequately served by a two-lane road. Significant increases in traffic volumes to a level that would cause adverse traffic hazards at this segment of the proposed State Route 58 are not anticipated. Hence, Stockdale Highway provides an improvement in safety as there is a lower volume of slow moving vehicles entering the highway and fewer turning movements for vehicles exiting the highway.
GP-1-4	As discussed in Section 3.1.1.1, Existing and Future Land Use, the study focuses on Segment 1. Segment 2 (also known as Westside Parkway) has been previously evaluated in a separate environmental document. There have been no major changes to the general settings of the area since the environmental document for Segment 2 was approved. A separate environmental document for Segment 3 (Interstate 5 to Heath Road) will be prepared at a later date when appropriate circumstances such as an increase in traffic volumes or the addition of traffic-inducing land use applications justifies its construction. Refer to Response to Comment GP-1-1 regarding Segment 3.
GP-1-5	Improvements to Segment 3 are not part of the Centennial Corridor Project; thus, proposed Segment 3 improvements are not evaluated in the Centennial Corridor final environmental document. Please refer to Response to Comment GP-1-1 for discussions about roadway improvements for Segment 3. Until Stockdale Highway is widened between Heath Road and Enos Lane, Stockdale Highway will remain a two-lane facility. Accident statistics comparable to those reported for State Route 58 east of State Route 99 are not available for Stockdale Highway. However, accident analyses for Rosedale Highway address the entirety of Rosedale Highway from State Route 43 (Enos Lane) to State Route 99, which comprises both two- and four- lane segments. These are reported in the Draft Existing Conditions Report for Rosedale Highway (State Route 58) Improvements, dated April 3, 2008. Over the period from 5/1/2004 to 4/31/2007, the number of accidents along Rosedale Highway totaled 714. The total number of accidents is not as useful for analysis as the “accident rate,” which is typically expressed as accidents per million vehicle miles. The total accident rate was 1.97 for Rosedale Highway, compared with a statewide average of 1.46 for similar facilities. By comparison, the accident rate on the State Route 58 freeway, west of State Route 99 was 1.46 compared with a statewide average of 0.86 for similar facilities. Thus the average rate and the actual rate for non-access controlled facilities, such as Rosedale Highway, is in fact higher than for controlled access facilities such as the existing State Route 58 freeway to the east of State Route 99. As part of the Centennial Corridor Project, improvements at the intersection of Stockdale Highway and State Route 43 would provide safety enhancements by providing traffic signals and turn lanes. Traffic signals at this intersection would minimize side-impact collisions and turn lanes would reduce rear-end collisions. The traffic study indicates that traffic volumes between Interstate 5 and Nord Road would be adequately served by a two-lane road in 2038. As a result, the interim alignment after construction of the Centennial Corridor Project (but before Segment 3 improvements) along the proposed State Route 58 would remain as a two-lane highway between Interstate 5 and Nord Road. Significant increases in traffic volumes to a level that would cause adverse traffic hazards at this segment of the proposed State Route 58 are not anticipated. As mentioned in Response to Comment GP-1-1, a separate environmental document and design plans will be prepared for improvements for Segment 3, which

Comment Code	Response
	will address traffic safety and incorporate design features to enhance safety for the traveling public.
GP-1-6	Refer to Response to Comment GP-1-1 for a discussion regarding Segment 3. Traffic studies have to make assumptions about future conditions to model what traffic may be in the future for the No-Build and Build Alternatives. This is why a built-out Segment 3 was included in the Traffic Study for the design year. Segment 3 will remain at the Tier I, route-adoption level of analysis, which is a general analysis since specific engineering and construction details are not yet available. More detailed analysis will not occur until there is sufficient funding and reasonable traffic demand to justify construction. At that time, a project-level environmental document will be prepared, which will include a detailed traffic study of Segment 3.
GP-1-7	Refer to Responses to Comment GP-1-1 for further discussion on traffic evaluation assumptions of Segment 3. The Traffic Study technical report indicates percent time spent and average speed for the roadway segments. The level of service determination is based on average travel speed as Stockdale Highway is a Class I facility west of Heath Road to Interstate 5. Calculations for the roadway segment and intersection level of service analysis are included in the technical appendix to the Traffic Study technical report. The key study intersections are identified in Figure 2-13 of the Traffic Study technical report. Intersections of interest to the commenter are numbers 4 and 7, and perhaps 8 through 10. Peak-hour intersection turning movement traffic volumes are presented in Figures 3-13, 3-18, and 3-23 of the Traffic Study technical report for year 2038 design year conditions for Build Alternatives A, B, and C, respectively. A four-lane Stockdale Highway between Heath Road and just west of Enos Lane (State Route 43) was assumed for the level of service calculations. Accordingly, four lanes are depicted in the aforementioned figures. Traffic analysis was also conducted based on the two-lane highway level of service definition, as depicted in Table 4-41 of the Traffic Study. According to Table 4-42 of the Traffic Study, the analysis results indicate level of service no worse than “C” along Stockdale Highway. As mentioned previously, only the intersection of Stockdale Highway and Enos Lane within Segment 3 are analyzed as part of the Centennial Corridor Project. A separate environmental document and traffic analysis would be prepared when the need to widen Segment 3 and/or when funding has been identified.
GP-1-8	Construction of Segment 3 of the Centennial Corridor from the west end of the Westside Parkway to Interstate 5 is one of two “unconstrained” (unfunded) projects that were considered in the final traffic study. Segment 3 was evaluated in the approved *Route 58 Route Adoption Project, A Tier I Environmental Impact Statement/ Environmental Impact Report* (Caltrans, 2001). Segment 3 will remain at the Tier I, route-adoption level of analysis until there is sufficient funding and reasonable traffic demand to justify construction. At that time, a project-level environmental document will be prepared. In the interim, Stockdale Highway, from Westside Parkway to Interstate 5, would be temporarily adopted as State Route 58, under Build Alternatives A, B, and C. It is noted that in the interim, Stockdale Highway would be designated as a State Route, as opposed to a two-lane undivided interstate freeway as indicated by the commenter. Section 3.5 of the Traffic Study technical report discusses future year truck volumes. Table 3-14 within that section identifies average daily traffic total volumes and truck volumes by axle grouping. The reported “East of Interstate 5” volumes are most relevant to the commenter’s concerns. The reported “East of Enos Lane” volumes are appropriate for the Renfro Road to Nord Road segment. Based on these volumes, the project will not incur significant traffic safety hazards in Segment 3.

Comment Code	Response
GP-1-9	Refer to Response to Comment GP-1-8 for a discussion of assumptions related to the evaluation of Segment 3. The Traffic Study technical report included highway segment and intersection level of service analysis for Stockdale Highway west of Heath Road, to be temporarily adopted as State Route 58 under the build alternatives. Section 4.11 of the Traffic Study technical report, beginning on page 303, identifies the roadway improvement assumptions pertaining to Segment 3—Heath Road to Interstate 5. As a state roadway facility, widening of the facility from two lanes to four lanes, even as an interim configuration, will be designed to meet Caltrans' Highway Design Manual standards for conventional highways. These standards specify all components of the facility to ensure that the facility provides a safe environment for the traveling public. A widening plan for Segment 3, Stockdale Highway west of Heath Road, has not been prepared because it is not part of the Centennial Corridor Project; thus, proposed Segment 3 improvements are not evaluated in the Centennial Corridor final environmental document. When the need to widen Segment 3 is identified, a separate environmental document, traffic analysis, and safety analysis would be conducted.
GP-1-10	Improvements to Segment 3 are beyond the scope of this final environmental document. When traffic demand necessitates improvements to Segment 3, a separate environmental document would be prepared. The existing at-grade rail crossing along Stockdale Highway, east of Enos Lane would be analyzed as part of the Segment 3 environmental document.
GP-1-11	In the absence of Segment 3 improvements, motorists traveling west to Interstate 5 from State Route 58 have a number of route choice opportunities, one of which would be the utilization of Allen Road as a connection to Rosedale Highway. Although it is possible for motorists to take the route via Allen Road, as explained by the commenter, Rosedale Highway, west of Allen Road is currently a two-lane road similar to the future Stockdale Highway (future State Route 58) roadway configuration. Most motorists will continue on a direct path traveling towards Interstate 5, via Stockdale Highway because Rosedale Highway does not provide additional travel lanes and requires a longer route to Interstate 5. With the completion of construction of the existing Westside Parkway to Heath Road, the advantage of the Stockdale Highway route will become increasingly apparent. The likelihood of anyone selecting the commenter's proposed route of Westside Parkway to Allen Road, Allen Road to Rosedale Highway, Rosedale Highway to Enos Lane, Enos Lane to Blue Star Memorial Highway (existing State Route 58), and Blue Star Memorial Highway to Interstate 5 will be remote.
GP-1-12	Caltrans acknowledges that the 2,800-acre Kern fan recharge facility contains suitable habitat for the Buena Vista Lake Shrew; however, the Kern fan recharge facility is located along the Kern River, south of Stockdale Highway (proposed State Route 58) between Enos Lane and Renfro Road. The results of the *Natural Environment Study* indicated that Buena Vista Lake Shrew was not observed during biological surveys and was not expected to occur in the biological study area for the Centennial Corridor Project. The construction of the Centennial Corridor Project is also outside of the Kern fan recharge facility and direct impacts are not anticipated. The commenter is suggesting that the Centennial Corridor Project's bridge structure that would span the Kern River would produce indirect effects to suitable Buena Vista Lake Shrew habitat by blocking Kern River water from reaching the Kern fan recharge facility downstream. Each of the build alternatives includes a bridge over the Kern River, including structures that would be placed in the river; however, the bridge structures would not result in a significant blockage of water to the Kern fan water recharge facility as noted in the comment. The structures to be constructed within the Kern River to support the bridge structure are approximately 0.009-acre in

Comment Code	Response
	size at the surface of the Kern River. This marginal increase in impervious area due to the proposed bridge structure is not anticipated to block Kern River water to the Kern fan water recharge facility or other sites downstream and produce significant effects downstream to the Buena Vista Lake Shrew critical habitat. Therefore, impacts to Buena Vista Lake Shrew and its habitat are not discussed in the final environmental document, nor would mitigation measures be required; a discussion regarding the Buena Vista Lake Shrew habitat management plan referenced by the commenter is not required in the final environmental document. Preferred Alternative B would not have significant effects on the available water to the city of Bakersfield's water recharge facility downstream.
GP-1-13	Per your request, you will be added to the mailing list for notification when the final environmental document is ready for public review. Caltrans has determined that recirculation of the draft environmental document is not required. Per the California Environmental Quality Act, Article 7, Section 15088.5, a draft environmental document is required to be recirculated for public review, when significant new information is added to the environmental impact report after public notice is given of the availability of the draft environmental document for public review but before final environmental impact report is certified. "Information" can include changes in the project or environmental setting as well as additional data or other information. New information added to an environmental impact report is not "significant" unless the environmental impact report is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that Caltrans has declined to implement. "Significant new information" requiring recirculation includes: 1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented. 2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance. 3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but Caltrans declines to adopt it. 4) The draft environmental impact report was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded. Recirculation is not required when the new information added to the environmental impact report merely clarifies or amplifies or makes insignificant modifications in an adequate environmental impact report. Additionally,recirculation of, or releasing of a supplemental environmental impact statement is not required for this project either, since there have been no substantial changes in the proposed action relevant to environmental concerns, nor have significant new circumstances or information relevant to environmental concerns been identified. Caltrans has identified Segment 3 as a separate project requiring the preparation of a standalone environmental document. In addition, the Centennial Corridor Project would not impact the Buena Vista Lake Shrew and its critical habitat. Based on Caltrans' assessment of your comment requesting the recirculation of the draft environmental document, Caltrans has determined that recirculation of the Centennial Corridor Project's environmental document is not required and has prepared this final environmental document for public review.

Comment GP-2



9/3/14 GP-2

Joe D. Rose
4217 CA Mi Casa (and) Ocean
Bakersfield, CA 93309

RE: Centenial Corridor

To whom it may concern:

I am very concerned about the plan as currently on the table.

My wife and I are Octogenerians. Her health is very poor and I seriously doubt that her poor body can endure the rigors of a move. This may put her in serious jeopardy. GP-2-1

Also, aside from that issue, I am concerned about the impact of noise and pollution. Air quality purchase offsets against emissions are certainly no help against emissions generated by the Centenial Corridor as planned - while they might be able to mitigate emissions in theory on the 4th of July, it is daily/ that it would even offset any air deterioration in Bakersfield, this one air quality deterioration - to say nothing of noise - pollution etc GP-2-2

Please reconsider this project! GP-2-3

Joe Rose

Response to Comment GP-2

Comment Code	Response
GP-2-1	Thank you for your comments. Caltrans understands that the relocation process may be difficult for some individuals, especially those people with special needs—including those who may be elderly and/or disabled. Caltrans' policy is that displaced persons shall not suffer unnecessarily as a result of programs designed to benefit the public as a whole. As currently designed, your property is required to construct the freeway; however, property acquisition and right-of-way requirements will not be finalized until the final design phase of the project. Any person to be displaced will be assigned to a Relocation Advisor, who will work closely with each displacee to ensure that all benefits and payments are fully used and that all applicable regulations are observed, thereby avoiding the possibility of displacees jeopardizing or forfeiting any of their Relocation Assistance Program benefits. Displacees may request that family members or others who the displacee may choose also be involved in the above process, including participating in discussions regarding appropriate advisory assistance, searching for a suitable replacement dwelling, deciding on move options, and helping to facilitate and coordinate communication associated with move-related activities and the payment of all eligible relocation assistance benefits that accrue to the displacee. In accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, your Relocation Advisor will provide specific information regarding comparable, functionally equivalent decent, safe and sanitary properties that are available for purchase. Such information will be provided in writing at least 90 days prior to any requirement to vacate the displaced property. As part of this process, we encourage displacees to advise their assigned Relocation Advisor of any concerns and special needs warranting consideration in the selection of potential replacement properties. These factors will be considered to the greatest extent possible under existing law. A copy of our *Summary of Relocation Benefits* is found in Appendix D in Volume 2 of the Centennial Corridor Environmental Impact Report/Environmental Impact Statement for your review and reference. You can find additional information on the Relocation Assistance Program at: http://www.dot.ca.gov/hq/row/. Under *Publications*, you will find the following: • *Relocation Assistance for Residential Relocations* • *Your Property, Your Transportation Project* These publications augment the information contained here and may provide another source of valuable information that could assist you in discussions with your assigned Relocation Advisor who will be integral in guiding you through this process to ensure that you receive all benefits for which you are entitled.
GP-2-2	Construction of the Preferred Alternative B alignment would bring traffic and associated air pollutants closer to your neighborhood. However, the air quality study prepared for the Centennial Corridor Project indicates that potential air quality impacts were found to be less than significant and that the project would improve regional air quality due to reduction in congestion on local roadways and vehicle idling. Improvements to air quality are also attributed to the improved pollution emission performance of a modernizing fleet of all vehicles, especially heavy diesel trucks, as a result of Federal and State fuel content and engine emissions rules. In addition, the results of the air quality analysis indicate that the Centennial Corridor Project would be within regional and Federal air quality standards and would not cause or contribute to a violation of any air quality standards. More detailed information on air quality analysis can be found in Section 3.2.6, Air Quality. To further minimize air quality pollutants within the general area of the project, Caltrans has entered into a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District. Through this agreement, targeted improvements will be provided within the general area along the Preferred

Comment Code	Response
	Alternative B alignment. See Appendix L, Volume 2, for information on the programs and grants that are offered to local businesses, residents and municipalities that are designed to generate real and quantifiable reductions for the Bakersfield area through this Voluntary Emission Reduction Agreement. With the programs offered to residents near the project alignment, reductions in construction emissions within the project area would be reduced by the following in three years: • Year 1 – 1.9 tons of reactive organic gasses/33.6 tons of nitrous oxides/7.6 tons of particulate matter (PM_{10}). • Year 2 – 1.45 tons of reactive organic gasses/16.5 tons of nitrous oxides/7.3 tons of particulate matter (PM_{10}). • Year 3 – 0.4 tons of reactive organic gasses/2.55 tons of nitrous oxides/0.7 tons of particulate matter (PM_{10}). In addition to the Voluntary Emission Reduction Agreement, the Centennial Corridor Project would provide a one-time $200,000 grant to a non-profit organization(s) to give trees to residents along the Preferred Alternative B alignment. The voluntary tree-planting program would allow property owners to have this air quality mitigation on their property if they are willing to take responsibility of watering and care for the tree(s). The estimate of $200,000 is based on the commercial-nursery cost of providing one 24-inch boxed tree for each property within 500 feet of the freeway. Trees would be planted within private properties on a voluntary basis, with the highest priority of tree plantings to environmental justice communities within1,000 feet of the Preferred Alternative B alignment, and secondly, properties within 500 feet of each side of the Alternative B alignment. If trees are available after the primary and secondary targeted areas, property owners within 1,500 feet of each side of the alignment would be given an opportunity for tree plantings. If trees are still available, they may be planted at other locations in consultation with and approved by the city of Bakersfield.
GP-2-3	The potential short- and long-term noise effects of the project and measures to address those effects are detailed in Volume 1, Section 3.2.7, of the final environmental document. At 4217 La Mirada, the predicted future peak hourly average traffic noise level at Receiver RB-20 would be 65 decibels, which is 14 decibels higher than the existing peak hourly noise of 52 decibels. Therefore, a 14-to16-foot-high sound wall (Sound wall S530) was found feasible and is recommended for this area, which would reduce the noise level to 56 to 57 decibels, resulting in a net increase of 4 to 5 decibels in comparison to the existing noise level.

Comment GP-3

GP-3

My NAME IS DAVID BAINTON
I've lived IN Bakersfield all
my life with my wife & 4 kids
Loretta & I moved into our
house AT 804 Del Rey Ct IN 1967
IT WAS ARE first house AND
only house.
The house WAS brand
new SO everything IN the house
AND yard WE did put IN NOW
layed bricks, poured cement
painted put IN A SWIMMING
pool watch our kids grow
up there first Dates, All our
the memories. Two of our Living
kids were killed while living
AT 804 Del Rey Ct but we CAN
still see & fill them living with
us 5 dogs have come & died
Buried burial IN back yard.
I CAN still sit & enjoy
my back yard AND still remember
all the good time we had AS
A family AND NOW you ARE going
to take that from us just for
the price of our house. That
itself is priceless

GP-3-1

GP-3

When we moved in we were in our 20 The house had nothing front yard or back yard we did everything inside & out Now we Are forced to leave our house At 80 Kelley Ct And move into A replacement for the price of our house. Nobody moves into A nother house with out Changing Paint plants furniture and the list goes on.

GP-3-2

We're both Are in our late 60 & 70 on disability living on SS And being forced to use our retirement money to move.

Caltrans didn't give us And time to plan for this move And we will have to pay out of pocket for All the unexpected Charges.

GP-3

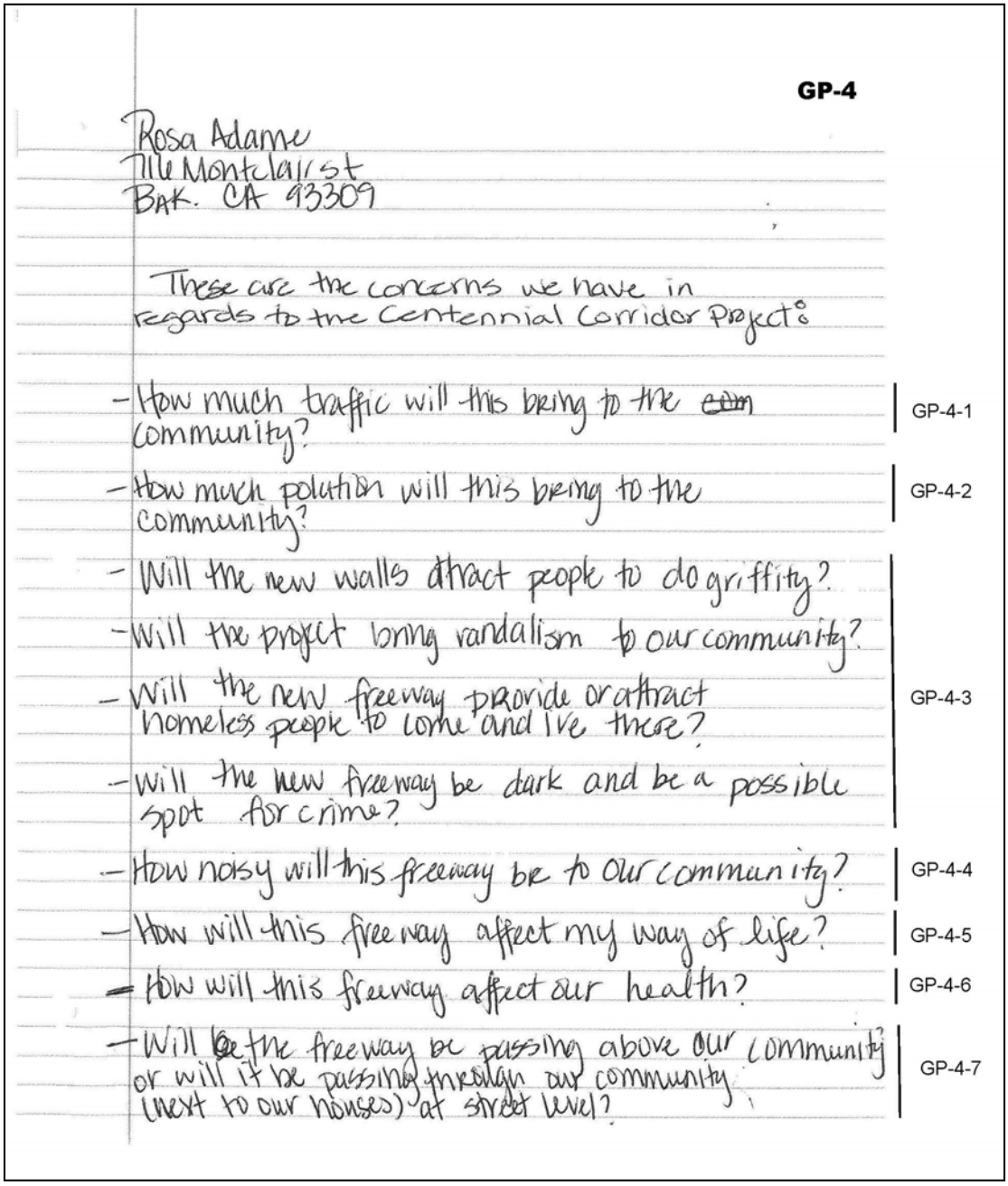
We added footage to our house, the one thing that really bothers me is our two cats when we move they will get lost or killed there only used to yousT of this house. Allso our neighbors across the street. there all left to see the mess and Look at the Freeway. We lived here for 47 years been told three times the Freeway is coming thru our neighborhood and the changed there minds. We Love our house were sixtyeight and seventy six years of age. to move were going to buy new Furniture, and Redo our Flower beds, David put a lot of work into our house we have a nice size Lot. these Days the yards are Lot smaller

GP-3-3

Response to Comment GP-3

Comment Code	Response
GP-3-1	Caltrans is sensitive to the role housing may play in our lives and understands the relocation process may be difficult for some individuals, especially those people with special needs, as well as those who may be elderly and/or disabled and on fixed incomes. Houses are not just buildings but often homes filled with irreplaceable family memories of a special time and rooted to a particular place. Caltrans has developed policies and programs to ease the hardships that face displaced persons as a result of projects designed to benefit the public as a whole. As currently designed, your property is required to construct Preferred Alternative B; however, property acquisition and right-of-way requirements will not be finalized until the final design phase of the project. Any person to be displaced will be assigned to a Relocation Advisor, who will work closely with each displacee to ensure that all benefits and payments are fully used and that all applicable regulations are observed, thereby avoiding the possibility of displacees jeopardizing or forfeiting any of their Relocation Assistance Program benefits. Displacees may request that family members or others whom they may choose to also be involved in the above process, including participating in discussions regarding appropriate advisory assistance, searching for a suitable replacement dwelling, deciding on move options, and helping to facilitate and coordinate communication associated with move-related activities and the payment of all eligible relocation assistance benefits that accrue to the displacee. In accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, your Relocation Advisor will provide specific information regarding comparable, functionally equivalent decent, safe and sanitary properties that are available for purchase. Such information will be provided in writing at least 90 days prior to any requirement to vacate the displaced property. As part of this process, we encourage displacees to advise their assigned Relocation Advisor of any concerns and special needs warranting consideration in the selection of potential replacement properties. These factors will be considered to the greatest extent possible under existing law. A copy of our *Summary of Relocation Benefits* is found in Appendix D in Volume 2 of the Centennial Corridor Environmental Impact Report/Environmental Impact Statement for your review and reference. You can find additional information on the Relocation Assistance Program at: http://www.dot.ca.gov/hq/row/. Under *Publications*, you will find the following: • *Relocation Assistance for Residential Relocations* • *Your Property, Your Transportation Project* Copies of the final environmental documents, including Volume 2, Appendix D, *Summary of Relocation Benefits*, are also available at the Beale Memorial Library, Halloway-Gonzalez Branch Library, Eleanor Wilson Branch Library, Bryce C. Rathburn Branch Library, and the Southwest Branch Library in Kern County. These publications augment the information contained here and may provide another source of valuable information that may assist you in discussions with your assigned Relocation Advisor who will be integral in guiding you through this process to ensure that you receive all benefits for which you are entitled.
GP-3-2	Caltrans understands the time involved in moving to a new residence, and we will work with you to make it as smooth a transition as we can. We will compensate the expenses you incur in moving as mandated by the Uniform Relocation Act and you will not be required to use your retirement savings. Refer to Response to Comment GP-3-1 for information regarding relocation assistance.
GP-3-3	Prior to acquisition of properties, the value of the property (including upgrades) would be appraised by a certified real estate agent. Refer to Response to Comment GP-3-1 for information on property acquisition.

Comment GP-4



GP-4

Rosa Adame
711e Montclair st
Bak. CA 93309

These are the concerns we have in regards to the Centennial Corridor Project

- How much traffic will this bring to the ~~com~~ community? GP-4-1
- How much polution will this bring to the community? GP-4-2
- Will the new walls attract people to do griffity? GP-4-3
- Will the project bring vandalism to our community?
- Will the new freeway provide or attract homeless people to come and live there?
- Will the new freeway be dark and be a possible spot for crime?
- How noisy will this freeway be to our community? GP-4-4
- How will this freeway affect my way of life? GP-4-5
- How will this freeway affect our health? GP-4-6
- Will ~~be~~ the freeway be passing above our community or will it be passing through our community (next to our houses) at street level? GP-4-7

Response to Comment GP-4

Comment Code	Response
GP-4-1	Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, discusses potential impacts to vehicular traffic and circulation. The purpose of the Centennial Corridor Project is to provide route continuity from State Route 58 to Interstate 5 and associated traffic congestion relief along State Route 58 within metropolitan Bakersfield and Kern County. The project is not anticipated to generate additional traffic in neighborhoods. Local intersections with traffic signals along State Route 58 currently operate at level of service E or F during at least one of the peak hours. This condition is expected to worsen as the population grows. Results of the traffic study showed the build alternatives would provide better traffic flow for all vehicles, including trucks and personal vehicles, due to direct route continuity compared to both the existing condition and the No Build Alternative in the future years. The additional capacity provided by the build alternatives compared to the No Build Alternative would also help reduce congestion on adjacent local roadways because traffic is expected to shift to the freeway. The project is expected to benefit those residents who live and work in Bakersfield and improve east-west mobility for anyone traveling across the city.
GP-4-2	*Permanent Air Quality Effects* The air quality study prepared for the Centennial Corridor Project indicates that potential air quality impacts were found to be less than significant and that the project would improve regional air quality due to reduction in congestion on local roadways and vehicle idling. Improvements to air quality are also attributed to the improved pollution emission performance of a modernizing fleet of all vehicles, especially heavy diesel trucks, as a result of Federal and State fuel content and engine emissions rules. In addition, the results of the air quality analysis indicate that the Centennial Corridor Project would be within regional and Federal air quality standards and would not cause or contribute to a violation of any air quality standards. To further minimize air quality pollutants within the general area of the project, Caltrans has entered into a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District. Through this agreement, targeted improvements will be provided within the general area along the Preferred Alternative B alignment. More detailed information on air quality analysis can be found in Section 3.2.6, Air Quality. *Air Quality Effects during Construction* Construction of the project has the potential to create temporary air quality impacts through the use of heavy-duty construction equipment. Fugitive dust emissions would result from earthwork and onsite construction activities. Reductions in fugitive dust can be achieved by onsite minimization measures. Compliance with the standard conditions SC-CI-20 through SC-CI-22 listed under Avoidance, Minimization, and Mitigation Measures – Air Quality, Standard Conditions (refer to Section 3.6, Construction Impacts), would reduce construction emissions. Some of these measures to control dust include using water or chemical stabilizer/suppressant, covering disturbed areas with tarps, and limiting speeds in unpaved areas. With the implementation of minimization measures, air quality impacts related to construction are less than significant. Air emissions associated with construction activity would be temporary and would cease to occur after project construction is completed. *Stormwater Runoff Effects* As discussed in Section 3.2.2, Water Quality and Stormwater Runoff, the Centennial Corridor Project would increase the impervious surface area and potentially increase stormwater runoff. Infiltration basins are proposed to collect runoff from the proposed improvements, which would help ground infiltration, reduce offsite runoff volumes and velocities, and remove pollutants in stormwater. Implementation of

Comment Code	Response
	treatment best management practices would reduce pollutants in stormwater runoff and reduce potential adverse impacts to surface water and groundwater.
GP-4-3	*Graffiti and Vandalism* During right-of-way acquisition, which is expected to take about 2 years, buildings and homes would be acquired and demolished. To minimize graffiti and vagrancy problems associated with vacant buildings, a strategy for handling the acquired properties would be developed to include the following options: (1) rent the homes and businesses on a month-to-month basis to keep them occupied as long as possible in advance of demolition; or (2) demolish each building as soon as feasible after acquisition. Vacant structures subject to demolition would be demolished prior to other scheduled construction activities, such as grading and paving, when feasible. This latter option would result in vacant lots interspersed in business areas and neighborhoods. The city of Bakersfield and the County of Kern shall enter into maintenance agreements with Caltrans. The maintenance agreement with the city of Bakersfield will include maintenance of the enhanced aesthetic treatment, including graffiti removal (if required). In addition, anti-graffiti measures for walls (retaining/sound walls) may include vegetation such as trees, shrubs, or vines. *Attracting Homeless People* Additionally, it is acknowledged that, like many cities across California, there are homeless and transient people in various locations in Bakersfield, including areas in and around the downtown area. As a result, homeless and transient people may either walk or take buses away from the downtown areas to areas such as local neighborhoods. There is no way to restrict access by homeless and transient people to certain areas in Bakersfield; however, if they are breaking the law or municipal code (e.g., sleeping in public places), the Bakersfield Police Department can physically remove them from an area or restrict their access to an area. In addition, the strategy for handling acquired properties, as discussed previously, would be implemented in order to decrease the amount of vacant buildings. This may potentially diminish the attractiveness of the neighborhood to homeless and transient people from illegally trespassing vacant residential properties. *Lighting and Crime* Night lighting will be used during construction and during operation of the finished roadway. Lighting will be consistent with Caltrans standards and would be installed at interchanges and bridges; however, freeway lighting may not deter criminal activity.
GP-4-4	The potential short- and long-term noise effects of the project and measures to address those effects are detailed in Section 3.2.7 of the final environmental document (Volume 1). A comparison of current noise levels to the projected noise levels in 2038 under the No Build Alternative and the build alternatives is provided. Results of the noise analysis for each build alternative indicate traffic noise would generally increase as a result of the build alternatives. For Alternative B, traffic noise is anticipated to increase between zero and 26 decibels, depending on noise receiver locations relative to the project. To mitigate for noise impacts, sound walls were found reasonable and feasible to provide adequate noise abatement; 25 sound walls ranging in height from 8 to 16 feet would be constructed as part of the project. For Alternative B, sound walls are anticipated to reduce traffic noise levels by between 1 and 12 decibels. As a result, future predicted traffic noise levels with the recommended abatement measures (sound walls) would range from 54 to 75 decibels. Practical comparisons of these sound levels for illustrative purposes could be moderate running water at 54 decibels and normal street level noise at 75 decibels.

Comment Code	Response
GP-4-5	Measuring the effects of the Centennial Corridor Project to an individual's way of life is subjective. Several factors may contribute to an individual's perception of quality of life, such as the opportunity for forming friendships, the attachment of residents to their particular neighborhood, and a positive sense of the nearby physical and cultural environment. Table 3.5 (Volume 1) in Section 3.1.4.1, Community Character and Cohesion, demonstrates how survey responders to Caltrans' 2009 questionnaire perceive the quality of life within their particular subcommunity or neighborhood.
GP-4-6	Measuring the potential health impacts of the Centennial Corridor Project on an individual is difficult without knowledge of their existing health conditions. As discussed previously in Response to Comment GP-4-2, construction of the project may result in potential short-term air quality impacts that would be temporary and would cease to occur after project construction is completed; however, with the implementation of air quality minimization measures, potential air quality impacts would be less than significant. Additionally, GP-4-2 discusses potential impacts to water quality and storm runoff, as well as mitigation plans for any potential affects.
GP-4-7	Alternative B, selected as the Preferred Alternative, runs westerly from the existing State Route 58 (East)/State Route 99 interchange for about 1,200 feet, south of Stockdale Highway. Then it turns northwesterly and spans Stockdale Highway/Stine Road, California Avenue, Commerce Drive, Truxtun Avenue, and the Kern River before joining the east end of the Westside Parkway near the Mohawk Street interchange. This alignment depresses the Centennial Corridor (i.e., the roadway would be lower than the existing ground level) between California Avenue and Ford Avenue. Overcrossings are proposed at Marella Way and La Mirada Drive to help traffic circulation. An undercrossing at Ford Avenue was also considered and Caltrans has decided to implement the crossing.

Comment GP-5

GP-5

Michael Werlinich
4309 Kern Field Dr
Bakersfield, CA 93309

7/5/14

Regarding: Centennial Corridor Project

California is in the beginning of an extreme drought. The federal government has deemed Kern a natural disaster area. State mandate is to reduce water by 20% by bussinesses. Caltrans' mitigation of air borne particle matter (PM) is to spray water on the ground every time the earth is disturbed. If 20% less water is to be used by all bussinesses Caltrans will mitigate the increased PM by paying a mitigation fee to be compliant. This fee does not reduce the risk of valley fever spores in the air nor does it reduce the exposure to the surrounding population including the Stockdale Christian School less than 400 ft from the project. How do you plan to mitigate the risk of exposure to these children and senior citizens which use the stockdale church campus. Children have higher respertory rates and need additional protecten. The senior citizens have health complications which need additional protection.

GP-5-1

GP-5-2

Michael Werlinich

Response to Comment GP-5

Comment Code	Response
GP-5-1	The use of water is required during construction for dust control in accordance with San Joaquin Valley Air Pollution Control District regulations. Payment of a mitigation fee to the San Joaquin Valley Air Pollution Control District is in addition to the use of water during construction. Although there are water restrictions imposed by local and state agencies, Caltrans is required to follow San Joaquin Valley Air Pollution Control District regulations in controlling dust and other particulate matter. It is difficult, if not impossible, to determine the exact impact of water usage on the city, county, or state from construction of the Centennial Corridor Project because of the varying type of construction activities, topography, equipment used, etc. Please refer to Section 3.2.1, Hydrology and Floodplain, and Section 3.2.2, Water Quality and Stormwater Runoff, for more information about water resources impacted by the project, and mitigation and conservation efforts.
GP-5-2	Caltrans has outlined appropriate mitigation efforts for Valley Fever and air quality, including the use of a chemical stabilizer/suppressant, tarps and vegetative groundcovers, and water. It is recognized that temporary soil disturbance during construction grading activities could cause fungal spores (if present) to become airborne, potentially putting residents at risk of contracting Valley Fever. However, there are many preventive and precautionary measures that can be undertaken by individuals to reduce exposure, including the use of dust masks when conducting outdoor activities; seeking prompt medical treatment if flu-like or respiratory illness occurs during or within a few weeks following outdoor activities; getting a *coccidioidin* skin test to determine susceptibility to the disease. Compliance with Standard Condition SC-CI-21, under the Avoidance, Minimization, Mitigation Measures in Section 3.6 of the final environmental document (Volume 1), would control dust during project construction. As a result, those measures would reduce the potential for contact with *Coccidioides immitis* spores and, as such, the potential for health impacts associated with Valley Fever during construction of the project would be minimized. Please refer to Section 3.6, Standard Condition SC-CI-21, under Avoidance, Minimization, and Mitigation Measures (Volume 1), for further information regarding preventive measures for Valley Fever. In regards to other potential health risks associated with the project, construction of the project may result in potential short-term air quality impacts related to dust and equipment emissions that would be minimized by implementing Standard Conditions SC-CI-20 through SC-CI-22, under the Avoidance, Minimization, and Mitigation Measures in Section 3.6 of the final environmental document (Volume 1). Implementing these measures would reduce the risks of adverse health effects, such as asthma and other respiratory conditions, during project construction. Air quality impacts related to the project were determined to be less than significant.

Comment GP-6

GP-6

Carmen M Genter
4101 Charter Oak Ave
Bakersfield Ca. 93309

Mis Comentarios Con respecto a este proyecto. Son en Contra de que se realicen: GP-6-1

Creo que a mi Salud no afectara, por favor tomen de soluciones la Construccion del proyecto de diferencia; Manera sin Causar tantas daños en las Vidas de todos los que vivimos en esta area por tantos años. GP-6-2 GP-6-3

Carmen M Genter

6-28-14

English Translation:

My comments, in respect to the project, are against its realization: GP-6-1

I believe my health will be affected. GP-6-2

Please, try to find a solution for the construction of the project in a different manner without causing too much disaster in the lives of many who have been living here for plenty of years. GP-6-3

Carmen M Genter

Spanish Translation:

Código del comentario	Respuesta
GP-6-1	Gracias por participar en el proceso de estudios al medio ambiente para el proyecto *Centennial Corridor*. Su oposición al proyecto ha sido tomado en cuenta.
GP-6-2	Caltrans entiende la dificultad de un cambio para residentes que han vivido en sus casas por largo tiempo y que ahora puedan ser afectados por este proyecto. El proyecto *Centennial Corridor* implementaría medidas para minimizar efectos negativos a la salud. Por favor vea la sección 3.6, Impactos de construcción, en el Volumen 1 del documento de estudios al medio ambiente final, cual incluye medidas para ser implementadas por Caltrans durante la construcción con fin de reducir la cantidad de polvo al aire. Tal como es discutido en la sección 3.2.6, Calidad de aire, el proyecto no contribuirá a violaciones de las leyes de calidad de aire con respecto a monóxido de carbono. Un análisis para predecir el nivel de impactos a nivel local, de partículas de materia (PM10 y PM 2.5) resultando de las operaciones de transito, demuestran que el proyecto no causará nuevas violaciones de las leyes sobre partículas de materia. Impactos posibles resultando de operación y construcción del proyecto, a la calidad de aire, han sido calificados como menos que significativos.
GP-6-3	El propósito de este proyecto es resolver el problema de falta de continuidad en la ruta estatal 58 (SR-58, por sus siglas en inglés); cual contribuye al congestionamiento en autopistas cercanas y calles locales. Sin las mejoras planeadas, congestionamiento empeorará ya que ambos la población y la cantidad de vehículos, incluyendo camiones de carga, se espera incrementara en Bakersfield y en toda la región. Favor de ver la sección 1.2, Propósito y necesidad, en Volumen 1 para más información. Caltrans ha completado estudios del medio ambiente extensos e investigaciones en transcurso de varios años para cuidadosamente evaluar las alternativas e impactos asociados con este proyecto. Sólo después de comparar y pesar los beneficios e impactos de las alternativas A, B y C; cuales son resumidos en las tablas S.1 y 2.1, del Volumen 1 del documento de estudios al medio ambiente final, donde Caltrans identificó la alternativa B como la alternativa preferida. Además de evitar el uso de propiedades históricas y parques; y al mismo tiempo minimizando impactos a poblaciones en necesidad de justicia ambiental, la alternativa B también es la menos costosa de las tres, costando más de $100 millones menos. Aunque impactos no pueden ser evitados del todo durante construcción del proyecto, ciertas medidas serán tomadas para reducir inconvenientes a los residentes. Estas incluyen implementar desvíos durante el cierre de calles/carriles, notificación por avanzado a los residentes durante el traslado de utilidades, etc. Medidas de mitigación durante la construcción son resumidas en la sección 3.6, Impactos de construcción. Impactos a la comunidad han sido reducidos a través de varias medidas de mitigación; incluyendo el proveer acceso para peatones y ciclistas a lo largo del proyecto en ciertos lugares con sobrecruces, diseño con uso de tratamiento estético, minimización de ruido con instalación de paredes, preservación de árboles maduros al nivel más alto posible y reemplazar en proporción todo árbol y planta cortada al uno por uno y siendo especialmente sensible y proveer atención aumentada para personas con necesidades especiales – especialmente para aquellos de edad avanzada, discapacitados y para poblaciones perteneciendo a grupos de bajos ingresos – como parte del proceso de reubicación.

Response to Comment GP-6

Comment Code	Response
GP-6-1	Thank you for participating in the environmental process for the Centennial Corridor Project. Your opposition to the project is acknowledged.
GP-6-2	Caltrans understands the difficulty of change for long-time residents who may be affected by this roadway improvement project. The Centennial Corridor Project would implement measures to minimize negative effects on people's health. Please see Section 3.6, Construction Impacts, in Volume 1 of the final environmental document, which includes measures Caltrans will use during construction to reduce the amount of dust in the air. As discussed in Section 3.2.6, Air Quality, the project would not contribute to a violation of air quality carbon monoxide standards. An analysis to predict the level of local impacts from particulate matter (PM_{10} and $PM_{2.5}$) as a result of traffic operations showed the project would not cause a new violation of particulate matter standards. The project's potential operational and construction related air quality impacts were determined to be less than significant.
GP-6-3	The project is intended to solve the problem of State Route 58's current lack of continuity, which contributes to traffic congestion on adjoining highways and local streets. Without planned improvements, traffic congestion will worsen because both population and the number of motor vehicles, including trucks, are expected to increase in Bakersfield and throughout the region. Please see Section 1.2, Purpose and Need, in Volume 1 for more information. Caltrans completed extensive environmental studies and research over many years to carefully evaluate project alternatives and impacts associated with this project. Only after comparing and weighing the benefits and impacts of Alternatives A, B, and C, which are summarized in Tables S.1 and 2.1 of Volume 1 of the final environmental document, did Caltrans identify Alternative B as the Preferred Alternative. In addition to avoiding parks and historic properties and having the least impact on environmental justice populations, Alternative B is also the least expensive of the three alternatives, costing more than $100 million less. Though impacts cannot be entirely avoided during construction of the project, measures will be implemented to reduce inconveniences to residents. These include implementing traffic detours during road/lane closures, advance notification of residents during utility relocations, etc. Mitigation measures during construction are summarized in Section 3.6, Construction Impacts. Community impacts have been reduced through implementation of several mitigation measures, including providing access across the Preferred Alternative B alignment at certain locations with pedestrian and bicycle overcrossings, use of aesthetic design treatments, noise abatement in the form of sound walls, preserving as many mature trees as practical and replacing all trees on a 1:1 basis and other landscaping, and being especially sensitive and providing enhanced attention to people with special needs—especially the elderly, disabled, and low-income population groups—as part of the relocation process.

Comment GP-7

GP-7

Cal Trans RE: Centennial Corridor Plan B 7-7-14

These are many questions you can answer

1) Why leave 2 corner properties at Montclair + Easton + Charter Oaks + Easton standing alone when you take away everything on the side + behind like an island? Take us away with our neighbors + let Easton be the natural dividing line. Think of our isolation + danger being done. GP-7-1

2. Don't you think we deserve a good quality of life, free from dust, dirt, noise, vibration from construction machines + the fwy so very close to our homes which were inhabited for almost 25+ 45 years? GP-7-2

3. We would need dual pane windows to help alleviate some of the problems. How are we able to afford this as senior citizens?

4. How will our pools be maintained? They need more cleaning. Right now we pay $90/month. This uses more power + water.

5. Will you provide a good pool cover?

6. Why would we want to be on island by ourselves? We would get more insects, pests + other unwanted trash. If we had wanted to live on a 1 house cul de sac we would have bought it. GP-7-3

7. Why would so many of us seniors have to suffer years of health problems caused by the construction of the fwy? GP-7-4

8. Why would we want to be inconvenienced by construction semis? GP-7-5

9. Who wants to be delayed by only exiting on Easton out to Calif. + 1 way on Montclair, instead of getting out to Stockdale Hwy? GP-7-6

10. How would we ever be able to sell our homes right next to a fwy? GP-7-7

11. Where is the sense of community? Why are we cut off? GP-7-8

12. Why should we have to fear living all by ourselves? GP-7-9

13. Which one of you would like to be in our position, being left behind to suffer so long for 3 years construction time? GP-7-10

GP-7

CT p 2

14. Why do we have to spend money & time fighting this fwy? GP-7-11
15. I'm a retired German teacher. I don't want to live next to the "Bakersfield Wall" that divides a community like the Berlin Wall GP-7-12
16. Why take apart a nice living area when you could recreate? GP-7-13
17. Why should taxpayers have to spend so much money a 2 mile stretch? GP-7-14
18. Why does Bkfd need this fwy? No traffic is it congested GP-7-15
19. What are the advantages to this fwy? GP-7-16
20. How will our pets, plants, flowers, trees fare with this construction? GP-7-17
21. Are you going to pay us for extra cleaning people? GP-7-18
22. How will our cars fare? GP-7-19
23. Will our cars have more mechanical problems? GP-7-20
24. How will we be compensated for our inconvience & stress? GP-7-21
25. People we know relocate from fwy construction & been relocated fare better than those left behind. How will our lives get back to normal? GP-7-22
26. How will we live with the fwy lights? GP-7-23
27. How will we put up with the noise of shifting vehicle gears right by our property? GP-7-24
28. Will we have to spend more money on water for the house & yard because neighbors are not nearby, No moisture GP-7-25
29. Will our utilities be affected because of construction? GP-7-26
30. Will our houses suffer cracks from construction vibration? GP-7-27
31. Will items inside break due to vibrations? GP-7-28
32. How will Cal Trans, RMP or any other contractor help us with concerns to GP-7-29

GP-7

CT p. 3

33. The homes near Westside Parkway don't seem to have a good quality of life now. How will ours be improved? GP-7-30

34. Won't we have more crime so close to the fury like sitting ducks? GP-7-31

35. How do we know how the quality & quantity of the ground water will be affected? GP-7-32

36. This home was a model home. That's 1 of the reasons I bought it. I like the neighborhood. Why are you tearing us apart? GP-7-33

Emily Gellman
717 Montclair St
Bakersfield, CA 93309-1759
emgellman@att.net

Response to Comment GP-7

Comment Code	Response
GP-7-1	Thank you for your comments. Caltrans understands that changes in the neighborhood can be difficult, particularly for some individuals – including those who may be elderly. Based on preliminary design, the property at 717 Montclair Street is not required to construct the project. Your request to have your property acquired is acknowledged. Right-of-way acquisition will not be finalized until the final design phase. All potential acquisitions are subject to change during final design. After the construction of the project, there would be houses left on three sides of your property along Easton Drive and Montclair Street.
GP-7-2	*Quality of Life* The Centennial Corridor Project will incorporate mandatory avoidance and mitigation measures to minimize impacts to noise, air, and overall quality of life for nearby residents. Quality of life is subjective by nature, and effects on quality of life are not easily assessed based on numerical thresholds. However, it is acknowledged that measuring the quality of life within a neighborhood is an important aspect in determining the satisfaction of individuals with their community or neighborhood. Section 3.1.4.1, Community Character and Cohesion, discussed how certain physical environmental factors can influence the perceived quality of life in a community. Section 3.2.6, Air Quality, of the final environmental document (Volume 1) includes avoidance, minimization, and mitigation measures included in the project to reduce other potential physical environmental impacts of the project. Implementation of those measures is required as part of building the project. *Air Quality – Operations* As indicated in Tables 3.28 and 3.29 (Volume 1), the project would result in lower particulate matter (PM_{10} and $PM_{2.5}$) emissions when compared to the No-Build scenario. This decrease in the particulate matter emissions is the result of increase in vehicle speeds and reduction of congestion anticipated with implementation of the project. As such the project will not cause any new particulate matter violations or worsen existing particulate matter violations in the project area. Activities of this project should, therefore, be considered consistent with the purpose of the State Implementation Plan and it should be determined that this project conforms to the requirements of the Clean Air Act. Improvements to air quality after construction of the project are also attributed to the improved pollution emission performance of a modernizing fleet of all vehicles, especially heavy diesel trucks, as a result of Federal and State fuel content and engine emissions rules. In addition, the results of the air quality analysis indicate that the Centennial Corridor Project would be within regional and Federal air quality standards and would not cause or contribute to a violation of any air quality standards. To further minimize air quality pollutants within the general area of the project, Caltrans has entered into a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District. Through this agreement, targeted improvements will be provided within the general area along the Preferred Alternative B alignment. More detailed information on air quality analysis can be found in Section 3.2.6, Air Quality, in Volume 1 of this final environmental document. *Noise/Vibration* Project construction is expected to result in temporary increases in noise and vibration levels in areas near construction activities from the operation of heavy equipment. Mitigation techniques for equipment noise and will minimize the effects of construction activity impacts. These standard conditions (SC-CI-23 through SC-CI-25) are listed under Avoidance, Minimization, and Mitigation Measures – Noise and Vibration, Standard Conditions (in Section 3.6, Construction Impacts). Construction-related noise and vibrations would be temporary and would cease after project construction is complete.

Comment Code	Response
	Noise – Permanent The potential traffic noise effects of the project and measures to address those effects are detailed in Section 3.2.7 of the final environmental document (Volume 1). Your property at 717 Montclair Street is represented by Receiver RB-5 as indicated in Table 3.36 in Volume 1 of the final environmental document. The roadway would be slightly higher than the existing grade by your property. Existing peak hour noise level is 58 decibels. After the construction of the project and with the proposed sound wall (S518) that will be built, the future peak hour traffic noise level would be 66 decibels. However, traffic noise level will be much lower during off peak hours. *Interior Noise Abatement* Per Caltrans and FHWA requirements, dual-pane windows will not be implemented as part of the project. Twenty-five (25) sound walls were identified for the Preferred Alternative, Alternative B, to reduce exterior noise levels based on Caltrans criteria and were recommended in the Noise Abatement Decision Report. These sound walls would also lower the interior noise levels at the ground floor rooms. The sound wall recommended at your location is S518, and it is recommended to be built. If feasible, sound walls will be as the first order of work to minimize construction related noise. Temporary noise barriers may be used and relocated, as needed, to protect sensitive receptors against excessive noise from construction activities involving large equipment and by small items such as compressors, generators, pneumatic tools, and jackhammers. Noise barriers can be made of heavy plywood, moveable insulated sound blankets, or other best available control techniques. *Pool Cover* Caltrans will not be providing pool covers or provide pool cleaning services during the construction of the project. As mentioned previously, Caltrans will minimize dust during construction activities.
GP-7-3	Caltrans acknowledges that these changes may be difficult for residents. As discussed in Volume 1, Section 3.1.4.2, Relocation and Property Acquisition, per Standard Condition SC-R-1, Caltrans, in coordination with the city of Bakersfield, shall implement all property acquisition and relocation activities in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act) of 1970 (Public Law 91 646, 84 Stat. 1894). The Uniform Act mandates certain relocation and services and payment be made to eligible residents, businesses, and nonprofit organizations displaced by the project. See Appendix D in Volume 2 for more information on Caltrans' Relocation Assistance Program. Although you will be on a cul-de-sac, you will not be the only house sharing it since both 714 and 800 Montclair Street will be across from you. Additionally, your neighbor whose property abuts your property immediately behind, 4501 Charter Oaks Avenue, as well as your neighbors directly across Easton Drive from you, 801 Montclair Street and 4425 Charter Oaks Avenue, will remain as well. Property acquisition and right-of-way requirements will not be finalized until the final design phase of the project. During right-of-way acquisition, which is expected to take about 2 years, buildings and homes would be acquired and demolished. To minimize graffiti and vagrancy problems associated with vacant buildings, a strategy for handling the acquired properties would be developed to include the following options: (1) rent the homes and businesses on a month-to-month basis to keep them occupied as long as possible in advance of demolition; or (2) demolish each building as soon as feasible after acquisition. Vacant structures subject to demolition would be demolished prior to other scheduled construction activities such as grading and paving when feasible. This latter option would result in vacant lots interspersed in business areas and neighborhoods. The city of Bakersfield and the County of Kern shall enter into maintenance agreements with Caltrans. The maintenance agreement with the city of Bakersfield

Comment Code	Response
	will include maintenance of the enhanced aesthetic treatment, including graffiti removal (if required). In addition, anti-graffiti measures for walls (retaining/sound walls) may include vegetation such as trees, shrubs, or vines Additionally, it is acknowledged that, like many cities across California, there are homeless and transient people in various locations in Bakersfield, including areas in and around the downtown area. As a result, homeless and transient people may either walk or take buses away from the downtown areas to areas such as local neighborhoods. There is no way to restrict access by homeless and transient people to certain areas in Bakersfield; however, if they are breaking the law or municipal code (e.g., sleeping in public places), the Bakersfield Police Department can physically remove them from an area or restrict their access to an area.
GP-7-4	Implementation of Avoidance and Minimization Measures SC-CI-20 through SC-CI-22 would reduce the risks of adverse health effects such as asthma and other respiratory conditions during project construction. See Volume 1, Chapter 3, Section 3.6 Construction Impacts for more information on these Avoidance and Minimization Measures. Refer to Response to Comment GP-7-2 for additional information on noise and air quality impacts.
GP-7-5	Refer to Response to Comment GP-7-2 for additional information concerning construction noise impacts.
GP-7-6	Many intersections along Stockdale Highway are currently operating at a deficient level of service rating between D and F, which indicates traffic delays and congestion. For more information on level of service for Stockdale Highway intersections, including those with on-ramps and off-ramps, see Table 3.15 in Volume 1 of this final environmental document. To improve these conditions, local street changes would be required under each build alternative. A road closure at nine locations along each of the Alternative A and B alignments would be required; however, alternate routes for local access are provided for all of the build alternatives. Changes to existing freeway on-ramps along State Route 99 and existing State Route 58 are required as part of the project and would affect traffic conditions. Despite these freeway access changes, vehicles would exit at the California Avenue interchange, just to the north of Stockdale Highway. California Avenue and Oak Street provide a direct connection with the Stockdale Highway corridor. Furthermore, the California Avenue or Ming Avenue interchanges would provide access to northbound State Route 99, and Real Road or Stine Road would provide access to southbound State Route 99 via the Ming Avenue interchange. Specific access information could not be provided at this early stage of the project due to limited available design details.

Comment Code	Response
GP-7-7	Several comments were received regarding property values. Some individuals have expressed a general belief the project would result in decreased property values due to various reasons, including temporary construction impacts, property acquisitions, and/or project features being closer to properties than previously. Though the final environmental document does not discuss property values in detail, the Community Impact Assessment concluded that the Centennial Corridor Project may have an effect on property values, but it is not likely to be a major change because Caltrans has found no definitive literature, studies, or evidence indicating that property values would decrease in the long term due to proximity of the freeway to homes. Past research on the effects of introducing new highway facilities near residential properties indicate over the duration of a longer time period property values will increase after an initial period of downward movement. For residential properties, increased noise tends to reduce property values for homes abutting a freeway while property values tend to increase with increased access. Associated landscaping and refinements in community aesthetics proposed for the Centennial Corridor also tend to have positive effects on residential property values.
GP-7-8	Preferred Alternative B alignment would disrupt neighborhoods due to residential displacements; permanent street closures; higher exposure to vehicle noise; and division of the existing Westpark neighborhood. Bisecting the Westpark neighborhood would result in impacts to community cohesion. However, Alternative B is a feasible and prudent alternative that avoids other Section 4(f) resources, such as parklands and historic properties and impacts to environmental justice communities. Section 4(f) of the Department of Transportation Act of 1966 declares that “it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.” In terms of neighborhood access, changes to several local residential streets would be required as part of construction of the new freeway. As such, any proposed roadway closures or redesign would change the circulation patterns and access for local residents, although project design would minimize changes in the circulation pattern as much as possible. Overcrossings and undercrossings would be constructed as part of the Preferred Alternative B alignment to cross the new freeway and to enhance local circulation. Overcrossings and undercrossings would be constructed as part of the Preferred Alternative B alignment to cross the new freeway and to enhance local circulation. Overcrossings are proposed at Marella Way and La Mirada Drive and an undercrossing is proposed at Ford Avenue. Therefore, neighborhood access would be maintained so no area would be isolated as a result of the project.
GP-7-9	To enhance safety and to minimize graffiti, and vagrancy problems associated with vacant buildings, a strategy for handling the acquired properties would be developed to include the following options: (1) rent the homes and businesses on a month-to-month basis to keep them occupied as long as possible in advance of demolition; or (2) demolish each building as soon as feasible after acquisition. This latter option would result in vacant lots interspersed in business areas and neighborhoods. With either option, proper management of acquired property is a key consideration. Furthermore, the Bakersfield Police Department, the Kern County Sheriff’s Department, and the California Highway Patrol would continue to provide law enforcement and police protection services to the project area. Emergency vehicle access for police, fire protection, and emergency services would be maintained at all times. Law enforcement, fire, and emergency services could experience slightly increased response times because of construction-related road closures, temporary detours, and increased traffic congestion. It is not expected temporary road closures would result in more than 1-mile of out-of-direction travel because nearby alternative routes would be maintained and identified as part of the detour plans. Once

Comment Code	Response
	construction is completed, these response times may decrease due to improved connectivity and reduced traffic congestion.
GP-7-10	Caltrans acknowledges that construction activity may cause inconveniences to people's day to day lives. A construction schedule of about 30 months is expected to complete the project, which is currently expected to extend from 2016 to 2018. However, given the construction schedule of two and a half years, the project would not result in substantial long-term impacts. Potential impacts related to project construction would not be substantial because standard conditions and minimization and mitigation measures as described in Section 3.6, Construction Impacts, would reduce construction-related impacts to the various resources described in the final environmental document. Construction-related impacts would be temporary and would cease after project construction is complete.
GP-7-11	Your opposition to the project is acknowledged.
GP-7-12	Your opposition to the project is acknowledged. See Response to Comment GP-7-8 for additional information on neighborhood disruption.
GP-7-13	See Responses to Comments GP-7-1 and GP-7-8 for additional information regarding property acquisition and relocation, and neighborhood disruption. As discussed in Section 2.1.4, Preliminary Identification of a Preferred Alternative, as part of the screening process, three build alternatives, A, B, and C, were identified and evaluated at an equal level of detail in the technical studies and the final environmental document. All three alternatives meet the project purpose and need of providing route continuity for State Route 58. As presented, Alternative B is a feasible and prudent alternative that avoids all Section 4(f) resources, such as parklands and historic properties. In addition, Alternative B is also the least expensive alternative, costing over $100 million less than the other alternatives. Therefore, after comparing and weighing the benefits and impacts of Alternatives A, B, and C, as summarized in Tables S.1 and 2.1 of the final environmental document, Caltrans has identified Alternative B as the Preferred Alternative. For more information on the Section 4(f) analysis please refer to Appendix B, Volume 2 of the final environmental document.
GP-7-14	If these roadway improvements are not made now, roads will become more congested, commute times will increase, idling cars will add more pollutants into the air, and the costs to construct these projects will continue to rise. Passing on this opportunity to share the cost of these system upgrades with the Federal government will only hand an even higher price tag to the next generation. The cost of building the Centennial Corridor Project will nearly double over the next 20 years, assuming the standard highway and construction inflation rate of 3.5 percent per year. The project will also benefit those who use the new roadway. An analysis using the Kern Council of Governments Regional Travel Demand Model and Federal Highway Administration's Surface Transportation Efficiency Analysis Module calculated the net savings gained from reduced travel time, crashes, emissions, and vehicle operating expenses for the Centennial Corridor Project. Savings in travel time over the 20-year (2018-2038) study period for the build alternatives would be $769 million (Alternative A), $794 million (Alternative B), and $945 million (Alternative C).

Comment Code	Response
GP-7-15	The purpose of the Centennial Corridor Project is to provide route continuity and associated traffic congestion relief along State Route 58 within metropolitan Bakersfield and Kern County from the existing State Route 58 (East) (at Cottonwood Road) to Interstate 5 (see Section 1.2, Purpose and Need in Volume 1). State Route 58 is a critical link in the state transportation network and is used by interstate travelers, commuters, and many trucks. State Route 58 lacks continuity in central Bakersfield, resulting in severe traffic congestion and reduced level of service on adjoining highways and local streets. This route is offset by about two miles at State Route 99 and by about a mile at State Route 43. The combining of two major state routes (58 and 99) into one alignment between the eastern and western legs of State Route 58 makes traffic worse on this freeway segment. In addition, the close spacing of State Route 99 for its two interchanges with State Route 58 (east and west), in addition to an interchange at California Avenue, results in motorist lane changes that contribute to congestion.
GP-7-16	As discussed in Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, the traffic study showed the build alternatives would provide better traffic flow for all vehicles due to direct route continuity compared to both the existing condition and the No Build Alternative in the future years. Furthermore, the additional capacity provided by the build alternatives compared to the No Build Alternative would also help reduce congestion on adjacent local roadways because traffic is expected to shift to the freeway. Circulation benefits that would result from the project are discussed further in Section 3.1.6 of the final environmental document. Please see Response to Comment GP-7-15 for more information about the purpose and need of the project.
GP-7-17	See Response to Comment GP-7-10 for additional information regarding construction impacts.
GP-7-18	The provision of funds to local residents for procurement of private cleaning staff is beyond the purview of this final environmental document. Minimization measures (see SC-CI-20 through SC-CI-22) to control fugitive dust will be implemented during construction.
GP-7-19	The operation of your automobile will not be affected by this project.
GP-7-20	The operation of your automobile will not be affected by this project.
GP-7-21	Caltrans understands the stress and inconveniences that may affect some residents in the project area and is complying with appropriate provisions and mitigation measures to reduce these impacts. As currently designed, your property is not included in the properties required to construct the project. (Please see Appendix E in Volume 2, Alternative B, Right-of-Way Requirements, Sheets 9 and 10). According to Caltrans' Right-of-Way Manual, a person who is not required to be permanently displaced as a result of a project is not entitled to relocation benefits or compensation, and the hardship acquisition process does not apply. Please note that during the design phase of the project, right-of-way requirements for the project may change. If all or a portion of your property is required, every effort will be made to provide the full extent of benefits and services provided through Caltrans' Relocation Assistance Program and as allowed under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Please see Appendix D in Volume 2, Summary of Relocation Benefits).
GP-7-22	See Response to Comment GP-7-8 for additional information regarding neighborhood disruption. New roadway projects through existing communities, such as the Centennial Corridor, require the acquisition of right-of-way which in turn results in displacement

Comment Code	Response
	of residences and businesses. These acquisitions can alter or eliminate familiar neighborhood landmarks, gathering places, businesses (e.g., local markets) and the residences of long-time friends and neighbors. For those persons whose residences or businesses are not acquired, both the construction and operation of the freeway will create what are, at first, unfamiliar sights and sounds, but which gradually over time will become common place. Construction activities would be temporary although intrusive since machinery, material, and construction workers will be present and will temporarily alter the character of the neighborhood. However, mitigation measures to address noise, air quality, lighting, access, and other impacts have been included to ensure the residences and businesses remaining within the adjacent neighborhoods are not adversely affected.
GP-7-23	The lighting plan will be developed during final design. If freeway lights are proposed along this portion of the corridor, the lights will be directed towards the roadway, away from the residential neighborhood. Additionally, a sound wall is proposed along this segment, which will shield the residential properties from headlights of vehicles traveling on the freeway. Night lighting may be used during construction, and it could spill over into adjacent areas. In some areas sound walls would be built prior to construction to partially or fully obstruct construction and construction related effects such as lighting, from surrounding properties. Construction lighting would be temporary and removed when construction is completed. Please see Section 3.6 in Volume 1 of this final environmental document for more information on construction impacts.
GP-7-24	Refer to Response to Comment GP-7-2 for additional information on permanent noise impacts. Within the general area of your property, the Centennial Corridor Alternative B alignment would be generally above existing grade. Roadways that are higher in elevation than nearby receivers can create lower noise levels. Some noise generated from traveling vehicles will rise in elevation and bypass receivers at lower elevations. In addition, the proposed sound wall (S518) will be built on the edge of shoulder of the roadway. The placement of this sound wall will completely block your line of sight of trucks and automobiles traveling on the Centennial Corridor. Blocking your line of sight of the vehicles will decrease the noise levels experienced at your property.
GP-7-25	Caltrans does not anticipate additional costs will be incurred by property owners for sustaining their landscaping and/or homes.
GP-7-26	The project design minimizes impacts to the existing utility system as much as practicable. Utility companies would be given enough notice to relocate their facilities before construction or at a later stage of construction, as appropriate. Implementation of utility relocation plans would be implemented so long-term service disruption is not expected.
GP-7-27	It is possible certain construction activities could cause intermittent localized vibration in the project area. During certain construction phases, processes, such as earth moving with bulldozers, the use of vibratory compaction rollers, impact pile driving, demolitions, or pavement breaking, may cause construction-related vibration impacts such as human annoyance or, in some cases, building damage. It may be necessary to use this type of equipment close to residential buildings. There is little potential for building or property damage when major construction activities take place more than 30 feet from an existing structure. Implementation of Minimization Measure CI-16 in Section 3.6 (Volume 1) would eliminate or minimize vibration impacts during construction activities. Mitigation techniques for control of equipment noise and vibration, plus administrative measures, when properly implemented, can provide the most

Comment Code	Response
	effective means to minimize the effects of construction activity impacts. These standard conditions (SC-CI-23 through SC-CI-25) are listed under Avoidance, Minimization, and Mitigation Measures – Noise and Vibration, Standard Conditions (refer to Section 3.6, Construction Impacts).
GP-7-28	Refer to Response to Comment GP-7-27 for information on construction impacts and construction-related vibration. Specific effects of construction-related vibration to private property inside your home could not be accurately analyzed because of various factors, including type of activities, duration, intensity, type of equipment, and layout of the construction site.
GP-7-29	Prior to construction of the Centennial Corridor Project, Caltrans will provide the public with information regarding the location and duration of construction activities in your area. As part of the notification, Caltrans will provide contact information related to the project in your area. If you have any concerns during construction of the project, you may contact the construction resident engineer's office, which would be located near the project construction area. Staff working at the resident engineer's office would be able to assist you with your concerns.
GP-7-30	Refer to Responses to Comments GP-7-2 for information on noise and air quality impacts; GP-7-8 for information on neighborhood disruption; and GP-7-16 for information on anticipated traffic and transportation benefits of the project. Implementation of the proposed project would improve air quality and reduce traffic on local streets, which would directly benefit the neighborhood.
GP-7-31	Refer to Response to Comment GP-7-9 for information on public safety and crime.
GP-7-32	Groundwater is the main source of domestic water supplies in the Bakersfield area, with the Kern River water and imported water as supplemental sources. Aside from the river channel, there are recharge ponds along the river, recharge facilities, ground percolation programs, canal seepage, spreading/banking projects, and wastewater reclamation that contribute to local groundwater recharge. Groundwater quality in the Tulare Lake hydrologic region is suitable for most urban and agricultural uses, with some exceptions. No water body in the project area has been identified as "impaired" under Section 303(d) of the Clean Water Act. Construction of any build alternative would contribute pollutants to receiving water bodies from uncontrolled runoff and discharges. But existing and proposed stormwater infiltration basins built as part of the project would minimize impacts to surface water quality of the receiving waters within the watershed. Since groundwater impacts associated with the Centennial Corridor project would not be substantial, the project would not have a cumulatively considerable contribution to cumulative effects on groundwater. As discussed in Section 3.2.2, Water Quality and Stormwater Runoff, of the final environmental document (Volume 1), the average depth to groundwater in the project area is estimated at 80 to 120 feet below ground surface. As such, pile driving, dewatering, and construction activities could encounter groundwater. While piles and foundations may reduce the storage capacity of the underlying groundwater, the displaced volume would not be great compared to the total volume of the groundwater basin. The volume of water used for construction, dust control, and other uses would be nominal; therefore, construction activities would neither deplete groundwater supplies nor interfere with groundwater recharge. The Central Valley Regional Water Quality Control Board has adopted regulations for dewatering activities (Order No. R5-00-175) to reduce effects on surface water. Compliance with the Central Valley Regional Water Quality Control Board's regulations would minimize impacts from dewatering activities.

Comment Code	Response
GP-7-33	Caltrans and the city of Bakersfield understand that disruption of a neighborhood is very difficult for long-time residents. Bakersfield has experienced a lot of growth over the years, and the growth in both population and interregional travel has resulted in congestion throughout the city. The need for a high-capacity transportation corridor has been recognized by local and regional planners for decades. The Centennial Corridor Project will fill part of that need. Locating an east/west corridor in Bakersfield has been challenging due to the location of the Kern River, existing neighborhoods, businesses, environmental justice communities, parks, and historic properties. Many alternatives have been studied over many years trying to determine how to best improve circulation with the fewest impacts. For the Centennial Corridor, it has been determined that Alternative B would be the best because it avoids parks, historic properties, and environmental justice communities. In addition, Alternative B is the least expensive of the three alternatives, costing nearly $100 million less. Refer to Response to Comment GP-7-2 for information on property acquisition and relocation. While Section 3.1.4, Community Impacts, determined bisecting the Westpark neighborhood would result in impacts to community cohesion, a number of mitigation measures have been incorporated into the project to reduce the adverse effects. Project design would minimize impacts to the neighborhoods as much as feasible and practicable. Mitigation measures, including incorporating an aesthetic design theme, as presented in Section 3.1.1.3, Section 3.2.6, Section 3.2.7, and Section 3.6 of the final environmental document (Volume 1) have been developed to minimize impacts to the neighborhoods affected by the project construction and operation.

Comment GP-8

Jamie Williams GP-8
4604 Kensington Ave
Bakersfield, CA 93309
661-332-6396

7-5-14

Because of the threat of Valley Fever, we were told that water would be used during construction of the freeway to keep the dust down; reducing the risk of Valley Fever. Since we are in a drought and will still be in a drought during construction, this raises several questions.

1) What is the minimum amount of water required to use to keep the dust down during freeway construction to prevent Valley Fever?

GP-8-1

2) Will you still use the required amount of water necessary to ensure that our neighborhood is protected against Valley fever?

3) How will water usage during construction impact the county & state during the drought?

4) How will the drought impact the construction of the freeway? For example: will it take longer for the freeway to be built if you have to cut back your water usage? Would there be any other ways the construction of the freeway would be affected by cutting back water usage?

Jamie Williams

Response to Comment GP-8

Comment Code	Response
GP-8-1	Thank you for participating in the environmental process for the Centennial Corridor Project. Caltrans acknowledges the concern of Valley Fever and takes precautionary measures very seriously. Caltrans has outlined appropriate mitigation efforts for Valley Fever to minimize exposure to residents, including the use of a chemical stabilizer/suppressant, tarps and vegetative groundcovers, and water. It is recognized that temporary soil disturbance during construction grading activities could cause fungal spores (if present) to become airborne, potentially putting residents at risk of contracting Valley Fever. However, there are many preventive and precautionary measures that can be undertaken by individuals to reduce exposure, including the use of dust masks when conducting outdoor activities; seeking prompt medical treatment if flu-like or respiratory illness occurs during or within a few weeks following outdoor activities; getting a *coccidioidin* skin test to determine susceptibility to the disease. Please refer to Section 3.6, Standard Condition SC-CI-21, under Avoidance, Minimization, and Mitigation Measures (Volume 1), for further information regarding preventive measures for Valley Fever. Your comments concerning water usage are acknowledged. A minimum amount of water for dust control could not be accurately quantified due to several varying factors, such as topography, climate, and amount and frequency of soil disturbance. According to the United States Geological Survey (USGS), the ending of a drought can be just as difficult to predict as the beginning (http://water.usgs.gov/edu/qadroughts.html); therefore, it is difficult, if not impossible, to determine the exact impact constructing the Centennial Corridor will have on the city of Bakersfield, County of Kern, or the State's water supplies. Regardless of the drought conditions the region may be experiencing, Caltrans would implement water conservation efforts during project construction. Additionally, the drought is not expected to have any impact on the proposed construction schedule of Segment 1 for the Centennial Corridor Project beginning in 2016 and scheduled for completion in 2018. Please refer to Section 3.2.1, Hydrology and Floodplain, and Section 3.2.2 Water Quality and Storm Water Runoff (Volume 1), for more information about water resources impacted by the project and mitigation and conservation efforts.

Comment GP-9

GP-9

Name: Dan McReynolds

Address: 5055 California Avenue
City: Bakersfield
State: CA
ZIP: 93309
Email: dan.b.mcreynolds@kp.org

Topics

Other

Kaiser Permanente will submit an official response to the draft Environmental Impact Report detailing concerns regarding impact to its Stockdale medical office building. Kaiser Permanente will request a meeting with Cal Trans to discuss mitigation of concerns. GP-9-1

1

GP-9

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TELEPHONE (213) 236-9720
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Via Federal Express and Email

July 7, 2014

Jennifer H. Taylor, Office Chief, Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation, District 6
855 M Street, Suite 200,
Fresno, CA 93721

Re:

Comment Letter to Caltrans and City of Bakersfield, CA
Caltrans Centennial Corridor Project
Draft EIR/EIS and Section 4(f) Evaluation

Dear Ms. Taylor:

This office has been engaged by Kaiser Foundation Health Plan, Inc. ("Kaiser") to respond to the Centennial Corridor Draft Environmental Impact Report/Environmental Impact Statement and Section 4(f) Evaluation ("DEIR/EIS") prepared by the California Department of Transportation ("Caltrans") for the Centennial Corridor Project ("Project"). The Project will create significant unavoidable impacts to the Kaiser Permanente Kaiser Medical Office Building located at 3501 Stockdale Hwy., Bakersfield, CA 93309 (the "Kaiser Facility"). GP-9-2

Kaiser has assembled a consultant team consisting of transportation/civil engineers, contractors, geotechnical and land use professionals to review the DEIR/EIS and we note that a thorough review of the project and feasible project alternatives has not been performed. It also appears the DEIR/EIS has not evaluated Kaiser's alternative recommendations as suggested early in the project planning process, including specifically our team's requests that the DEIR/EIS study the feasibility of retaining proximate freeway access including the existing SR 99 southbound off-ramp, as referenced in the March 28, 2013 letter from Peterson Law Group, GP-9-3

GP-9

PC to Joel Haven, (copy attached at Attachment A) and as specifically discussed at the meeting at Bakersfield City Hall on May 14, 2013 between Kaiser team members and Project personnel. GP-9-3

DEIR/EIS Comments

A. General:

Prior to the release of the DEIR/EIS, Caltrans identified Alternative B as the preferred alternative for the Project, despite not fully studying the impacts of a Loss of Direct Freeway Access to Urgent Care resulting in (1) life-safety concerns due to potential delays in transporting patients via ambulance to acute hospitals, and (2) member access to Urgent Care being impaired resulting in the increased use of offsite hospital emergency services (increasing healthcare costs). We believe that the failure to evaluate the impacts on life safety transport and the impact of the closure of the SR 99 southbound off-ramp on the Kaiser Stockdale Facility is a fatal flaw in the DEIR/EIS and requires that the DEIR/EIS be recirculated to include this analysis. The community must be afforded the opportunity to consider an alternative that will preserve their timely access to healthcare. The loss of the SR 99 southbound off-ramp will pose a great hardship to Kaiser Permanente and its membership and significantly impact the value and viability of the Kaiser Facility as an ongoing Kaiser Permanente healthcare facility. The retention of the Southbound off-ramp should be added into the Final EIR/EIS or alternatively, the DEIR/EIS should be recirculated for further analysis into the feasibility of retaining the off-ramp. GP-9-4

B. Air Quality:

In Air Quality (Sec. 3.2.6), Table 3-32 of the DEIR/EIS identifies Air Quality Sensitive Receptors. The Kaiser Facility is not included, despite that many of Kaiser's patients who spend many hours during a day at the Kaiser Facility are among the most sensitive receptors. The apparent rationale for the omission is set forth under Environmental Justice (Sec. 3.1.4.3) under Air Quality, p. 115, where the DEIR/EIS states about the Kaiser Facility, "this facility contains medical clinics with no inpatient care; therefore it is not considered a sensitive receptor to air pollutants." This conclusion is not supported by the law or convincing evidence in the record and suggests that the writer is unaware of the complexity of the care delivery in modern Kaiser Permanente outpatient facilities. GP-9-5

Kaiser's patients are among the most sensitive receptors and the certainty is that these sensitive receptors visit the Kaiser Facility daily and spend substantial amounts of time there during these visits. The Air Quality assumptions utilized are misplaced. Among other issues, they were developed without regard to the Kaiser Facility as a sensitive receptor. They are predicated on a 2008 base year, a 2018 opening year and a 2038 horizon year. The projections are speculative and without foundation. Additionally, by failing to include the Kaiser Facility as a sensitive receptor, the Project attempts to sidestep the mitigation requirement of Appendix F,

GP-9

SC-CI-21 to require wheel washers for exiting trucks, windbreaks, and suspension of grading and excavation during windy periods during construction.

Permanently, Kaiser will be required to undertake additional air filtration measures to address the Project's air quality impacts on the Kaiser Stockdale Facility. These measures should be required as mitigation measures for the Air Quality Impacts and the costs imposed as conditions of approval on Caltrans. GP-9-5

C. Noise:

As a stand alone document, it is impossible to understand the basis of the noise assumptions utilized. It appears the Kaiser Stockdale Facility would fall within activity Category D, however the Kaiser Facility is not mentioned in Noise (Sec. 3.2.7) at page 255. Caltrans Traffic Noise Analysis Protocol, dated May 2011, lists Activity Categories and Noise Abatement Criteria in Table 1. Activity D includes medical facilities with the activity criteria value for impact determination as $L_{eq}[h]$ at 52. The DEIR/DEIS does not address whether the project will exceed criteria established by the State's protocol analysis. The reason for the omission becomes clear by referencing the Noise Study Report for the Project (January 3013; Revised March 2014). Fig. 6-2 for Alternate B, shows there were no Noise Monitoring & Analysis Positions in the vicinity of the Kaiser Stockdale Facility. This is further established in Figures 3 and 4 of the Noise Abatement Decision Report. Since no Noise Receptor sites were established for monitoring in the vicinity of the Kaiser Stockdale Facility, there is no basis to conclude sound barriers or sound attenuation measures are not required to mitigate the certain noise problem at the Kaiser Stockdale Facility resulting from the Project. The analysis is faulty and therefore so is the proposed mitigation. Because of Alternative B's close proximity to the Kaiser Stockdale Facility, the Project should require and undertake a baseline noise analysis to determine the extent of interior noise impacts and require mitigation of Project related noise impacts, with such mitigation costs imposed on Caltrans as conditions of approval. GP-9-6

D. Vibration:

The Kaiser Stockdale Facility includes operations of calibrated medical equipment that are sensitive to vibration. The Transportation and Construction Vibration Guidance Manual, September 2013, provides at Chapter 5, p. 19, "Ground Vibration also has the potential to disrupt the operation of vibration-sensitive research and advanced technology equipment." Chapter 6.3, p. 26, provides "The operation of equipment for . . . medical diagnostics . . . can be adversely affected by vibration." Table 4.2 of the DEIR/EIS establishes that the Kaiser Facility is impacted by all considered alternatives and particularly by Alternative B. SC-CI-25 offers preconstruction surveys for proximate buildings. The Kaiser Stockdale Facility is such a building and such a survey is required and requested. The DEIR/EIS focuses on construction vibration. The DEIR/EIS does not go far enough in that it does not address mitigation of post-construction vibration which would result if the support members of the new construction are not sufficiently isolated. The DEIR/EIS must require construction specifications to ensure that the GP-9-7

Kaiser Stockdale Facility will not be exposed to increased vibration in the after condition, with such mitigation costs imposed as conditions of approval on Caltrans. GP-9-7

E. Emergency Services/Traffic/Transportation/Parking:

The DEIR/EIS is bereft of any analysis of the burdens on emergency services resulting from permanent impacts to the provision of Urgent Care. The Urgent Care provided by the Kaiser Facility is readily accessible. Often patients who come to Urgent Care require prompt emergency transportation to hospitalization or other Emergency Room facilities. The delivery of emergency services and transportation to and from such services is an important life-safety issue and it requires analysis. In 3.1.5 Utilities/Emergency Services, the reader is referred to Section 3.6, Construction Impacts. In 3.6 at p. 338, the reader is told not to worry, "Based on the temporary nature of the roadway closures . . . would minimize impacts related to increased travel time and distance." The loss of freeway access to the Kaiser Stockdale Facility's Urgent Care is not temporary. The ramp closures will impose a substantial permanent impact on the delivery of medical care to the entire City. As discussed in Attachment B hereto and as shown on Attachment B, Exhibit 1, the Kaiser Facility enjoys direct access to and from SR 99 and SR 58. Under Alternative B, access to and from the Kaiser Facility, as shown on Attachment B, Exhibit 2, is predominantly on City streets which translate to longer travel times. (Attachment B, Table 1.) This impact requires analysis and mitigation. Because the DEIR/EIS is premised on the false assumption that the emergency service/traffic impacts are temporary, further analysis is required. At a minimum, consideration should be given to retaining the existing southbound offramp from SR 99 onto Stockdale Highway. GP-9-8

Section 3.1.6 addresses parking. At p. 142, the DEIR/EIS acknowledges the impact to loss of parking to Kaiser at the Kaiser Stockdale Facility. It suggests a mitigation measure by stating "replacement parking could be provided using land leftover on an adjacent parcel acquired for the project." The impact is known. The mitigation of replacement parking for Kaiser should be made part of the EIR/EIS and be required from the Project. GP-9-9

F. Hydrology/Storm Water Runoff:

The site specific drainage issues arising from the project, the change of grade, addition of slope and related runoff are not addressed in the DEIR/EIS. Kaiser is concerned about nuisance water that will be diverted to the Kaiser Stockdale Facility from the Project. Analysis of the issue and mitigation must be accounted for. GP-9-10

GP-9

Jennifer H. Taylor- Office Chief
Environmental Southern San Joaquin Valley
California Department of Transportation, District 6
July 7, 2014
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G. Visual/Aesthetics:

The DEIR/EIS addresses certain visual and aesthetic impacts, but fails to consider the visual impact of the ramp construction that will loom adjacent to and above the Kaiser Stockdale Facility. It fails to address the additional impact of light and glare from elevated high speed passing traffic. Since it fails to address it, the DEIR/EIS fails to account for or to mitigate the certain adverse visual impacts. GP-9-11

Kaiser and our consultant team requests an urgent meeting to discuss our concerns.

Very truly yours,

John S. Peterson

cc: Dan B. McReynolds
Laura Johnson
Eddie Arango
Terry Bowen, Gray-Bowen
Bill Gray, Gray-Bowen
Indrajit Obeysekere, Esq.
Damon Cianci
David Womak
Leslie Golich

GP-9

Attachment "A"

GP-9

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Via U.S. Mail

March 28, 2013

Joel Haven, PE, TE
Parsons
110 West A Street, Suite 1050
San Diego, CA 92101

Re: **Cal Trans Bakersfield Centennial Freeway Expansion Project**

Dear Mr. Haven:

This office has been engaged by Kaiser Permanente ("KP") to assist it relative to the environmental and takings issues arising from the Cal Trans Bakersfield Centennial Freeway Expansion Project ("Project"). This is by way of follow up to the meeting at the offices of the City of Bakersfield on January 24, 2013, and the request for Kaiser's input relative to concerns about the Project's impacts. We request another meeting prior to design completion and issuance of the EIR to discuss these concerns more specifically.

We have canvassed management of the Kaiser Permanente Stockdale Medical Office Building ("MOB") facility relative to the Project's impacts on the MOB.

KP's paramount concerns are as follows:

1. Loss of freeway access and impact on Urgent Care
    a. delay ambulance transport to acute hospitals
    b. impairment of member access to Urgent Care, resulting in increased use of offsite hospital emergency services thus increasing KP and member costs.

2. Loss of parking, both during construction and permanently
    a. impairment of member access to the clinic
    b. impact ambulance and delivery vehicles

3. Air quality, both during construction and permanently
    a. sensitive populations are served in the clinic and would be impacted by project dust and exhaust
    b. impact on facility and equipment of increased pollution levels.

GP-9

4. Member and employee safety during construction
    a. hazards posed by redirected parking, construction zones, and traffic to members and staff

We ask that these items be addressed as part of your project design prior to finalization of design and prior to issuance of the EIR and the public hearing process. Basically we ask that these problems be avoided before they are identified as issues that require mitigation in the public process.

Without diminishing any of the above concerns, the loss of proximate freeway access is a significant impact affecting life/safety issues given the mission of the MOB and given the distance to any resulting freeway access in light of the Project's currently proposed design. We urge you to design and incorporate nearby on-off access so that Kaiser specifically and members of the public in general do not suffer life-safety issues that will result from difficulty accessing the MOB's urgent care facilities. The practical and real world impacts are that ambulance transport of acute patients who first come to urgent care or the facility generally will be subjected to potentially life threatening delays in transport to acute care hospitals. We also expect patient habits would change without ease of access to the MOB urgent care facilities which will result in added burden to area hospitals and emergency facilities and under-utilization of Kaiser's urgent care facilities. We believe this will create public and political concerns. Again, it will substantially impact MOB's mission.

Kaiser's remaining primary concerns articulated above can also be addressed in your project design.

Representatives of KP and I would like to meet with you as soon as possible while you are still in the design phase and prior to release of the EIR. We can always meet in Bakersfield. For your convenience, I have an office in Irvine and I can easily schedule a preliminary meeting with you given your office in San Diego.

Please let me know when we can meet.

Yours very truly,

John S. Peterson

cc: Dan B. McReynolds
Nancy Burke via e-mail
Indrajit Obeysekere via e-mail
Donald M. Anderson, SR/WA
Theodore D. Wright, P.E.
Charles G. Webb
Gregory Z. Gharib

GP-9

Attachment "B"

HDR

GP-9

Determine and Quantify Access Changes

Existing Stockdale Highway (SR99 southbound) off-ramp, Wible Road (SR99 northbound) on/off ramps and Real Road (SR99 southbound) on-ramp will be closed based on the preferred Alternative B from the Centennial Corridor Project. The following reasons are listed below;

Stockdale Highway (SR99 SB) off-ramp

- Existing Stockdale Highway off-ramp is a partial interchange that only provides access to SR99 southbound direction. According to Caltrans Highway Design Manual (HDM) index 502.2, the use of partial interchange should be avoided because of the potential for wrong-way movements and added driver confusion.

Wible Road (SR99 NB) on/off ramps

- Existing Wible Road ramps will be closed due to the proposed geometric change.
- Existing on/off ramps is a hook ramps that is not desirable because of insufficient acceleration and deceleration lengths, tight curve radius for both on/off ramps and inadequate sight distance around the curves.

Real Road (SR99 NB) on-ramp

- Existing Real Road ramp will be closed due to the proposed geometric change.

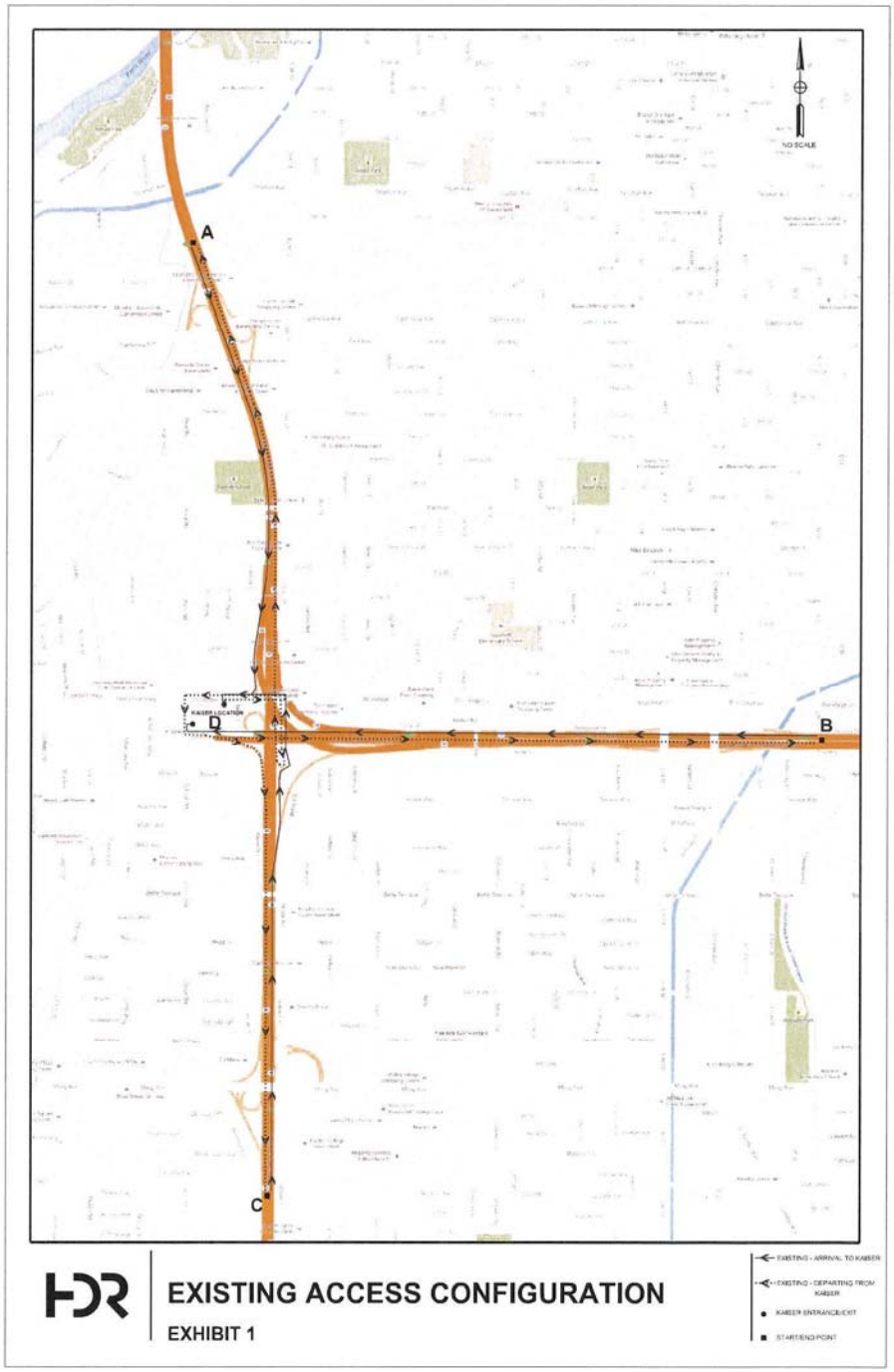
The changes in travel patterns due to the ramps closure would result in added travel time to and from the subject property. Exhibits 1 and 2 indicates the travel patterns to and from the subject property from SR 99 and SR 58 in the before (current) and after (Alternative B) condition. In addition, a summary Table 1 is prepared to provide description of travel patterns, distances and travel time in the before and after condition.

As shown in Table 1, there is a slight increase in travel time to and from the subject property from before to after condition.

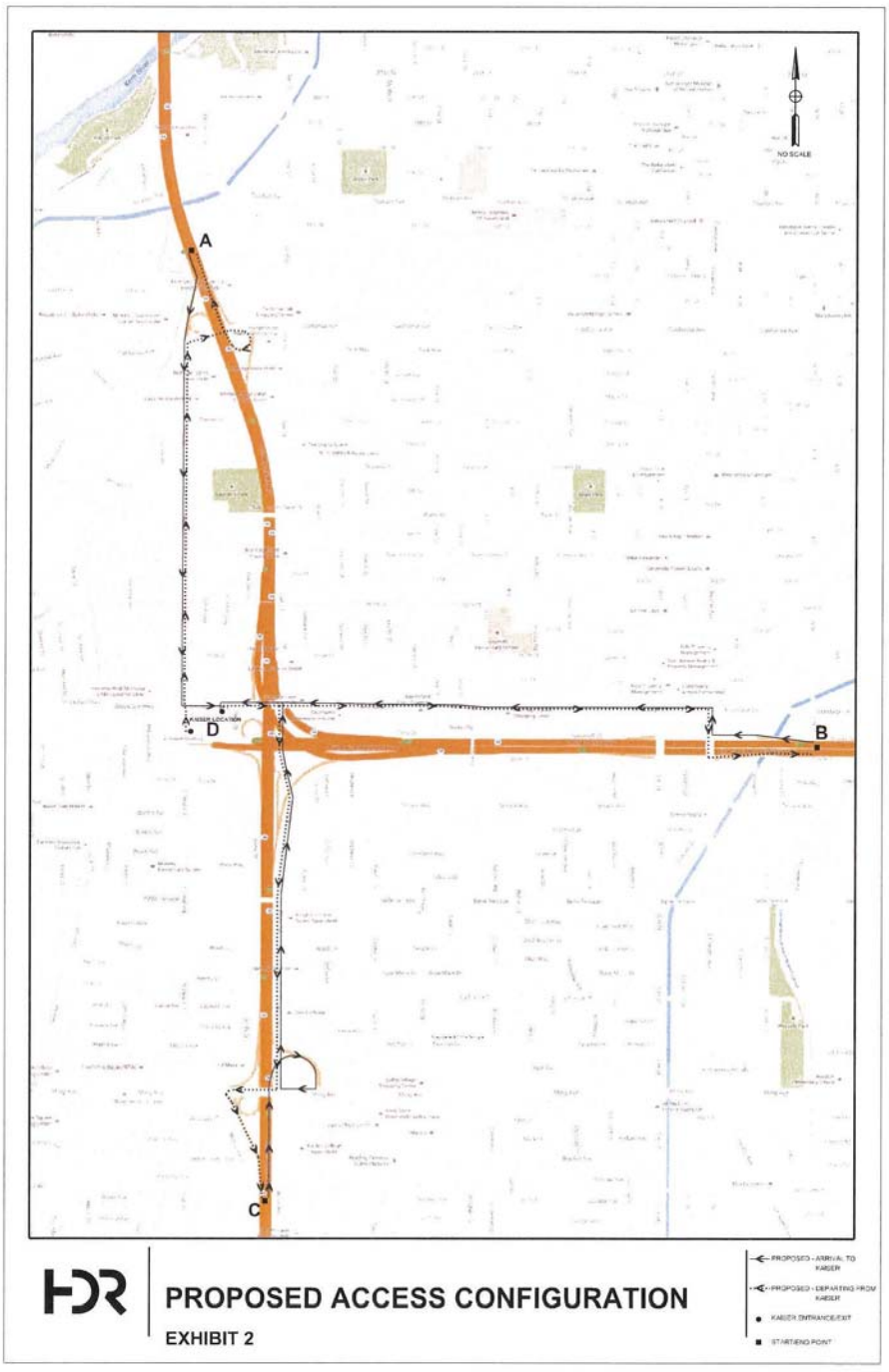
1325 J Street, Suite 1300, Sacramento, CA 95814-2928 **hdrinc.com**
P (916) 471-5800

1

GP-9



GP-9



GP-9

Table 1.

From	To	Distance (Mi)		Travel Time (Min)		Description	
		Before	After	Before	After		
SR-99 SB (A)	Kaiser (D)	1.5	1.3	2	3	Before	Traffic from north used Stockdale Hwy off-ramp, access Kaiser from Stockdale Hwy entrance
						After	Traffic from north will use California Ave off-ramp, continue onto Real Rd and turn left onto Stockdale Hwy entrance to access Kaiser
SR-99 NB (C)	Kaiser (D)	1.6	2.0	2	3	Before	Traffic from south used Wible Rd off-ramp, turn left onto Stockdale Hwy and access Kaiser from Stockdale Hwy entrance
						After	Traffic from south will use Ming Ave off-ramp, turn right onto Wible Rd and turn left onto Stockdale Hwy to access Kaiser from Stockdale Hwy entrance
SR-58 WB (B)	Kaiser (D)	1.8	1.8	2	3.5	Before	Traffic from east used Real Rd off-ramp, turn right onto Real Rd and access Kaiser from Real Rd entrance
						After	Traffic from east will use Chester Ave off-ramp, turn left onto Brundage Ln/Stockdale Hwy and access Kaiser from Stockdale Hwy entrance
Kaiser (D)	SR-99 SB (C)	1.9	1.6	2.5	3	Before	Traffic to south used Stockdale Hwy exit, make u-turn at Wible Rd intersection, turn left onto Real Rd and turn left onto SR99 on-ramp
						After	Traffic to south will use Stockdale Hwy exit, turn right onto Wible Rd, turn right onto Ming Ave and turn left onto SR99 on-ramp
Kaiser (D)	SR-99 NB (A)	1.8	1.9	2	3	Before	Traffic to north used Stockdale Hwy exit, turn right onto Wible Rd and turn right onto SR99 on-ramp
						After	Traffic to north will use Real Rd exit, continue onto Real Rd, turn right onto California Ave and turn right onto SR99 on-ramp
Kaiser (D)	SR-58 EB (B)	2.3	1.8	3	3.5	Before	Traffic to east used Stockdale Hwy exit, make u-turn at Wible Rd intersection, turn left onto Real Rd and turn left onto SR58 on-ramp
						After	Traffic to east will use Stockdale Hwy exit, continue on Stockdale Hwy/Brundage Ln, turn right onto Chester Ave and turn left onto SR58 on-ramp

Notes:
Highway speed of 65 mph is used on SR-99 and SR-58
Local Road - posted speed limit (35 mph to 45 mph) is used
Traffic Signal delay not included in this estimates

Response to Comment GP-9

Comment Code	Response
GP-9-1	Your comment with regard to Kaiser Permanente submitting an official response and request for a meeting with Caltrans concerning project impacts on the Stockdale medical office building is acknowledged.
GP-9-2	Caltrans acknowledges the Peterson Law Group as representing Kaiser Foundation Health Plan, Inc., (Kaiser) operating the Kaiser Permanente Health Care Center located at 3501 Stockdale Highway in Bakersfield (Kaiser facility), and has provided comments regarding the Centennial Corridor Project. Significant unavoidable impacts to the Kaiser facility with implementation of Alternative B have been addressed through design modifications, and minimization and mitigation measures as described in Section 3.6, Construction Impacts (Volume1) of this final environmental document. These avoidance, minimization and mitigation measures are also described in subsequent responses to comments below. **Preliminary Redesign of Preferred Alternative B:** *Westbound State Route 58 to Southbound State Route 99 Connector – Moved East* This revision allows the retaining wall on the east side of the property to be removed or relocated, eliminating the need for the temporary construction easement that would have otherwise reduced parking during construction. *Northbound State Route 99 to Westbound State Route 58 Connector – Moved South* This revision relocates the connector to the south, eliminating any loss of parking during construction on the south side of the property. No further columns or structures would impede or eliminate parking. *South Real Road* The existing profile of Real Road would be maintained from the south end of the south curb return of the Kaiser facility Real Road driveway entrance/exit to Stockdale Highway. South of this driveway, the profile would be lowered approximately 0 to 5 feet to provide enough height clearance under the four proposed bridge structures. No obstructions would block the driveway and no modifications would be made to change the configuration of the driveway.
GP-9-3	Caltrans has reviewed a wide-range of project alternatives prior to the selection of the Preferred Alternative B. A total of 18 alternatives were evaluated and three alternatives (Alternatives A, B and C) were carried forward for further evaluation and analyzed at equal level of detail in the technical studies and this final environmental document. The other 15 alternatives were eliminated from further evaluation because they did not meet the purpose and need of the project and/or because the estimated cost substantially exceeded the available funding. Please refer to Chapter 2, Section 2.1.5, Alternatives Considered but Eliminated From Further Discussion Prior to Draft Environmental Document, of Volume 1 of this final environmental document for further discussion of the alternatives analyzed in the environmental document. Caltrans acknowledges receiving Kaiser's alternative recommendations during the project planning process submitted on March 28, 2013 and included as Attachment A of their letter to the draft environmental document. Caltrans has considered Kaiser's alternative recommendation of maintaining the existing Stockdale Highway off-ramp at southbound State Route 99; however, their recommendation would not be implemented because this interchange would not meet Caltrans' design standards (see Response GP-9-4 for further discussion). Caltrans has conducted additional analysis to support the elimination of the existing Stockdale Highway off-ramp at southbound State Route 99 (see Appendix K). The results of the analysis suggest that overall reduction in traffic congestion brought about by the project would enhance ambulance response times to and from the Kaiser property.

Comment Code	Response
	Other recommendations requested by Kaiser in their letter dated, March 28, 2013, are discussed in Response to Comment GP-9-4 and GP-9-5.
GP-9-4	The project has been redesigned to avoid conflict with Kaiser's operations. Caltrans has developed a preliminary redesign of the Preferred Alternative B alignment that does not require property or temporary construction easements from Kaiser property. Additionally, the redesign would not result in construction work at the main entrance to the Kaiser facility, as represented in the comment letter. These design revisions are intended to avoid disruption of Kaiser's parking facilities and operations. This design revision has been identified in Section 2.1.4, Identification of a Preferred Alternative, and in the design plans provided in Appendix E of this final environmental document. The increased physical separation between the Kaiser facility and the redesign of Preferred Alternative B alignment would also reduce any noise, vibrations, and visual impacts. **Loss of Freeway Access** Caltrans believes the overall reduction in traffic congestion brought about by the Centennial Corridor Project will enhance, rather than impair, access to the Kaiser facility and would result in a safer transportation network system around the facility. The existing Stockdale Highway off-ramp is a partial interchange that provides access to State Route 99 in only the southbound direction. Caltrans advises that this ramp does not meet acceptable design standards. Caltrans' Highway Design Manual does not allow for local street ramps located within a mile of a freeway-to-freeway interchange (Highway Design Manual, Section 502.2). These ramps have proven to be a safety concern in past freeway designs because of the potential for wrong-way movements. The existing Wible Road on/off ramps to northbound State Route 99 and the Real Road on-ramp to southbound State Route 99 will also be closed due to the changed geometry of the highway improvements that are a part of the Preferred Alternative B alignment. Caltrans believes these ramps present undesirable safety issues resulting from insufficient acceleration and deceleration lengths, tight curve radii on the on- and off-ramps, inadequate sight distances around the curves, and insufficient storage length for future on-ramp metering. The changes in travel patterns due to these ramp closures would increase travel distances but result in only slight increases in travel time to and from the Kaiser facility. Figures 3 and 4 in Appendix K depict the travel patterns to and from the Kaiser facility from State Route 99 and State Route 58 in the existing and post-project (Alternative B) conditions. Table 1 in Appendix K compares travel times to and from the Kaiser facility in both existing and post-project (Alternative B) conditions. As shown in Table 1 in Appendix K, the added travel time to and from the Kaiser facility, from both highways, is relatively modest. The results of the analysis shows the additional travel time to reach the Kaiser facility from southbound State Route 99 would be approximately 1 minute. Other travel time increases, from other access routes, would increase travel times from 30 seconds to a maximum of 1.5 minutes. In the no-build condition (in which the Stockdale Highway off-ramp remains), travel time will increase due to increasing congestion on the State Route 99 main line. For some locations, travel time with the project would be lower than without the project in 2037. The environmental and design team for the Centennial Corridor Project have concluded the increase in travel time would be offset by long-term, widespread benefits, taking into account the overall reductions in regional traffic congestion as a result of the Centennial Corridor Project. The traffic study prepared in support of the final environmental document examined 79 intersections, including the intersection at Stockdale Highway and Real Road near the Kaiser facility. Under current conditions, this intersection currently operates at Level of Service F, on a scale from A to F, F being worst. In 2038, traffic volumes for the No-Build condition are projected to increase by 56%, further worsening conditions and delays near the Kaiser facility. With the Centennial Corridor Project, the freeway connection of State Route 58 with the Westside Parkway will attract

<table>
<tr><th>Comment Code</th><th>Response</th></tr>
<tr><td></td><td>vehicles away from the surface arterial streets. As a result, peak hour delays will be approximately one-half of the existing conditions and two-fifths (42%) of the 2038 no-build conditions. Please refer to Volume 1 of this final environmental document for Table 4-14, Table 4-28, Figure 2-14, and Figure 3-18.
Caltrans will consider the placement of additional signage on State Route 58, State Route 99 and other relevant routes to help direct vehicles to the most efficient access routes to the Kaiser facility.
Finally, recirculation is not required when the new information added to the environmental impact report merely clarifies, amplifies or makes insignificant modifications in an adequate environmental impact report. Releasing of a supplemental environmental impact statement is not required for this project since there have been no substantial changes in the proposed action relevant to environmental concerns, nor have significant new circumstances or information relevant to environmental concerns been identified.</td></tr>
<tr><td>GP-9-5</td><td>The Kaiser Health Care Center at 3501 Stockdale Highway in Bakersfield contains medical clinics with no inpatient care; therefore, it is not considered a sensitive receptor to air pollutants since patients cannot spend prolonged periods of time within the facility or outside of it since there is no inpatient care.
The potential emissions from the Centennial Corridor Project have been extensively modeled in accordance with EMFAC 2011, the U.S. Environmental Protection Agency’s approved emissions model, and extensively analyzed in a technical report supporting this final environmental document. This analysis and modeling concluded that the Centennial Corridor Project would not have a significant impact on air quality. The technical report uses methodology and assumptions consistent with the requirements of the Clean Air Act Amendments of 1990 and the California Clean Air Act of 1988. The Centennial Corridor Project’s operational emissions would not exceed the Federal or state ambient air quality standards for carbon monoxide and would not generate CO hot spots. The Centennial Corridor Project would meet the particulate matter (PM_{10}) and particulate matter ($PM_{2.5}$) conformity requirements and would result in lower particulate matter (PM_{10}) and particulate matter ($PM_{2.5}$) emissions when compared to the No-Build scenario. This decrease in particulate matter emissions is the result of an increase in vehicle speeds and the reduction of congestion anticipated with the implementation of the Centennial Corridor Project. Construction emissions would be reduced to less than significant levels following the institution of mitigation measures incorporated prior to and during the construction of the project. These measures include reducing truck idling time, covering or wetting transported materials, reducing vehicle trips from construction sites, and stabilizing dust emissions using water or chemical stabilizers. These measures are provided in Appendix F – Environmental Commitments Record for Preferred Alternative B, Volume 2 of this final environmental document. Also see Section 3.2.6, Air Quality, in Volume 1 of this final environmental document for more information about air quality mitigation and minimization measures.
The Centennial Corridor Project would result in substantial reductions of particulate matter (expressed as pounds per day) as summarized in the following table:
<table>
<tr><th>Particulate Matter</th><th>Existing (pounds per day)</th><th>2018 (pounds per day)</th><th>2038 (pounds per day)</th></tr>
<tr><td>PM_{10}</td><td>782.4</td><td>409</td><td>534.5</td></tr>
<tr><td>$PM_{2.5}$</td><td>480.3</td><td>195.5</td><td>246.1</td></tr>
</table>
Even though air quality impacts have been determined not to be significant, the increased distances in the potential design revisions would further attenuate emissions at the Kaiser facility. The Centennial Corridor Project would help reduce</td></tr>
</table>

Comment Code	Response
	the heavy traffic congestion near the Kaiser facility which should also provide air quality benefits due to the reduction of stop and go traffic. The Centennial Corridor Project as a whole will improve particulate matter emissions within the project limits as shown in the particulate matter qualitative analysis. Caltrans has completed a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District to address construction and operational emissions and it will offset any localized particulate matter impacts due to project emissions. The Voluntary Emission Reduction Agreement is provided in Appendix L of the final environmental document.
GP-9-6	Kaiser notes under Caltrans' protocols, a noise abatement criterion of 52 decibels applies to medical facilities and observes that noise monitoring measurements were not taken at the Kaiser facility. The referenced noise criteria, however, applies to interior noise level measurements. Interior noise level measurements are typically not conducted until final design. No outdoor activities of frequent human activity were observed at the Kaiser facility and that location was not required to be monitored. The Kaiser facility is located close to State Route 99 in an area with high ambient noise levels. Ambient noise levels currently approach 71 decibels along Stockdale Highway. Most construction activities at a distance of 100 feet fall below those levels and would not be disproportionate to existing conditions. A few activities might make sounds that exceed the ambient levels, but could be mitigated through the use of various mitigation measures. As provided in the final environmental document, a Construction Noise and Vibration Monitoring and Mitigation Plan will be prepared before the start of construction to predict construction noise levels during different phases of the construction activities and identify proper mitigation measures, including the use of temporary noise barriers, temporary outdoor sound curtains or sound curtain noise barriers. These measures typically reduce equipment noise levels by 15 to 22 decibels. Based on these noise mitigation measures, Caltrans is confident the construction equipment noise levels will be reduced to acceptable levels and will have no adverse impacts on the facility. Recently, significant advances in noise mitigation during construction have been made through the use of sound wall blankets. A photograph of a sound wall blanket installation is illustrated in Exhibit 5 in Appendix K. Caltrans will require the construction contractors to use such measures as needed to achieve necessary noise reductions at the Kaiser facility. Typical modern office building construction includes non-operable windows that are highly effective in reducing exterior noise, often by as much as 35 decibels. Caltrans is willing to undertake interior noise testing at the Kaiser facility to determine the levels of noise mitigation necessary to avoid adverse impacts. We believe the foregoing potential design changes and mitigation measures would be sufficient to adequately avoid or mitigate any significant impacts on the Kaiser facility. Caltrans is willing to meet with Kaiser at a mutually agreeable time to discuss these items in greater detail and to proceed with the development of a noise mitigation plan for the Kaiser facility to address any remaining concerns.
GP-9-7	Kaiser is concerned its medical offices containing sensitive diagnostic and other types of equipment could be affected by vibrations from construction equipment and operational vibrations after construction. The closest major construction activities will be at least 100 feet from the Kaiser facility. To test construction effects on sensitive diagnostic equipment, approval from Kaiser for interior noise and vibration testing would be required because of the lack of empirical data. The Centennial Corridor Project will be designed in accordance with Caltrans' Seismic Design Criteria to ensure isolation of new support structures and minimize post-construction vibration. A limit of 65 velocity decibels for ground-borne vibration impact levels applies to buildings where low ambient vibration is essential for interior operations. This limit is appropriate for moderately vibration-sensitive

Comment Code	Response
	equipment such as optical microscopes and electron microscopes with vibration isolation systems. Defining limits for equipment that is even more sensitive requires a detailed review of the specific equipment involved. Pre-construction building inspections would be conducted in accordance with Caltrans' Standard Condition SC-CI-25. This type of review is usually performed during final design and not as a part of the California Environmental Quality Act compliance analysis. Mitigation of potential vibrations caused by transportation projects that affect sensitive equipment typically involves modification of equipment mounting systems or relocation of the equipment rather than applying vibration control measures to the Centennial Corridor Project. Caltrans is willing to meet with Kaiser at a mutually-agreeable time to identify any highly sensitive instruments in use at the Kaiser facility and develop potential mitigation measures. Pile-driving activities during construction of the westbound State Route 58 Bridge could cause vibration impacts to sensitive equipment located within the Kaiser facility. Caltrans is willing to commit to specifying the use of modern construction techniques to avoid the vibration and noise impacts associated with pile driving. These include predrilling, cast-in-drilled-hole piles, continuous flight auger piles, and jetting depending upon ground conditions.
GP-9-8	Caltrans has analyzed potential impacts on the Kaiser facility's urgent care services. The Centennial Corridor Project proposes improvements in the way vehicles access the State Route 99 and State Route 58 highways, and the final environmental document found these changes would result in minor changes to travel times experienced by providers of emergency services, and that these changes would not adversely affect emergency response times, as discussed in Section 3.1.5 (Utilities/Emergency Access). The Centennial Corridor Project would also reduce congestion and bring about potentially more prompt overall response times. As discussed in Section 3.1.6 of the final environmental document (Traffic and Transportation/ Pedestrian and Bicycle Facilities), the traffic studies for the Centennial Corridor Project show better traffic flow for all vehicles due to direct route continuity. The Centennial Corridor Project will also provide additional capacity that would help reduce congestion on adjacent local roadways since significant traffic volumes are expected to shift to the freeways. As discussed in Section 3.6 of the Final Environmental Impact Report/Environmental Impact Statement (Construction Impacts), emergency vehicle access for police, fire protection, and emergency services would be maintained at all times during construction. These services could experience slightly increased response times due to construction activities and temporary detours, but would be kept to 1 mile or less of out-of direction travel. Hall Ambulance Service, Inc., was contacted to obtain actual travel times for service between the Kaiser facility and frequent destinations. Table 2 in Appendix K lists the frequency of service calls by origin-destination pair for calendar years 2012, 2013, and 2014 through October 14. Trips between the Kaiser facility and San Joaquin Community Hospital are by far the most frequently requested service. Hall Ambulance has furnished a log of travel times between the Kaiser facility and San Joaquin Community Hospital for the period from September 14, 2014 to October 14, 2014. As shown on Table 3 in Appendix K, Hall responded to 58 service requests during this time period, reportedly a fairly typical month. The ambulances followed eight different routes, four of which used surface streets only, and four used State Route 99 in combination with surface streets. The weighted average of all 39 trips made using State Route 99 for a portion of the trip was 11 minutes and 46 seconds. The weighted average of all 19 trips made using only surface streets was 12 minutes and 13 seconds. These results suggest that the loss of direct access to State Route 99 will not have a significant impact on service times for trips between the Kaiser facility and San Joaquin Community Hospital. As a general rule, Caltrans requires construction contractors on all major projects to maintain general vehicular and other access throughout construction. Before closing

Comment Code	Response
	streets, Caltrans requires the posting of detours so that the normal functioning of businesses within the city of Bakersfield is not impaired. In the event of large equipment movement or other construction-related obstructions, in rare circumstances where detours or alternate routes are not possible, Caltrans requires such activities to be undertaken during off hours and advance notice be given to all affected parties. These requirements will be strictly enforced. Kaiser expresses a general concern that the loss of the State Route 99 southbound off-ramp would be a great hardship to Kaiser and its members and significantly impact the value and viability of the Kaiser facility. The purpose of the Centennial Corridor Project is to reduce heavy traffic congestion, including that occurring in the vicinity of the Kaiser facility, and to provide enhanced route continuity between two major highways serving the southern San Joaquin Valley. The Centennial Corridor Project is specifically designed to enhance regional transportation as well as address long-term capacity issues that have burdened east-west travel within the city. Under the Preferred Alternative B, the Kaiser facility will be located in proximity to these two major highways, a location that should provide significant improvements in the ability of Kaiser's members to access the Kaiser facility.
GP-9-9	As discussed in Response to Comment GP-9-4, there would be no loss of parking, either permanently or during construction under the revised project design. In addition, there is the possibility of providing additional parking at Caltrans' proposed Park and Ride lot directly to the east of the Kaiser facility.
GP-9-10	Caltrans acknowledges your comment about hydrology and storm runoff that could affect the Kaiser facility. However, site-specific drainage issues arising from the Centennial Corridor Project, include changes of grade, addition of slope, and related runoff are addressed during final design, not as a part of the final environmental document. Construction of stormwater facilities is a component of the Preferred Alternative B requirements and will be designed to avoid any adverse impacts from drainage or runoff as a result of the project.
GP-9-11	The Kaiser facility is within the State Route 99 Landscape Unit analyzed in the final environmental document. The overall visual character of this landscape unit is inclusive of an established transportation facility, State Route 99; therefore, the addition of a new ramp structure is not anticipated to adversely affect the visual character of this landscape unit. The proposed redesign of the bridges should significantly contribute to minimizing any adverse visual impacts on the Kaiser facility.

Comment GP-10

GP-10

From: kseggemann@aol.com [mailto:kseggemann@aol.com]
Sent: Monday, July 07, 2014 9:51 AM
To: Taylor, Jennifer H@DOT
Cc: kseggemann@aol.com; jlswearengin@aol.com
Subject: Comments: 4501 Kensington Avenue

Hello Ms. Taylor,

Please see the article included below. It covers several topics that address noise related stress on individuals like our 8-year old daughter. She has ADHD combined type, Tourette's Disorder, OCD, sensory processing difficulties, feeding difficulties and asthma. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1568850/pdf/envhper00468-0281.pdf

Several people working toward the advancement of the Centennial Corridor Project have told us that our home located at 4501 Kensington Avenue is an unaffected property and it is not scheduled for "acquisition" or "acquisition at this time".

To tell us, for example, placing earplugs in our daughter's ears will lower the input of decibel levels made by construction, traffic and other noise or that she should put sound resistant headphones covering her ears wont work for her. Her tactile responses are mixed and she can not tolerate things in or over her ears. Teaching her to wear either as an aid to block noise from reaching her brain (this is where one hears, not in the ears) she would need to receive occupational therapy likely for 6 months if we use previous therapies as a model. This is assuming six months is a sufficient amount of time for her to accept training and then applying tools learned in a real world setting. GP-10-1

Since our first inquiry about the possibility of a freeway being built around our home, we received confirmed diagnosis of medical conditions known to be triggered and/or aggravated by stress when one of the five senses are over stimulated or stimulated at all. Some of these are addressed in the attached article.

The negative impact the pending freeway build already has had on our family is great. We must move from our rental as our landlord did not renew our lease because her son will take over the property. This created stress yet again for our daughter and a regression in any improvements experienced.

In order to protect our daughter, my partner at first put focus on her own medical situation. Our first inquiry about early acquisitions was via an email sent to Kirsten Helton (see a copy of email below).

Start:

From: kseggemann <kseggemann@aol.com>
To: Kirsten_Helton <Kirsten_Helton@dot.ca.gov>
Subject: Centennial Corridor Project
Date: Thu, Jul 1, 2010 11:05 pm

Dear, Kirsten Helton:

Can you please tell me if my home located at 4501 Kensington Avenue in the Westpark area of Bakersfield is included with the homes and businesses that lie in the path of construction of the Centennial Corridor Project. If there is no list, when will I be informed that Caltrans will need to purchase my home? Also, are homeowners in Westpark who volunteer to sell their property to Caltrans before Right-of-Way begins going to be offered relocation assistance if they move to another home in Bakersfield? Thank you for any information you can provide regarding this matter.

1

GP-10

Sincerely,

Karen S. Eggemann
4501 Kensington Ave.
Bakersfield, CA 93309

(home) 661-631-8841
(cell) 661-706-3507

End.

We received no response from Kirsten Helton regarding this email. Karen did however see the name Kirsten Helton copied in an email from Steven Milton on Wed, Feb 5, 2014 11:32 am.
A friend of ours is renting our home at 4501 Kensington Avenue through the end of 9/14. We are renting it below market value and less than our mortgage payment because the renters daughter is our daughters best friend in Bakersfield. Our daughter has no idea that her neighborhood is going to be demolished and that all of the streets she walked on will be closed. She has no idea that when she looks out of her front window she won't see any houses, but a wall and a dead end street where she once ran and played. She has no idea that Cindy and Rose next door will be gone. All she knows is that we moved here to be in a better place. We discussed this with her the better part of a year to ease her into the idea of moving if we had to. We didn't expect that we would move such a distance but since no one would provide us answers about who handled ADA issues and pushed back the publishing date for the environmental report, we had no other choice but to protect our daughter and try to prevent stressors from giving her painful tics.

Our child can't participate in normal life activities without assistance as she must take medication to temper the effects of ADHD, OCD, Tourette's Syndrome as well as anxiety and asthma. Without it, tics are present to the degree that our daughter complains of being in pain. She attends regular occupational therapy sessions and will begin summer swim classes that are also therapeutic in nature. One of her doctors recommended swimming to help with stress, anxiety and ADHD she experiences. GP-10-1

Who from the group of people we've contacted about the early acquisition of our home is responsible for deciding our we are not affected by the Centennial Corridor Project? Who from the group knows about the emotional stress and damage this is causing our family? It has been four years and six days since our inquiry about acquisitions went unanswered. We believe it is good that the structure called a freeway will be built to accommodate persons protected by the Americans with Disabilities Act. That structure and changes that will be made in the neighborhood because of it and the pre-planning stages we are in now is harmful to the health of our daughter. Can anyone on your team safely tell us that our child will suffer no ill effects when construction first takes place or that the pollutants created by automobile emissions wont disturb her senses?

It is clear that since the report we waited years to be released has provided us no answers about the fair acquisition of our home so that we can peacefully help our child live her life to the fullest. Instead, we are forced to wait again. What for?

We qualify as a family for a hardship acquisition under at least two of the requirements: medical necessity for a change in climate and physical environment and monetary loss. Working after retirement to support my family because of the climate in Bakersfield is another reason we should not be ignored. A hardship acquisition should at the very least be considered on behalf of our daughter.
We take the well-being of our children seriously. Both of them deserve a safe place to call home. 4501 Kensington Avenue is not that place with a freeway pending its' construction.

Do you recommend we contact legal aid or will your team respectfully acquisition our home above market value and mortgage owed as to accommodate the hardship the Centennial Corridor Project has caused us?

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1568850/pdf/envhper00468-0281.pdf

Best Regards,

Dr. Jana L. Swearengin,661-619-4818 and Karen S. Eggemann, 661-706-3507

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Response to Comment GP-10

Comment Code	Response
GP-10-1	Caltrans is sensitive to the role housing may play in our lives and understands the changes resulting from the roadway improvement project may be difficult for some individuals, especially those people with special needs, as well as those who may be elderly and/or disabled and on fixed incomes. Houses are not just buildings but often homes filled with irreplaceable family memories of a special time and rooted to a particular place. The Centennial Corridor Project would implement measures to minimize negative effects on people's health. To the greatest extent practicable, it is Caltrans' intention to avoid impacts that abut transportation facilities. The Preferred Alternative B has been designed to minimize impacts to adjacent properties where possible, by intending to acquire reduced amounts of right-of-way and limiting the construction footprint while still meeting project objectives. While we understand the personal concerns you have raised, based on the latest preliminary design plans, your property at 4501 Kensington Avenue is not included among properties required to construct the project (Please see Appendix E in Volume 2, Alternative B, Right-of-Way Requirements, Sheets 9 and 10). According to Caltrans' Right-of-Way Manual, a person who is not required to be permanently displaced as a result of a project is not entitled to relocation benefits or compensation, and the hardship acquisition process does not apply. Please note that during the design phase of the project, right-of-way requirements for the project may change. If all or a portion of your property is required, every effort will be made to provide the full extent of benefits and services provided through Caltrans' Relocation Assistance Program and as allowed under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Please see Appendix D in Volume 2, Summary of Relocation Benefits). During construction of the project, including the construction of the sound walls, effects to the surrounding areas are anticipated. Noise and vibration effects would occur during construction of the project, including the proposed sound wall adjacent to your property. Specific effects of construction noise to individuals could not be accurately analyzed because of the varying type of activities, duration, and intensity. Construction noise varies greatly depending on the construction process; type and condition of equipment used; and layout of the construction site. Many of these factors are traditionally left to the discretion of the contractor, which makes it difficult to accurately estimate levels of construction noise. Temporary construction noise impacts would be unavoidable at areas right next to the project alignment. It is possible certain construction activities could cause intermittent localized concern from vibration in the project area. Please note construction activities are temporary and would cease when construction of the project is complete. Equipment involved in construction is expected to generate noise levels ranging from 80 to 89 decibels at a distance of 50 feet. Noise produced by construction equipment would be reduced over distance at a rate of about 6 decibels per doubling of distance. More precise construction noise levels cannot be calculated at this time because some of the necessary data, such as the type of equipment, effective usage factor, and number of each equipment type, have not yet been determined and are left up to the construction contractor who is awarded the project. During construction of the Centennial Corridor Project, measures will be implemented to ensure noise and vibration effects do not severely affect residents within the general area of construction activities. Certain construction phases and activities, such as earth moving with bulldozers, the use of vibratory compaction rollers, impact pile driving, demolitions, or pavement breaking, may cause construction-related vibration impacts such as human annoyance or, in some cases, building damage. It may be necessary to use this type of equipment close to residential buildings. Implementation of Minimization Measure CI-16 would eliminate or minimize vibration impacts during construction activities. Minimization Measure CI-16 states that the contractor shall submit a Noise and Vibration Monitoring and

Comment Code	Response
	Mitigation Plan, prepared by a qualified Acoustical Engineer, for approval by Caltrans. Mitigation Measure CI-16 goes on to state that the contractor shall not start any construction work or operate any noise-generating construction equipment at the construction site before approval of the plan. The plan must be updated every three months or sooner if there are any changes to the construction activities. Please see Section 3.6, Volume 1, Construction Impacts, for more information. Mitigation techniques for control of equipment noise and vibration plus administrative measures, when properly implemented, can provide the most effective means to minimize the effects of construction activity impacts. These standard conditions (SC-CI-23 through SC-CI-25) are listed under Avoidance, Minimization, and Mitigation Measures – Noise and Vibration, Standard Conditions in Section 3.6, Volume 1. The construction contractor would also adhere to specifications instructing construction noise cannot exceed 86 decibels at 50 feet from jobsite activities from 9:00 p.m. to 6:00 a.m.

Comment GP-11

GP-11

1

6-28-14

Dear Transportation Dept & EPA
Here are my Questions I
like to ask you about
the Centennial Corridor Project
limits Westpark area.

1 How can you Build a
freeway when we are [illegible]
the worst air in the
Nation here in Bakersfield? GP-11-1

2 Also we have Valley fever
here so Bad, How can you
prevent it from people getting
it when all the Dust
Dirt when their Building it? GP-11-2

3 If you put up 16 ft sound
walls all way of the freeway
[illegible]
[illegible]
[illegible]
in a concentration camp. GP-11-3
Also we would have to
come in one way and go
out one way, we will be
like Rats living in a
maze. And it will be for
the Rest of our lives, that is →

GP-11

2

No way to live there, you agree? You wouldn't like it. GP-11-3

4 What about our health & well being, with all the noise from Hammond Trucks. How are we supposed to function in our lives? GP-11-4

5 There are 75% of Seniors living in West park, who are sick, health disease, cancer & breathing problems. How can they live with all the noise & dust & dirt everyday?

6 And the people who will have to move and leave their homes they are Senior 50% or more are widows they only live on the Social Security check. What or where will they go and they don't need new mortgage, what bank is going to give a 70 or 80 yr old a 15 or 30 year mortgage. GP-11-5

GP-11

3

Tell me? so we have all
our homes, we all worked
so hard to have our homes & GP-11-5
pay them off, what will
we do?
7 How are a person in their
70 80 or 90's start all over?
8 The sound walls don't stop
that much noise because that
you can't hear the traffic
the sound is so loud that
you can't even think, you
also think your head &
ears are going to burst.
9 What are you going to
do about the Noise
Building the freeway GP-11-6
Every day for years,
every morning, Jack Hammers
Trucks & etc.?
10. How can anyone get
any rest during the day
and remember seniors
ever day they need a lot
of quiet time & rest?
11. And also if you do put
a freeway here electricity * GP-11-7

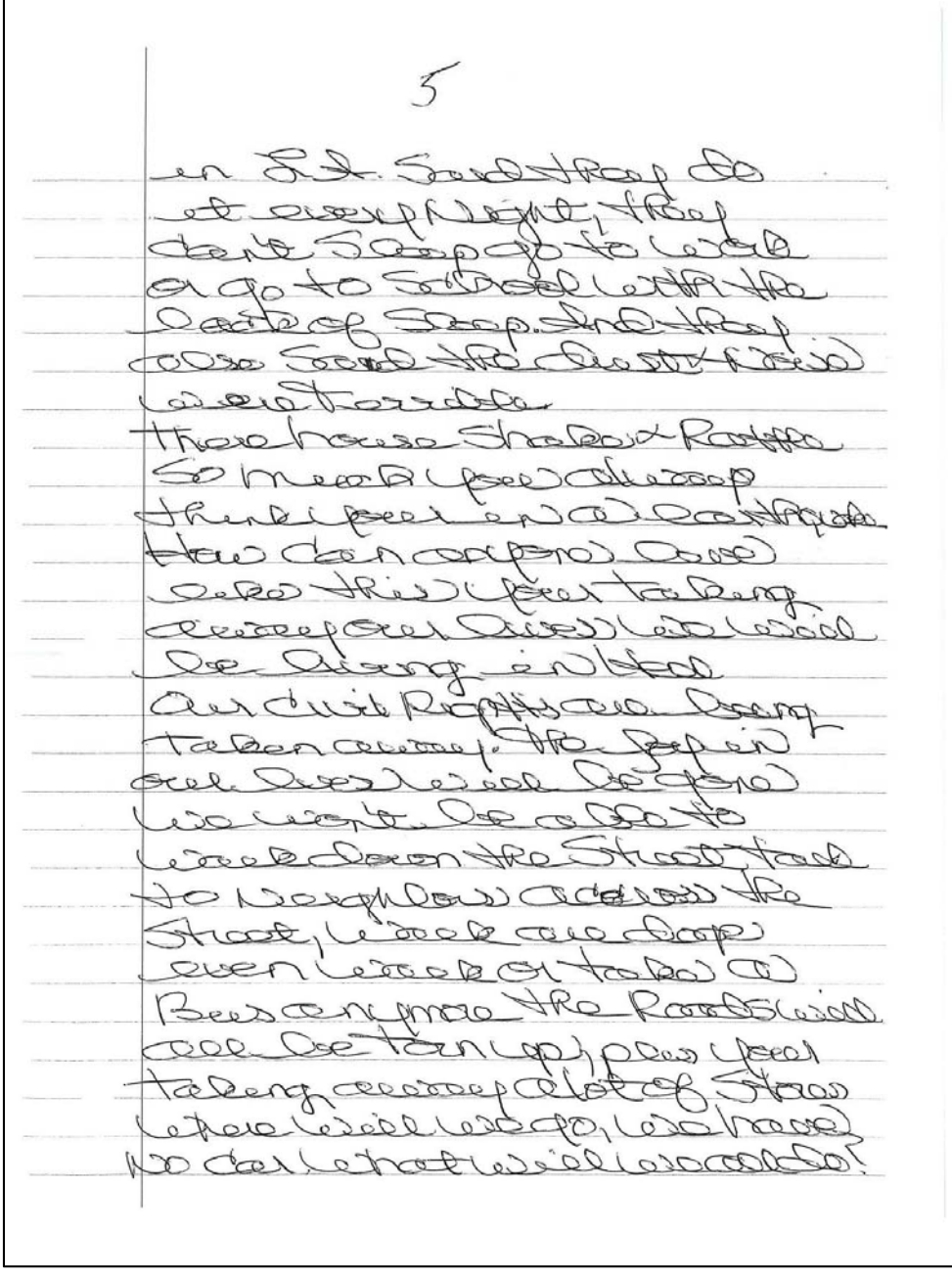
GP-11

4

Will be Turned off
for hours during the day
alot of Times.
On these hot days in
Bakersfield, [illegible] in
the house plus you have
to keep all your windows
closed because of the dust
around. How about that?
Who can ever like that.
Plus all your food will
Rot with No electricity
And Caltran did say
That electricity would go
off and on.
Plus alot of nights Cal
trans will work on the
freeway the night [illegible]
with big lights. Just
the other month on NBC
News in L.A. The news
[illegible] Caltrans on 11:00
PM [illegible]
[illegible] working at night
people were complaining
Caltrans just said
Talk to my Boss. The people

GP-11-7

GP-11



GP-11-8

GP-11

7

Please Stop This freeway
All of us have ~~are~~ are not
Real Young We Can't Start over
at Take the Noise & ~~Dust~~
or ~~Pollution~~ DESTRUCTION of our
Neighborhood.
We ~~have~~ can NOT afford
higher property taxes or
Homeowners insurance etc
high enough.
We have a Beautiful Neighbor
hood Please don't done this
way. We don't want to live
like We're in a Concentration
Camp or a Maze. Have more open
us space. Also keep Head over
Mayor & Adam Tandy over Caltrans
Manager promised us they
would Never put a freeway
here ever, Enclosed is the
paper he wrote promising us that
Don't you think he should keep his
word? Plus Bakersfield can not
afford a freeway, We have to pay
the money Back We'll be like
Mcmegan Bankrupt Please Re
consider this way to Build the freeway

GP-11-9

15

15 Pages misnumbered by author

GP-11

8

Our lives will change forever
We're too old to start over
Our Health our Senior depends
on it.
We will have to stay in the
house all day (work) no air
We would have to keep our
windows closed Because of all
the Noise dust + Destruction
of our Neighborhood.
We can Not live like that
She need a wall We would
live in darkness.
Our way of life will be gone
forever.

Thank-you
Rosalia Reposo
4421 Kensington Ave.
Bakersfield, Ca. 93309

Please Stop this Westpark
freeway.

GP-11-9

GP-11

City of Bakersfield
California
Office of Mayor Harvey L. Hall

May 4, 2001

Ron Brummett, Executive Director
Kern Council of Governments
1401 19th Street, Suite 200
Bakersfield CA 93301

RE: Bakersfield Systems Study

Dear Mr. Brummett:

On March 25, 2001, the City Council received an update to the Bakersfield Systems Study. In that update, six (6) alternates were recommended for further study. One of the six alternates, alternate #9, utilized a route through the Westpark area.

In September of 1994 and again in February of 2000, the City Council went on record as opposing any consideration of this route (see attached copies of Resolutions). The City Council's position has not changed. Not only will the City not support this alternate, but the City will never enter into Freeway Agreements with CalTrans utilizing this alignment.

This letter will serve as our third notice that this alignment should not be considered any further. Please remove it and any other alternate that utilizes this alignment.

Thank you for your prompt attention regarding this issue. Please feel free to contact Jack LaRochelle at 326-3574 should you have any questions.

Respectfully yours,

Harvey L. Hall
Mayor

cc: Honorable Councilmembers
Alan Tandy, City Manager

Attachments

C:\Documents and Settings\vhawley\Local Settings\Temp\KERNCOG LTR - WestPark Alignment.wpd
1501 Truxtun Avenue • Bakersfield, California 93301 • (661) 326-3770 • Fax (661) 326-3779
E-mail address: mayor@ci.bakersfield.ca.us

Response to Comment GP-11

Comment Code	Response
GP-11-1	Air quality is affected by climate, topography, and the types and amounts of pollutants emitted. Bakersfield lies in a basin that has persistent temperature inversions that can trap air pollution and result in stagnant air. During hot summer months, inversion periods can promote the formation of ozone. Winter inversion can promote a buildup of particulates or carbon monoxide. A contributor of poor air quality is traffic congestion. While climate and topography of an area cannot be changed, reducing congestion can help improve air quality. Regional air quality would improve as a result of the proposed project due to the improvement in congestion relief and reduction in stop-and-go traffic. As Bakersfield has grown over the years, and continues to grow, so does congestion from city and regional traffic. State Route 58 is a critical link in the State transportation network and is used by interstate travelers, local commuters, and many regional and inter-regional trucks; however, the efficient movement of traffic, goods, and materials through metropolitan Bakersfield is limited by the existing transportation network. The Centennial Corridor, along with other Thomas Road Improvements Program projects, will provide continuity and relieve traffic congestion along State Route 58 from Cottonwood Road to Interstate 5. Please refer to Section 3.2.6, Air Quality (Volume 1), for further discussion regarding air quality impacts. While fugitive dust and equipment emissions would occur during construction, avoidance, minimization, and mitigation measures would reduce impacts in accordance with the regulations of the San Joaquin Valley Air Pollution Control District. See Section 3.6, Construction Impacts, for measures to reduce impacts during construction.
GP-11-2	Caltrans has outlined appropriate mitigation efforts for Valley Fever and air quality, including the use of a chemical stabilizer/suppressant, tarps and vegetative groundcovers, and water during construction. It is recognized that temporary soil disturbance during construction grading activities could cause fungal spores (if present) to become airborne, potentially putting residents at risk of contracting Valley Fever. However, there are many preventive and precautionary measures that can be undertaken to reduce exposure, such as seeking prompt medical treatment if flu-like or respiratory illness occurs or getting a coccidioidin skin test to determine susceptibility to the disease. To control soil disturbance and fungal spores to become airborne during construction, compliance with Standard Condition SC-CI-21, under the Avoidance, Minimization, and Mitigation Measures in Section 3.6 of the final environmental document (Volume 1), would control dust during project construction. As a result, those measures would reduce the potential for Valley Fever exposure during construction of the project. Construction of the project may result in potential short-term air quality impacts related to dust and equipment emissions that would be minimized by implementing Standard Conditions SC-CI-20 through SC-CI-22, also found in Section 3.6 of the final environmental document (Volume 1). Implementing these measures would reduce the risks of adverse health effects, such as asthma and other respiratory conditions, during project construction. Potential air quality impacts related to the project were determined to be less than significant.

Comment Code	Response
GP-11-3	As discussed in Section 3.1.7, Visual/Aesthetics, in the final environmental document (Volume 1), the sound walls included in the project would be new hardscape features visible from the adjacent land uses (i.e., neighborhoods and commercial areas) and to travelers driving in the Centennial Corridor Project area. Key views provided in Section 3.1.7 show views from existing conditions and simulated views with the project in place. The project has incorporated Measures V-1 through V-5 (see Section 3.1.7) to address the changes in views in these areas as a result of the project. Section 3.1.7, Visual Aesthetics, provided additional discussions and picture simulations regarding existing visual and aesthetic conditions in the project area, the potential visual/aesthetic impacts of the sound walls included in the project, and measures to address those impacts. Please reference the discussion regarding Community Character and Cohesion in Section 3.1.4.1 in Volume 1 of the final environmental document for anticipated changes to neighborhoods. As part of the new freeway construction, changes to several local streets would be required. Any proposed roadway closures or redesign, such as an overpass or underpass of the freeway, would change the circulation patterns and access of the local residents; however, detours and road closures would only be for short durations and for the minimum amount of time necessary to complete the project. Although project design would minimize changes in the circulation pattern as much as possible, closing 11 local streets (see Section 3.1.4, Community Impacts in Volume 1) would inconvenience pedestrians and bicyclists and would reduce direct automobile connectivity to the larger streets in the affected neighborhoods. However, as discussed in Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, the additional capacity provided by the build alternatives compared to the No Build Alternative would help reduce congestion on adjacent local roadways because traffic is expected to shift to the freeway.
GP-11-4	Please refer to the discussion regarding potential air quality health impacts in Response to Comment GP-11-1 and GP-11-2. *Air Quality* Please refer to the discussion regarding project impacts to air quality in Response to Comment GP-11-1. *Noise* The house at 4421 Kensington Ave will be acquired as part of the project; therefore, future traffic noise levels are not predicted at this location. The future peak hour traffic noise levels behind your property would be 65 A-weighted decibels with the proposed sound wall. For Alternative B, traffic noise within the Westpark area is anticipated to increase between 0 and 26 decibels, depending on noise receiver locations in relation to the project. As a result, sound walls are planned to help abate the noise impacts. Sound walls are anticipated to reduce traffic noise levels between 1 and 14 decibels. As a result, future predicted traffic noise levels with the recommended abatement measures (sound walls) would range from 53 to 71 decibels. Additionally, the roadway would be built below grade through much of the Westpark neighborhood. See Section 3.2.7, Noise, Volume 1, for further details. *Noise - Construction* Project construction is expected to result in temporary increases in noise levels in areas near construction activities. Equipment involved in construction is expected to generate noise levels ranging from 80 to 89 decibels at a distance of 50 feet. Mitigation techniques for control of equipment noise and vibration, plus administrative measures, when properly implemented, can provide the most effective means to minimize the effects of construction activity impacts. These standard conditions (SC-CI-23 through SC-CI-25) are listed under Avoidance, Minimization, and Mitigation Measures – Noise and Vibration, Standard Conditions (refer to Section 3.6, Construction Impacts). Construction-related noise would be

Comment Code	Response
	temporary throughout the construction period and would cease after project construction is complete.
GP-11-5	Caltrans understands the difficulty for long-time residents, especially the elderly, who may be affected by a roadway improvement project. Your concerns about potential project impacts to seniors are discussed below. *Relocation and Property Acquisition* Caltrans is sensitive to the role housing may play in our lives and understands the relocation process may be difficult for some individuals, especially those people with special needs, as well as those who may be elderly and/or disabled and on fixed incomes. Houses are not just buildings but often homes filled with irreplaceable family memories of a special time and rooted to a particular place. However, it is Caltrans' policy that displaced persons shall not suffer unnecessarily as a result of projects designed to benefit the public as a whole. Implementation of the project would result in the permanent acquisition of full and partial parcels of land within various neighborhoods in Bakersfield. Measure SC-R-1 requires all property acquisitions for the project comply with the provisions of the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, as amended. Please refer to Section 3.1.4.2, Relocation and Property Acquisition, for additional information on property acquisition and property values. A summary of relocation benefits is also provided in Appendix D of the final environmental document (Volume 2). The Uniform Relocation Act includes a relocation assistance program provides an advisory service and monetary benefit program for individuals and businesses being displaced as a result of a public project. All benefits and services will be provided equitably to all residential and business displacees. The advisory assistance program for individuals and businesses will assist in the relocation by discussing needs and preferences regarding the details of a move, explaining the rights and benefits available, and providing help in obtaining the monetary benefits for which individuals and businesses are eligible. Additionally, advisory assistance includes providing information on available replacement property, including purchase and rental costs, and coordinating and educating landlords, property managers, and other real estate professionals to help secure replacement properties. The monetary benefits of the program for residential occupants include three types of payments available to eligible individuals being displaced from their primary place of residence: (1) a Replacement Housing Payment to assist with the cost of either purchasing or renting a replacement dwelling, (2) payment of closing or incidental costs associated with purchasing a replacement home, and (3) a moving payment to assist with the relocation of personal property. Although it seems that the purchase of your home by Caltrans feels like starting over, your property will be purchased at market value. This would allow you to purchase a comparable home within the same general area without taking out a new loan. It is understood that the purchase of a more expensive home would require higher property taxes. Section 2(d) of Article XIII-A of the California Constitution and Section 68, Rule 462.5 of the Revenue and Taxation Code generally provide that property tax relief shall be granted to any real property owner who acquires comparable replacement property after having been displaced by governmental acquisition or eminent domain proceedings.
GP-11-6	Please refer to the discussion regarding noise in Response to Comment GP-11-4 for further information about permanent and construction noise impacts related to the project.

Comment Code	Response
GP-11-7	*Utility Disruptions* As discussed in the final environmental document (Volume 1) Section 3.1.5, Utilities/ Emergency Services, standard engineering practices used during utility relocations would ensure no substantial interruptions of utility service would occur. Caltrans and utility companies will notify residents in advance of planned utility outages during construction of the project. This would allow residents to plan in advance of utility service disruptions. Extended utility outages to the extent that would affect people's health are not anticipated. *Night Work* As described in Standard Condition SC-CI-23, in Section 3.6 of Volume 1, construction activities shall be minimized to the extent possible in residential areas during evening, nighttime, weekend, and holiday periods. Noise impacts are typically minimized during daytime hours; however, nighttime construction may be desirable (e.g., commercial areas where businesses may be disrupted during daytime hours) or necessary to avoid major traffic disruption. Coordination with the city of Bakersfield or County of Kern will occur prior to construction in noise-sensitive areas between 9:00 p.m. and 6:00 a.m.
GP-11-8	Caltrans acknowledges that change can be difficult – especially for long-term residents of the neighborhood. However, project design has been developed with the goal of minimizing impacts to the neighborhoods as much as feasible and practical, while also fulfilling the purpose and need of the project. Caltrans will implement mitigation measures to address impacts to residents and neighborhoods. Mitigation measures presented in Section 3.1.1.3, Parks and Recreation; Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities; Section 3.2.6, Air Quality; Section 3.2.7, Noise; and Section 3.6, Construction Impacts, of the final environmental document have been developed to minimize impacts to the neighborhoods affected by project construction and operation. *Vibration* During construction of the project, vibration may be felt by residents living within proximity of the construction area; however, construction measures to minimize vibration will be implemented. This measure is identified as SC-CI-25 in Section 3.6 of Volume 1.
GP-11-9	The letter provided by the City Manager, Alan Tandy and the Mayor, Harvey Hall was specifically directed to the Bakersfield System Study and not to the proposed project as it is today. Not only have the project features changed substantially since the letter was released in 2001, the freeway system proposed in the Bakersfield System Study has changed to the currently proposed Thomas Roads Improvement Program, which is supported by the City Manager and the Mayor. Bakersfield has been experiencing growth and the roadway system has become congested. If no improvements are constructed, traffic congestion will continue to worsen in the future. While the Thomas Roads Improvement Program collection of projects is largely similar to the recommended transportation elements reflected in the Bakersfield Systems Study, there are differences. These include widening of the 23rd and 24th Street couplet through downtown Bakersfield from three lanes each to four lanes; removal of the interchange at 24th Street and Oak Street and the bridge extending Oak Street over the Kern River; replacement of the 7th Standard Road corridor freeway with widening to a four-lane expressway along the existing alignment; and selection of the Alternative B alignment for the Centennial Corridor connection of State Route 58 East with the Westside Parkway, to be rebadged as State Route 58 (West). These changes are all reflected in three rounds of subsequent Kern Council of Governments Regional Transportation Plan updates, all of which included programmatic environmental impact reports and public comment. *Project Funding*

Comment Code	Response
	Your comment regarding funding of the project is noted. The Centennial Corridor Project has funding secured via the Thomas Roads Improvement Program. Funding for the project comes from multiple sources, including Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, Federal legislation signed into law on August 10, 2005. The following funding sources have been identified: • Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users Section 1301 = $90.44 million • Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users Section 1302 = $289.2 million • Other Federal sources = $12.97 million • State = $53 million • Kern County bond = $57.5 million • City of Bakersfield = $206.89 million The County of Kern would be responsible to repay the bond funds. *Community Impacts* As noted in Response to Comment GP-11-8, impacts to adjacent neighborhoods would be minimized as much as feasible and practical in the project's final design phase. Please refer to the above response to comment, as well as Section 3.1.4.1, Community Character and Cohesion, in the project's final environmental document (Volume 1) for a detailed analysis of potential impacts and related minimization measures.

Comment GP-12

GP-12

I am afraid our wonderful family park will become a home for the homeless, drug users, + gangs. If this happens we are in trouble as the only way we have off our street is turning left on Fallbrook + right on La Mirada. I thought there had to be more than one way out of a neighborhood in case of an emergency. Also the sump has flooded Fallbrook + down Kentfield. The streets on Fallbrook + La Mirada get quite full of water on a heavy rain + that is our only way out. GP-12-1 GP-12-2 GP-12-3

I don't see how you can take acres of habitat for Swainson's hawk, acres of habitat for Kit Fox + an Historical District. The government won't even let enough water out for farmers because of Smelts. GP-12-4

Response to Comment GP-12

Comment Code	Response
GP-12-1	Caltrans understands the difficulty of change for long-time residents who may be affected by this roadway improvement project. While the park is not specified in the comment, it is presumed to be Centennial Park, located near Fallbrook Street and La Mirada Drive, northeast of the Preferred Alternative B alignment. Unless there is an existing problem of illegal activities at Centennial Park, the construction of the project is not anticipated to attract the homeless, drug users or gangs. The Centennial Corridor Project would not permanently impact the use of the park after its construction. It is acknowledged as with many cities across California, there are homeless and transient people in various locations in Bakersfield, including in and around the downtown area and parks. There is no way to restrict access to homeless and transient people to certain areas in Bakersfield, however, and unless they are breaking the law or local ordinances, the Bakersfield Police Department cannot physically remove or restrict their access to public areas, including parks.
GP-12-2	Per the city of Bakersfield Fire Code (2010), more than one access is required for areas containing more than 30 one or two family dwellings. As shown in the project plans, there are 10 dwellings on Hillsborough Drive and Kentfield Drive that will be accessed by turning from La Mirada Drive to Fallbrook Street. An alternative design providing access from Fallbrook Street to Marella Way is being considered and will be decided during final design. Overcrossings are proposed on Marella Way and La Mirada Drive to further facilitate local traffic circulation. Emergency vehicle access for police, fire protection, and emergency services would be maintained at all times. Law enforcement, fire, and emergency services could experience slightly increased response times because of construction-related road closures, temporary detours, and increased traffic congestion. It is not expected temporary road closures would result in more than one mile of out-of-direction travel because nearby alternative routes would be maintained and identified as part of the detour plans. For more information on project plans please refer to Appendix E, Project Plans/Right-of-Way Requirements, Volume 2.
GP-12-3	The project would include design components intended to minimize hydrological and floodplain impacts during construction. Additionally, culvert drainage facilities would be installed underneath alignment embankments, where required, to maintain existing stormwater runoff patterns in the study area. The project would use appropriate best management practices designed to provide temporary erosion and sediment control, as well as control for potential pollutants other than sediment. As a result, these best management practices would minimize stormwater and non-stormwater impacts during construction. The proposed drainage system for Preferred Alternative B would keep the existing drainage patterns and route onsite runoff to existing and proposed infiltration basins throughout the drainage system. Because all runoff would be retained within these basins, there would be no changes in offsite flow rate or quantity as a result of the project. Stormwater on pavement would generally drain as surface flow to the outside edge of the freeway/roadway travel lanes or toward the median. Storm drain inlets would then collect the stormwater and direct it into infiltration basins. Several existing drainage facilities would be improved or rerouted to new infiltration/retention basins as a result of the project. The flooding of the sump and the nearby streets of La Mirada Drive and Fallbrook Street during heavy rain is within the city of Bakersfield's right-of-way and should be reported to the city's Public Works Department. Caltrans is not responsible for existing stormwater facility deficiencies within the city of Bakersfield's jurisdiction.

Comment Code	Response
GP-12-4	*Threatened and Endangered Species* It is acknowledged the project would contribute to the ongoing loss of suitable habitat in the project region, including Swainson's hawk and San Joaquin kit fox habitat. As presented in Section 3.3.5, Threatened and Endangered Species, Table 3.47 of the final environmental document (Volume 1), Alternative B would affect about 76.83 acres, encompassing potential foraging habitat for Swainson's hawk and three potential dens for San Joaquin kit fox. Although the project may adversely affect these species, mitigation measures to reduce potential impacts on Swainson's hawk and San Joaquin kit fox have been developed from standard recommendations described in the *U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (U.S. Fish and Wildlife Service 2011b) and are discussed in Section 3.3.5, Threatened and Endangered Species, of the final environmental document (Volume 1). Accordingly, project design changes have been identified to reduce impacts on the San Joaquin kit fox and have been incorporated into the design plans for the project, as discussed in Mitigation Measure B-4. These design features include permeable fencing along the proposed right-of-way where there is known San Joaquin kit fox activity; curbed medians with limited heights so as not to obstruct the visual field of the San Joaquin kit fox near the roadway; preserving existing San Joaquin kit fox movement corridors such as canal channels and the Kern River, as well as railroad right-of-way, through the use of bridges and/or culverts to facilitate crossings; design options for crossing the Carrier Canal; and compensatory mitigation for permanent loss and temporary disturbance of habitat. In addition, Caltrans has begun coordination with regional In-Lieu Fee programs to identify opportunities for offsite restoration. *Rancho Vista Historic District* Alternative B (Preferred Alternative) would not encroach upon the Rancho Vista Historic District. See Figure 13 in Appendix B (Volume 2), Section 4(f) Evaluation. The alternative would result in an elevated roadway with a sound wall built immediately to the northeast of the district. The elevated structure would alter some views when looking east and northeast from street level from the Rancho Vista Historic District. Section 4(f) also included simulations of what these views might be when the Centennial Corridor is completed (see Photos 1 through 3). The sound wall would provide traffic noise reduction of up to 5 decibels that would lower future traffic noise below 67 decibels, which is the Federal noise abatement criterion for residential areas. Other mitigation measures to offset adverse effects on the Rancho Vista Historic District include the incorporation of hardscape features, landscape, and architectural treatments compatible with the historic character of the Rancho Vista Historic District, such as color, texture, and vine treatment. Specific mitigation to address effects on the historic district were reviewed and approved in the Memorandum of Agreement between the State Historic Preservation Officer and Caltrans on January 6, 2015, and are included in the final environmental document, Volume 2, as Appendix J.

Comment GP-13

GP-13

CENTENNIAL CORRIDOR PROJECT

Public Hearing

Wednesday, June 11, 2014

Name Mary Ruth Brown

Address 4408 Kentfield Dr. City/Zip Bakersfield, CA 93309

Representing Self

Do you wish to be added to the project mailing list? ☑ Yes ☐ No

Please drop comments in the Comment Box or:

Mail to: Jennifer H. Taylor
Office Chief, Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation, District 6
855 M Street, Suite 200
Fresno, CA 93721

Email: Centennial@dot.ca.gov

I would like the following comments to be considered (please print):

I am very concerned about my home as the house to the side of me & the house partially behind me will be taken down. I am very worried as to what all this ground movement will do to my home & my pool. The house on the other side of me & the other house partially behind also have pools. There are 3 pools only seperated by fences & the pools are all over 35 years old. GP-13-1

I live 3 houses down from Centennial Park. The Environmental Impact Report says there will be no impact on the park. This is not so. The parking on Fallbrook will be taken away as there will be a sound wall at the end of the street. The barbecue pit, picnic tables, & area for bounce houses are on the Fallbrook side. The sump is also a dog park & used for soccer games. If people try to park on both sides of Fallbrook as they do now, they won't be able to get out. The street is not wide enough to make a U turn. GP-13-2 GP-13-3

Comments must be received by July 8, 2014

Caltrans

Response to Comment GP-13

Comment Code	Response
GP-13-1	Per your request, your contact information will be added to the project mailing list. Caltrans understands the difficulty of change for long-time residents who may be affected by this roadway improvement project. It is possible certain construction activities could cause intermittent localized vibration in the project area. During certain construction phases, processes such as earth moving with bulldozers, use of vibratory compaction rollers, impact pile driving, demolitions, or pavement breaking, may cause construction-related vibration impacts such as human annoyance or, in some cases, building damage. It may be necessary to use this type of equipment close to residential buildings. Temporary construction vibration impacts would be unavoidable at areas immediately adjacent to the project construction. Specific effects of construction-related vibration to buildings could not be accurately analyzed because of various factors, including type of activities, duration, intensity, type of equipment, and layout of the construction site. There is little potential for building damage when major construction activities take place more than 30 feet from an existing structure. The closest construction activity to the pool will be 65 feet, which will be due to constructing a sound wall. Sound walls are built using augurs which do not generate vibration levels that can cause any building damage unless they are within a few feet of buildings. Therefore, there is no need for any building inspections of houses due to sound wall construction unless there are sound walls to be placed immediately adjacent to a building. If there are buildings within 5 feet of a proposed sound wall, then pre-construction surveys should be considered. The major earth moving work will be at least 90 feet from the pool. Vibration levels will be monitored at different locations during the construction and the appropriate mitigation measures implemented to avoid vibration related impacts. Construction measures to minimize vibration are identified as SC-CI-25 in Section 3.6 of Volume 1.
GP-13-2	During construction, on-street parking would be restricted in and surrounding work areas to accommodate construction equipment and materials. Surplus/unoccupied on-street parking would be available in the immediate area within a one- to two-block radius for park-related parking during and after construction. In addition, two surface parking lots provide parking at Centennial Park, accessible via Fallbrook Street and Marella Way. The proposed project would not affect on-street parking along Fallbrook Street once the project is constructed; however, Fallbrook Street would be converted into a cul-de-sac at Marella Way, eliminating a few existing on-street parking spaces. Sufficient surplus parking on the adjacent streets, and the existing surface parking lots at the park, would remain available to park users.
GP-13-3	Upon project completion, the existing width of Fallbrook Street would remain the same. Fallbrook Street is within the jurisdiction of the city of Bakersfield. If the current roadway does not allow u-turns due to on-street parking, please contact the city of Bakersfield Public Works division to request on-street parking restrictions.

Comment GP-14

FIRST ASSEMBLY

GP-14

July 2, 2014

Ms. Jennifer Taylor
California Department of Transportation
Environmental Division
855 M Street, Suite 200
Fresno, California 93721

RE: EIR of Alternative B of the Centennial Corridor Project.

Dear Ms. Taylor,

On behalf of the 1,100 members and congregants of Bakersfield First Assembly of God, the over 800 preschool through eighth grade students, their parents, the staff of Stockdale Christian School, and the 40 tenants of the "low income" seniors apartments known as the Assembly Manor, we have grave concerns over the selection of Alternative B of the Centennial Corridor Project as it relates to the direct and indirect environmental and economic impact upon our facilities.

ENVIRONMENTAL ISSUES

Your report states that the Alternate B alignment is 1,000 feet from Stockdale Christian School[1]. According to our independent measurements, the alignment is actually located approximately 340 feet from the nearest traffic lane of the alignment and approximately 370 feet from the nearest classroom. Further, under "Air Quality" overview, Stockdale Christian School was omitted as a school facility that within the 500 foot buffer of the alignment.[2] GP-14-1

Given the fact that you omitted this vital fact from your report and in light of several California Codes and Senate Bills [3][4][5][6] and that prohibits the siting of a school within 500 feet of a freeway alignment without a complete evaluation of the health risks from the alignment to the persons would attend or be employed at the school and requires an assessment of hazardous pollutants within ¼ mile of any public school and requires specific responses assessing health risk for schools within 500 feet of busy roadways. We are very concerned with the potential health risks of our students as it pertains to ground-level ozone, carbon monoxide, lead, nitrogen dioxide, sulfur dioxide and particulate matter that will come from the highway alignment. We require a complete study of the air quality on our school site prior to approval of the alignment and assurance from your agency that the air quality will be safe for GP-14-2

[1] Table 4.2 – Page 390
[2] Chapter 3 – Page 115
[3] California Education Code 17213
[4] California Code – Section 21141.8
[5] California Code – Section 21151.8
[6] Californian Senate Bill (SB) 352 – does not specify the type of school.

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ONE SPIRIT UNITING
ALL GENERATIONS

GP-14

our students and staff and will not pose any adverse health risks. We are concerned as studies [7][8][9]show "that exercise near sources of traffic pollution has adverse health effects." Further, the County of Los Angeles Public Health Department recommends that schools should be sited, at least, 500 feet from a freeway.
We are aware that these laws are applicable to the siting of "new" schools, however it is our belief that since our school currently exists and your alignment does not, the spirit of the law should be adhered to. We are also aware that these laws apply to public schools.[10] Our position is that since our school is a California accredited school, these laws should apply to all schools regardless of whether they are publicly or privately owned. GP-14-2

If your alignment is approved, there is also an issue of traffic noise and its impact upon the school, its students and staff. By letter dated May 27, 2014 you advised us that our property "might be affected by noise increases from the project" and that you solicited our opinion on the height of a soundwall (S-509). According to your EIR there will be a retaining wall that ranges from 5' to 23' and located 105' from our nearest parsonage and 160' from Assembly Manor, our low income senior apartments. In addition, you are proposing a soundwall of 8' to 16' feet at the base of the elevated highway. According to your Traffic Noise Impact Analysis [11] the existing noise level is 52 dBA. Your predicted noise levels with the alignment increase to 61 to 74 dBA with an average increase of 12 dBA and with a 16' soundwall are mitigated to 56 to 64 dBA. Are these noise levels predicted at your estimated 1,000' feet from our school? If so, what are the noise levels if the alignment is 340' from our school playground? GP-14-3

Next we would like to deal with the noise and pollutant impact of the project's construction, if the alignment is approved. We call your attention to the residents of Assembly Manor. As we have previously stated, this is a "state approved" low income senior housing project with 40 tenants ranging in age from 62 to 95 years with an average of 77 years. With the project located 160' from the alignment, what is going to be the impact upon these people during construction? Will the noise and pollutants increase to a level that they will be intolerable or cause harm to the health and mental welfare of our occupants? We believe that there will be a negative environmental impact. What steps will you take to fully mitigate this impact? GP-14-4

In your report, you state "Disruption of children's education shall be minimized to the extent feasible."[12] Our school is long standing and enjoys one of the very highest ratings of a parochial school in the state. During construction, it is our belief, that noise and pollutants will become a major issue to our student's ability to learn in a safe and quiet environment. What assurances can you give us, the students, their parents, and our staff, that mitigation measures will be in place which will include that no construction will take place within 1,000' of our school's property during 1 hour before and 1 hour after school is in session? What assurances can you give that during construction, pollutants will not endanger any person at our facility? Also be aware, that we are a "place of worship", therefore we require the same assurances while our assemblages take place. GP-14-5

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[7] McConnell R, Berhance K, Gilliland F. London SJ. Asthma in exercising children exposed to ozone: a cohort study. Lancet, 2002 Feb 2;359.
[8] Sharman JE, Cockcroft JR and JS Coombes. Cardiovascular implications of exposure to traffic pollution during exercise. Q J Med 2004; 97:637-643
[9] Rundell KW, Caviston R, Hollenbach AM, K Murphy. Vehicular Air Pollution, Playgrounds and Youth Athletic Fields 2006, Vol. 18, No. 8, 541-547
[10] Appendix B – 10.0 – Page 657.
[11] Table 3.36 – Page 265
[12] Mitigation Measure – Page 907

GP-14

In reviewing the plans and drawings provided, we noted that it is your intent to make Del Rey Court into a part-width street with access directly onto California Avenue. We assume that this was done to provide access to the remaining 4 houses on Del Rey Court and our 3 parsonages on Charter Oaks Avenue. We oppose this street modification as it is our belief that you will create a very dangerous intersection at Del Rey Court and California Avenue. This proposed route will be used by our school's parents to drop off and pick up their children from our school. California Avenue with its 31,050 daily traffic loadings[13] will create an inherent danger to cars attempting to ingress or egress from Del Rey Court as the eastbound traffic will be near "blind" to the Del Rey Court traffic. GP-14-6

ECONOMIC IMPACT

We wish to express our grave concerns of the alignment as it pertains to our schools finances. For years, Stockdale Christian School operated at near capacity of 800+ students. The public announcement of your preferred alignment in November 2012 has clearly made a negative impact on our enrollment. In entry and exit interviews with parents of prospective and enrolled students, they stated that they are concerned with enrolling their children for nine or more years in a school that very well may become unhealthy and not conducive to a positive learning experience. Currently, we are facing a loss of tuition income of thousands of dollars and the freeway project is still in its preliminary stages. With the loss of even one student's tuition of $6,215, we are potentially losing hundreds of thousands of dollars in income. With the reduction in enrollment will come declining use of the facilities and the need to reduce staff thus causing job losses. Please address the potential economic losses in your EIR. GP-14-7

Based upon the above cited information and as stewards of our church, school and low income apartments, we have no alternative but to oppose the Alternate B alignment of the Centennial Corridor project. However, if you were to move your alignment to comply with what we believe are the laws of the State of California, we would have no objection. In fact, we would be in full support of the proposed Alternate C alignment. GP-14-8

Respectfully submitted,

Rick Roper
Chairman of the Board of Directors

Brock Meadors
Secretary of the Board of Directors

[13] Kern Council of Governments Traffic Study

Response to Comment GP-14

Comment Code	Response
GP-14-1	Thank you for participating in the environmental process for the Centennial Corridor Project. It is acknowledged that Stockdale Christian School is within approximately 375 feet of the Preferred Alternative B alignment. The final environmental document has been revised to reflect this change in Section 3.1.4.3, Environmental Justice, and in Table 4.2 in Chapter 4, which lists schools and medical facilities in the project area not limited to just those within 500 feet.
GP-14-2	Your comments concerning air quality are acknowledged. As noted by the commenter, the citation of California Codes (Sections 21141.8 and 21151.8) and California Education Code (17213) are generally applicable to the proposed location and construction of new schools, as opposed to transportation projects such as the Centennial Corridor Project. More detailed information on the air quality analysis can be found in Section 3.2.6, Air Quality, in Volume 1 of this final environmental document. The Air Quality Study Report and analysis determined that predicted concentrations of carbon monoxide are estimated to be less than 50 percent of the applicable standards. The project would not contribute to a violation of standards, and project-level carbon monoxide conformity would be satisfied. A qualitative particulate matter conformity analysis was done to predict the level of local impacts from particulate matter (PM_{10} and $PM_{2.5}$) as a result of traffic operations. The results of the analysis show the project would not cause a new violation or contribute to an existing violation of particulate matter standards with implementation of the project. An analysis was performed by the U.S. Environmental Protection Agency on seven air toxics identified as priority mobile source air toxics. This analysis assessed the project's local effects using projected traffic data, including peak and off-peak roadway traffic volumes and vehicle miles traveled, fleet mix, traffic diversion data, average speed, and associated changes in air toxics emissions from the project alternatives. A significant decrease in emissions and mobile source air toxics was determined for all project alternatives when comparing 2018 and 2038 emissions to the base year (2008) levels. A decrease is expected to occur for all priority mobile source air toxics as a result of Federal and State mandated emission rules and pollution improvements of all vehicles, especially heavy diesel trucks. The mobile source air toxics emissions from Preferred Alternative B would be less than the No Build Alternative along several studied roadways. Local street intersections and Level of Service near the First Assembly of God Church are anticipated to improve as a result of the project. This reduction in traffic delay would result in the reduction of vehicle emissions within the general area of the First Assembly of God Church due to a decrease in vehicle idling. Kern County contains some of the worst air quality in the nation, Caltrans and the San Joaquin Valley Air Pollution Control District are working jointly to implement air quality improvement projects via a Voluntary Emission Reduction Agreement, which will result in the reduction of reactive organic gases, particulate matter (PM_{10}), and nitrogen oxides. Although the air quality analysis determined the proposed project would assist in reducing local and regional air pollution, Caltrans is currently proposing the following targeted improvements through a Voluntary Emissions Reduction Agreement with the San Joaquin Valley Air Pollution Control District to further improve air quality within the general area of the Preferred Alternative B alignment: provide emission-reducing devices to diesel powered school buses, provide heating, ventilation, and air conditioning upgrades to qualified schools, provide tree plantings along the new freeway and replace wood-burning stoves. These improvements will help to enhance the overall local air quality in the Bakersfield area. To the greatest extent practicable, Caltrans and the city of Bakersfield would provide heating, ventilation, and air conditioning upgrades to daycare centers, pre-schools, and schools within 1500 feet within the Preferred Alternative B alignment. Each of the school's existing heating, ventilation, air conditioning system will be separately

Comment Code	Response
	evaluated for efficiency and practicability of an upgrade to reduce indoor particles related to health effects such as exacerbating symptoms of asthma. The complete heating, ventilation, and air conditioning unit may not necessarily require upgrades, but the existing air filtration component of the system is central in reducing indoor particulates and enhancing children's health. One criterion that would be utilized to determine the need for an upgrade is the minimum efficiency reporting values of the existing air filtration system based on a scale of 1 to 20, where 1 is low and 20 is high. According to the Environmental Protection Agency, minimum efficiency reporting values between 7 and 13 are likely to be almost as effective as true High-Efficiency Particulate Air filters in reducing the concentrations of most indoor particles linked to health effects.[1] Available data indicate that even for very small particles, High-Efficiency Particulate Air filters are not necessarily the preferred option. For these small particles, relatively large decreases in indoor concentrations (around 80 percent) are attainable with medium filter efficiency. The proposed minimum filter efficiency for the air filtration upgrade would be a value of 8, which would trap 70% of the air-borne particulates that are 3 to 10 microns in size. Increasing filter efficiency above a minimum efficiency reporting values greater than 13 results in only modest predicted decreases in indoor concentrations of these particles. Daycare centers, pre-schools, and schools with an air filtration rating of less than a minimum efficiency reporting value of 8 may be eligible for this upgrade as part of the Voluntary Emission Reduction Agreement. The heating, ventilation, and air conditioning units of schools along the new alignment would be upgraded to a minimum efficiency reporting value of 8 or greater and would remove particulate matter of at least 2.5 to 10 microns. This targeted air quality improvement would enhance the respiratory health and well-being of children. A complete replacement of the heating, ventilation, and air conditioning system would only be required if the air filtration component of an existing system cannot feasibly be upgraded to obtain the minimum efficiency value of 8.The proposed heating, ventilation, and air conditioning system would be a funded improvement through the Voluntary Emission Reduction Agreement. Caltrans and the city of Bakersfield would coordinate with the San Joaquin Valley Air Pollution Control District to provide details in its implementation.
GP-14-3	Although the draft environmental document incorrectly stated the distance of Stockdale Christian School at 1,000 feet for Alternative B, the Stockdale Christian School noise analysis was correctly modeled. The distance between Receiver RB-38 and the edge of the proposed shoulder is approximately 375 feet; hence, the results of the noise analysis for RB-38, presented in Section 3.2.7, Noise (Volume 1) is correct. The final environmental document reflects the correct distance of 375 feet from the edge of shoulder of Preferred Alternative B to Stockdale Christian School. The existing peak exterior noise level of 52 decibels is based upon the long-term measurement site (LT9) which was within 200 feet of the school. The predicted future peak noise hour traffic noise level for Alternative B at the school is 58 decibels, which is 6 decibels higher than the existing noise level but is 8 decibels below the threshold for impact; therefore, the school is not considered impacted and does not qualify for abatement under the Federal Highway Administration and Caltrans guidelines. Sound walls S509 and S519, considered for the impacted residences along Del Rey Court, would also provide a 1 decibel traffic noise reduction to the school. Therefore, the future traffic noise levels at the school will be 57 decibels with the sound walls, which will be 5 decibels higher than the existing noise level. The predicted noise level of 74 decibels is for a different location along the proposed freeway.
GP-14-4	Project construction is expected to result in temporary noise level increases in areas near construction. Mitigation techniques will be implemented to control equipment noise and vibration and minimize the effects of construction activity impacts. Noise will be monitored and any public noise complaints will be addressed at the time of

Comment Code	Response
	construction by the resident engineer. Please see Section 3.2.7, Noise (Volume 1), of this final environmental document for more information about noise monitoring and mitigation efforts. There is a row of houses between the Assembly Manor and the construction locations for Alternative B, which will reduce construction noise levels for the Assembly Manor. The only loud construction-related noise the Assembly Manor would experience may be related to impact piling if it was used as a construction technique for construction of the California Avenue overpass bridge. At this stage in the design, it is unknown if pile driving will need to be used in this location as part of construction. Additionally, construction and construction related impacts would be temporary and would cease after project construction is complete. If it is feasible, sound walls will be built prior to construction work to mitigate for construction noise. Standard conditions for noise (SC-CI-23 through SC-CI-25) are identified under Avoidance, Minimization, and Mitigation Measures – Noise and Vibration, Standard Conditions (refer to Section 3.6, Construction Impacts in Volume 1). Construction of the project has the potential to create air quality impacts with use of heavy-duty construction equipment. Fugitive dust emissions would result from earthwork and onsite construction activities; however, construction emissions of reactive organic gases and inhalable particulate matters will not exceed the San Joaquin Valley Air Pollution Control District's criteria. This project requires a dust control plan that is issued by the San Joaquin Valley Air Pollution Control District. In addition, the project is subject to the San Joaquin Valley Air Pollution Control District's Rule 9510, which requires contractor equipment to meet all current emission standards. Reductions in emissions can be achieved by onsite mitigation measures. Please refer to Section 3.6, Construction Impacts (Volume 1), for more information concerning the avoidance and minimization measures that would reduce construction emissions. Air emissions associated with construction activity would be temporary and would cease to occur after project construction is completed.
GP-14-5	Caltrans acknowledges your comment concerning the noise impacts during construction. Please refer to Response to Comment GP-14-4 for information on potential noise and air quality impacts during construction.
GP-14-6	Your opposition to the proposed intersection at California Avenue and Del Rey Court is acknowledged. Marella Way will remain open and will continue to provide access to Stockdale Christian School for drop-off and pick-up of students. The proposed preliminary design provides standard stopping sight distance for the posted speed on California Avenue. This will provide adequate time for a vehicle travelling on California Avenue to see a vehicle turning from Del Rey Court and come to a complete stop if needed. At this stage of the project, design plans are preliminary and may change during the final design phase of the project. Final design plans will provide the longest sight line practical at Stockdale Christian School. As such, changes to existing local streets are required as part of the project, and this would affect traffic conditions; however, the build alternatives would result in safety benefits associated with considerably less congestion on local streets. Furthermore, the additional capacity provided by the build alternatives would also help reduce congestion on adjacent local roadways because traffic is expected to shift to the freeway.
GP-14-7	The final environmental document addressed impacts to the human environment, physical environment, and biological environment, as required by National Environmental Policy Act and California Environmental Quality Act Guidelines. Economic losses were analyzed within the context of physical changes resulting from the project. Substantial economic impacts on the Stockdale Christian School and Assembly Manor finances are not anticipated from the Centennial Corridor Project's

Comment Code	Response
	implementation. Business operations, including private schools, neighboring a new facility could conceivably experience an increase in activity as improved access and improved travel times may increase the number of potential students within a reasonable driving range. A number of project enhancements has been identified in association with the Centennial Corridor Project, which is expected to enhance the establishments operating adjacent to the new freeway facility. In fact, as the project's Community Impact Assessment (May 2015) detailed, in using the accepted Federal Highway Administration economic model, the proposed transportation improvements are anticipated to enhance the overall economic growth and viability of Bakersfield, not adversely affect the operation of existing, established businesses and non-profit establishments.
GP-14-8	Your opposition to Alternative B and support for Alternative C are acknowledged.

Comment GP-15

GP-15

Date: June 30, 2014

Caltrans
Environmental Div
Attn: Jennifer Taylor
855 M Street # 200
Fresno, Ca. 93721

Re: Centennial Corridor Kern County
Project ID # 06-0000-0484

Request my letter be apart public comment hearing record for; Project #06-0000-0484

Written Pubic comment regarding EIR/EIS for Centennial Corridor Project
Submit by; Marvin Dean Bakersfield resident on be half of KMCA members / Environmental Justice project area resident & myself.

Draft Environmental Impact Report/Public Hearing 60-day comment period until July 8, 2014

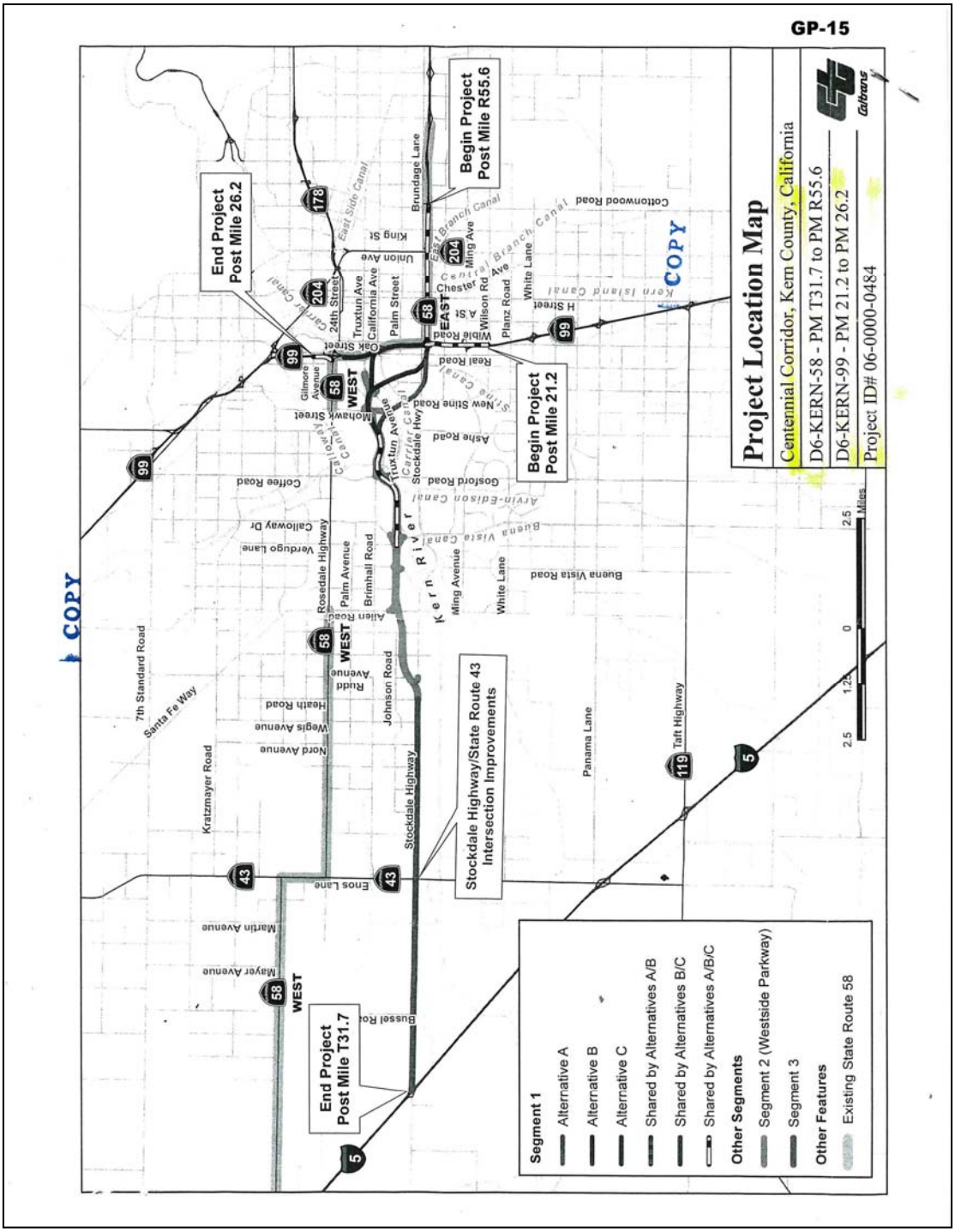
We believe the project draft EIR / EIS **do not fully address project impact to environment justice community in project Bakersfield / Kern Region.**
* Require by law for large project using federal funding !

We are requesting Caltrans, City of Bakersfield, TRIP & Kern Cog direct some project funding to technical assistance & training for environmental justice resident and DBE impacted by Centennial Corridor project; To get ready & able construction jobs & contracting opportunity. GP-15-1

* Example past environment justice impact Caltrans court decree century Freeway Project South Central LA environmental justice resident complaint file

Kern Minority Contractor Assoication (KMCA) offer to help with technical assistance & training for environmental justice resident / DBE small business. I would be happy to discuss this in more detail with project staff team.. Please sent all reply to P.O. BOX 2367, Bakersfield, Ca. 93303 Attn: Marvin Dean, Cell # 661-747-1465

Sincerely,


GP-15
Project Location Map
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans
Begin Project Post Mile R55.6
End Project Post Mile 26.2
Begin Project Post Mile 21.2
End Project Post Mile T31.7
Stockdale Highway/State Route 43 Intersection Improvements
COPY
Segment 1
Alternative A
Alternative B
Alternative C
Shared by Alternatives A/B
Shared by Alternatives B/C
Shared by Alternatives A/B/C
Other Segments
Segment 2 (Westside Parkway)
Segment 3
Other Features
Existing State Route 58
Miles
2.5
1.25
0
2.5
Kern River
Kern Island Canal
East Branch Canal
Central Branch Canal
Carrier Canal
Arvin-Edison Canal
Buena Vista Canal
Cross Cut Canal
Stine Canal
East Side Canal
Brundage Lane
Cottonwood Road
Ming Ave
Chester
A St
Wilson Rd
Planz Road
White Lane
H Street
Wible Road
Real Road
New Stine Road
Stockdale Hwy
Gosford Road
Ashe Road
Buena Vista Road
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Stockdale Highway
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Brimhall Road
Palm Avenue
Rosedale Highway
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GP-15

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Response to Comment GP-15

Comment Code	Response
GP-15-1	Caltrans thanks you for participating in the environmental process for the Centennial Corridor Project. Your comment pertaining to environmental justice communities has been received and acknowledged. The environmental justice analysis for this project was conducted in accordance with Caltrans' Standard Environmental Reference Handbook (Volume 4, Chapter 8), Title VI of the Civil Rights Act of 1964, and Executive Order 12898. As discussed in Section 3.1.4.3, Environmental Justice, the environmental justice analysis prepared as part of the final environmental document for this project concluded that while environmental justice communities have been identified, the Preferred Alternative B alignment would not result in "disproportionately high and adverse" effects on any minority or low-income communities as discussed in Executive Order 12898 regarding environmental justice because of the equivalent distribution of the effects on all communities through which the build alignments pass. Because the project serves both intraregional and interregional traffic, transportation benefits would be equally available to all residents of the county. For example, all users, including transit users, pedestrians, and bicyclists, would benefit from the continuous east-west route. Implementation of the project would improve existing study area highways, address deficiencies of the existing transportation system, and benefit most study area residents, including minority and low-income populations, by improving mobility and circulation through the project area. As a condition of receiving Federal Highway Administration funds, Caltrans has implemented the Disadvantaged Business Enterprise Program. The Disadvantaged Business Enterprise Program is based on Federal regulations (*Code of Federal Regulations* Title 49 Part 26) mandated by the U.S. Department of Transportation. It is the policy of Caltrans that businesses identified as a Disadvantaged Business Enterprise, as defined in these Federal regulations, have an equal opportunity to receive and participate in U.S. Department of Transportation-assisted contracts. Disadvantaged Business Enterprises must be certified under the Unified Certification Program. The link to check for certified Disadvantaged Business Enterprises can be found at http://www.dot.ca.gov/ucp/GetLicenseForm.do. Although Caltrans understands your concern, please note the procurement of construction services for the project is outside the purview of this final environmental document. As an advocate of small business participation, Caltrans Central Region has implemented a small business Architectural & Engineering mentor-protégé program, with quarterly meetings, also known as the "Calmentor Program." In promoting partnerships with the private consulting industry, Calmentor supports the participation of certified Disadvantaged Business Enterprise Programs, as well as Small Business Enterprise and Disabled Veterans Business Enterprise firms in Central Region architectural and engineering contracts. Calmentor is consistent with the Governor's Executive Order No. S-11-06 to promote small and emerging business contracting with the State. More information can be found at: www.dot.ca.gov/dist6/ppm/calmentor.

Comment GP-16

GP-16

TIME TRIAL INVESTMENTS
Gary Trenda

26002 Shadow Rock Lane Valencia, California 91381

• 661-259-6719 office phone 661-993-8348 cell phone
E-Mail: carolandgary123@yahoo.com

Date: June 25, 2014

RE: California Apartments

4415 California Ave

Bakersfield, California 93309

TO Jennifer H. Taylor
Office Chief, Central Region
Environmental Southern San Joaquin Valley
855 M Street, Suite 200

Fresno, CA 93721

Dear Jennifer:

From: Gary Trenda <carolandgary123@yahoo.com>
Subject: District 6 / Cal Trans
Date: June 24, 2014 4:53:07 PM PDT
To: D6.Webmaster@dot.ca.gov

I'm voicing my concern over the construction of the freeway near the California Apartments at 4451California Ave, Bakersfield California. The construction of this freeway is a major environmental concern dealing with noise and air pollution. My apartments are going to receive what some term a muffled noise and reduced air quality in the area around California Apartments. If these conditions do occur, as I feel they will, the lose of future rents and income will directly contribute to lose of income and value of my apartment. My question if this occurs who and what department will be responsible for the harm and lose of value and income of my apartment building. I feel that this this letter is to put you on notice of this potential finical loss.

GP-16-1

GP-16-2

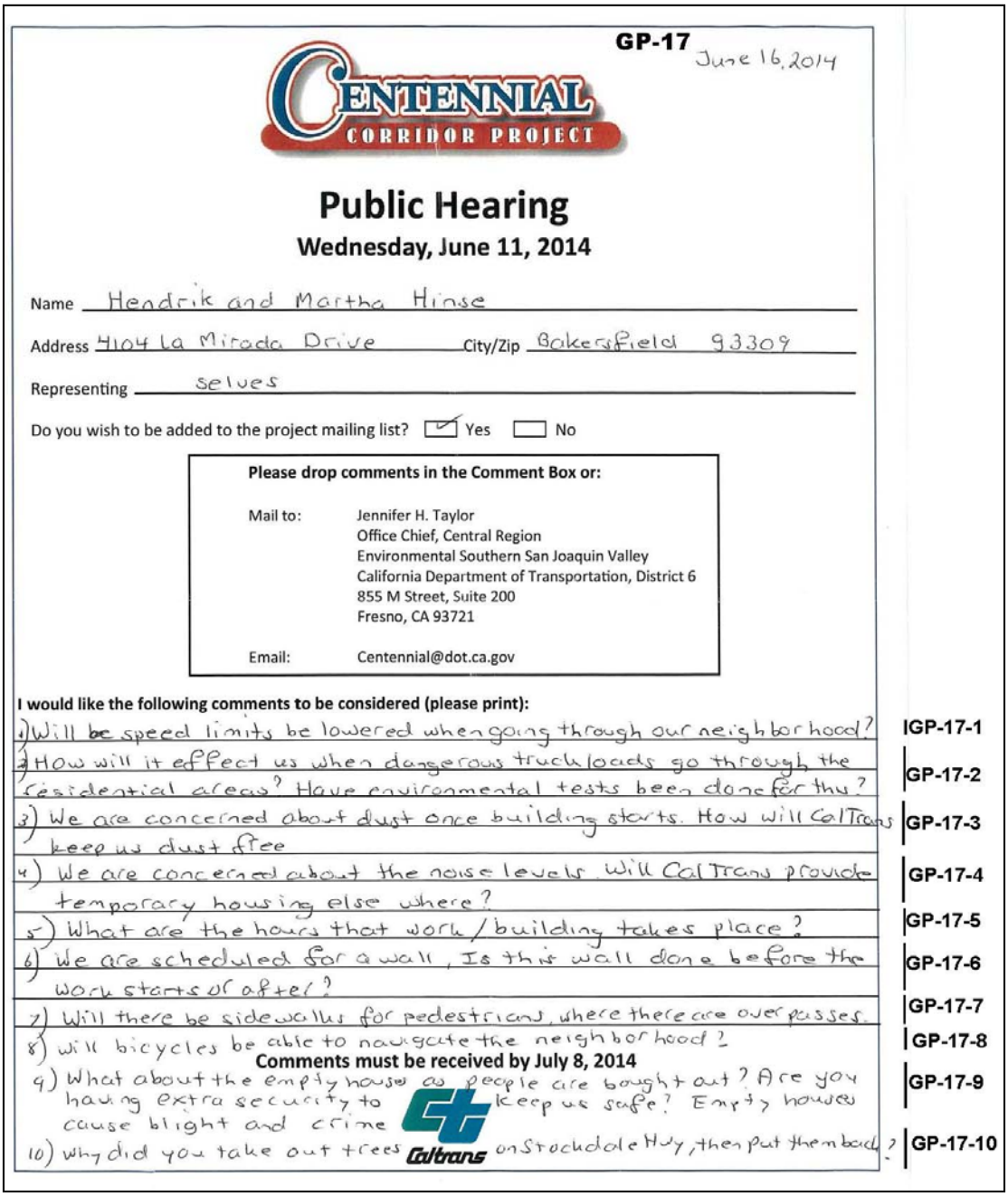
Thank you:

Response to Comment GP-16

Comment Code	Response
GP-16-1	*Air Quality – Operations* The air quality study prepared for the Centennial Corridor Project indicates that potential air quality impacts were found to be less than significant and that the project would improve regional air quality due to reduction in congestion on local roadways and vehicle idling. Improvements to air quality are also attributed to the improved pollution emission performance of a modernizing fleet of all vehicles, especially heavy diesel trucks, as a result of Federal and State fuel content and engine emissions rules. In addition, the results of the air quality analysis indicate that the Centennial Corridor Project would be within regional and Federal air quality standards and would not cause or contribute to a violation of any air quality standards. To further minimize air quality pollutants within the general area of the project, Caltrans has entered into a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District. Through this agreement, targeted improvements will be provided within the general area along the Preferred Alternative B alignment. More detailed information on air quality analysis can be found in Section 3.2.6, Air Quality. *Air Quality – Construction* Construction of the project has the potential to create air quality impacts through the use of heavy-duty construction equipment. Fugitive dust emissions would result from earthwork and onsite construction activities. Reductions in fugitive dust can be achieved by onsite mitigation measures. Compliance with the standard conditions SC-CI-20 through SC-CI-22 listed under Avoidance, Minimization, and Mitigation Measures – Air Quality, Standard Conditions (refer to Section 3.6, Construction Impacts), would reduce construction emissions. Some of these measures to control dust include using water or chemical stabilizer/suppressant, covering disturbed areas with tarps, and limiting speeds in unpaved areas. Air emissions associated with construction activity would be temporary and would cease to occur after project construction is completed. *Noise/Vibration* Existing noise was measured near the California Apartments at 58 decibels, which is represented as RB-4 in Table 3.36 in Volume 1 of the final environmental document. Noise levels with the Preferred Alternative B are predicted to be 63 decibels. An increase of 5 decibels is anticipated, which is barely perceptible to the human ear. This increase is not considered a significant noise impact to the California Apartments. Project construction is expected to result in temporary increases in noise levels in areas near construction activities. Short-term noise would be generated by worker trips to and from construction areas, trips to bring heavy equipment to and from construction areas, trips to deliver materials to or remove materials from construction areas, and operation of heavy equipment at varying power levels during construction. Mitigation techniques for control of equipment noise and vibration, in addition to administrative measures, can provide the most effective means to minimize the effects of construction activity impacts when properly implemented. Construction-related noise would be temporary and would cease after project construction is complete. These standard conditions (SC-CI-23 through SC-CI-25) are listed under Avoidance, Minimization, and Mitigation Measures – Noise and Vibration, Standard Conditions (refer to Section 3.6, Construction Impacts).
GP-16-2	As mentioned in Response to Comment GP-16-1, conditions within the general area of the California Apartments will change as a result of the Centennial Corridor Project. Whether the project would contribute in loss of rental income, Caltrans is not responsible for potential financial rental losses. Several comments were received regarding property values. Some individuals have expressed a general belief the project would result in decreased property values due

Comment Code	Response
	to various reasons, including temporary construction impacts, property acquisitions, and/or project features being closer to properties than previously believed. However, the final environmental document does not specifically discuss property values as part of the California Environmental Quality Act/National Environmental Policy Act analysis. The Centennial Corridor Project may have an effect on property values, but it is not likely to be a major change based on literature Caltrans reviewed and summarized in Appendix D, Volume 4 of the Standard Environmental Reference (Community Impact Assessment). The effects of highway improvements on property values have been studied extensively, especially the impacts on single family residential property. Most studies, though not all, conclude new transportation facilities, including freeways, have an overall positive effect on property values. One such independent research study, conducted by professors from Cal Poly University Pomona, evaluated the effects on housing prices of a new freeway in Southern California, the Interstate 210 extension, which opened in 2002 (Reibel, *et. al.* 2008). It is worth noting that in reviewing four years of housing sales data, the researchers found while all house prices generally continued to climb in the freeway corridor, those houses located within 0.4 mile of the new freeway facility did not see their values rise as rapidly. The authors attributed this, as have other studies, to certain negative effects associated with freeways which are often found at very short distances on houses nearby, such as increased noise, and air pollution, and which may have the effect of keeping the value of the house from increasing at the same rate of those located a bit further away (that is, beyond 0.4 mile). At the next functional range of distances, the benefits are still close enough to be beneficial but the general negative proximity impacts are diminished. At even greater distances away from the new freeway, the value of increased mobility and accessibility gradually declines to zero. In particular, price appreciation following the freeway construction is the slowest for houses in the closest proximity to the freeway (within 0.4 mile), much faster at moderate distances, and slower again as the distance further increases. In addition, another study concluded that the freeway design is also an important factor, with depressed freeways contributing most to property values (Siethoff 2002). This pattern is consistent with studies reviewed for Caltrans Volume 4 Appendix D. Another study conducted for the Arizona Department of Transportation and the Federal Highway Administration California found property values increase at a greater rate for both commercial and multi-unit apartments over single family residences (Carey: 2001).

Comment GP-17



GP-17 June 16, 2014

CENTENNIAL CORRIDOR PROJECT

Public Hearing

Wednesday, June 11, 2014

Name Hendrik and Martha Hinse

Address 4104 La Mirada Drive City/Zip Bakersfield 93309

Representing selves

Do you wish to be added to the project mailing list? ☑ Yes ☐ No

Please drop comments in the Comment Box or:

Mail to: Jennifer H. Taylor
Office Chief, Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation, District 6
855 M Street, Suite 200
Fresno, CA 93721

Email: Centennial@dot.ca.gov

I would like the following comments to be considered (please print):

1) Will be speed limits be lowered when going through our neighborhood? GP-17-1

2) How will it effect us when dangerous truck loads go through the residential areas? Have environmental tests been done for this? GP-17-2

3) We are concerned about dust once building starts. How will CalTrans keep us dust free GP-17-3

4) We are concerned about the noise levels. Will CalTrans provide temporary housing else where? GP-17-4

5) What are the hours that work / building takes place? GP-17-5

6) We are scheduled for a wall, Is this wall done before the work starts or after? GP-17-6

7) Will there be sidewalks for pedestrians, where there are overpasses. GP-17-7

8) will bicycles be able to navigate the neighborhood? GP-17-8

Comments must be received by July 8, 2014

9) What about the empty houses as people are bought out? Are you having extra security to keep us safe? Empty houses cause blight and crime GP-17-9

10) Why did you take out trees on Stockdale Hwy, then put them back? GP-17-10

Caltrans

Response to Comment GP-17

Comment Code	Response
GP-17-1	The Centennial Corridor Project will not increase speed limits on residential streets. The current residential speed limit on La Mirada Drive and the posted speed limit after construction of the project would be 25 miles per hour, which includes the speed limit for the La Mirada overcrossing. This speed limit allows for safe operations given the design of the road, number of lanes, and traffic controls. The speed at which vehicles travel on any given road cannot be completely controlled through design features; drivers will drive the speed they choose, sometimes without regard for the posted speed limits or areas requiring special attention such as schools or parks. Following construction of the project, traffic speeds would be surveyed to verify the current speed limits are appropriate. It should be noted it is beyond the scope of the environmental document to address lowering speed limits on neighborhood streets. During construction of the project, the speed limit within the general area of the neighborhood may be lower than 25 miles per hour, depending on construction activities.
GP-17-2	Heavy trucks transporting goods and hazardous waste are prohibited from utilizing residential streets with exceptions during construction. Specific traffic routes have been adopted by city of Bakersfield ordinance, pursuant to California Vehicle Code Section 35701, for trucks and other commercial vehicles over 25,000 pounds. The city of Bakersfield has adopted truck routes for both Interstate and California Legal type trucks. During construction of the project, heavy trucks may be present within residential neighborhoods, but their presence would be temporary and primarily used for transporting equipment and hauling material and debris to and from the site. The project would implement dust control measures such as covering truck beds to minimize fugitive dust. Compliance with the standard conditions SC-CI-20 through SC-CI-22 in Section 3.6, Volume 1, of the final environmental document would also minimize potential impacts to air quality. Heavy trucks will be permitted on State Route 58. Freeways generally have a lower accident rate than surface streets, and moving truck traffic away from local streets, such as Rosedale Highway, to State Route 58 will provide a safer route for transporting hazardous materials. Preferred Alternative B proposes a combination of retaining walls, sound walls, and concrete barriers, which will create a buffer between trucks travelling on the freeway and residential neighborhoods, which would protect residents from trucks overturning and spilling hazardous waste materials.
GP-17-3	Construction of the project has the potential to create air quality impacts through the use of heavy-duty construction equipment. Fugitive dust emissions would result from earthwork and onsite construction activities. Reductions in fugitive dust can be achieved by onsite mitigation measures. Compliance with the standard conditions SC-CI-20 through SC-CI-22 listed under Avoidance, Minimization, and Mitigation Measures – Air Quality, Standard Conditions (refer to Section 3.6, Construction Impacts), would reduce construction emissions. Some of these measures to control dust include: using water or chemical stabilizer/suppressant, covering disturbed areas with tarps, and limiting speeds in unpaved areas. Additionally, sound walls shall be constructed prior to freeway construction, where feasible, to aid in the reduction of air quality impacts during and after construction. Air emissions associated with construction activity would be temporary and would cease to occur after project construction is completed.
GP-17-4	Project construction is expected to result in temporary increases in noise levels in areas near construction activities. Equipment involved in construction is expected to generate noise levels ranging from 80 to 89 decibels at a distance of 50 feet. Noise produced by construction equipment would be reduced over distance at a rate of

Comment Code	Response
	about 6 decibels per doubling of distance. More precise construction noise levels cannot be calculated at this time because some of the necessary data, such as the type of equipment, effective usage factor, and number of each equipment type, have not yet been designated. However, sound walls shall be constructed prior to freeway construction, where feasible, to aid in the reduction of noise impacts during and after construction. Mitigation techniques for control of equipment noise and vibration, plus administrative measures, when properly implemented, can provide the most effective means to minimize the effects of construction activity impacts. These standard conditions (SC-CI-23 through SC-CI-25) are listed under Avoidance, Minimization, and Mitigation Measures – Noise and Vibration, Standard Conditions (refer to Section 3.6, Construction Impacts). Night-time construction work is anticipated, but if noisy activities occur near the residential neighborhood at night, then providing temporary accommodations may be considered.
GP-17-5	Although most of the project-related construction is anticipated to occur during daylight hours, limited evening or night construction may be required. Any night construction activities would likely be limited in scope and duration, especially in the vicinity of residential neighborhoods. If night work is required, notification of nearby residents would be provided in advance of construction activities.
GP-17-6	At this stage of the project, information on the schedule of construction of sound walls is not available; however, if it is practical, sound walls will be constructed before start of the other construction activities to reduce construction noise. Sound walls will be constructed prior to the opening of the roadway to the traffic.
GP-17-7	Sidewalks and crosswalks would be provided at all intersections to facilitate the movement of nonmotorized and pedestrian traffic. Preferred Alternative B would provide pedestrian and bicycle cross-freeway overcrossing access at La Mirada Drive and Marella Way. Permanent pedestrian traffic crossings and sidewalks would also be provided at Ford Avenue, California Avenue, Stockdale Highway, Belle Terrace, Ming Avenue, Hughes Lane, and H Street.
GP-17-8	The proposed closure to through traffic of Montclair Street, Charter Oak Avenue, Woodlake Drive, Kensington Avenue, Hillsborough Drive, Kentfield Drive, and Williamson Way due to the construction of Preferred Alternative B would eliminate some of the travelways used by bicyclists, which would result in modified travel patterns in the same neighborhood. Although bicycle travel patterns would be altered as a result of the project, local roadways modified by the project would be accessible by bicyclists on either side of the Preferred Alternative B alignment throughout the neighborhood. Permanent bicycle and pedestrian traffic crossings would be located at La Mirada Drive, Marella Way, Ford Avenue, California Avenue, Stockdale Highway, Belle Terrace, Ming Avenue, Hughes Lane, and H Street. Overcrossings and undercrossings would be constructed as part of the Preferred Alternative B alignment to cross the new freeway and to enhance local circulation. Overcrossings are proposed at Marella Way and La Mirada Drive and an undercrossing is proposed at Ford Avenue. After the circulation of the draft environmental document, Caltrans has decided to implement all of the proposed crossings, including maintaining the La Mirada Drive overcrossing. Accordingly, proposed overcrossings at La Mirada Drive and Marella Way, as well as the proposed undercrossing at Ford Avenue, would provide three local street connections between California Avenue and Stockdale Highway. Caltrans recognizes the positive effects of nonmotorized transportation, such as bicycles, on the environment. By providing a bicycle connection within the Centennial Corridor Project area, it is possible an improved bicycle connection to an

Comment Code	Response
	existing Class I and Class II bicycle facility could increase bicycle usage. Caltrans has decided to include a bicycle and pedestrian connection between California Avenue and Commerce Drive as part of the project. This decision was made in response to public requests for a bicycle connection spanning over the Carrier Canal. This improvement would enhance bicycle and pedestrian connectivity and would result in minimal effects to the environment during construction.
GP-17-9	During right-of-way acquisition, which is expected to take about 2 years, buildings and homes would be acquired and demolished. To minimize graffiti, vagrancy and safety problems associated with vacant buildings, a strategy for handling the acquired properties would be developed to include the following options: (1) rent the homes and businesses on a month-to-month basis to keep them occupied as long as possible in advance of demolition; or (2) demolish each building as soon as feasible after acquisition. This latter option would result in vacant lots interspersed in business areas and neighborhoods. With either option, proper management of acquired property is a key consideration. All property acquisitions for the project would comply with the provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. A summary of relocation benefits is also provided in Appendix D of the final environmental document, Volume 2.
GP-17-10	The removal of trees along Stockdale Highway was conducted by the city of Bakersfield as a local project. For the Centennial Corridor Project, removal of trees and vegetation would be required during construction. Replacement of trees and other types of landscaping is often required to ensure impacts to aesthetics and visual resources are less than significant. At this stage of the project, the type of vegetation and specific landscaping information is not available. During the design phase of the project, Caltrans will decide the appropriate landscaping plan to implement where trees and other vegetation are removed to construct the project. Consideration on landscaping would include several factors, such as aesthetics, drought tolerance, and public input.

Comment GP-18

GP-18

CENTENNIAL CORRIDOR PROJECT

Public Hearing

Wednesday, June 11, 2014

Name Daniel Cronquist

Address 4208 Tierra Verde #7 City/Zip Bakersfield, 93301

Representing self

Do you wish to be added to the project mailing list? ☐ Yes ☒ No

Please drop comments in the Comment Box or:

Mail to: Jennifer H. Taylor
Office Chief, Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation, District 6
855 M Street, Suite 200
Fresno, CA 93721

Email: Centennial@dot.ca.gov

I would like the following comments to be considered (please print):

I strongly believe that the project should be built. My preference is for Alignment "B". GP-18-1
The project will benifit all of Bakersfield.

Comments must be received by July 8, 2014

Caltrans

Response to Comment GP-18

Comment Code	Response
GP-18-1	Your support for Alternative B has been acknowledged. Caltrans thanks you for participating in the environmental process for the Centennial Corridor Project.

Comment GP-19

GP-19

June 11, 2014

Mark Cronquist
4409 Onyx Court
Bakersfield, CA 93308

RE:/ Freeway Names use on Interchange Signs

My comment relates to the design of the proposed freeway. Specifically, I want to discuss the need to include freeway names on the new freeway to freeway interchange guide signs. Specifically, including the names: Westside Freeway (future western alignment of State Route 58), Mojave Freeway (existing eastern alignment of State Route 58), and Golden State Freeway (existing alignment of State Route 99).

The California Manual for Uniform Traffic Control Devices (California MUTCD) section 2M.10 Memorial or Dedication Signing, subsection 12 states "At freeway to freeway interchanges, overhead signing by freeway name may be included in primary directional signs only when the freeway name is well recognized and space permits." I believe the use of freeway names on the affected routes is wide spread enough to meet this threshold, and should be included.

The Westside Parkway is already commonly referred to by most residence in Bakersfield. The freeway is also currently signed as the Westside Parkway at all local interchanges along the route. Not including this name on the interchange guide signs would be confusion to drivers, and be inconsistent with the existing road. GP-19-1

The name "Mojave Freeway" for eastern alignment of State Route 58 is also in wide spread use. The name is currently used on a variety of documents, including several by Caltrans. Its name is also important as a way to differentiate from the Westside Parkway. Drivers need to be informed the difference between the Westside Parkway, which travels through the Westside of Bakersfield, and the Mojave Freeway, which travels through the Eastside of Bakersfield. Including its name would eliminate that confusion.

The name "Golden State Freeway" has its origins in the 1920's, when the original route was US 99 and a highway. Referring to a route from Sacramento to Los Angeles through the San Joaquin Valley, it is one of the more recognized freeway names in California. It is already well signed in Los Angeles County. It

GP-19

should be include at the interchange for consistency. Having the other two freeways signed, but not signing the Golden State Freeway, would lead to confusions, as drivers would question which freeway was not named.

The goal of road signs is to clearly and consistently give information to drivers. Omitting important information from signs will lead to confusion to drivers. It is important that freeway names, already in use, be included on new interchange guide signs to insure drivers are properly informed.

GP-19-1

Sincerely,

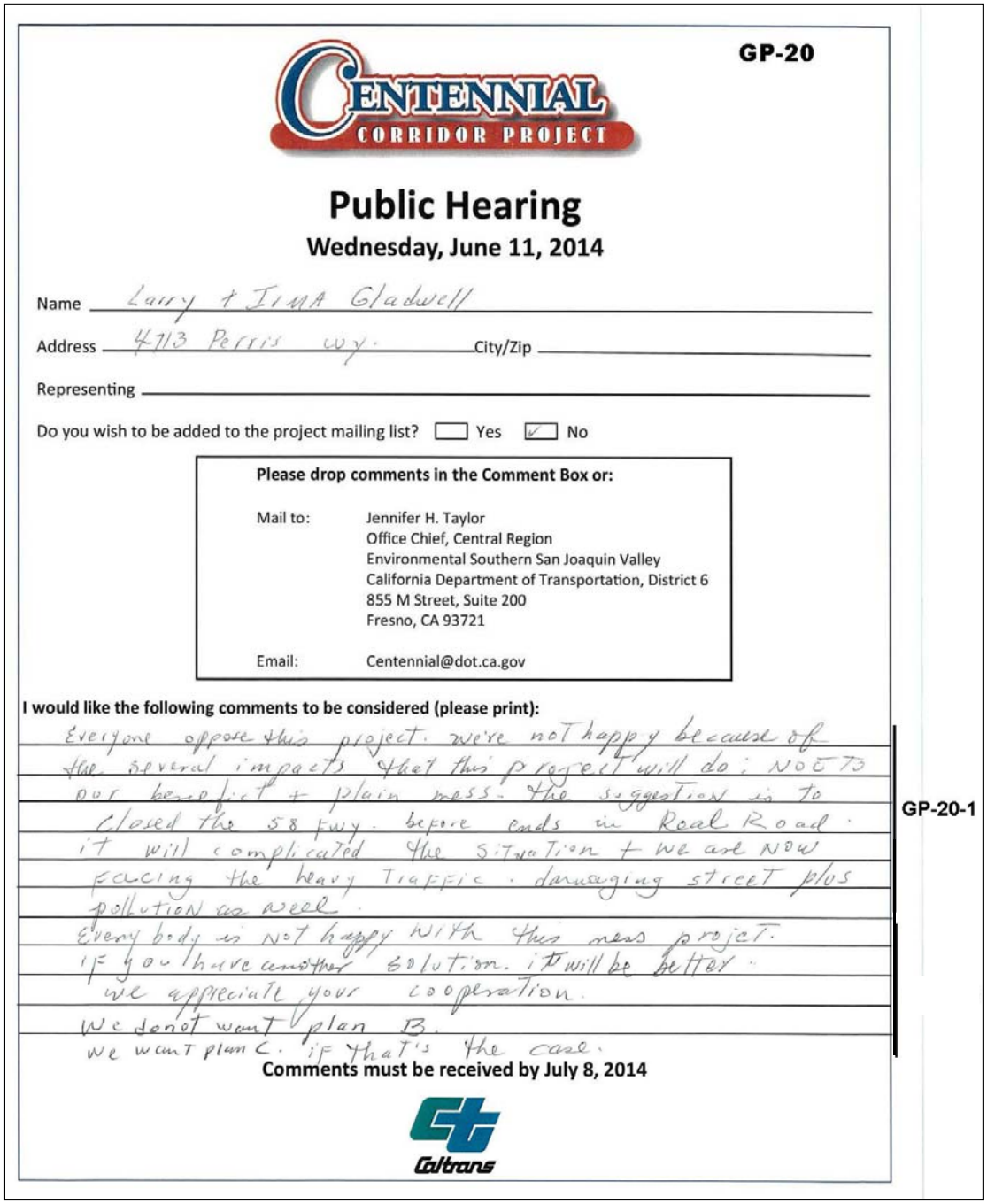
Mark Cronquist

Mark Cronquist

Response to Comment GP-19

Comment Code	Response
GP-19-1	Caltrans thanks you for participating in the environmental process for the Centennial Corridor Project. Freeway signage will be finalized during the final design phase of the project according to California Guide Sign Specifications, as presented in the California Manual on Uniform Traffic Control Devices (2012). According to the manual, “the development of a signing system for freeways and expressways is approached on the premise that the signing is primarily for the benefit and direction of road users who are not familiar with the route or area. The signing furnishes road users with clear instructions for orderly progress to their destinations. Sign installations are an integral part of the facility and, as such, are best planned concurrently with the development of highway location and geometric design.” Please note Section 2M.10 of the California Manual on Uniform Traffic Control Devices refers to highway signage of memorial highways that are dedicated in recognition of a person or entity.

Comment GP-20



GP-20

CENTENNIAL CORRIDOR PROJECT

Public Hearing

Wednesday, June 11, 2014

Name Larry + Irma Gladwell

Address 4713 Perris wy. City/Zip

Representing

Do you wish to be added to the project mailing list? ☐ Yes ☑ No

Please drop comments in the Comment Box or:

Mail to: Jennifer H. Taylor
Office Chief, Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation, District 6
855 M Street, Suite 200
Fresno, CA 93721

Email: Centennial@dot.ca.gov

I would like the following comments to be considered (please print):

Everyone oppose this project. we're not happy because of the several impacts that this project will do; NOT TO our benefit + plain mess. the suggestion is to closed the 58 fwy. before ends in Real Road. it will complicated the situation + we are NOW facing the heavy Traffic. damaging street plus pollution as well.
Every body is NOT happy With this mess project.
if you have another solution. it will be better.
we appreciate your cooperation.
We donot want plan B.
we want plan C. if that's the case.

GP-20-1

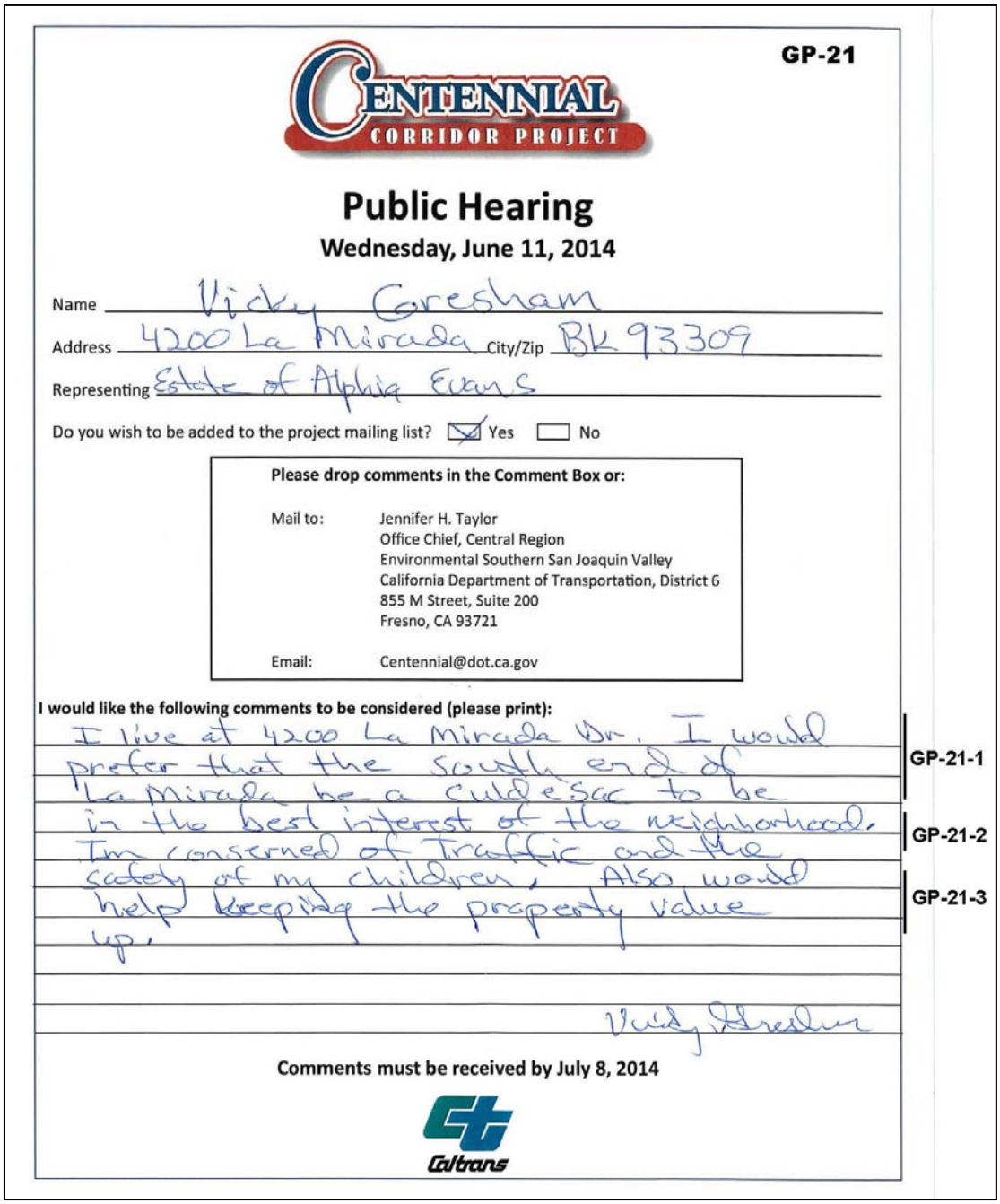
Comments must be received by July 8, 2014

Caltrans

Response to Comment GP-20

Comment Code	Response
GP-20-1	Thank you for participating in the environmental process for the Centennial Corridor Project. Caltrans understands the difficulty of change for long-time residents who may be affected by this roadway improvement project. Your opposition to Alternative B and your support for Alternative C are acknowledged. The project is intended to solve the problem of State Route 58's current lack of route continuity, which contributes to traffic congestion and reduced levels of service on adjoining highways and local streets. The population growth anticipated in the region, along with an expanded goods movement, involving an even greater amount of regional truck traffic, will make completing this link in the state highway network even more critical. Please see Section 1.2, Purpose and Need in the environmental document, Volume 1.

Comment GP-21



GP-21

CENTENNIAL CORRIDOR PROJECT

Public Hearing

Wednesday, June 11, 2014

Name Vicky Goresham

Address 4200 La Mirada City/Zip BK 93309

Representing Estate of Alphia Evans

Do you wish to be added to the project mailing list? ☒ Yes ☐ No

Please drop comments in the Comment Box or:

Mail to: Jennifer H. Taylor
Office Chief, Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation, District 6
855 M Street, Suite 200
Fresno, CA 93721

Email: Centennial@dot.ca.gov

I would like the following comments to be considered (please print):

I live at 4200 La Mirada Dr. I would prefer that the South end of La Mirada be a culdesac to be in the best interest of the neighborhood. GP-21-1

Im concerned of Traffic and the safety of my children. Also would help keeping the property value up. GP-21-2 GP-21-3

Vicky Goresham

Comments must be received by July 8, 2014

Caltrans

Response to Comment GP-21

Comment Code	Response
GP-21-1	Under Preferred Alternative B, access across the freeway would be maintained at several key spots, including La Mirada Drive, to help circulation in neighborhood sections that would otherwise be cut off. Map 10 for Alternative B shows the overcrossing and can be found in Appendix E of Volume 2. This overcrossing would help maintain community cohesion and connectivity at either side of the Alternative B alignment. If the project does not carry forward the La Mirada Drive Overcrossing for some reason, a cul-de-sac option at the end of the street at La Mirada Drive may be possible.
GP-21-2	Future traffic volumes on La Mirada Drive, following construction of the Preferred Alternative B alignment, are anticipated to be similar to current volumes because the local roads directly served by La Mirada Drive would remain unchanged and there would be no other traffic-generating development constructed after the completion of the project along La Mirada Drive. The new freeway would be separated from local streets in this pocket area.
GP-21-3	Several comments were received regarding property values, and there have been a number of studies on the issue. However, due to a lack of evidence based on a review of the literature, it is inconclusive to suggest a cul-de-sac at the southern end of La Mirada Drive would maintain existing property values. Most studies, though not all, conclude that new transportation facilities, including freeways, have an overall positive effect on property values.

Comment GP-22

GP-22

CENTENNIAL CORRIDOR PROJECT

Public Hearing

Wednesday, June 11, 2014

Name Karen Landers

Address 4100 La Mirada Dr. City/Zip Bakersfield, CA 93309

Representing WHOA

Do you wish to be added to the project mailing list? ☒ Yes ☐ No

Please drop comments in the Comment Box or:

Mail to: Jennifer H. Taylor
Office Chief, Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation, District 6
855 M Street, Suite 200
Fresno, CA 93721

Email: Centennial@dot.ca.gov

I would like the following comments to be considered (please print):

I am on the corner of La Mirada and Marella and I'm very disgusted that Alt B is the chosen route. I bought in this neighborhood after it was promised that there would be no freeway!! GP-22-1

I would like to see La Mirada turned into a culdesac instead of going through. It will allow more houses to stay, and at least eliminate some of the traffic in front of our house. GP-22-2

My real vote is for "no build". GP-22-3

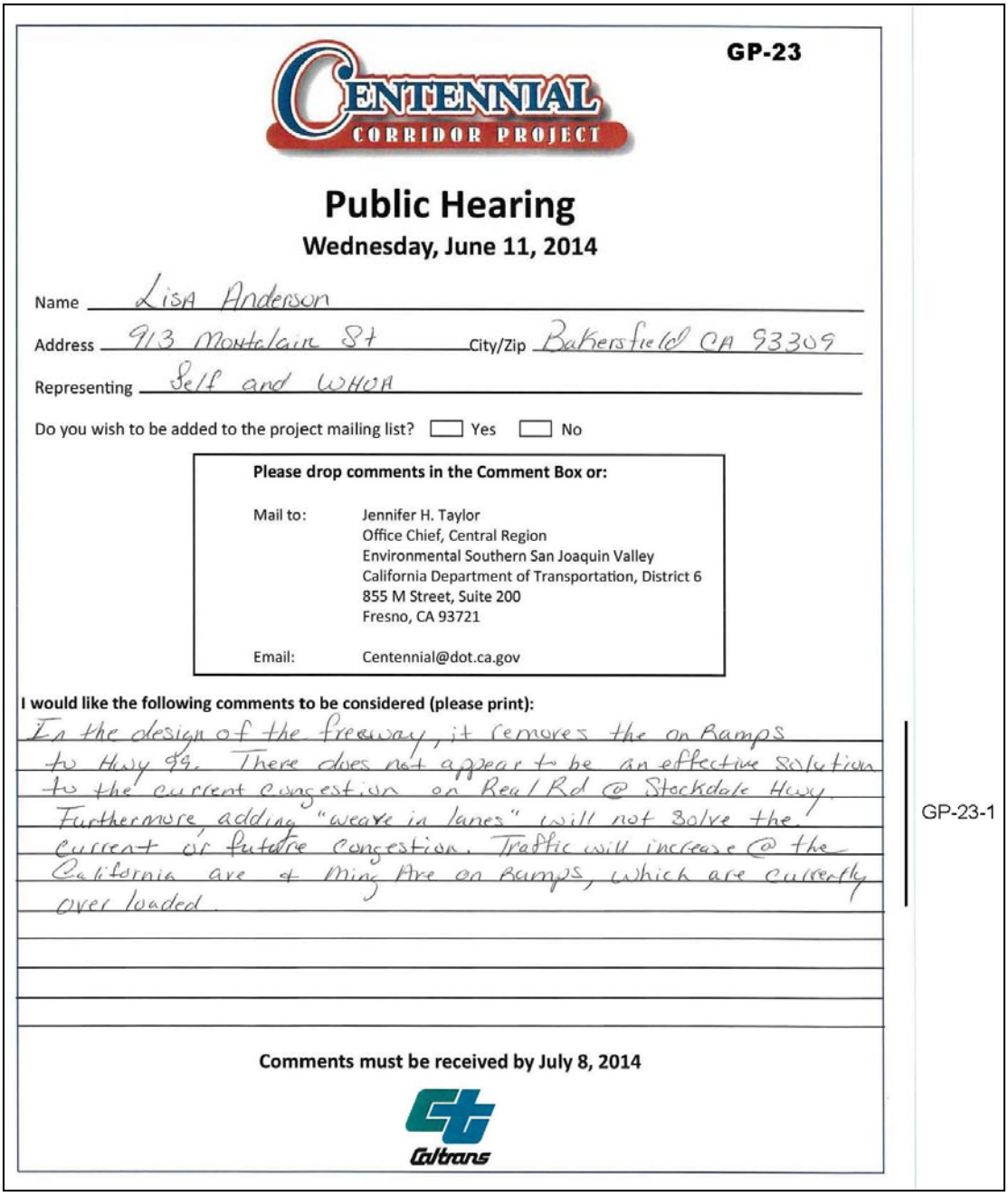
Comments must be received by July 8, 2014

Caltrans

Response to Comment GP-22

Comment Code	Response
GP-22-1	Your opposition to the project and your preference for the No Build Alternative is acknowledged. Thank you for participating in the environmental process for the Centennial Corridor Project. We have added your name to the project mailing list as you have requested. Over the years, many alternatives were considered, but some were not viable (see Section 2.1.5, Alternatives Considered but Eliminated from Further Discussion, in Volume 1). Alternatives A, B, and C were carried forward into the environmental process, which was presented in the Centennial Corridor draft environmental document. These alternatives were considered to be the most viable. There are many laws with which a project must comply, and one of these is the Department of Transportation Act of 1966, which includes a special provision, Section 4(f), which states that Federal Department of Transportation agencies cannot approve the use of land from publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public or private historic sites unless the following conditions apply: • There is no prudent and feasible alternative to using that land; and • The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use. Appendix B, Section 4(f) Evaluation, in Volume 2 provides additional detail. Even with further design modifications to the three alternatives and further consideration of additional alternatives (please see Table B.3, Summary of Avoidance Alternatives Analysis), Alternative B was found to be the only feasible and prudent alternative that avoids all Section 4(f) resources, such as parklands and historic properties. Alternative B is also the least expensive alternative, costing over $100 million less than the other two alternatives. Therefore, after comparing and weighing the benefits and impacts of Alternatives A, B, and C, some of which are summarized in Tables S.1 and 2.1 of the final environmental document, Caltrans has identified Alternative B as the Preferred Alternative.
GP-22-2	Your support for the La Mirada Drive cul-de-sac option has been noted. Under Preferred Alternative B, access across the freeway would be maintained at several key spots, including La Mirada Drive, to help circulation in neighborhood sections that would otherwise be cut off. Map 10 for Alternative B shows the overcrossing and can be found in Appendix E of Volume 2. This overcrossing would help maintain community cohesion and connectivity at either side of the Alternative B alignment. If the project does not carry forward the La Mirada Drive Overcrossing for some reason, a cul-de-sac option at the end of the street at La Mirada Drive may be possible.
GP-22-3	Your support for the No Build Alternative is acknowledged.

Comment GP-23



GP-23

CENTENNIAL CORRIDOR PROJECT

Public Hearing

Wednesday, June 11, 2014

Name Lisa Anderson

Address 913 Montclair St City/Zip Bakersfield CA 93309

Representing Self and WHOA

Do you wish to be added to the project mailing list? ☐ Yes ☐ No

Please drop comments in the Comment Box or:

Mail to: Jennifer H. Taylor
Office Chief, Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation, District 6
855 M Street, Suite 200
Fresno, CA 93721

Email: Centennial@dot.ca.gov

I would like the following comments to be considered (please print):

In the design of the freeway, it removes the on Ramps to Hwy 99. There does not appear to be an effective solution to the current congestion on Real Rd @ Stockdale Hwy. Furthermore adding "weave in lanes" will not solve the current or future congestion. Traffic will increase @ the California ave + Ming Ave on Ramps, which are currently over loaded.

GP-23-1

Comments must be received by July 8, 2014

Caltrans

GP-23

CENTENNIAL CORRIDOR PROJECT

Public Hearing

Wednesday, June 11, 2014

Name Lisa Anderson

Address 913 Montclaire St City/Zip 93309

Representing Self + WHOA

Do you wish to be added to the project mailing list? ☐ Yes ☐ No

Please drop comments in the Comment Box or:

Mail to: Jennifer H. Taylor
Office Chief, Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation, District 6
855 M Street, Suite 200
Fresno, CA 93721

Email: Centennial@dot.ca.gov

I would like the following comments to be considered (please print):

Mira Loma is currently a street where traffic cuts through the neighborhood to avoid California Avenue. There are no 'STOP' signs between Chester Lane + Marella. Will Stop Signs be put in at Montclaire + Mira Loma? This street (Mira Loma) passes by an elementary school w/no crossing guard.

GP-23-2

Comments must be received by July 8, 2014

Caltrans

GP-23

Name: Lisa Anderson

Address: 913 Montclair Street
City: Bakerfield
State: CA
ZIP: 93309
Email: llganderson@aol.com

Topics

Construction Related Impacts

While I understand the CalTrans rules about spacing of on/off ramps, I am very concerned of the increased traffic at Ming, California interchanges due to loss of Real Road and Wible road on/off ramps. Both of these areas service the community and not just the pass through traffic. It appears the new freeway design is for pass through traffic needs only. I ask that consideration be given to continuing an on/off ramp at Stockdale Highway to ease community commute and stress on the California and Ming interchanges.

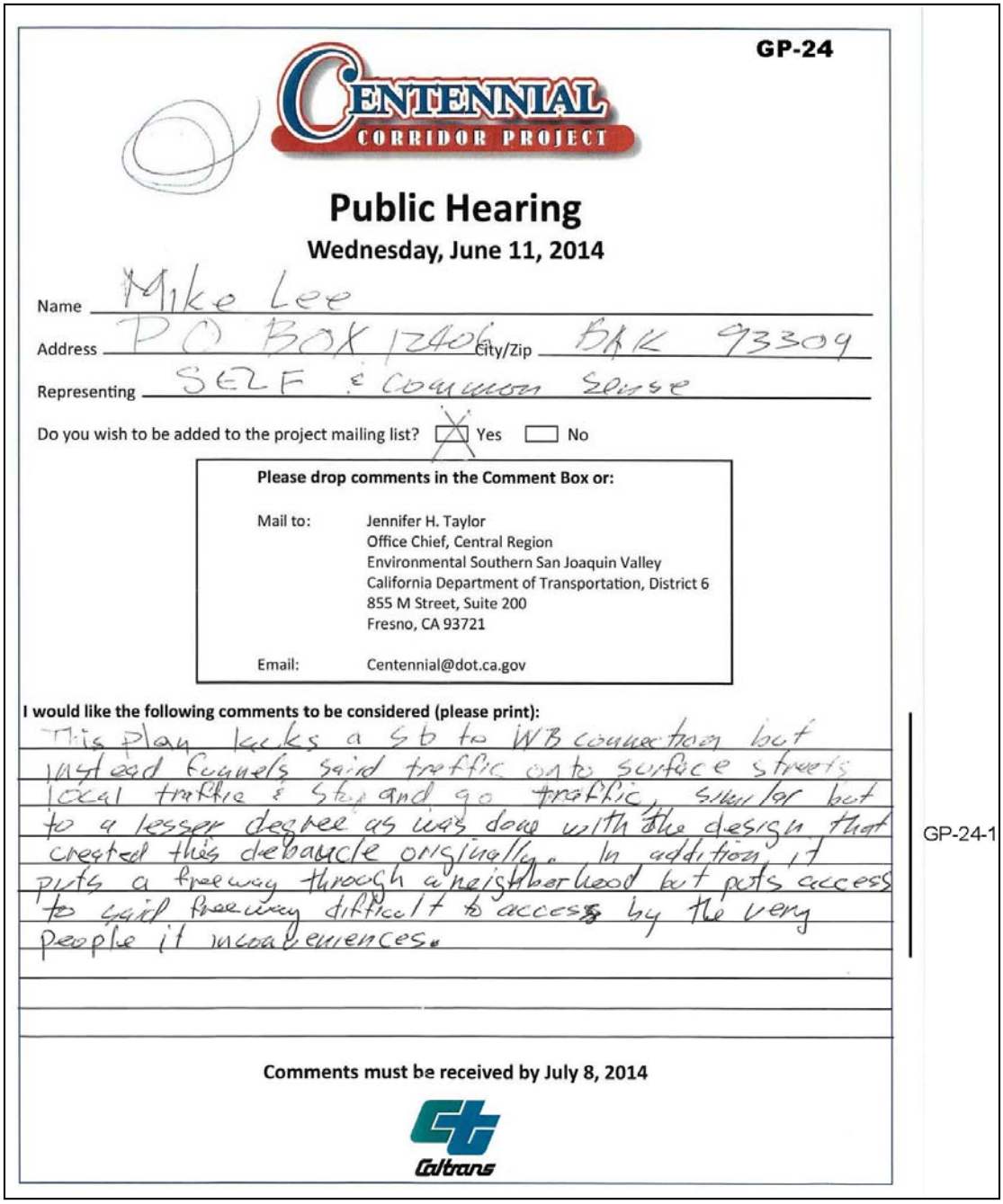
GP-23-3

1

Response to Comment GP-23

Comment Code	Response
GP-23-1	While Alternative B would remove certain freeway ramps that do not meet Caltrans Design Standards, other changes to the freeway system would improve route continuity and circulation. Construction of the Centennial Corridor, along with the Westside Parkway, would shift State Route 58, which would no longer share an alignment with State Route 99. This would eliminate the 2-mile overlap where State Route 58 and State Route 99 merge and share a common north-south alignment, thereby removing some traffic from State Route 99. By moving traffic onto a new alignment for much of State Route 58 (currently Westside Parkway), the project would enable commuters to continue their trips without having to use a local roadway. This would also eliminate the need to stop at multiple signals and the San Joaquin Valley railroad crossing at Landco Drive. Based on the results of the traffic analysis, the intersection of Stockdale Highway/Real Road would improve as a result of the construction of Preferred Alternative B. Future 2038 No Build traffic conditions at this intersection would operate at level of service F during the PM peak hour. Traffic operations for Preferred Alternative B at the intersection of Stockdale Highway/Real Road during the PM peak hour is anticipated to operate at level of service D for future 2038 traffic conditions. As discussed in Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, 79 roadway intersections were analyzed to evaluate traffic congestion conditions under the project alternatives for the existing (baseline) year (2008), opening year (2018), and horizon year (2038). Table 3.14 of the final environmental document lists the intersections that have or would have traffic operations at deficient levels of service for existing and future (2018 and 2038) years. The Stockdale Highway/Real Road intersection and the California Avenue and Ming Avenue interchanges are identified in Table 3.14 as currently operating at a deficient level of service. Overall, the traffic study showed the build alternatives would provide better traffic flow for all vehicles due to direct route continuity compared to both the existing condition and the No Build Alternative in the future years. Moreover, the additional capacity provided by the build alternatives compared to the No Build Alternative would also help reduce congestion on adjacent local roadways because traffic is expected to shift to the freeway.
GP-23-2	Stop signs on local streets are not an element of the Centennial Corridor Project. Requests for local street improvements should be addressed to the city of Bakersfield Public Works Department.
GP-23-3	Please refer to Response to Comment GP-23-1 regarding discussion on the effects of eliminating the Real Road and Wible Road on-/off-ramps and the benefits of eliminating the 2-mile overlap of State Routes 58 and 99. Because the project serves both local and interregional traffic, transportation benefits would be equally available to all residents of the county. For example, users, including transit, pedestrians, and bicyclists, would benefit from the continuous east-west route. Implementation of the project would improve existing highways, address deficiencies of the existing transportation system, and benefit most area residents, including the nearby community and pass-through traffic.

Comment GP-24



GP-24

CENTENNIAL CORRIDOR PROJECT

Public Hearing

Wednesday, June 11, 2014

Name Mike Lee

Address PO BOX 12406 City/Zip BAK 93309

Representing SELF & Common Sense

Do you wish to be added to the project mailing list? ☒ Yes ☐ No

Please drop comments in the Comment Box or:

Mail to: Jennifer H. Taylor
Office Chief, Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation, District 6
855 M Street, Suite 200
Fresno, CA 93721

Email: Centennial@dot.ca.gov

I would like the following comments to be considered (please print):

This plan lacks a SB to WB connection but instead funnels said traffic onto surface streets local traffic & Stop and go traffic, similar but to a lesser degree as was done with the design that created this debacle originally. In addition, it puts a freeway through a neighborhood but puts access to said freeway difficult to access by the very people it inconveniences.

GP-24-1

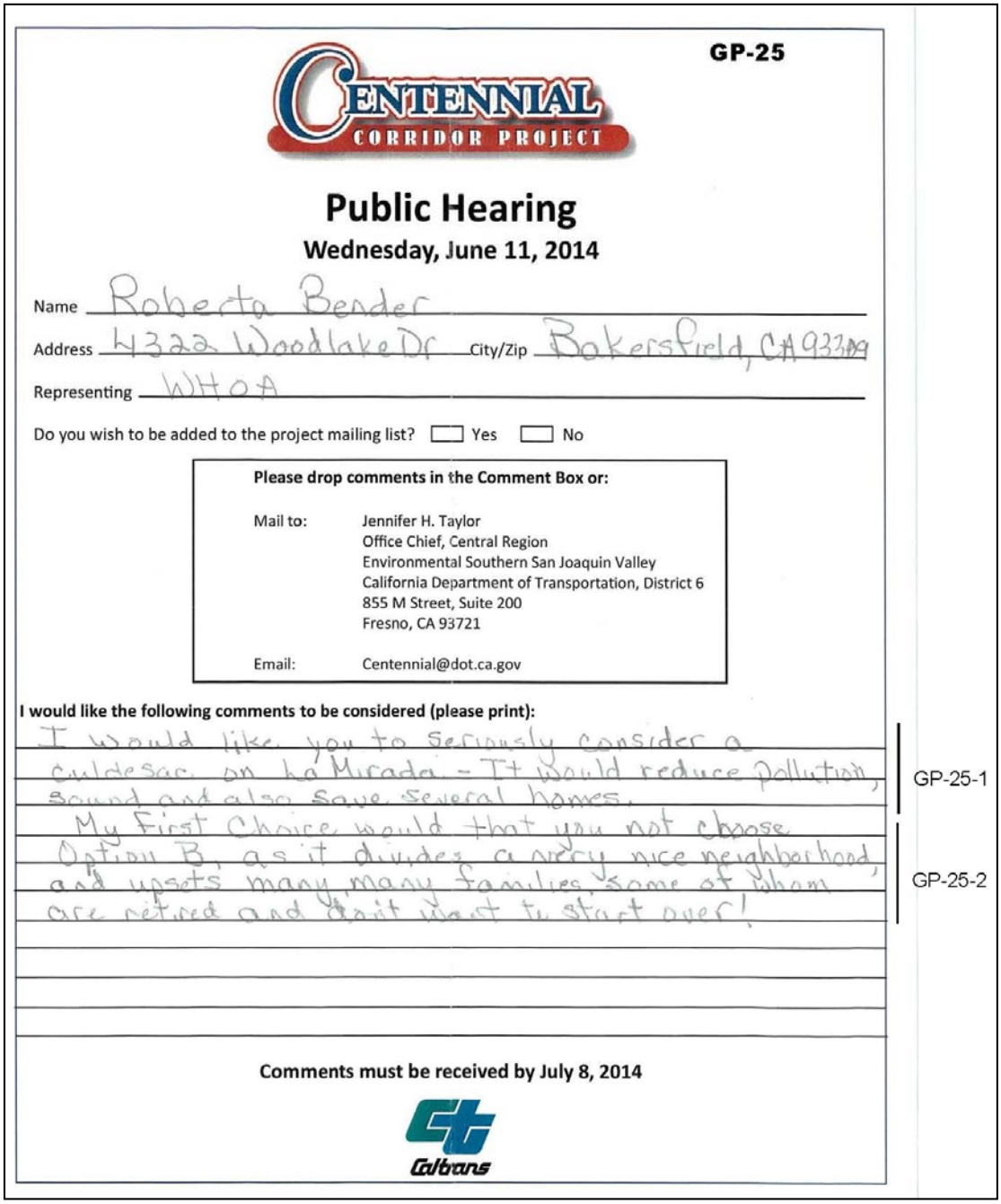
Comments must be received by July 8, 2014

Caltrans

Response to Comment GP-24

Comment Code	Response
GP-24-1	Per your request, your contact information will be added to the mailing list for the Centennial Corridor Project. A southbound State Route 99 to westbound State Route 58 direct connector will not be constructed as part of the Centennial Corridor Project: none of the build alternatives analyzed provide direct connector ramps from southbound State Route 99 to westbound State Route 58 because of the low southbound-to-westbound traffic volumes for existing and projected future traffic forecasts. A deficiency in traffic operations for either current or future conditions is required to substantiate the need for a southbound State Route 99 to westbound State Route 58 direct connector. However, preliminary plans for all of the alternatives allow for the integration of a southbound State Route 99 to westbound State Route 58 direct connector ramp to be constructed at a future date when the need for this direct connector has been identified. If future traffic volumes necessitate construction of this direct connector, a separate project would be initiated by Caltrans. Access to westbound State Route 58 from southbound State Route 99 will be provided at the State Route 99 interchange with the existing Rosedale Highway, connecting to the Westside Parkway via Mohawk Street. Caltrans is improving the State Route 99/Rosedale Highway interchange by providing additional turn lanes at the southbound off-ramp, which will enhance the turning capacity from the current one left-turn plus one shared left- and right-turn lane configuration to two left-turn lanes and two free-right-turn lanes. In addition to this ramp intersection improvement, Rosedale Highway will be widened from two lanes in each direction to three lanes in each direction from west of Gibson Street to Mohawk Street and beyond. This widening of Rosedale Highway is a separate project that will be constructed with or without the Centennial Corridor Project. After construction of the project, local neighborhoods affected by the project will have access to State Route 58 via Mohawk Street and Truxtun Avenue. Along State Route 99, freeway access will be provided at California Avenue and Ming Avenue.

Comment GP-25



GP-25

CENTENNIAL CORRIDOR PROJECT

Public Hearing

Wednesday, June 11, 2014

Name Roberta Bender

Address 4322 Woodlake Dr City/Zip Bakersfield, CA 93309

Representing WHOA

Do you wish to be added to the project mailing list? ☐ Yes ☐ No

Please drop comments in the Comment Box or:

Mail to: Jennifer H. Taylor
Office Chief, Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation, District 6
855 M Street, Suite 200
Fresno, CA 93721

Email: Centennial@dot.ca.gov

I would like the following comments to be considered (please print):

I would like you to seriously consider a cul-de-sac on La Mirada - It would reduce pollution, sound and also save several homes. GP-25-1

My First Choice would that you not choose Option B, as it divides a very nice neighborhood, and upsets many, many families, some of whom are retired and don't want to start over! GP-25-2

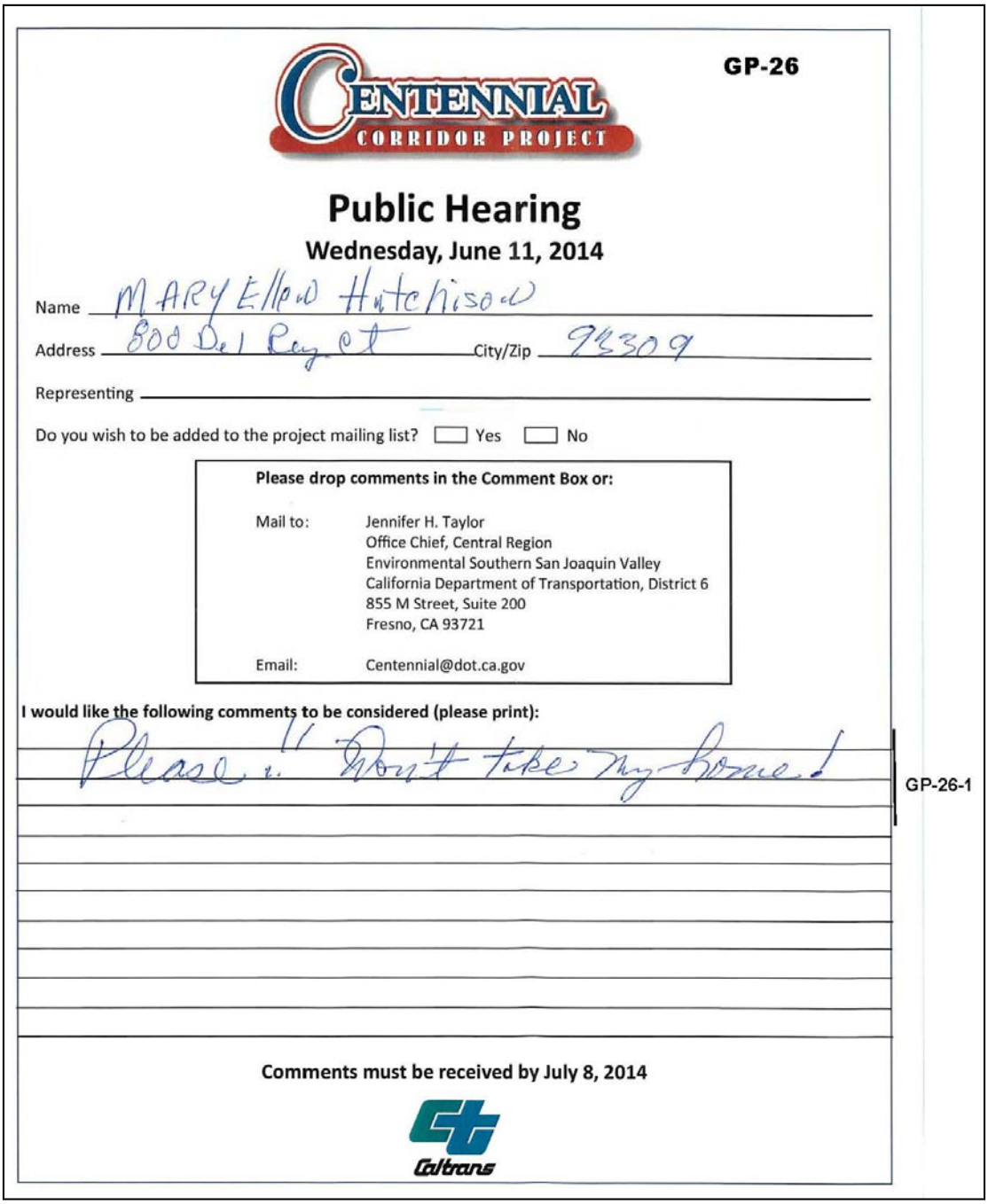
Comments must be received by July 8, 2014

Caltrans

Response to Comment GP-25

Comment Code	Response
GP-25-1	Your support for the cul-de-sac option at La Mirada Drive has been noted. Caltrans has analyzed the benefits associated with minimizing impacts on the remaining Westpark neighborhood, internal circulation needs, and costs. Under Preferred Alternative B, access across the freeway would be maintained at several key spots, including La Mirada Drive, to help circulation in neighborhood sections that would otherwise be cut off. Map 10 for Alternative B shows the overcrossing and can be found in Appendix E of Volume 2. This overcrossing would help maintain community cohesion and connectivity at either side of the Alternative B alignment. If the project does not carry forward the La Mirada Drive Overcrossing for some reason, a cul-de-sac option at the end of the street at La Mirada Drive may be possible.
GP-25-2	Your opposition to Alternative B is acknowledged. Caltrans thanks you for participating in the environmental process for the Centennial Corridor Project.

Comment GP-26



GP-26

CENTENNIAL CORRIDOR PROJECT

Public Hearing

Wednesday, June 11, 2014

Name MARY Ellen Hutchison

Address 800 Del Rey Ct City/Zip 93309

Representing

Do you wish to be added to the project mailing list? ☐ Yes ☐ No

Please drop comments in the Comment Box or:

Mail to: Jennifer H. Taylor
Office Chief, Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation, District 6
855 M Street, Suite 200
Fresno, CA 93721

Email: Centennial@dot.ca.gov

I would like the following comments to be considered (please print):

Please don't take my home! GP-26-1

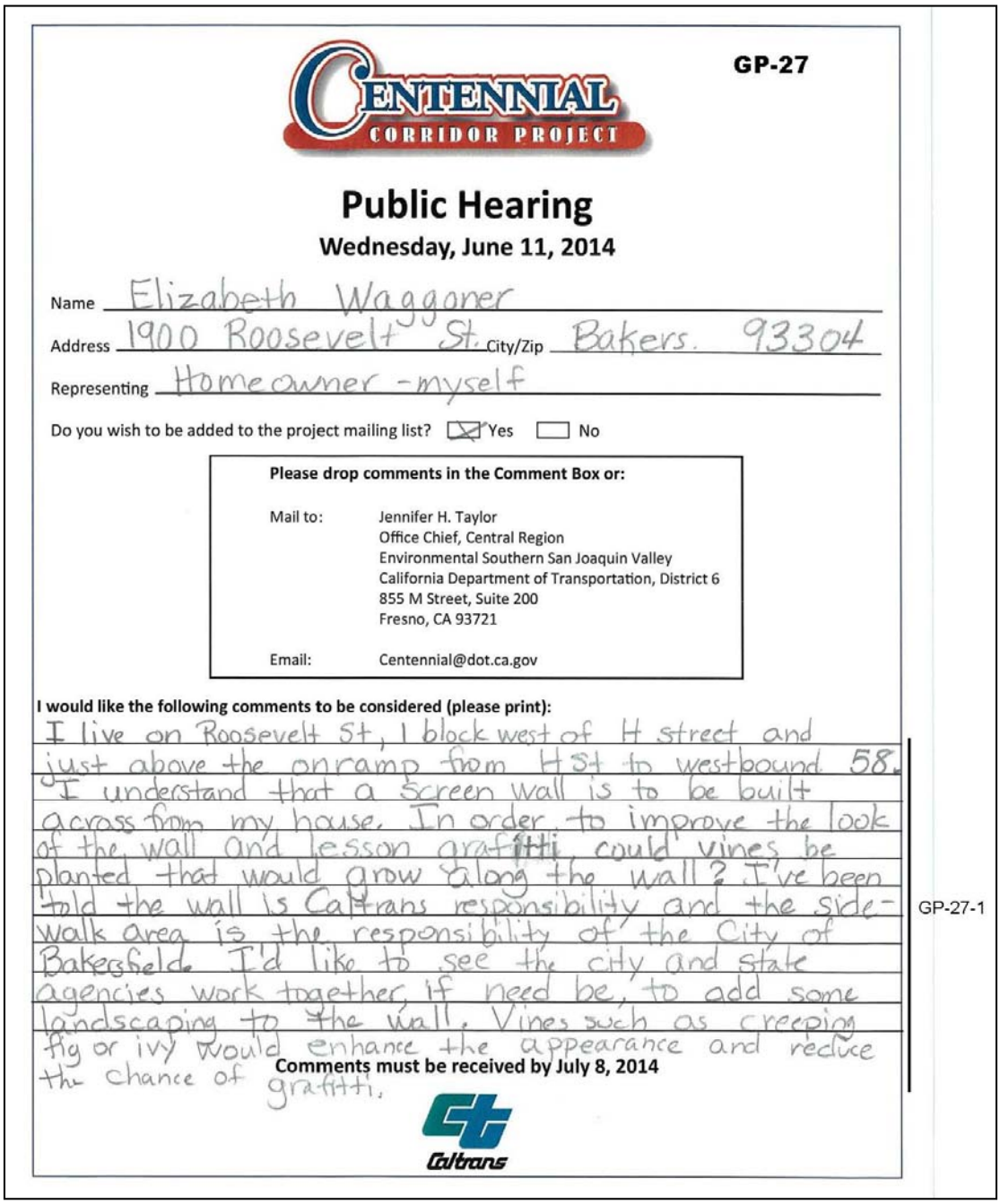
Comments must be received by July 8, 2014

Caltrans

Response to Comment GP-26

Comment Code	Response
GP-26-1	Caltrans is sensitive to the role housing may play in our lives and understands the relocation process may be difficult for some individuals, especially those people with special needs, as well as those who may be elderly and/or disabled and on fixed incomes. Houses are not just buildings but often homes filled with irreplaceable family memories of a special time and rooted to a particular place. To the greatest extent practicable, it is always Caltrans' intention to avoid and/or minimize impacts to properties. Project planning, however, must balance these local impacts with national, State and regional transportation needs. Based on preliminary design, the property at 800 Del Rey Court would be acquired to construct the project. However, all potential acquisitions are subject to change during the final design. If your property would still be required, then the project will follow the provisions listed in the Uniform Relocation Act of 1987, as amended. Any person to be displaced will be assigned to a Relocation Advisor, who will closely work with each displacee in order to ensure that all benefits and payments are fully used. Caltrans' Relocation Assistance Program is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and Title 49 *Code of Federal Regulations* Part 24. The purpose of the Relocation Assistance Program is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. A copy of our *Summary of Relocation Benefits* is found in Appendix D in Volume 2 of the Centennial Corridor Environmental Impact Report/Environmental Impact Statement for your review and reference. You can find additional information on the Relocation Assistance Program at: http://www.dot.ca.gov/hq/row/. Under *Publications*, you find the following: • *Relocation Assistance for Residential Relocations* • *Your Property, Your Transportation Project* These publications, available in both English and Spanish, augment the information contained here, and provide valuable information that may assist you in discussions with your assigned Relocation Advisor, who will be integral to ensure that you receive all benefits for which you are entitled. All relocation services and benefits are administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 U.S. Code 2000d, *et seq.).* See Appendix C in Volume 2 for a copy of Caltrans' Title VI Policy Statement.

Comment GP-27



GP-27

CENTENNIAL CORRIDOR PROJECT

Public Hearing

Wednesday, June 11, 2014

Name Elizabeth Waggoner

Address 1900 Roosevelt St. City/Zip Bakers. 93304

Representing Homeowner - myself

Do you wish to be added to the project mailing list? ☒ Yes ☐ No

Please drop comments in the Comment Box or:

Mail to: Jennifer H. Taylor
Office Chief, Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation, District 6
855 M Street, Suite 200
Fresno, CA 93721

Email: Centennial@dot.ca.gov

I would like the following comments to be considered (please print):

I live on Roosevelt St, 1 block west of H street and just above the onramp from H St to westbound 58. I understand that a screen wall is to be built across from my house. In order to improve the look of the wall and lesson graffitti, could vines be planted that would grow along the wall? I've been told the wall is Caltrans responsibility and the sidewalk area is the responsibility of the City of Bakersfield. I'd like to see the city and state agencies work together, if need be, to add some landscaping to the wall. Vines such as creeping fig or ivy would enhance the appearance and reduce the chance of graffiti.

GP-27-1

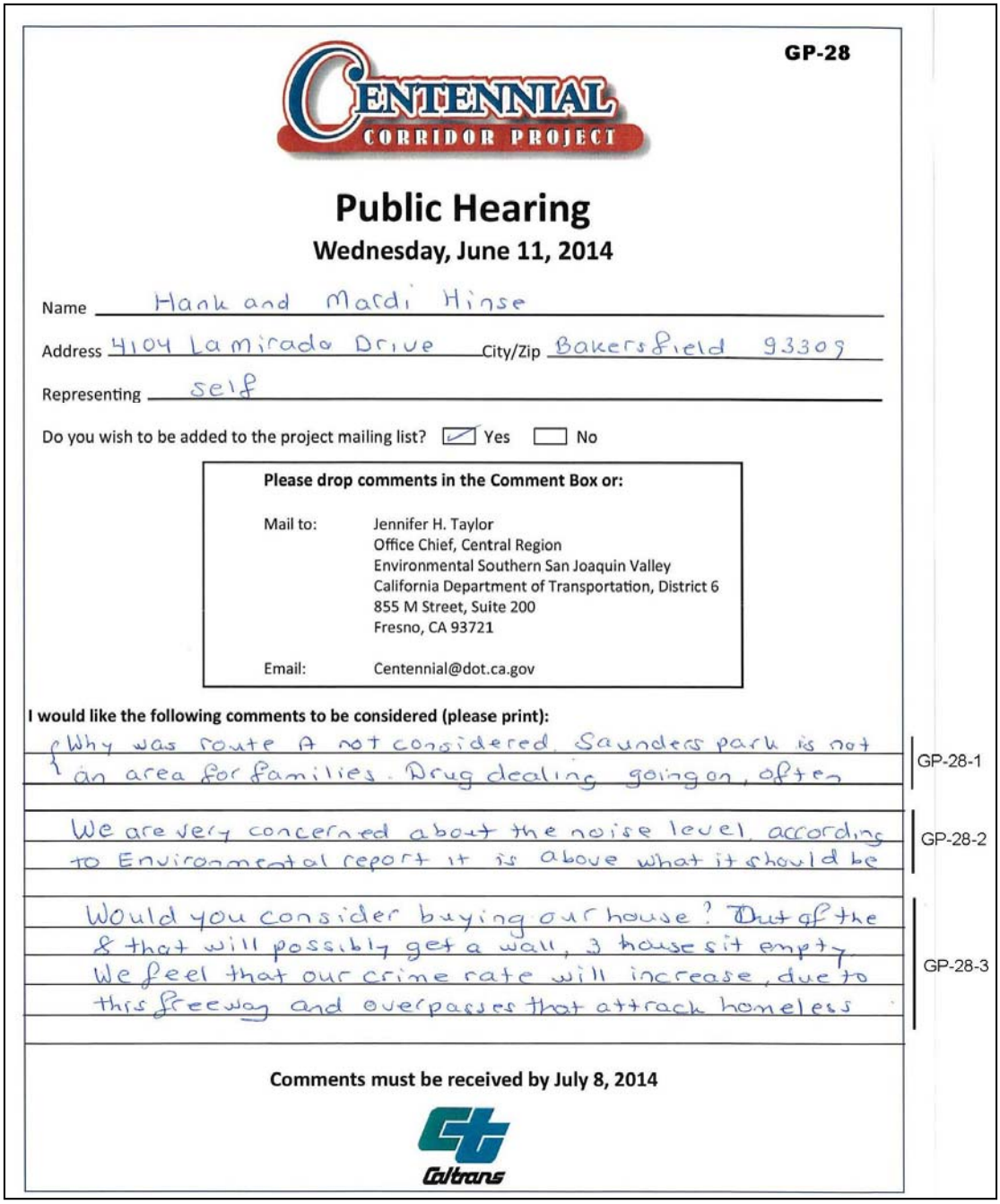
Comments must be received by July 8, 2014

Caltrans

Response to Comment GP-27

Comment Code	Response
GP-27-1	Per your request, your contact information will be added to the mailing list for the Centennial Corridor Project. Construction of the screen wall is a local project funded by the city of Bakersfield. The overall design theme along the State Route 58 segment (east of State Route 99) will be consistent with the existing aesthetic wall treatments. Caltrans may consider incorporating graffiti-deterring features such as vines. Specific plantings and other aesthetic treatments would not be finalized until the end of the final design phase. For the long-term maintenance of the project's retaining walls, screen walls, and sound walls, the city of Bakersfield and the County of Kern would enter into a maintenance agreement with Caltrans to outline the responsibility of each agency.

Comment GP-28



GP-28

CENTENNIAL CORRIDOR PROJECT

Public Hearing

Wednesday, June 11, 2014

Name Hank and Mardi Hinse

Address 4104 Lamirada Drive City/Zip Bakersfield 93309

Representing self

Do you wish to be added to the project mailing list? ☑ Yes ☐ No

Please drop comments in the Comment Box or:

Mail to: Jennifer H. Taylor
Office Chief, Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation, District 6
855 M Street, Suite 200
Fresno, CA 93721

Email: Centennial@dot.ca.gov

I would like the following comments to be considered (please print):

Why was route A not considered. Saunders park is not an area for families. Drug dealing going on, often — GP-28-1

We are very concerned about the noise level, according to Environmental report it is above what it should be — GP-28-2

Would you consider buying our house? Out of the 8 that will possibly get a wall, 3 house sit empty. We feel that our crime rate will increase, due to this freeway and overpasses that attrack homeless — GP-28-3

Comments must be received by July 8, 2014

Caltrans

Response to Comment GP-28

Comment Code	Response
GP-28-1	Per your request, your contact information will be added to the mailing list for the Centennial Corridor Project. As discussed in Section 2.1.4, Preliminary Identification of a Preferred Alternative, as part of the screening process, three build alternatives, A, B, and C, were identified and evaluated at an equal level of detail in the technical studies and the final environmental document. All three alternatives meet the project purpose and need of providing route continuity for State Route 58. As presented, Alternative A has the greatest number of displacements of the three alternatives and is the most expensive. It would also impact a park and the Rancho Vista Historic District, both of which are Section 4(f) resources. As such, Alternative B is a feasible and prudent alternative that avoids Section 4(f) resources, such as parklands and historic properties. Alternative C would impact Saunders Park which is a Section 4(f) resource. Even modifications to the design plans of Alternatives A and C could not make them feasible and prudent. Please refer to Section 2.1.3, Comparison of Alternatives, in Volume 1 of this final environmental document for more information about the Build Alternatives. There are many laws with which a project must comply, and one of these is the Department of Transportation Act of 1966, which includes a special provision, Section 4(f), which states that Federal Department of Transportation agencies cannot approve the use of land from publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public or private historic sites unless the following conditions apply: • There is no prudent and feasible alternative to using that land; and • The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use. For more information on Section 4(f) resources please see Appendix B, Section 4(f) Evaluation, in Volume 2. In addition, Alternative B is also the least expensive alternative, costing over $100 million less than the other alternatives. Therefore, after comparing and weighing the benefits and impacts of Alternatives A, B, and C, some of which are summarized in Tables S.1 and 2.1 of the final environmental document, Caltrans has identified Alternative B as the Preferred Alternative. Drug dealing and other illegal activities occurring within the park and other recreational areas should be reported to the Bakersfield Police Department.
GP-28-2	The potential short- and long-term noise effects of the project and measures to address those effects are detailed in Volume 1, Section 3.2.7, of the final environmental document. At 4104 La Mirada Drive, the predicted future peak hourly average traffic noise level at Receiver RB-47 would be 61 decibels, which is 8 decibels higher than the existing peak hourly noise of 53 decibels. Therefore, an 8 to 12 foot sound wall (Sound wall S529) is considered for this area which would reduce the noise level to 60 decibels, resulting in a net increase of 7 decibels in comparison to the existing noise level. A 7 decibel noise increase would be noticeable but it would be below Caltrans exterior noise limits which is 67 decibels Construction-related noise would be temporary throughout the construction period and would cease after project construction is complete. Section 3.6, Construction Impacts, provides additional Avoidance and Minimization Measures N-1, CI-16, and SC-CI-23 through SC-CI-25 for reducing temporary construction-related noise and vibration effects of the project. Additionally, the freeway would be depressed through much of the Westpark neighborhood (from Ford Avenue to California Avenue). Therefore, the noise levels provided in Volume 1, Section 3.2.7, of the final environmental document are the estimated noise levels for a depressed freeway. The depressed characteristics of

Comment Code	Response
	the freeway aid in mitigation, as a sound wall shorter in height (8 to 10 feet) can effectively block the receivers' line of sight of trucks traveling on the freeway. As opposed to needing a 14 to 16 foot sound wall to block the receivers' line of sight if the freeway was at the same elevation or higher in elevation.
GP-28-3	Based on the preliminary design, a full acquisition of the property located at 4104 La Mirada Drive is not required; however, right-of-way requirements may change during the final design phase of the project. If additional right-of-way is required, Caltrans will contact the property owner to purchase the required property to construct the project. It is acknowledged like with many cities across California there are homeless and transient people in various locations in Bakersfield, including areas in and around the downtown area or within areas designated as a transportation corridor such as the Centennial Corridor Project. There is no way to restrict access by homeless and transient people to certain areas in Bakersfield unless they are breaking the law or local ordinances. The Bakersfield Police Department cannot physically remove or restrict their access to public areas. To enhance safety and to minimize graffiti, and vagrancy problems associated with vacant buildings, a strategy for handling the acquired properties would be developed to include the following options: (1) rent the homes and businesses on a month-to-month basis to keep them occupied as long as possible in advance of demolition; or (2) demolish each building as soon as feasible after acquisition. This latter option would result in vacant lots interspersed in business areas and neighborhoods. With either option, proper management of the acquired property is a key consideration. All property acquisitions for the project would comply with the provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. A summary of relocation benefits is also provided in Appendix D of the final environmental document, Volume 2.

Comment GP-29

GP-29

Stockdale Christian Schools

First Assembly of God

May 19, 2014

Jennifer H. Taylor, Office Chief, Central Region, Environmental Southern San Joaquin Valley
855 M St. Suite 200
Fresno, CA 93721

Support of Centennial Corridor Project, Westside Parkway, Alternative C

Dear Ms. Taylor,

The purpose of this letter is to go on record in support of Centennial Corridor Project, Westside Parkway, proposed Alternate C, which would parallel highway 99 and then would connect with the recently built Westside Parkway in Bakersfield. It is definitely in the long-term best interest of our community to build Alternate C rather than destroy hundreds of homes and businesses with Alternate B currently being recommended by CalTrans. GP-29-1

This letter is written on behalf of over 800 students and staff members who are involved with the education here at Stockdale Christian School on a daily basis. It is very disturbing to consider the many negative effects a freeway would create for our school during and after construction. During construction, the many health and liability risks associated with disturbing the Valley Fever spores and asbestos contained homes in the path of Alternate B are considerable. After construction, our preschool through eighth grade students, parents, faculty, and staff would be forced to work in a much less safe and polluted environment. The real potential of a hazardous spill from a truck, the constant noise, trash, and air pollution will hurt each person involved in our school. I am sure you will agree that you would not want your own child attending a school that has a freeway built right "on top" of their already established school. I am certain that those associated with Harris Elementary School as well as the other churches, preschools, and those living in senior housing in the area have the same concerns. GP-29-2

Please use your influence to prohibit the California Department of Transportation and the Bakersfield City Council from destroying the surrounding neighborhood and pleasant, safe environment our students currently enjoy. GP-29-3

On behalf of the families whose children attend Stockdale Christian School, I ask that you do everything within your influence to convince CalTrans and the Bakersfield City Council to honor the decision made in 2001 (known then as Alternate #9) to not have the freeway cut through the Westpark neighborhood. We agree that a freeway connection to Highway 58 needs to be built. However, CalTrans and our City Council need to pursue building Alternate C and not allow the Westpark neighborhood, businesses, and our school to be damaged or destroyed by Alternate B. **Thank you, Ms. Taylor, for your help with this important matter!** GP-29-4

Respectfully submitted,

Doug Pike
Superintendent
STOCKDALE CHRISTIAN SCHOOLS

4901 California Avenue • Bakersfield, California 93309 • (661) 327-3927

Response to Comment GP-29

Comment Code	Response
GP-29-1	Your support for Alternative C and opposition to Alternative B is acknowledged.
GP-29-2	*Valley Fever* Construction of the project would occur in an endemic area where the fungi *Coccidioides immitis* (Valley Fever) have been known to naturally occur. Because the spores of *Coccidioides immitis* can become airborne during soil disturbance, all persons residing or traveling through Kern County are susceptible to the disease. Temporary soil disturbance during construction grading activities could cause fungal spores (if present) to become airborne, potentially putting residents at risk of contracting Valley Fever. However, there are many preventive and precautionary measures that would be implemented by Caltrans and the construction contractor during construction. Compliance with Avoidance and Minimization Measure SC-CI-21 in Section 3.6, Construction Impacts (Volume 1), would control dust during project construction. As a result, those measures would reduce the potential for contact with *Coccidioides immitis* spores and, as such, the potential for health impacts during construction of the project associated with Valley Fever would be minimized. Some of these measures to control dust include: stabilizing disturbed soil areas with water, cover areas with tarp, other suitable cover and vegetation, pre-soaking areas with water, limit the speed of construction equipment on unpaved areas, install wind breaks at windward sides of construction areas, and limit areas subject to excavation at any one time. Per Standard Condition SC-CI-22 (see Section 3.6, Construction Impacts, in Volume 1), Caltrans shall incorporate requirements into the contract specifications requiring that the contractor comply with the limitations of the National Emissions Standards for Hazardous Air Pollutants regulations, as listed in the *Code of Federal Regulations*, requiring notification and inspection for construction activities that are involved with demolition, renovation, or removal of asbestos-containing materials. Before starting any demolition or renovation of any building, Caltrans shall require the contractor to consult with the San Joaquin Valley Air Pollution Control District's Compliance Division to determine inspection and compliance requirements. Implementation of these measures would reduce the risk of adverse health effects during project construction. *Asbestos* A Preliminary Site Investigation (January 6, 2015) for asbestos and lead-based paint was conducted to determine the presence and concentrations of asbestos-containing materials and lead- based paint for the structures subject to demolition or improvements within the construction footprint of Alternative B. The results revealed that asbestos was not detected above 1 percent on any of the structures tested. However, asbestos-containing construction materials are present in the railing bolt sealant at the Truxtun Avenue undercrossing. Removal of these materials will be required prior to the structure undergoing improvements. Asbestos-containing materials sampling and analysis of buildings subject to demolition will be done by the contractor, as needed, prior to demolition and the statement of work will be included in the specifications. Precautions and removal of asbestos containing materials shall be performed under the direct observation of a California Certified Asbestos Consultant. See Section 3.2.5, Hazardous Waste or Materials in Volume 1 for more information on asbestos within the project area. *Noise* The potential short- and long-term noise effects of the project and measures to address those effects are detailed in Section 3.2.7 of the final environmental document (Volume 1). A comparison of current noise levels to the projected noise levels in 2038 under the No Build Alternative and the build alternatives is provided. Results of the noise analysis indicates that the existing exterior hourly average peak hour noise level of 52 decibels would become 58 decibels, but this level would be

Comment Code	Response
	reduced to 57 decibels due to a 12-foot sound wall that is planned for this area. A 5 decibel noise increase would be noticeable but it would be below Caltrans exterior noise limits which is 67 decibels. The interior noise limits for classrooms is 52 decibels. A typical building provides at least 25-decibel noise reduction; therefore, the anticipated peak hourly traffic noise inside the closest classrooms to the freeway would be 33 decibels, which is well below established thresholds. *Air Quality Effects during Construction* It is acknowledged construction of the project has the potential to create air quality impacts through the use of heavy-duty construction equipment. Fugitive dust emissions would result from earthwork and onsite construction activities. Reductions in fugitive dust can be achieved by onsite mitigation measures. Compliance with the standard conditions SC-CI-20 through SC-CI-22 listed under Avoidance, Minimization, and Mitigation Measures – Air Quality, Standard Conditions (refer to Section 3.6, Construction Impacts), would reduce construction emissions. Some of these measures to control dust include using water or chemical stabilizer/suppressant, covering disturbed areas with tarps, and limiting speeds in unpaved areas. Air emissions associated with construction activity would be temporary and would cease to occur after project construction is completed. *Permanent Air Quality Effects* The air quality study prepared for the Centennial Corridor Project indicates that potential air quality impacts were found to be less than significant and that the project would improve regional air quality due to reduction in congestion on local roadways and vehicle idling. Improvements to air quality are also attributed to the improved pollution emission performance of a modernizing fleet of all vehicles, especially heavy diesel trucks, as a result of Federal and State fuel content and engine emissions rules. In addition, the results of the air quality analysis indicate that the Centennial Corridor Project would be within regional and Federal air quality standards and would not cause or contribute to a violation of any air quality standards. More detailed information on air quality analysis can be found in Section 3.2.6, Air Quality. Due to local roadway traffic shifting to the new freeway, local street intersections near Stockdale Christian School are anticipated to improve as a result of the project. As summarized in Table 3.14 of the Final Environmental Impact Report/Environmental Impact Statement, the level of service performance at the intersection of Mohawk Street and California Avenue is anticipated to improve under the No Build scenario traffic conditions from level of service F (162 seconds of delay) to level of service E (62 seconds of delay) with the construction of the Preferred Alternative B alignment for 2038 conditions. This reduction in traffic delay at this intersection would also result in the reduction of vehicle emissions within the general area of the Stockdale Christian School due to a decrease in vehicle idling. Caltrans is currently proposing the following targeted air quality improvement projects as part of the Voluntary Emission Reduction Agreement it has entered into with the San Joaquin Valley Air Pollution Control District to further improve air quality within the general area of the Preferred Alternative B alignment: provide emission-reducing devices to diesel powered school buses, provide tree plantings along the new freeway, provide heating, ventilation and air conditioning upgrades to qualified schools and allowances to replace wood-burning stoves. These improvements will enhance local air quality in the Bakersfield area. More information on these improvements can be found in Section 3.2.6, Air Quality, of Chapter 3 in Volume 1 of this environmental document. If Stockdale Christian School owns and operates school buses for their students, they may be eligible for pollution-reducing devices. Caltrans will coordinate with Stockdale Christian School during final design of the project. Potential operational and construction related air quality impacts resulting from the project were found to be less than significant with the implementation of minimization and mitigation measures. Additionally, to the greatest extent practicable, Caltrans and the city of Bakersfield would provide heating, ventilation,

Comment Code	Response
	and air conditioning upgrades to daycare centers, pre-schools, and schools within 1500 feet within the Preferred Alternative B alignment. Each of the school's existing heating, ventilation, and air conditioning system will be separately evaluated for efficiency and practicability of an upgrade to reduce indoor particles related to health effects such as exacerbating symptoms of asthma. The complete heating, ventilation, and air conditioning unit may not necessarily require upgrades, but the existing air filtration component of the system is central in reducing indoor particulates and enhancing children's health. One criterion that would be utilized to determine the need for an upgrade is the minimum efficiency reporting values of the existing air filtration system based on a scale of 1 to 20, where 1 is low and 20 is high. According to the Environmental Protection Agency, minimum efficiency reporting values between 7 and 13 are likely to be almost as effective as true High-Efficiency Particulate Air filters in reducing the concentrations of most indoor particles linked to health effects.[16] Available data indicate that even for very small particles, High-Efficiency Particulate Air filters are not necessarily the preferred option. For these small particles, relatively large decreases in indoor concentrations (around 80 percent) are attainable with medium filter efficiency. The proposed minimum filter efficiency for the air filtration upgrade would be a value of 8, which would trap 70% of the air-borne particulates that are 3 to 10 microns in size. Increasing filter efficiency above a minimum efficiency reporting values greater than 13 results in only modest predicted decreases in indoor concentrations of these particles. Daycare centers, pre-schools, and schools with an air filtration rating of less than a minimum efficiency reporting value of 8 may be eligible for this upgrade as part of the Voluntary Emission Reduction Agreement. The heating, ventilation, and air conditioning units of schools along the new alignment would be upgraded to a minimum efficiency reporting value of 8 or greater and would remove particulate matter of at least 2.5 to 10 microns. This targeted air quality improvement would enhance the respiratory health and well-being of children. A complete replacement of the heating, ventilation, and air conditioning system would only be required if the air filtration component of an existing system cannot feasibly be upgraded to obtain the minimum efficiency value of 8. The proposed heating, ventilation, and air conditioning system would be a funded improvement through the Voluntary Emission Reduction Agreement. Caltrans and the city of Bakersfield would coordinate with the San Joaquin Valley Air Pollution Control District to provide details in its implementation. Caltrans will coordinate with the Stockdale Christian School during final design phase of the project to obtain existing status of their Heating, Ventilation and Air Conditioning unit. *Potential Spills from Trucks* Although trucks transporting hazardous materials would utilize the freeway, a toxic spill during class hours is highly unlikely. Project design within the general area of Stockdale Christian School will include guardrails and sound walls, which would act as a barrier to shield trucks away from the school. Aside from these two physical barriers, there is a row of houses between the sound wall and the school. Trucks carrying hazardous materials/waste must adhere to special transportation regulations, United States Department of Transportation and National Fire Protection Association placarding and standards. Containers are designed to safely transport substances that are compatible with the material being transported and to withstand (to a certain threshold) collisions. *Trash/Maintenance* Although Stockdale Christian School will be adjacent to the new freeway, Caltrans does not anticipate significant increases of litter on school grounds. A sound wall

[16] U.S Environmental Protection Agency (EPA). 18 June 2015. "Residential Air Cleaners" Available Online at: http://www.epa.gov/iaq/pubs/residair.html#Air-Filters_Available-Evidence-of-Their-Usefulness

Comment Code	Response
	would be constructed between the roadway and the school, which would block litter from the freeway from reaching school grounds. After construction of the project, Alternative B will be in Caltrans right-of-way. Caltrans maintenance staff periodically removes litter within areas adjacent to the roadway. For areas within the city of Bakersfield, maintenance staff will remove litter along local streets.
GP-29-3	It is acknowledged that substantial neighborhood disruption would occur as a result of implementing Alternative B and dividing the existing Westpark neighborhood; however, Alternative B is a feasible and prudent alternative that avoids other Section 4(f) resources, such as parklands and historic properties, in addition to numerous other benefits discussed in the final environmental document. Please refer to Section 2.1.3, Comparison of Alternatives, and Section 2.1.4, Identification of Preferred Alternative, in Volume 1 for additional information on the alternatives screening process.
GP-29-4	Your preference for Alternative C is noted.

Comment GP-30

GP-30

TELEPHONE (661) 324-5403

JACK M. RADEMACHER (RET.)
CONSULTING ENGINEER

132 WESTERN DRIVE
BAKERSFIELD, CALIFORNIA 93309

MECHANICAL ENGINEERING
CHEMICAL ENGINEERING

TO: JENNIFER H. TAYLOR, OFFICE CHIEF
FR: J. M. RADEMACHER
RE: E.I.R. CENTENNIAL CORRIDOR PROJECT

THANK YOU FOR LETTER OF MAY 7, 2014.. PUBLIC REVIEW & COMMENT" MY BASIS FOR RESPONSE AS FOLLOWS!

A. AS NATIVE OF BAKERSFIELD, OUR AIR QUALITY HAS DEGRADED TO PRESENT UNHEALTHFUL STATUS. GP-30-1

B. EVERY CONSTRUCTION PROJECT REQUIRES ENERGY. PROPOSED PROJECT WILL REQUIRE MAN POWER & COMBUSTION OF FOSSIL FUELS..I.E. NAT. GAS, LIQUID PETROLEUM, SOLID COAL..

C. ENERGY FROM BURNING THESE F.F.'s WILL RELEASE $CO_2 + H_2O$ VAPOR + POLLUTANTS INTO OUR AIR STREAM.. POSTULATE THAT 1.0% ARE POLLUTANTS; THEN FOR 100 LBS OF F.F. BURNED 1.0 LB. OF POLLUTANTS IS ADDED INTO OUR AIR..

D. CHEMICAL COMBUSTION EQUATION DEFINES THAT TO BURN 100 LBS, OF F.F. REQUIRES 350 LBS OF O_2; TO BE REMOVED FROM OUR AIR SUPPLY.. GP-30-2

E. THUS, THE ENERGY REQUIRED TO DO WORTHWILE PROJECTS WILL ESSENTIALLY BE FROM BURNING OF F.F.s; THE MONETARY COST, THE NEGATIVE AIR QUALITY IMPACT OF F.F. COMBUSTION, & THE VALUE OF PROJECT TO RESIDENTS SHOULD BE A "BALANCED DECISION" TO DETERMINE VALUE OF PROJECT..

PLEASE CONSIDER THIS REQUEST: THE E.I.R. FOR PROPOSED PROJECT SHALL INCLUDE: "THE ESTIMATED POUNDS OF FOSSIL FUEL TO BE BURNED TO CARRY OUT THE PROJECT!!

VERY TRULY,
J. M. Rademacher 05/14/14

(ADD OVER)

GP-30

ADDENDA:

(1) THIS REQUEST SHOULD NOT BE ONEROUS AS IT IS AN ESSENTIAL PORTION OF THE MONETARY COST OF PROJECT..

(2) THIS REQUEST IS BY NO MEANS A "WAKO" ATTEMPT TO SCUTTLE A DESIRED PROJECT... BUT TO ALLOW RESIDENTS & OFFICIALS TO EVALUATE THE EFFECT OF INCREASED POLLUTANTS INTO & OXYGEN REMOVED FROM OUR SUPPLY; AND PROVIDE OFFSETS TO MITIGATE THE IMPACT UPON AIR QUALITY..

(3) GRAD. U.C. (BERK.); W.W.II WAR RESEARCH (N.A.C.A.); W.W.II O.C.S.; CMDR. U.S. AMPHIB FORCES GRP43 PACIFIC AREA, 50 YRS OF ENGINEERING PROJECTS, 35 YRS. IN PRIVATE CONSULTING PRACTICE; VOLUNTEER SERVICE: KERN CO. AIR POLL. BOARD (1971+); VALLEY AIR DISTR "REMOVE COMM."; KERN CO. HAZARD WASTE COMM....

REGARDLESS... YOUR CRITICAL CONSIDERATION OF THIS REQUEST IS APPRECIATED..

05/14/14

Response to Comment GP-30

Comment Code	Response
GP-30-1	Your comment about air quality is acknowledged.
GP-30-2	It is acknowledged that construction of the Centennial Corridor Project would require various types of fossil fuels during construction. These fuels would result in the release of carbon dioxide and water. Table 3.51 of the final environmental document (Volume 1) shows the calculated energy use by construction year based on the estimates of fuel use that would be used during construction; however, these uses should be considered within the context of substantial energy savings over the design life of the project, as described in Section 3.2.8, Energy, of the final environmental document (Volume 1). In addition, standard condition SC-CI-26, listed in Section 3.6, Construction Impacts, Avoidance, Minimization, and Mitigation Measures – Energy, would reduce energy use during construction. Providing an estimated use of fossil fuels during construction is not a requirement under the California Environmental Quality Act or National Environmental Policy Act. Nevertheless, the estimated quantity of fossil fuels to be used during construction could not be accurately estimated because of several varying factors, including the exact type and age of equipment, topography, type of activity, and operator's use of the equipment. Specific information on construction equipment will not be available until a contractor has been obtained to construct the project. See Section 3.6, Construction Impacts, in Volume 1, for air quality measures that will be taken during construction. These comply with the San Joaquin Valley Air Pollution Control District rules and regulations.

Comment GP-31

GP-31

May 25, 2014

Environmental Southern San Joaquin Valley
Jennifer Taylor, Office Chief, Central Region
855 M St, Suite 200
Fresno, CA 93721

Dear Jennifer Taylor,

This is pertaining to The Centennial Corridor Freeway Project, in Bakersfield. Alternative B is currently the plan that is being presented to the public for approval. We are writing to say we are emphatically opposed to Alternative B and believe it would be in the best interest of the Bakersfield community to adopt Alternative C. GP-31-1

Our son attends Stockdale Christian School which is located in the Westpark neighborhood that will be severely affected by this project. The Westpark neighborhood is a peaceful, family community with established homes and a community park. Not only will this project have a huge, unimaginable impact on the residents and businesses that are in the direct path of the freeway, the school, which was established in 1977, will be significantly impacted. Initially, the long construction process would interfere with the everyday activities of the school. The noise, extra traffic, and construction crews would severely disrupt this peaceful community and school. Once the freeway is completed, the whole area will no longer have the feel of a peaceful community. In today's world, small family communities with low crime rates are harder to find. GP-31-2
Instead of destroying this peaceful, established community please reconsider and support Alternative C. GP-31-3

Thank you,

Frank Sosa
Maris Sosa

Frank and Maris Sosa
1907 1st St.
Bakersfield, CA 93304
(661)325-6651

Response to Comment GP-31

Comment Code	Response
GP-31-1	Your opposition to Alternative B and support for Alternative C is acknowledged. As discussed in Volume 1, Section 2.1.4, Preliminary Identification of a Preferred Alternative, as part of the screening process, three build alternatives, A, B, and C, were identified and evaluated at an equal level of detail in the technical studies and the final environmental document. All three alternatives meet the project purpose and need of providing route continuity for State Route 58. As presented, Alternative A has the greatest number of displacements of the three alternatives and is the most expensive. It would affect the Kern River Parkway and the Rancho Vista Historic District, both of which are Section 4(f) resources. Alternative C would affect Saunders Park, which is a Section 4(f) resource. Appendix B, Section 4(f) Evaluation, in Volume 2 provides additional details. Even with further design modifications made to the three alternatives and a further consideration of additional alternatives (please see Table B.3, Summary of Avoidance Alternatives Analysis), Alternative B was found to be the only feasible and prudent alternative that avoids all Section 4(f) resources, such as parklands and historic properties. Alternative C would displace the least number of residences, but more businesses would be impacted compared with Alternatives A and B. As discussed in Section 3.1.4.3, Environmental Justice, when business and residential properties are taken together, environmental justice relocation impacts represent 1.6 percent of the total in Alternative B, 7.5 percent of the total displacements in Alternative A, and 26.6 percent of the total displacements in Alternative C. In addition to avoiding parkland, historic properties, and having the least impact on environmental justice populations, Alternative B is also the least expensive alternative, costing over $100 million less than the other alternatives. Therefore, after comparing and weighing the benefits and impacts of Alternatives A, B, and C, some of which are summarized in Tables S.1 and 2.1 of the final environmental document, Caltrans has identified Alternative B as the Preferred Alternative.
GP-31-2	Section 3.2.7, Noise, in Volume 1 addresses the potential short- and long-term noise effects of the project and includes measures to address those effects. A comparison of current noise levels to the projected noise levels in 2038 under the No Build Alternative and the build alternatives is provided. Results of the noise analysis indicate that the existing exterior hourly average peak-hour noise level of 52 decibels would become 58 decibels, but this level would be reduced to 57 decibels due to a 12-foot-high sound wall that is planned for this area. A 5-decibel noise increase would be barely noticeable and it would be below Caltrans exterior noise limits, which is 67 decibels. The interior noise limits for classrooms is 52 decibels. A typical building provides at least a 25-decibel noise reduction; therefore, the anticipated peak hourly traffic noise inside the classrooms closest to the freeway would be 33 decibels. Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, addresses potential impacts to vehicular traffic and circulation, as well as impacts to the transit system, pedestrian and bicycle facilities, and parking. The potential for traffic disruption, including that involving Stockdale Christian School, would mostly exist where bridge crossings would be built, at connections to existing road and highway facilities, and where ramp work would be done, including ramp closure work. The duration of construction travel-time delays could be expected to last from a few days to more than a year in various construction zones and may require motorists to adjust their schedules to accommodate longer travel times. Information on detour routes will be provided to parents and students if road closures are required. A Traffic Management Plan will be prepared during the final design phase. This document would provide details on detour plans and required notifications prior to any road/lane closures.
GP-31-3	Please refer to Response to Comment GP-31-1 regarding selection of the Preferred Alternative.

Comment GP-32

GP-32

DEPARTMENT OF TRANSPORTATION
District 6
855 M street, suite 200
Fresno, CA 93721-2716

Bakersfield May 27 2014

Dear Ms Jennifer H. Taylor Office Chief

Thank you for the letter and all of the information regarding the extension of High Way 58 through Bakersfield.

However, I believe the whole idea is a bad one. Giving up hundreds of homes in old established neighborhoods, and the added freeway noise, is not worth what is gained in moving traffic. (I-5north only) GP-32-1

I still believe that to gain traffic movement, is via the Arvin (223) turn off and Bear Mt road to 99 and I-5

So, thanks again.

Sincerely,

K M Cannon

Kenneth M. Cannon
1100 Belle Terrace
Bakersfield, CA 93304
661-833=1503
Tahoeken@att.net

GP-32

tahoeken@att.net

From: <tahoeken@att.net>
To: "opinion" <opinion@bakersfield.com>
Cc: <TAHOEKEN@ATT.NET>; "Lonnie Hester" <lonflohester@yahoo.com>; "CORKY HOOD" <VINTIQUEMECHANIC@AOL.COM>; "Lois Henry" <lhenry@bakersfield.com>; <estherjcepeda@washpost.com>
Sent: Tuesday, May 27, 2014 11:20 AM
Subject: bullet train idea

BULLET TRAIN IDEA

Thank goodness that stupid idea of a bullet train down the San Joaquin Valley is opposed and hopefully gone fore ever! Who would have ridden it?

Now let's hope another stupid idea, the extension of high way 58 through Bakersfield out to I-5, is opposed and forgotten! To destroy hundreds of homes just to gain access to I-5 North, is plane foolish. Makes you wonder who is financially gaining from it??

Kenneth M. Cannon

1100 Belle Terrace

Bakersfield, CA 93304

661-833-1503

5/27/2014

GP-32

tahoeken@att.net

From: "ken cannon" <tahoekc@etcrier.net>
To: <ttcarver@arvin.org>
Cc: <tahoekc@etcrier.net>
Sent: Tuesday, March 18, 2008 2:17 PM
Subject: bkfd by pass

Hello Tim

Looking at a map of California, it is obvious that route 223 through Arvin has the best advantage, for ever one. For the following considerations and reasons.

The right of ways are in place, there are few houses if any.
plenty of wide open space to widen the right of way.
It is 20 miles from the Arvin turn off to 99 and 25 miles to I-5
The Arvin turn off is a dangerous intersection and in the future when the Vets cemetery is put there it will become more hazardous because of more traffic

So, what to do?
Put in large interchange at the Arvin turn off
build a 4 or six lane freeway from the Arvin turn off to 99 and I-5

what will this accomplish?
From east to north traffic for I-5 will by pass Bakersfield.
From east to south traffic for 99 will by pass Bakersfield
I would suspect that even from east to north traffic for 99 would by pass Bakersfield as the 99/58 intersection is almost always congested and that would give traffic a "straight shot" through Bakersfield on 99.
And traffic (mostly trucks) from 99 to east would by pass Bakersfield to ovoid the 99/58 congestion. Only about ten miles further.
Arvin will prosper from the traffic through the town, restaurants, hotels, truck stop, more homes for workers and of course the bigger tax base

well, if I think of other things, I will let you know Disadvantages, not worth mentioning !! ha

ken cannon tahoekc@etcrier.net

5/24/2014

SATURDAY, MAY 10, 2014 BAKERSFIELD.COM $1

The Bakersfield Californian

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CLASSIFIEDS D1 COMICS E5 EYE STREET E1 FAITH A14 HEALTH A2 LOCAL B1 MONEY A13 OBITUARIES B2 OPINION B5 PUZZLES E4 SPORTS C1 TV E3

CENTENNIAL CORRIDOR

Caltrans still favors Alternative B

Report: Westpark path would require far more demolition than previously thought

BY THEO DOUGLAS
Californian staff writer
tdouglas@bakersfield.com

Alternative B through the Westpark neighborhood remains Caltrans' preferred and least expensive route for Centennial Corridor, the controversial freeway link between Highway 58 and the Westside Parkway — but would require the demolition of far more homes and businesses than previously thought.

With its release Friday of the project's draft Environmental Impact Report, the state transportation agency found Alternative B would improve traffic throughout metropolitan Bakersfield — but as currently planned would require the demolition of 200 single-family homes, 110 multiple-family structures and 121 commercial buildings.

Previously, the freeway alternative through southwest Bakersfield was thought to require the demolition of more than 199 single-family homes, 16 multiple-family structures and 36 businesses.

Currently, Caltrans also estimates Alternative B would require 293 full parcel acquisitions, 129 partial parcel acquisitions — and could displace an estimated 961 people.

The EIR's release — 15 months late because working with state and federal agencies took longer than expected — expands earlier demolition numbers by nearly 50 percent.

However, a Caltrans official said those figures could come down once the EIR is approved.

"As we move forward getting closer to construction and final design, they'll tighten up those lines. There may be parcels now that we assumed would be full takes but they may only need sliver takes," said Christine Cox-Kovacevich, Caltrans' central region envi-

Please see ***CORRIDOR / A3***

READ UP, SOUND OFF

Read the report for yourself at http://tinyurl.com/l8yyohq.

Mail written comments to Jennifer H. Taylor, Office Chief, Central Region, Environmental Southern San Joaquin Valley, 855 M St., Suite 200, Fresno, CA 93721.

Share your opinion at the public hearing, 4 to 7 p.m. June 11, in the rotunda at the Kern County Administrative Center, 1115 Truxtun Ave.

Saturday, May 10, 2014 The Bakersfield Californian

CORRIDOR

CONTINUED FROM A1

ronmental division chief.

"It's better for us to overestimate the number than underestimate as we go into the hearing, than to tell somebody that you're not going to be impacted and then you are."

City Manager Alan Tandy said he was happy the EIR is being circulated — and referred all questions to Caltrans, which is the lead agency on the project.

Caltrans will take public comments on the EIR through July 8, and will hold a public hearing from 4 to 7 p.m. June 11 at the Kern County Administrative Center.

Afterward, Cox-Kovacevich said Caltrans will answer those comments, and when answers are complete, the District 6 director will decide whether or not to proceed with the project.

A decision is expected by year's end, and if the project is approved construction could begin by mid-2016.

Why it's Alternative B

Alternative B's recommended path would have "adverse effects to the character of ... southwest Bakersfield and (the) Westpark neighborhood," which it would bisect, the EIR says.

It also would raise noise levels above the generally acceptable 62-70 decibel range in 484 outdoor areas, which Cox-Kovacevich said can be mitigated with soundwalls and landscaping.

With the entire state in the grips of a drought, Caltrans is considering moving to Arizona-style hardscape for future freeways. Centennial Corridor, though, would get actual, albeit drought-resistant, landscaping.

Caltrans has considered Alternatives A and C to be unfeasible since December 2012.

Alternative A, a connector southwest of Alternative B, would affect Rancho Vista Historic District. Alternative C, a connector slightly to the northeast of B, would impact Saunders Park.

Both the park and the historic district are protected under Federal Highway Administration guidelines.

Alternative A would demolish the most structures, and at $691 million in right-of-way and construction costs is the most expensive.

Alternative C has the fewest demolitions, but at $665.5 million for right-of-way and construction is the second most expensive proposal.

If either is moved to avoid historic houses or the park, it effectively becomes Alternative B, the cheapest choice at $570 million for right-of-way and design — although Cox-Kovacevich said it wasn't picked for its cost.

Bakersfield's share of that pricetag isn't included in the new proposed 2014-2015 fiscal year budget because it won't get built by then.

In the proposed budget, city officials do propose spending $559,737 in design costs during the 2015-2016 fiscal year. That money would come from development fees.

During the 2016-2017 fiscal year, the city proposes spending $325.3 million on construction — nearly $35.2 million in federal earmarks brought to Bakersfield by former Congressman Bill Thomas, R-Bakersfield. The remainder, about $290.1 million, would come from utility and development fees.

Traffic woes

The cost is worth it, according to Caltrans' EIR, which finds area traffic levels are at dangerously high levels. Highway 99 between Highway 58 and Airport Drive is the state's third most congested highway segment, it reports.

Kern County motorists, the EIR says, also face far more truck traffic than other California drivers. Trucks account for 27 percent of county traffic, three times the statewide average of 9 percent.

The EIR also cites state Department of Finance projections that by 2035, Bakersfield is expected to have 848,487 residents — accounting for about 60 percent of Kern County's population.

Its EIR reveals that if Centennial Corridor isn't built, four area freeway segments — a segment is typically a piece of a freeway between on- and off-ramps — will be getting "F" traffic grades by 2018.

By 2038, it predicts that number will rise to 16.

Intersections at or near Centennial Corridor will experience much the same, with 25 getting "F" grades in 2018 and 34 getting "F" grades by 2038.

In the traffic world, a D is actually a passing grade — but an F means gridlock.

Connecting Highway 58 to the Westside Parkway and, someday, to Interstate 5, will keep traffic moving, Caltrans believes.

Westpark resident Robert Braley, who frequently speaks about Centennial Corridor before the Bakersfield City Council, said he lives within six houses of Alternative B and isn't convinced it can be built on budget or is even needed.

"It's not going to solve anything, and the whole point of having this thing is to connect to I-5, but there isn't any traffic to I-5," Braley said. "It's going to be another roadway for no reason."

Wildlife impacts

Plants and animals, too, would be adversely affected by the freeway segment — but Caltrans said it can mitigate those effects.

All three Corridor routes would affect the Swainson's hawk, listed as threatened by the California Department of Fish and Game, and the San Joaquin kit fox, lasted as endangered by the federal government and as threatened by the state.

Cox-Kovacevich said Caltrans hasn't seen any Swainson's hawks in the area, but if it finds any nesting birds during construction it will keep contractors away.

Alternative B affects more kit fox dens than either A or C — but fewer overall acreage of habitat than A.

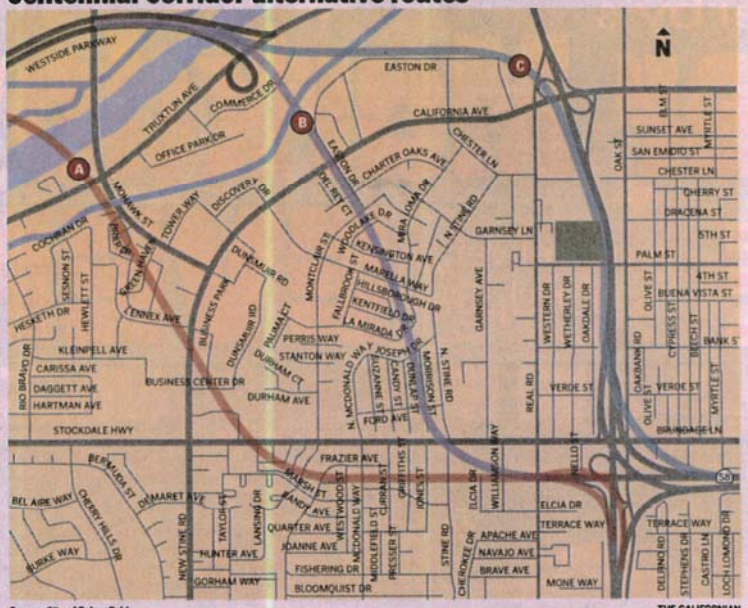
Caltrans' plan for kit fox handling is to purchase habitat elsewhere through the city's multiple species habitat conservation plan — and to help the big-eared hunters get around by bridging the Kern River and the Friant-Kern Canal. Foxes use bridges.

Local wetlands also would be affected by all three alternatives; however, Alternative B would affect the fewest acres.

Cox-Kovacevich said Caltrans is working with the Army Corps of Engineers and the California Department of Fish and Wildlife to minimize impacts, but if necessary, it will do habitat restoration if Alternative B is built.

"We've done all the analysis and here it is — we're basically laying our cards on the table," Cox-Kovacevich said. "Hopefully, we can lead people to a resolution and we can get a decision on whether the project is worthwhile to move forward."

Centennial Corridor alternative routes



Source: City of Bakersfield

THE CALIFORNIAN

Response to Comment GP-32

Comment Code	Response
GP-32-1	Your opposition to Alternative B is acknowledged. An alignment along the existing State Route 223 connecting State Route 58 and Interstate 5 was considered as an alternative during the earlier project development phase, but was eliminated from further evaluation. This alternative is identified in Table 2.3 of the Final Environmental Impact Report/ Environmental Impact Statement as Public Alternative 3. Project development team meetings consisting of Caltrans, city of Bakersfield and its consultants, and County of Kern were held in August and September 2008 to discuss and screen 18 alternatives to carry forward for further analysis. A total of eight criteria were established in order to evaluate which alternatives to carry forward in the environmental phase of the project. Public Alternative 3 was eliminated from further consideration because: it does not meet the project's purpose and need of providing route continuity and associated traffic relief; it would not provide interregional and regional connectivity for east-west traffic traveling within Metropolitan Bakersfield; Public Alternative 3 is not located within Metropolitan Bakersfield (Criterion 2). The preliminary cost estimate for Public Alternative 3 is approximately $1.72 billion, which exceeds the maximum reasonable threshold established for the Centennial Corridor Project construction cost of $800 million or less. Therefore, construction of Public Alternative 3 would be cost prohibitive. Public Alternative 3 failed to meet Criterion 4 which establishes the availability of reasonable funding for the construction of the project. Public Alternative 3 was eliminated because of Criterion 8 which stipulates that failing to meet any combination of two of the eight criteria would result in a fatal flaw for that alternative. Based on the evaluation of Public Alternative 3, the Project Development Team eliminated this alternative because it failed to meet three established criterion. As discussed in Section 2.1.4 in Volume 1, Preliminary Identification of a Preferred Alternative, as part of the screening process, three build alternatives, A, B, and C, were identified and evaluated at an equal level of detail in the technical studies and the final environmental document. All three alternatives meet the project purpose and need of providing route continuity for State Route 58. As presented, Alternative A has the greatest number of displacements of the three alternatives and is the most expensive. It would affect a park and the Rancho Vista Historic District, both of which are Section 4(f) resources. Alternative C would displace the least number of residences but more businesses would be impacted compared to Alternatives A and B. Most of the residential displacements as a result of Alternative C would impact low income and minority neighborhoods (environmental justice communities). When business and residential properties are taken together, environmental justice relocation impacts represent 1.6 percent of the total in Alternative B, 7.5 percent of the total displacements in Alternative A, and 26.6 percent of the total displacements in Alternative C. See Section 3.1.4.3, Environmental Justice, in Volume 1 of this final environmental document for more information about potential effects of each of the Build Alternatives for environmental justice communities. Alternative C would also affect Saunders Park, which is a Section 4(f) property. As such, Alternative B is a feasible and prudent alternative that avoids all Section 4(f) resources, such as parklands and historic properties; both Alternative A and C would impact parkland and recreational areas, even with design modifications. Alternative B is also the least expensive alternative, costing over $100 million less than the other alternatives. Therefore, after comparing and weighing the benefits and impacts of Alternatives A, B, and C, some of which are summarized in Tables S.1 and 2.1 of the final environmental document, Volume 1, Caltrans has identified Alternative B as the Preferred Alternative. Additionally, as discussed in Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities (Volume 1), the traffic study showed the build alternatives would provide better traffic flow for all vehicles due to direct route continuity compared to both the existing condition and the No Build Alternative in future years. Furthermore, the additional capacity provided by the build alternatives compared to the No Build Alternative would also help reduce congestion on adjacent local roadways because traffic is expected to shift to the freeway.

Comment GP-33

GP-33

May 16, 2014

Jennifer H. Taylor
Office Chief, Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation, District 6
855 M Street, Ste. 200
Fresno, CA 93721

Re: Centennial Corridor Project

Thank you for your letter dated May 7, 2014 regarding the Centennial Corridor project that provides a continuous route from Hwy 58 to the Westside Parkway and onto Interstate 5. I will be working out of the country during your one day public meeting scheduled for June 11, 2014, but I wanted to let you know I have concerns regarding the mitigation measures along this project. Once you connect Highway 58 to the Westside Parkway, traffic will increase considerably along the Westside Freeway which increases noise and pollution. Per your draft EIR, the route will provide *traffic congestion relief…and is used by interstate travelers, commuters, and a large number of trucks…[and] would substantially increase traffic on the Westside Parkway.* I am concerned that the increased traffic along the Westside Parkway will negatively affect the surrounding neighborhoods without the proper mitigation measures. GP-33-1

Currently, there are sections along the Westside Parkway that do not have a block sound wall, or the wall is significantly shorter than originally planned. These areas are from Allen Road to Renfro Road which is currently under construction, and there are no current plans to change the mitigation measures. Across from my home on Via La Madera, there is no sound wall from Allen Road to Jenkins (pictures attached). The end of Jenkins is merely a chain link fence with two gates (pictures attached). It is my understanding that TRIP, the City of Bakersfield, and the County of Kern have discussed this area, but no alternative decisions have been made at this time to provide an adequate sound wall. GP-33-2

Per your EIR, *the Westside Parkway would be incorporated into the State Highway System with each of these alternatives.* It would seem this would also give you jurisdiction for the mitigation efforts. You stated that each build alternatives *would require improvements to the Westside Parkway.* I propose that an adequate sound wall be constructed all along the adjoining neighborhoods and not just selected areas.

Also, along the Via La Madera residents, the block wall was originally to be 12-14' high and the roadway recessed. The roadway is at grade level and the wall is 8'. Currently, the construction trucks can peer down into

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GP-33

the backyards. Same is true for the residents along San Simeon where the roadway is above grade, and going over our water supply, and there is no wall protecting the security of the aquifer, ponds, or residents.

The sound walls are needed all along the project and not just in selected sections in order to protect the residences from wandering people, noise, pollution, intrusion of privacy, and declining property values. Also, adequate walls would protect drivers from kids, dogs, and other animals getting onto the freeway (picture attached of animals on roadway) Walls that start and stop are not feasible or reasonable along this project. A block wall that is at least 10' high following the roadway from Allen Road to Jenkins Road, and closing off Jenkins by adjoining it to the current wall behind the oil well would be reasonable (picture attached). Plus, adding 2 feet to the wall along Via La Madera would be a great improvement to the too short 8' wall that allows truck drivers to peer into back yards. GP-33-2

The DOT cannot continue with the Centennial Corridor project to connect Hwy 58 to the Westside Parkway, until the Westside Parkway sound walls are completed properly which would give safety and security to the residents and the drivers along the freeway.

Please feel free to contact me to discuss this project, and I'd be happy to give you a tour of the area in question.

Thank you,

Pam Binns
661-304-3084
pam.binns@yahoo.com

2

GP-33

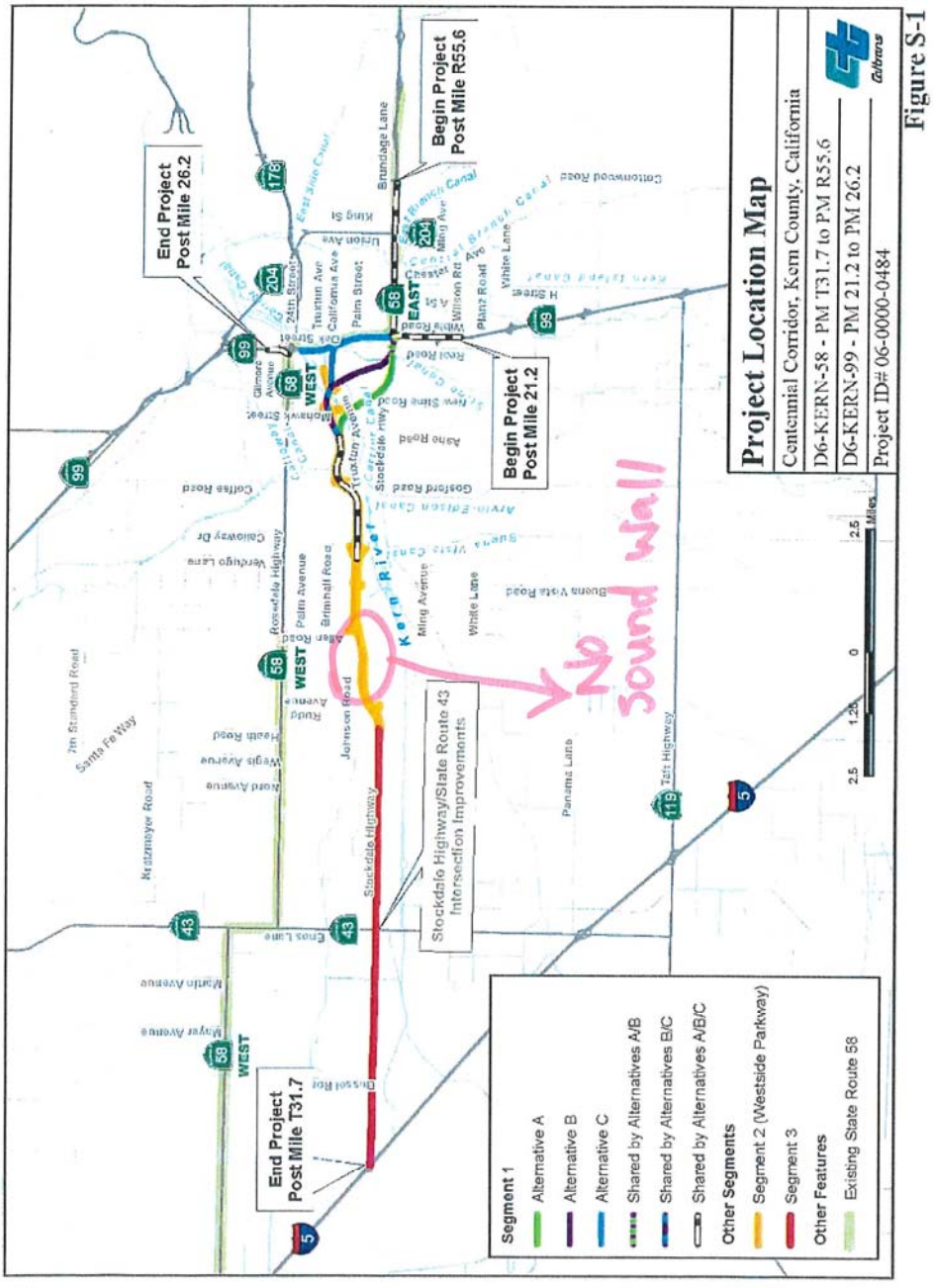
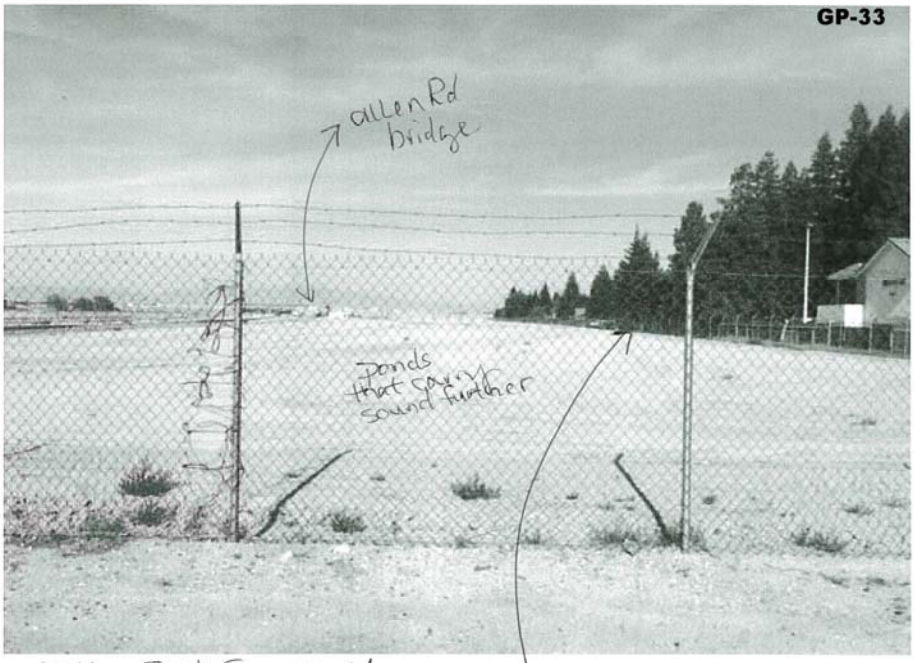
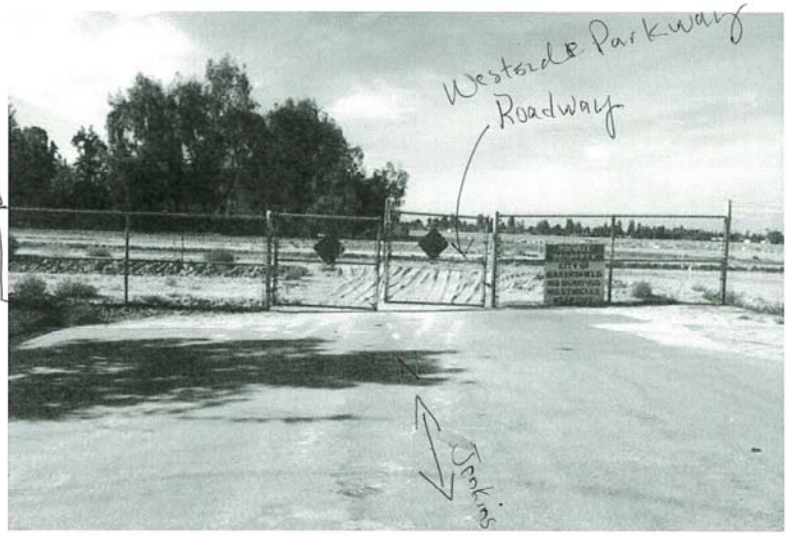


Figure S-1


GP-33
Allen Rd bridge
Ponds that carry sound further
Looking East from Jenkins
San Simeon residents with no sound wall

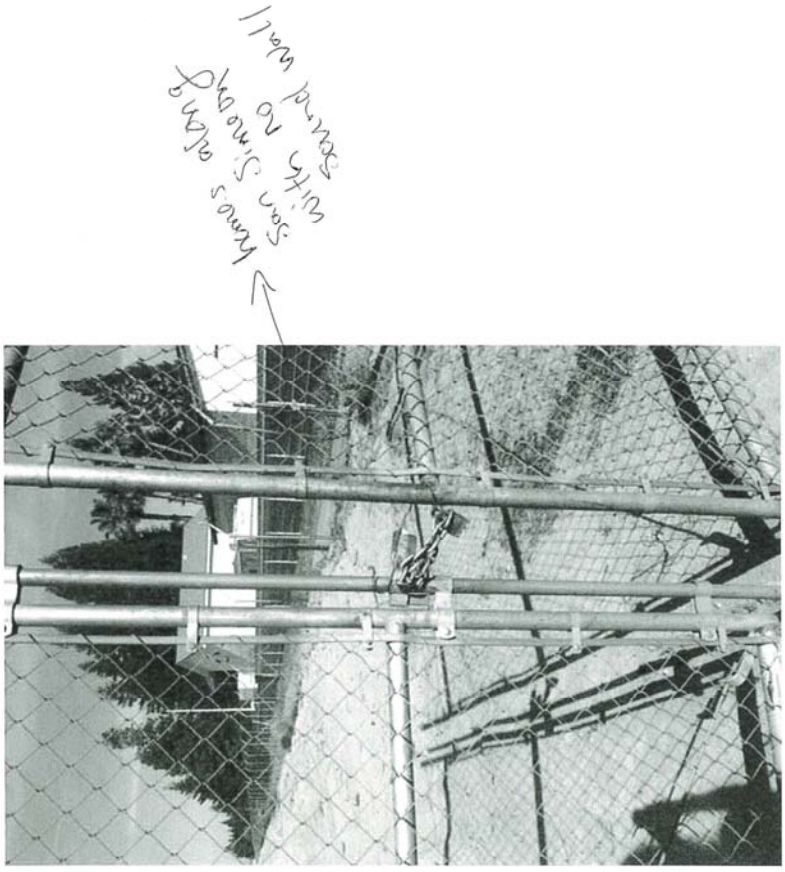
GP-33



There are other access points. This is the end of Jenkins.

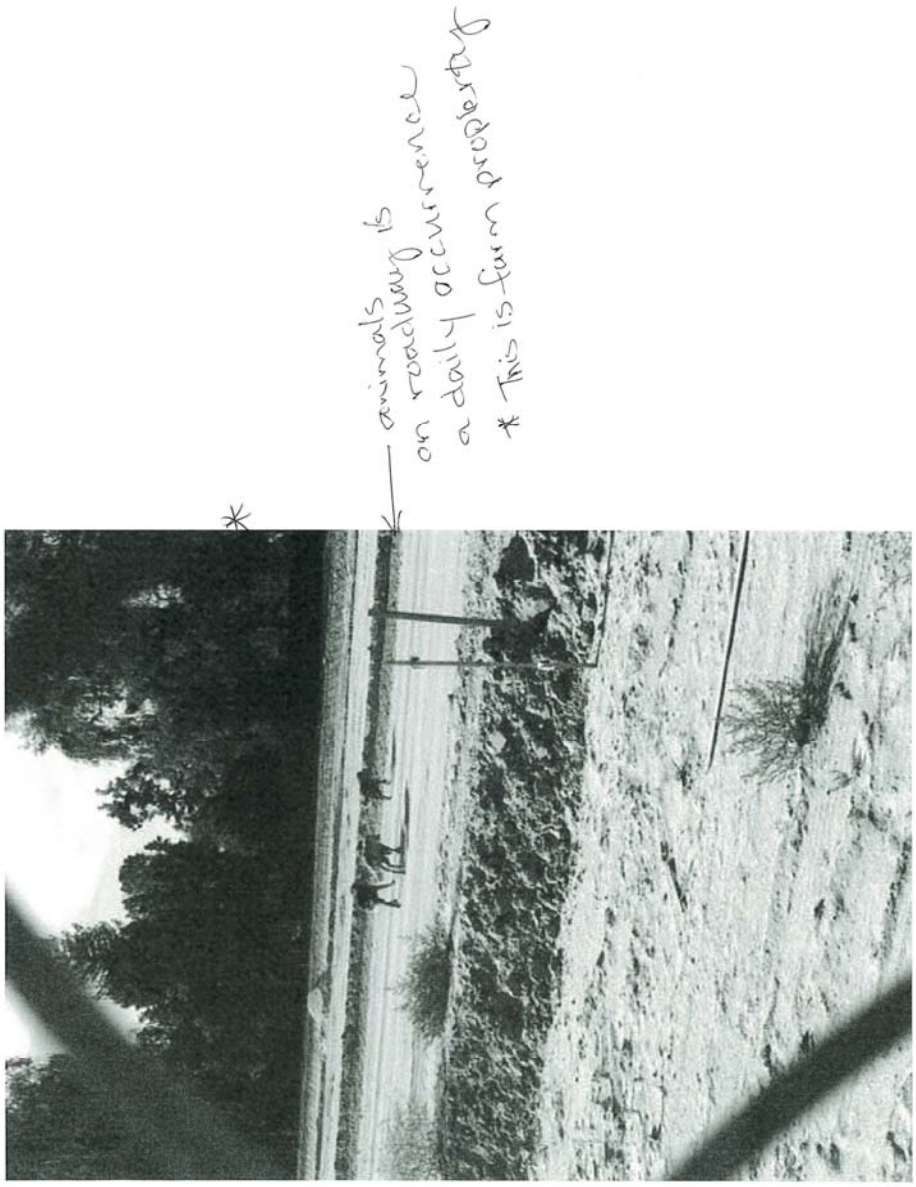
* It would make sense to connect a wall here.

GP-33



GP-33

GP-33


animals
on roadway is
a daily occurrence
* This is from property

GP-33

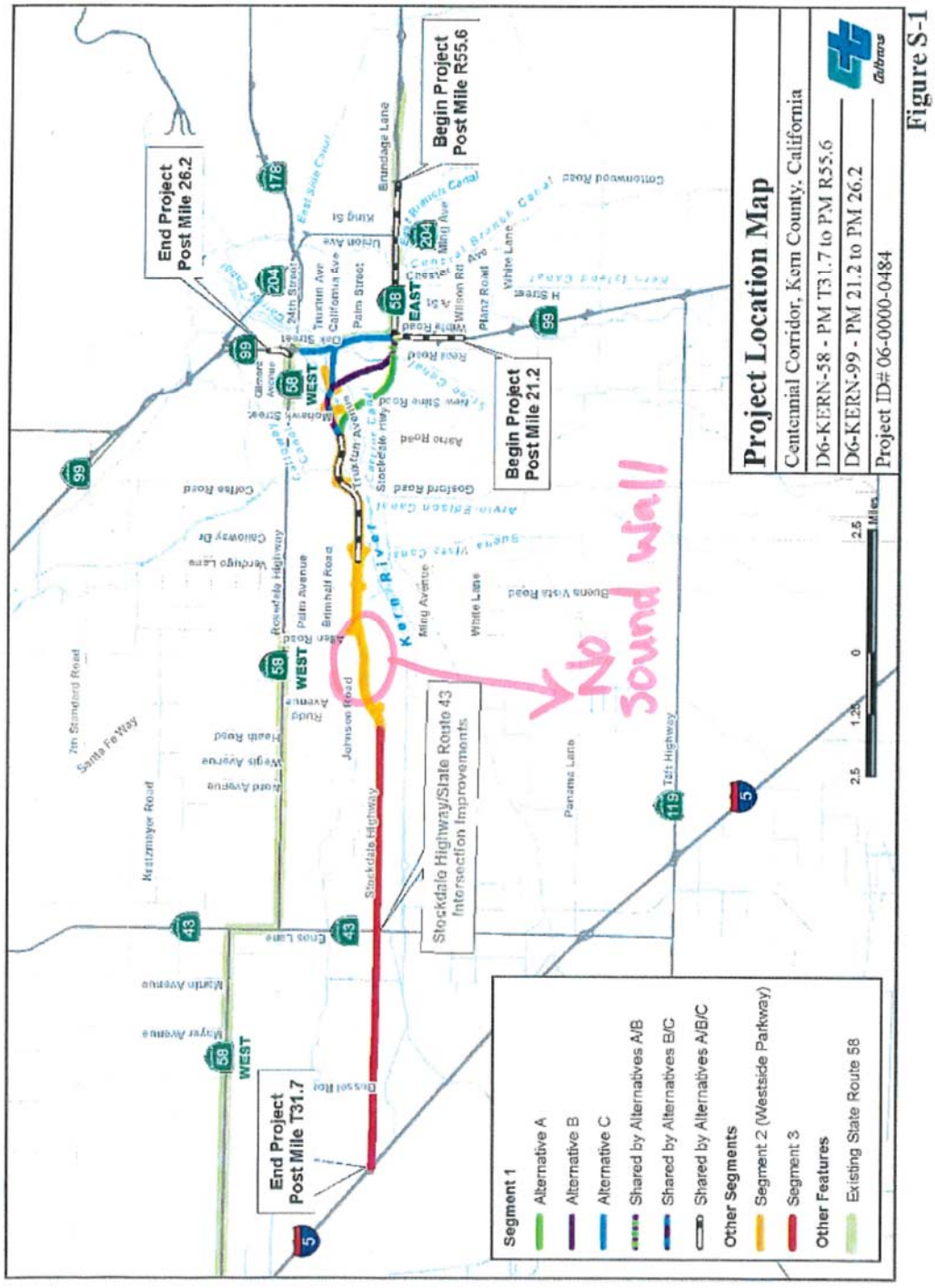

Project Location Map
Centennial Corridor, Kern County, California
D6-KERN-58 - PM T31.7 to PM R55.6
D6-KERN-99 - PM 21.2 to PM 26.2
Project ID# 06-0000-0484
Caltrans
Begin Project Post Mile R55.6
End Project Post Mile 26.2
Begin Project Post Mile 21.2
End Project Post Mile T31.7
Stockdale Highway/State Route 43 Intersection Improvements
No Sound Wall
Segment 1
Alternative A
Alternative B
Alternative C
Shared by Alternatives A/B
Shared by Alternatives B/C
Shared by Alternatives A/B/C
Other Segments
Segment 2 (Westside Parkway)
Segment 3
Other Features
Existing State Route 58
Miles

Figure S-1

Response to Comment GP-33

Comment Code	Response
GP-33-1	Caltrans thanks you for participating in the environmental process for the Centennial Corridor Project. This environmental document does not address impacts related to construction of the Westside Parkway, which is a separate stand-alone project currently under the jurisdiction of the city of Bakersfield. Please contact the city of Bakersfield Planning Department at (661) 326-3733 for any issues or concerns related to the Westside Parkway or requests for sound walls. A detailed noise study was done for the Westside Parkway Project in 2007. At the time of the traffic noise study analysis was conducted for the Centennial Corridor Project (2013), Westside Parkway was under construction. The traffic noise impact analysis for Westside Parkway used Level of Service C traffic volumes for each lane to predict the worst-case traffic noise impacts. For purposes of determining noise impacts, the worst-case traffic noise occurs when traffic is operating under level of service C conditions. Under these conditions, traffic is heavy, but remains free flowing. Estimated future traffic volumes from the Centennial Corridor Project were not used because the worse-case scenario level of service C was used; however, future truck percentages from the Centennial Corridor Project were used for the traffic noise impact analysis for Westside Parkway. There is the possibility that traffic noise would be slightly higher at some areas along the Westside Parkway due to the proposed Centennial Corridor alignment where an auxiliary lane would be added. Therefore, to accommodate the slight increase in future noise from the Centennial Corridor Project, recommended heights of some of the Westside Parkway sound walls were raised by approximately 2 feet to provide additional traffic noise abatement for these areas. Noise abatement is considered for locations where traffic noise levels would approach or exceed the noise abatement criterion or there is a noise level increase of 12 decibels or greater. A barrier must also meet both the feasible and reasonable criteria to be built. Feasibility of noise abatement is an engineering concern. A minimum 5-decibel reduction in the future noise level must be achieved for an abatement measure to be considered feasible. The preliminary reasonableness determination is made first by achieving the noise reduction design goal. The design goal is that a barrier must be predicted to provide at least 7 decibels of noise reduction at one or more benefited receptors for the barrier to be considered reasonable. Second, for a barrier to be considered reasonable, construction cost must be within the established allowance per benefited receptor. Finally, the viewpoints of benefitted receptors (including property owners and residents of the benefited receptors) must be taken into account for a barrier to be considered reasonable. Unfortunately, the Federal funds used on the Centennial Corridor Project cannot be used to provide additional sound walls for Westside Parkway. Even if they could be used for additional purposes, they do not meet the requirements mentioned above. Please see Section 3.2.7, Noise, and Table 3.32, Noise Abatement Criteria, in Volume 1 of this final environmental document for more information on how sound walls are determined to be built for the Centennial Corridor Project.
GP-33-2	It is acknowledged that the Westside Parkway will be incorporated into the State Highway System and connect to the Centennial Corridor Project's Alternative B alignment. The request for a sound wall on Via La Madera from Allen Road to Jenkins Road is beyond the scope of the Centennial Corridor Project. As mentioned above, this final environmental document does not address impacts related to construction of the Westside Parkway.

Comment GP-34

GP-34

Comments submitted by:
Marc & Shannon Caputo
330 Garnsey Ave
Bakersfield, CA 93309

July 8, 2014

Jennifer H. Taylor
Office Chief, Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation, District 6
855 M Street, Suite 200
Fresno, CA 93721

I am opposed to the selection of Alt B as the preferred or approved route. I believe it disrupts the neighborhood a great more than other alternatives. The EIR demonstrates that in a number of reports, to human environment, physical environment and biological. What is the yardstick to picking one Alt over another? I understand about 4(f) and environmental justice but I believe that an argument can be made the other way also and that the number of lives that are disrupted from Alternative B is greater than that of Alternative C. GP-34-1

I understand that 45 days is a typical comment period and in this case 60 days was granted to review this Draft Environmental Impact Document but I find fault in providing only 60 days to review a document of such magnitude, a complete document that exceeds 5000 pages. GP-34-2

Highway Design Manual Conflicts

How can some guidelines not be followed from the Highway Design Manual, as outlined in Chapter 501.3 Spacing and 502.3 (c) Freeway to Freeway Interchanges? GP-34-3

Water

The entire State of California is in a severe drought. Are the guidelines to ensure proper watering of construction site going to be followed regardless of the current conditions? How is that monitored? How much more money will be spent to ensure proper watering of job site? GP-34-4

Noise Impact

According to the Traffic Noise Impact Analysis RB-37 does not meet the need for requiring abatement considerations.[1] But there is a church and a school, at a predicted noise level of 64 doesn't that activity category require abatement during and after construction? If not why? GP-34-5

Ming & California / Wible/Oak & Real Rd

The volume of traffic based on studies has shown that the amount of traffic has been over estimated by 30% and has dramatically underestimated the cost associated with building the freeway by 40-50%. [2] This is reported in a report in Transportation Magazine in November 2013. GP-34-6

[1] Draft Environmental Impact Report Volume 1 & 2, pg 265 and Figure 3-39 respectively

GP-34

Both Ming and Stockdale will have increased volume and usage causing deterioration to the roads at a faster rate because of the closure of ramps to Stockdale Hwy.

The amount of traffic that will now be funneling onto Wible/Oak and Real Roads will dramatically be increased because of the closure of Stockdale & 99 ramps. GP-34-7

Increased volume on the streets will increase the amount of noise and air pollution to the surrounding areas. GP-34-8

How are the volumes of traffic that have to exit onto Ming Ave and California Ave going to be mitigated because of the closure of the on and off ramps to 99?

I don't see the evaluation of the current road conditions on Wible/Oak and Real Roads and what will be done to handle the volume that will be added onto those roads. What will be done to improve the roadways to prevent the pavement from rapid deterioration due to increased volume? GP-34-9

Pedestrian Safety – there are no Sidewalks on streets where the volume of traffic will increase by Palm and Real Rd. There is a heavy elderly population in those neighborhoods, and this will affect their health and wellbeing. GP-34-10

The amount of street access changes is substantial in Alt B (17) compared to those of Alt C (2).[3] GP-34-11

The traffic on Oak, California and Truxtun has already been impacted by the creation of the Westside Parkway, it has increased dramatically since its opening. I don't believe that this was evaluated properly and the same will happen to Ming and will only continue to increase the traffic onto Oak, California and Truxtun because of the closure of access to Stockdale Hwy. GP-34-12

Interstate 40

The traffic study includes the volume of traffic from Stockdale Hwy and Interstate 5. In having conversations with Rick Helgerson, he states that this freeway is to join up with Interstate 5 and when it does it will become Interstate 40. What additional acquisitions will have to be made to make it an Interstate 40?

Regarding the 2038 traffic models, are they taking into account the amount of traffic that will be brought into the City and onto the Interstate once it becomes I-40?

Are the 2038 projections for air pollution taking into account this freeway becoming I-40? GP-34-13

Air Pollution

Table 3.25[4] which states that the projected air pollution will drop because of cleaner-burning fuels and improved vehicles emission standards by areas of 25-30% don't appear to take into account that once the freeway becomes I-40 those trucks coming from out of state will not have the emission regulations as those that that are Intrastate truck drivers. GP-34-14

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[2] Transportation Magazine, Nov 2013.
[3] Final Traffic Study Volume I, Page 47
[4] Draft Environmental Impact Report Volume I, page 241

GP-34

There is a school that is omitted that is within the buffer zone of an alternative, Stockdale Christian School is within 500 feet of Alt B and has a day care, preschool and elementary.[5] There is a senior housing facility also within 500 feet of Alt B.

How are these facilities going to be mitigated and handled? How is Stockdale Christian School omitted from this comprehensive report? How is the senior living facility not considered? GP-34-14

How can the environmental hazards of construction for the individuals that live in the immediate area be mitigated? What are the effects going to be to residents, the businesses, the children and the elderly in the neighborhood from the emissions and valley fever spores that are caused by the construction? What is going to be done to protect the children when they are at the schools that are adjacent to the Centennial Corridor? GP-34-15

I understand that a fee will be paid to the air District because the amount of NOx pollutants in the air.[6] Where are the funds coming from to pay these fees? Where are these fees going to be spent? This fee (fine) should be paid to the residents that are affected. This fee should be paid to mitigate the damage directly to the neighborhood effected not somewhere else that the District choses. GP-34-16

Population Disruption & Community Impact

It is stated that because of Census Tract 18.01 Block Group 1 has a more that 60% higher than the city average is a reason that they fall under environmental justice community.[7] When with Alt B almost 300 more of the African-American population is going to have to be displaced/relocated over that of Alt C. And as a whole there are 1,720 more minorities that will be affected by Alt B than Alt C. The median household income of Census Tract 18.01 Block Group 1 also far exceeded that poverty level and as a whole Alt B median income is lower than that of those in Alt C.[8] How come the whole of those in Alt B not be considered over that of the whole of Alt C? GP-34-17

How can the plan leave houses isolated? Leaving three houses in Malibu Ct.? Or two houses to remain on Hillsborough Dr. or one house left on corner of La Mirada and Fallbrook St.?[9] GP-34-18

Are there guidelines or criteria leaving neighborhoods with only one way in and out as is proposed on Map 11?[10] How will these neighborhoods be effected during construction? GP-34-19

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[5] Draft Environmental Impact Report Volume I, page 115
[6] Centennial Corridor Project – Air Quality Study Report Ch. 6, page 85.
[7] Draft Environmental Impact Report Volume I, page 109
[8] Draft Environmental Impact Report Volume I, page 88-89
[9] Draft Environmental Impact Report Volume 2, Alt B Right of Way Map 10
[10] Draft Environmental Impact Report Volume 2, Alt B Right of Way Map 11

Response to Comment GP-34

Comment Code	Response
GP-34-1	Your opposition to Alternative B is acknowledged. Environmental impacts and comments from the public and resource agencies were considered when identifying the Preferred Alternative. In accordance with the California Environmental Quality Act, National Environmental Policy Act, and Federal Highway Administration project development regulations regarding alternatives analysis, the three build alternatives were compared and analyzed against the No Build Alternative to determine which alternative would provide the best balance between potential environmental and community impacts and the proposed benefits and costs. Please see Section 2.1.4, Identification of a Preferred Alternative, and Table 2.1, Comparison of Alternatives (Volume 1), for more information about the decision process for identifying Preferred Alternatives.
GP-34-2	The length of review times for California Environmental Quality Act and National Environmental Policy Act documents is established by regulations and statutes.
GP-34-3	Currently, the two interchanges of State Route 99 with State Route 58 (east and west), in addition to interchanges at California Avenue and Ming Avenue, are all located in slightly over 2 miles. According to Section 501.3 of the Caltrans' Highway Design Manual, the standard for spacing between freeway-to-freeway connections is 2 miles, and the standard for spacing between interchanges is 1 mile. However, to improve operations of closely spaced interchanges, the use of auxiliary lanes, grade-separated ramps, collector-distributor roads, and/or ramp metering may be warranted. Although the existing interchange spacing at this location is not consistent with the standards outlined in Caltrans' Highway Design Manual, the build alternatives would provide better traffic flow for all vehicles due to direct route continuity of State Route 58 compared to both the existing condition and the No Build Alternative in the future years. Furthermore, improvements would provide auxiliary lanes and collector-distributor lanes, which would improve traffic flow by separating traffic exiting the freeway from through traffic. The current interchange spacing criteria became a mandatory design feature in February 1995. State Route 58 was built in 1976. The existing interchange spacing on State Route 58 was standard for that time. Therefore, the three nonstandard interchange spacing design features are pre-existing conditions with respect to the State Route 99/State Route 58 interchange. Although a pre-existing condition, any improvements to existing interchanges after February 1995 that do not meet current interchange spacing standards would require documentation and approval to maintain existing nonstandard features. As outlined in Section 82.2 of Caltrans' Highway Design Manual and Chapter 21 of the Project Development Procedures Manual, designs that deviate from the mandatory and advisory design standards must be documented and approved through a design exception fact sheet. The Mandatory Design Exception Fact Sheets were approved and signed November 16, 2012. The Advisory Design Exception Fact Sheets were approved and signed on January 28, 2014.
GP-34-4	Given current drought conditions, additional watering restrictions, if any, imposed by the State Water Resources Control Board or the Central Valley Regional Water Quality Control Board would be implemented by the construction contractor to ensure proper jobsite watering during construction. In addition, the San Joaquin Valley Air Pollution Control District requires the use of water at construction sites to control fugitive dust during ground-disturbing activities. To monitor these activities, reporting requirements are often included as permit conditions. Watering costs would be included in the overall construction costs. Regardless of the current drought conditions and cost, the project is required to use water during construction to minimize construction-related impacts.

Comment Code	Response
GP-34-5	As indicated in the final environmental document, when the peak hourly traffic noise approaches (within 1 decibel) or exceeds 67 decibels, or the future noise levels are higher than the existing noise levels by 12 decibels or more, noise abatement must be considered. The predicted future peak hourly average traffic noise level at Receiver RB-37 would be 64 decibels, which is 12 decibels higher than the existing peak hourly noise of 52 decibels. Therefore, a 12 foot sound wall is considered for this area which would reduce the noise level to 59 decibels, resulting in a net increase of 6 decibels in comparison to the existing noise level. Receiver RB-37 represents the Assembly Manor residential area and not the school or church. The closest outdoor use area of the school is represented by Receiver RB-38, where the future peak hourly traffic noise would be 57 decibels with the proposed sound wall. The church building is located further back from the freeway in comparison to the school and because there would be no impact at the school, traffic noise levels at the church were not calculated as they would be lower than the predicted levels at the school.
GP-34-6	No reference to a document titled “Transportation” or “Transportation Magazine” could be located to evaluate the validity of the research.
GP-34-7	Traffic volumes will increase or decrease depending on location. Along Real Road, traffic volumes will increase by 22 to 41 percent in the southbound direction approaching Stockdale Highway, but will decrease by 47 to 58 percent in the northbound direction during the AM and PM peak hours, respectively, comparing year 2038 No Build versus Build Alternative B study intersection turning movement volume forecasts. At Ming Avenue and Real Road, southbound traffic on Real Road approaching the intersection is forecast to be the same during the AM peak hour and to decline slightly during the afternoon peak hour (-4 percent). Along Wible Road/Oak Street, northbound traffic volumes approaching Ming Avenue are forecast to decline by 2 percent in the AM and 13 percent in the PM, comparing No Build versus Build Alternative B; at Brundage Lane, northbound volumes are forecast to decline by 55 percent during the AM peak and 40 percent during the PM; and at California Avenue, the northbound volumes are forecast to increase by 17 percent in the AM peak to 37 percent in the PM peak. These and other intersection turning movement volume forecasts are available by examining Figures 3-8 and 3-18 of the Traffic Study technical report.
GP-34-8	Traffic volumes on local streets are anticipated to shift to the freeway as a result of the build alternatives. Potential noise and air quality impacts are anticipated to be greater adjacent to the freeway. A discussion of potential noise and air quality impacts are provided below. *Noise* Because traffic volumes would be lower at the surface streets due to the freeway, no additional traffic noise is expected from the surface streets. The potential short- and long-term noise effects of the project and measures to address those effects are detailed in Section 3.2.7, Noise, of the final environmental document (Volume 1). A comparison of current noise levels to the projected noise levels in 2038 under the No Build Alternative and the build alternatives is provided. Results of the noise analysis for each build alternative indicate traffic noise would generally increase as a result of the build alternatives. For Alternative B, traffic noise is anticipated to increase between zero and 26 decibels, depending on noise receiver locations relative to the project. To mitigate for noise impacts, sound walls were found reasonable and feasible to provide adequate noise abatement; 25 sound walls ranging in height from 8 to 16 feet would be constructed as part of the project. For Alternative B, sound walls are anticipated to reduce traffic noise levels between 1 and 12 decibels. As a result, future predicted traffic noise levels with the

Comment Code	Response
	recommended abatement measures (sound walls) would range from 54 to 75 decibels. *Permanent Air Quality Effects* The air quality study prepared for the Centennial Corridor Project indicates that potential air quality impacts were found to be less than significant and that the project would improve regional air quality due to reduction in congestion on local roadways and vehicle idling. Improvements to air quality are also attributed to the improved pollution emission performance of a modernizing fleet of all vehicles, especially heavy diesel trucks, as a result of Federal and State fuel content and engine emissions rules. In addition, the results of the air quality analysis indicate that the Centennial Corridor Project would be within regional and Federal air quality standards and would not cause or contribute to a violation of any air quality standards. To further minimize air quality pollutants within the general area of the project, Caltrans has entered into a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District. Through this agreement, targeted air quality improvement projects will be implemented within the general area along the Preferred Alternative B alignment. More detailed information on air quality analysis can be found in Section 3.2.6, Air Quality. Overall air pollution will be less with the project and any short term air impacts will be more than offset by the overall reduction in vehicle pollution with the completion of the project.
GP-34-9	Existing freeway mainline and ramp volumes are illustrated in Figure 2-15 of the Traffic Study technical report. The southbound State Route 99 off-ramp to Stockdale Highway is lightly used, carrying 371 vehicles during the AM peak hour and 446 vehicles during the PM peak hour. The northbound State Route 99 off-ramp to Wible Road is also lightly used, carrying 248 vehicles during the AM peak hour and 268 vehicles during the afternoon peak hour. By comparison, the southbound off-ramp to California Avenue carries 1,077 vehicles during the AM peak hour and 1,027 vehicles during the PM peak hour. The closure of the Stockdale Highway/State Route 99 on- and off-ramps anticipates traffic flow to go to either the Ming Avenue/State Route 99 interchange or California Avenue/State Route 99 interchange. It is anticipated that these two interchanges would provide adequate level of service with the additional traffic volume due to the Stockdale Highway/State Route 99 and Wible Road/State Route 99 closures. The traffic study prepared for the Centennial Corridor Project analyzed the intersection of Real Road/Stockdale Highway and Brundage Lane/Oak Street. Results of the traffic study indicate better operations with the construction of the Preferred Alternative B alignment for future 2038 conditions. During the PM peak hour at the intersection of Real Road/Stockdale Highway, the level of service for No Build conditions is F; the operations at this intersection are anticipated to improve to level of service D with the Preferred Alternative B alignment. Similarly, the intersection of Brundage Lane/Oak Street for 2038 No Build condition is anticipated to operate at level of service D during the PM peak hour. Operations at this intersection is anticipated to improve with the construction of the Preferred Alternative B alignment, which is anticipated to operate at level of service C. Operational improvements at these two intersections is attributed to the reduction of traffic on local roads shifting towards the freeway. Increased volumes at these intersections are not anticipated due to the project. Several environmental factors cause roadway pavement deterioration. These include traffic volumes, types of vehicles and weather. Deterioration of roadway pavement at Real Road/Stockdale Highway and Brundage Lane/Oak Street due to increased traffic volumes caused by the project is not anticipated. However, when the roadway pavement eventually deteriorates at these specific locations, the city of Bakersfield will be responsible for its repair and maintenance.

Comment Code	Response
GP-34-10	Please see Response to Comment GP-34-8 for a discussion on permanent air quality effects. The build alternatives would improve operations and safety for all modes of traffic. Sidewalks and crosswalks would be provided at all intersections to be reconstructed/constructed within the project area to facilitate the movement of nonmotorized and pedestrian traffic. Existing nonmotorized routes would be maintained. In some locations, pedestrian circulation could become more circuitous, but safe routes would be provided by each alternative. Based on the latest design plans for the Alternative B alignment, sidewalk improvements would not be provided within the general areas of Palm Street and Real Road.
GP-34-11	It is acknowledged that fewer street access changes would be necessary for Alternative C than for Alternative B. The proposed local street modifications under each alternative are described below. *Alternative B* Based on the results of the *Traffic Study Report* prepared for the Centennial Corridor Project (November 2012), Alternative B would result in 21 changes to existing local street access. On the north side of the proposed State Route 58, the following existing through streets would end just north of the proposed right-of-way: Kentfield Drive and Hillsborough Drive. On the south side of the proposed State Route 58, the following existing through streets would either end or be converted to a cul-de-sac just south of the proposed right-of-way: Dunlap Street, Kentfield Drive, Kensington Avenue, Woodlake Drive, Montclair Street, Hillsborough Drive, and Charter Oaks Avenue. South Garnsey Avenue would end farther south to accommodate the proposed roadway right-of-way. Seville Street would be extended north just past Laverne Avenue to serve existing properties. A frontage road connection between Mona Way and Belle Terrace would be established. Belle Terrace would form an overpass across State Route 99. The existing Wood Lane cul-de-sac would move slightly west. North-south through access would remain at Belle Terrace. *Alternative C* Alternative C would result in 2 modifications to existing local street access. On the west side of State Route 99, the following existing streets would end at the future State Route 58 extension: Oakdale Drive, Bank Street and Alamo Street. A frontage road link between Mona Way and Belle Terrace would be established. The existing Belle Terrace bridge would be replaced with a new overpass across State Route 99. East/west through access would remain at Belle Terrace. Chester Avenue, an existing cul-de-sac on the west side of State Route 99 and a dead-end on the east side of State Route 99, would be shortened on both sides of the new facility. On the south side of the State Route 58 extension (Centennial Corridor), Commerce Drive would be converted to a cul-de-sac just south of the project right-of-way. Commerce Drive currently ends in a cul-de-sac south of Truxtun Avenue. Commerce Drive would end farther south to accommodate the proposed road right-of-way, but neither circulation nor access would be affected. *Preferred Alternative* Results of the traffic study indicate that each build alternative would provide better traffic flow for all vehicles including trucks, due to direct route continuity compared to both the existing condition and the No-Build Alternative in the future years. Furthermore, each build alternative will produce a net savings in travel time and vehicle operating expense. While more modifications to local street access are required for Alternative B than for Alternative C, Alternative B has been selected as the Preferred Alternative, as it

Comment Code	Response
	is a feasible and prudent alternative that avoids impacts to environmental justice communities, Section 4(f) resources (such as parkland and historic properties), and would cost $100 million less than Alternative C. Alternate routes for local access will be provided to ensure that circulation needs are met.
GP-34-12	Traffic impacts associated with the Westside Parkway are documented in the "Traffic Impact Analysis Westside Parkway" technical report, prepared by URS Corporation for the city of Bakersfield and Federal Highway Administration in March 2005. The traffic volume forecasts were prepared for a design year of 2030, based on the then current Kern Council of Governments Regional Travel Demand Model, having a base year for calibration of 2001. The daily traffic volumes forecast by this model were compared to the Kern Council of Governments regional model, having a base calibration year of 2006, which was used for the Centennial Corridor Project, along with all of the Thomas Roads Improvement Program projects. The daily traffic volumes were within 10 percent of one another for most links along the Westside Parkway and parallel roadways. In both cases, traffic volumes along the Truxtun Avenue extension to the Westside Parkway ramps were forecast to increase, with volumes to the west of the connecting ramps forecast to decrease. Traffic volumes along California Avenue to the west of State Route 99 were forecast to increase slightly, commensurate with land development in the California Avenue corridor. The study area for the Westside Parkway Traffic Impact Analysis did not extend east of Oak Street.
GP-34-13	Currently, there are no plans to convert the Centennial Corridor into Interstate 40. Acquisitions for such an action are beyond the scope of this final environmental document. The extension of the Westside Parkway to the west of Heath Road to Interstate 5 is not identified in the Kern Council of Governments Regional Transportation Plan. There is no identified funding for construction of a freeway (extension of Westside Parkway) to Interstate 5 within the 2038 planning horizon, nor is there sufficient traffic volume to warrant construction of such a facility. Upgrading State Route 58 to interstate standards from Bakersfield to Interstate 15 in Barstow and from Bakersfield to Interstate 5 would require funding beyond the capacity of local or State resources.
GP-34-14	Caltrans has no plans to convert the Centennial Corridor into Interstate 40. Please see Response to Comment GP-34-8 for information about permanent air quality effects. Stockdale Christian School and the senior housing facility (Assembly Manor) are included in the final environmental document and are within 500 feet of the Alternative B alignment. The distance would be approximately 375 feet from the nearest travel lane. The list of sensitive receptors has been revised in the final environmental document to include Stockdale Christian School and the senior housing facility to be within less than 500 feet from the Alternative B alignment.
GP-34-15	During construction activities, minimization measures will be implemented to ensure potential impacts are less than significant. Standard conditions and minimization and mitigation measures, as described in Section 3.6, Construction Impacts, would reduce construction-related impacts such as noise, air quality, traffic, utilities, and other environmental resources as identified in the final environmental document. Specific air quality and Valley Fever measures are described below. *Air Quality* It is acknowledged that construction of the project has the potential to create air quality impacts through the use of heavy-duty construction equipment. Fugitive dust emissions would result from earthwork and onsite construction activities; however, construction emissions of reactive organic gases and inhalable particulate matters

Comment Code	Response
	will not exceed the San Joaquin Valley Air Pollution Control District's criteria. Reductions in emissions can be achieved by onsite mitigation measures. Compliance with the standard conditions (SC-CI-20 through SC-CI-22) listed under Avoidance, Minimization, and Mitigation Measures – Air Quality, Standard Conditions (refer to Section 3.6, Construction Impacts), would reduce construction emissions. Some of these measures to control dust include using water or chemical stabilizer/suppressant, covering disturbed areas with tarps, and limiting speeds in unpaved areas. Air emissions associated with construction activity would be temporary and would cease to occur after project construction is completed. In addition, Caltrans will implement minimization measures during construction of the project and betterments to reduce localized particulate matter emissions for the Preferred Alternative B alignment. Caltrans has entered into a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District to implement air quality improvement projects. As part of this agreement between the San Joaquin Valley Air Pollution Control District and Caltrans, $1.5 million would be provided by Caltrans to execute emission reduction projects. These emission reduction projects include targeted improvements such as retrofitting diesel school buses, replacing of wood-burning stoves and providing heating, ventilation and air conditioning upgrades to qualified schools. In addition, trees would be planted within 500 feet of each side of the Preferred Alternative B alignment to control localized particulate matter emissions. Air quality improvements to be implemented as part of the Centennial Corridor Project are discussed in detail in Response F-1-6. Revisions to the final environmental document have been made in Section 3.2.6, Air Quality, and in Appendix F, Environmental Commitments Record, in Volume 2 of this final environmental document. *Valley Fever* Caltrans has outlined appropriate mitigation efforts for Valley Fever and air quality, including the use of a chemical stabilizer/suppressant, tarps and vegetative groundcovers, and water during construction. It is recognized that temporary soil disturbance during construction grading activities could cause fungal spores (if present) to become airborne, potentially putting residents at risk of contracting Valley Fever. However, there are many preventive and precautionary measures that can be undertaken to reduce exposure, such as seeking prompt medical treatment if flu-like or respiratory illness occurs or getting a coccidioidin skin test to determine susceptibility to the disease.
GP-34-16	Nitrogen oxide emissions would potentially exceed the 2 tons per year criterion established by the San Joaquin Valley Air Pollution Control District's Rule 9510; therefore, these emissions need to be reduced to 20 percent of the statewide fleet average, as required by the rule. Reductions need to be achieved either by onsite mitigation measures or through payment of an offsite mitigation fee, as required by Rule 9510. If, after implementation of all feasible onsite mitigation measures, the required emission reduction is not achieved, the rule provides a mechanism by which Caltrans can pay an offsite mitigation fee to the district using project funds. Methods of calculating the offsite emission reduction fee are provided in Section 7.1.1 of Rule 9510 and the District's Rule 3180. Therefore, Caltrans shall incorporate requirements into the contract specifications requiring that the contractor comply with the District's Rule 9510 (Indirect Source Review). See Standard Condition SC-CI-20 for measures that can be implemented to achieve a 20 percent nitrogen oxide reduction in exhaust emissions compared to the statewide fleet average. A Voluntary Emission Reduction Agreement between Caltrans and the San Joaquin Valley Unified Air Pollution Control District has been signed by both agencies, providing $1.5 million for air quality improvements as part of the Centennial Corridor Project.

Comment Code	Response
	To maximize the impact of the Voluntary Emission Reduction Agreement on reducing localized emissions along the new corridor, a provision in the agreement stipulates that the funds will be targeted, at least on first attempt, to projects that will offset construction and operation emissions within proximity of the new highway segment and other associated areas of the project. For more information about the Voluntary Emission Reduction Agreement please see Appendix L, Volume 2, of the final environmental document.
GP-34-17	While environmental justice communities were identified to exist in each of the alternatives, with a slightly higher percentage of people residing within the affected Census tract block groups of Alternatives A and C over Alternative B, the analysis concluded the Centennial Corridor Project would not result in "disproportionately high and adverse" effects on environmental justice communities with any of the project alternatives because of the roughly equivalent distribution of the effects on all communities through which the alignments pass. Because of the way U.S. Census information is made available, and the need to suppress certain data to protect the confidentiality of individuals and households, the number of people who may be displaced and who fall within the definition of belonging to environmental justice population groups cannot be precisely determined. However, while Census Tract 18.01 Block Group 1 is considered an environmental justice community, not all residents would be displaced. Section 3.1.4.3, Environmental Justice, discusses how many residents and businesses would be displaced in this area compared to the rest of each alignment. For Alternative A, about 7.5 percent of this group would be displaced, and Alternative C would displace about 26.6 percent. Alternative B, in comparison, would only displace 1.6 percent.
GP-34-18	Based on the preliminary design, right-of-way and construction easements required to build the project would necessitate partial and full acquisitions of many parcels. At times, the property acquisition process would result in some properties being acquired, while neighboring properties remain in place. All properties acquired for the proposed project would be fully demolished and utilized completely for construction of the Preferred Alternative. However, at this stage of the project, limited design is available and may or may not require additional property. All potential acquisitions are subject to change during the final design. If a property is required, then the project will follow the provisions of the Uniform Relocation Act of 1987, as amended. Not all homes can be acquired by Caltrans. According to Caltrans' Right-of-Way Manual, a person who is not required to be permanently displaced as a result of a project is not entitled to relocation benefits or compensation, and the hardship acquisition process does not apply.
GP-34-19	Currently, there are no design guidelines requiring more than one access point for neighborhoods; however, preliminary design plans indicate three potential access points. To maintain circulation within the neighborhood that would otherwise be cut off, the option of removing the La Mirada Drive overcrossing from Alternative B is no longer being considered, and it has been proposed for construction. Caltrans has analyzed the benefits associated with minimizing impacts on the remaining neighborhood, costs, and internal circulation needs. The option of adding a Ford Avenue undercrossing has also been proposed for construction to maintain connection of Ford Avenue between Stine Road and McDonald Way. This design option was raised during the public information meeting held on December 6, 2012. Accordingly, proposed overcrossings at La Mirada Drive and Marella Way, as well as the proposed undercrossing at Ford Avenue, would provide three local streets between California Avenue and Stockdale Highway to remain open. These crossings are essential in maintaining local connectivity and traffic circulation for travel within Bakersfield for nonmotorized and motorized uses.

Comment Code	Response
	At this early stage of the project, it is assumed that all of the above-mentioned design options (Marella Way Overcrossing, Ford Avenue Undercrossing, and La Mirada Drive Overcrossing) would be constructed as part of the project to maintain community cohesion and connectivity at either side of the Alternative B alignment. *Construction Access* Although access to some neighborhoods would be disrupted and detoured for short periods during construction, access would continue to be available to all businesses and residences, except in cases where such buildings would be displaced by the project and would be affected by the right-of-way acquisition process. During construction of the Centennial Corridor Project, detours and delays would be experienced by local residents, particularly those living in neighborhoods next to Alternative B. Access within the study area and other parts of Bakersfield would be maintained, so no area would be isolated by construction activity. At times, this may mean that local traffic may have to use alternate routes to avoid construction zones, forcing residents of the area to use less direct routes to reach their preferred destination. These impacts would be temporary.

Comment GP-35

GP-35

1

TO: California Dept. Of Transportation
Environmental Division
Att: Jennifer Taylor

06-29-14

cc: State Office of Historic Preservation

From: Quinn Miller
195 S. Garnsey Ave.
Bakersfield, CA. 93309

RE: Comments for Centennial Corridor Draft EIR

Hello Jennifer,

I am submitting my comments as requested by July, 8th. 2014.

I will comment on the Historical aspects of my property, the other properties in my district, as well as the history of George Barsotti.

First of all, I'm confused. It seems to me that it is Cal Trans responsibility to find and describe what is or is not historic. When the OHP say's to prepare a nomination, or to share this information with Cal Trans, wasn't that Cal Trans job in the first place? Isn't this what Cal Trans gets paid to do? So in essence the taxpayer has to do what has already been paid by the taxpayers to do. I also assumed Cal Trans would review all existing historic building surveys. (Section 106)

GP-35-1

I'm curious is to why Cal Trans did not want to review the 175 page Amicus Preservation brief that was offered by John Powell. It's my understanding that Government-produced Historic Property Survey Reports for Draft-EIRs and for Final EIRs are supposed to consult and cite ALL pre-existing historic property surveys, especially those produced within the last five years. This APB was provided to the SHPO Carol Roland-Nawi Ph.D.

Attachments: APB Cover Sheet and SHPO acknowledgement.
Letter to SHPO from John Powell.

GP-35

The houses south of my residence would be Tract 1938, plus a few other homes just south of this tract. There has been much discussion about this area because of the two bomb shelters, and my home which is at the north end of the tract.

It seems this Tract, known as the Armstrong-Womack Historic District, exceeds the minimum 67% statistical requirement for listing as a residential historic district under National Register Criterion C. The district additionally appears to qualify under the seven (7) guidelines and the "Rule of Thumb" for National Register integrity compliance, including acceptable material changes that have been adopted over time in response to state and national energy conservation goals and mandates. Criterion "B" should be satisfied with the social and ownership profile of the neighborhood, including it's most prominent residents and developers.

These upper middle class California Ranch-style homes were mostly built by James Womack Construction. The homes were originally owned almost exclusively by a close-knit circle of friends working in the construction, real estate development, and real estate sales professions who were socially prominent and politically influential in the community, as well as by members of long established or historic farming and cattle ranching enterprises in Kern County. GP-35-1

To say James Womack or the Gibbons and Wheelans were not "Important" or not "Master Builders" of construction is just wrong. To this day when a home is for sale in Bakersfield, and was built by one of these companies, it's advertised as a "Gibbons and Wheelan built" or "Womack Construction."

To say The Karpe family is not "Important" is wrong. This family built a well known Real estate firm in town.

To say Honorable Judge Gibbons was not "Important" is absurd.

I could go on and on but all of this is known, it's been sent to OHP. Other people are, or have already sent this information to OHP in nomination form.

I would like to add the History of Omar Cavins. He is the person who had my home built on top of the existing Bootlegger undergroud vault. Cavins was a 1915 geology graduate of U.C. Berkeley who worked as a petroleum geologist for Standard Oil Company. He was Friends with Cheif Justice Earl Warren, worked with Mr. Stoner of Standard Oil, as well as Mr. Halliburton. You can find an Oral history with Mr. Cavins from 1970, recorded before he died. Transcript at Bancroft Library at CAL.

http://archive.org/stream/oralhistearlwarren00bakerich/oralhistearlwarren00bakerich_djvu.txt

Attachments: South Garnsey Avenue, Armstrong-Womack Historic District.
Corresponding Draft EIR Documents.

GP-35

3

The Fallout shelters listed for tract 1938 are deemed not historic due to the changes to the homes or shelters. Yes 201 S. Garnsey has new windows, etc. plus the construction of the second garage over the fallout shelter.

209 S. Garnsey has a shelter that remains very well intact. Yes they use it for storage. But the change in the roof, and re-stucco on exterior walls seems to fit within the 7 principles for Architectural Integrity and the Guiding "Rule of Thumb". Under "Materials" (the properties retain a reasonable percentage of their original building products - generally 75% or more as spelled out in original architectural plans and specifications, again, subject to acceptable evolutionary changes expected from generation to generation)

GP-35-1

This makes 209 S. Garnsey not very different than 3904 Marsha St. Where the fallout shelter has been deemed historic. 3904 Marsha street does not have original roof, has new front door, a carport, etc. I'm sure its even been painted a few times, not much different than refreshing some old stucco.

Attachments: Architectural Integrity and the Guiding "Rule of Thumb"
Corresponding Draft EIR Documents.

GP-35

4

Our home at 195. S Garnsey Ave. has quite a bit of history. We have one of those properties you rarely see. .7 acres, gated, long driveway, 15 huge trees. 30 foot hedges, etc. Very private and secluded. Pool, guest house, outdoor kitchen, you name it. The home above ground looks like it should be in Sunset magazine, circa 1950. But the fun part is when you take one of our two stairways below ground to find this 2000 square foot basement with 10 foot plus ceilings. It's amazing. We have one of those homes where everyone who ever sees it for the first time is awe struck. "This is the coolest house we've ever seen" is normally what we get. When people learn about the freeway coming through, everyone states, "well this has to be historic." This home can't be duplicated, can't be compared to anything else.
So here we are, everyone who's ever seen your house and knows the story say's it has to be historic!

George Barsotti built our basement in the late 20's. He built his residence north of our basement on Stockdale Hwy. He was a bootlegger most of his adult life. He became very good at his business and grew to wealth and prosperity. He owned the land from his home west to Stine Rd. and south of our property. He built 7 homes in this area. All but his residence still exist. He also owned other homes in East Bakersfield.

We have many, many facts about the historic figure of George Barsotti that were not researched for the EIR. We have had George Barostti's relatives to our home, we have recorded interviews and newspaper articles, and much more. I have spoke to many older Italians who knew his family, and the stories! GP-35-1

About his properties which were not researched for the EIR:

3809 and 3815 Stockdale Hwy. George built these west of his residence, they are still there today. Built in the early 30's. No mention of these at all in the EIR.

3899 Stockdale Hwy. George built this house on the corner of Stockdale Hwy and Stine Rd. This was the "Pink House" it was a road house where he sold liquor, also has a basement where he stored liqour. Rumors were there was a tunnel from our basement to this one, but George's daughter said no, they moved the liquor by truck. EIR does list this property, and states doesn't know who built it or originally lived there.

16 Stine Rd., 22 Stine Rd., and 30 Stine Rd. George built these 3 Tudor style homes in the early 30's. They were more properties he built for rentals. The EIR does list them, but again states doesn't know who built them or originally lived there.

Of course on all of these properties the EIR states These buildings are not associated with the lives of persons important to history.

We could start a whole new district just on the properties and history from the Barsotti bootlegging era.

Attachments: Bakersfield Californian, Audio Interview with Lilly,
Corresponding Draft EIR documents.

GP-35

5

Our basement is two level. Two large rooms with multiple other rooms attached. We have left it original on purpose to show the historic nature of this underground vault. The one room that has been remodeled when Judge Gibbons owned this property has a fireplace, and tile floors. Our home is very original. Windows, cabinets, etc. are intact. You can see our stairs and basement rooms as they were in the Bakersfield Californian photos when the basement was raided.

The EIR lacks the research for our property and George Barsotti.

Some examples:

"Research provided little information about Barsotti during his years in Bakersfield"

"Newspaper accounts reveal that George Barsotti had various arrests for producing, transporting, and storing of illegal wine and distilled spirits during the 1920's; however those accounts do not include any mention of the property documented on this form"

"It does not appear that any known owners or tenants of this residence made demonstrably important contributions to history at the local, state or national level"

"The property must have or have had, information to contribute to our understanding of human history"

"Moreover, even if the basement was concluded to have been built or used for bootlegging during Prohibition, it does not have important information that contributes to our understanding of history. Instead, it is of a standard basement design, with very few elements connecting it to it's illicit usage"

I could go on and on, but the fact remains, the research we have done is of far greater depth than was listed in the Draft EIR.

Read all the Attachments, and listen to the interview with Lilly, (George's daughter), you will learn about George's life, business partners, (Gere Restituto, El Adobe Hotel), the selling of liqour to police, the payoffs, the crooked feds, the fancy cars and suits, and the secret buzzer from the main house to the basement, plus much more. For never learning how to read and write, this man accomplished notoriety in the bootlegging era and the Italian community. Great example of history.

GP-35-1

Attachments: Bakersfield Californian, Interview with Lilly, Historic Kern Quarterly Bulletin, Bakersfield morning echo, various pictures, Corresponding Draft EIR Documents.

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Attachments for page 1

APB Cover sheet and SHPO Acknowledgement

Letter to SHPO from John Powell

GP-35

Caltrans – 06-48460/06-Ker-58-31.7/55.9 Working Draft Document – 20 February 2010
Reprinted – 13 May 2014

FOR THE OFFICE OF HISTORIC PRESERVATION

STATE OF CALIFORNIA

IN THE MATTER OF THE DPR 523abd DOCUMENTATION REQUIRED FOR A DETERMINATION OF ELIGIBILITY TO THE NATIONAL REGISTER OF HISTORIC PLACES, *including* Multiple Contiguous Properties, for THE ASSOCIATED HOMEOWNERS OF GREATER WEST PARK, Property Owners in and of the County of Kern, including the City of Bakersfield, California, CALIFORNIA STATE OFFICE OF HISTORIC PRESERVATION, et al., Concerned Parties in Common.	EA 06-48460/06-Ker-58-31.7/55.9 OHP Notification No. RA 683.195.737 US TRIP: Thomas Roads Improvement Program Proposed West Park Alignment Centennial Corridor Project (Supplement to Locally Registered Properties) **TRANSMITTAL OF JOHN EDWARD POWELL IN SUPPORT OF THE DPR 523abd DOCUMENTATION REQUIRED FOR A FORMAL DETERMINATION OF ELIGIBILITY FOR LISTING IN THE NATIONAL REGISTER OF HISTORIC PLACES – AT THE LOCAL LEVEL OF SIGNIFICANCE – WITH DISTRICT STATUS UNDER SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT, 36 CFR §§ 800.1-800.16**

JOHN EDWARD POWELL transmits:

AMICUS PRESERVATION BRIEF

Prepared by John Edward Powell, as an independent cultural resource assessment, on behalf of the Associated Homeowners of Greater West Park, inclusive of Kern Woods, Garnsey Avenue and Stockdale Manor

National Register Eligibility of Historic Building Districts and Public Landscapes Historic Kern Woods, Garnsey Avenue, Stockdale Manor and Centennial Park Bakersfield, California Circa 1940-1970

Abstract

For well over half a century, three (3) historically distinguished and contiguous residential neighborhoods, located two miles southwest of downtown Bakersfield, California, have reached maturity relatively undisturbed by public encroachment. Initially developed under the professional direction of a nationally and regionally significant group of architects, architectural designers,

All Rights Reserved, 2010
John Edward Powell, A.B., M.A., Architectural Historian

Represented by Alan S. Wertheimer, Intellectual Property Attorney
Jackoway Tyerman Wertheimer et al., Los Angeles, California

GP-35

STATE OF CALIFORNIA – THE NATURAL RESOURCES AGENCY
EDMUND G. BROWN, JR., *Governor*

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
1725 23rd Street, Suite 100
SACRAMENTO, CA 95816-7100
(916) 445-7000 Fax: (916) 445-7053
calshpo@parks.ca.gov
www.ohp.parks.ca.gov

RECEIVED
12.05.2013

November 27, 2013

John Edward Powell
512 North Stine Road
Bakersfield CA 93309-1183

Dear Mr. Powell:

Thank you for making your Amicus Preservation Brief (APB) available to myself and my Deputy State Historic Preservation Officer. It provided interesting information about these Bakersfield neighborhoods. However, if you wish for this information to be made a part of the record related to the Route 58 Freeway Extension Project, then we would have to be able to make it freely available to Caltrans as the lead agency on the project and it would become part of the public record.

You might also consider using the information in the APB to prepare nominations for the districts to be listed on the National Register of Historic Places. This would formalize their status as historic properties for purposes of Section 106 of the National Historic Preservation Act as well as the California Environmental Quality Act. If you would like to discuss the process of preparing a National Register nomination, please contact Jay Correia, Registration Unit Supervisor, at (916) 445-7008 or Jay.Correia@parks.ca.gov.

Sincerely,

Carol Roland-Nawi, Ph.D.

Carol Roland-Nawi, PhD
State Historic Preservation Officer

GP-35

John Edward Powell
512 North Stine Road
Bakersfield, California 93309-1183

22 October 2013

Dr. Carol Roland-Nawi, SHPO
Attention: Jenan Saunders, Deputy SHPO
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, California 95816

Sent USPS Certified Mail No. 7012 2210 0002 2998 5211

Re: Caltrans Route 58 Freeway Extension Project, Bakersfield (Follow-up correspondence)

Dear Dr. Roland-Nawi:

Under the cover of previous correspondence dated 8 October 2013 (USPS EG 425 334 561 US, delivered to your office 9 October 2013), I have made available for your inspection an Amicus Preservation Brief (APB). This APB had been previously and repeatedly referenced in both electronic mail and Certified Mail as addressed to various agencies and parties – including Caltrans and your predecessor – involved in the environmental review process for the Route 58 freeway extension project in Bakersfield.

Over 1,200 pro bono hours were required to produce the document.

It remains our understanding that the HPSR associated with Route 58 (west) has just been reviewed by your office, or is still in the process of being reviewed. I believe you will determine that the voluminous historic building documentation compiled in this APB is not found in similar depth or concentration in the HPSR. Although Caltrans District 6 specifically wrote to ask to see this documentation, it chose ***not*** to meet with my representative to make arrangements for access. Its reasons remain unclear to me. This APB has been, as stated previously, an existing local survey for the Route 58 study area since 2010. It has several times been presented in draft format to the press and at open neighborhood association meetings. Property owners, Caltrans engineers, and environmental coordinators in attendance on those occasions were provided the opportunity to view the document in the presence of a fair witness.

This APB is for your personal review only. Your Deputy SHPO may also review the document. It is not for your distribution to Caltrans administrative or environmental personnel, their private-sector consultants or OHP liaisons, or any Bakersfield or Kern County agencies allied with the freeway project.

Please note that all rights to this unpublished proprietary research are expressly reserved. The APB, as provided, is watermarked accordingly throughout the document. You personally represent the only entity to which the current draft document has been released without the presence of a fair-witness observer.

A self-addressed return envelope, with postage and tracking affixed, was included for your return of the document, as bound, after your full and complete inspection of the scope of its data.

Yours truly,

John Edward Powell
johnedwardpowell@yahoo.com
http://historicfresno.org/jpbio.htm

Previously sent: 175-page Amicus Preservation Brief and a nine-page South Garnsey Avenue Addendum, delivered 9 October 2013, as signed and accepted by I. Sarwar at the OHP
Attached: USPS Tracking and Delivery Confirmation
cc: Alan S. Wertheimer, Jackoway Tyerman Wertheimer Austen Mandelbaum Morris & Klein

GP-35

Attachments for page 2

South Garnsey Ave.
Armstrong-Womack Historic District

Corresponding Draft EIR Documents

GP-35

SOUTH GARNSEY AVENUE
BAKERSFIELD, CALIFORNIA

Armstrong-Womack Historic District
1956

Worksheets for Addendum to 2010 Amicus Preservation Brief

Context for

JAMES DONALD WOMACK RESIDENCE (1957)
Residence, Kern County Land Company outbuilding, and underground bomb shelter
201 South Garnsey Avenue
Bakersfield, California

Street Context Properties

100 South Garnsey Road	Michael Shinault Residence (Built 1978/1984) Occupation: Accountant Building permit (4-11-1978) Builder: James Womack $43,200 *Daily Report* (4-15-1978, p. 1)
195 South Garnsey Avenue *Formerly 3839 Stockdale Hwy*	Omar A. Cavins Residence (as of 1956 subdivision date) Owner circa 1946-1961: Omar Allen Cavins (1889-1971) [1] Occupation: Petroleum Geologist, UC Berkeley (BS, 1915) Occupant circa 1957 (Omar [Jr.] and Phyllis Cavins) Occupation: Manager, Floyd's Inc.
Known locally as the historic site of a bootlegging operation	Honorable Earle Gibbons Residence (Owner 1961) Occupation: School Teacher (1957), Realtor (for Elmer F. Karpe, 1958), Attorney and Municipal Court Judge (1962+) Joan Martinson Gibbons (Spouse) Occupation: Registered nurse, housewife, and twin sister of Jean Wheelan of 221 South Garnsey Ave Address changed circa 1965 Swimming pool permit (6-4-1969)
198 South Garnsey Avenue *Formerly 3729 Stockdale Hwy*	Albert D. Burton Residence (Demolished 1973) Occupation: Oil field worker, Golden Bear Oil Company Address changed circa 1961 Property still occupied in 1971 Property vacant in 1972 Demolition permit: Issued to David Beauchamp (5-14-1973) Note: Albert Dewayne Burton (1883-1972) was born in Pennsylvania where he worked in the oil fields until 1911, after which he came to California to work in McKittrick.

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198 South Garnsey Avenue (continued)	In 1933, Burton moved to Bakersfield to work for Golden Bear Oil Company. Of his four children, his daughter Jackie Beauchamp resided in Bakersfield. He was buried at the historic Academy Cemetery outside Clovis, California in a Christian Science service. – "Obituaries,' *Bakersfield Californian*, 14 January 1972, 43.
200 South Garnsey Avenue	Henry Karber Residence (Built 1960) Occupation: School custodian Adeline Karber (Spouse) Occupation: Drafter, County Assessor Building permit (12-18-1959) Notice of completion (4-22-1960 – Bk. 3261, p. 0460) Builder: Jones-Womack $18,000 *Daily Report* (12-26-1959, p. 1)
201 South Garnsey Avenue	James Donald Womack Residence (Built 1957) Occupation: Building contractor Dawn Jones Womack (Spouse) Building permit (5-14-1957) Notice of completion (9-30-1957/10-1-1957) Builder: Jones-Womack $16,200 *Daily Report* (5-18-1957, p. 1)
205 South Garnsey Avenue	Jones-Womack Speculative House (Built 1958) Carl L. Peterson Residence (1958) Occupation: Employee, PG&E Building permit (4-28-1958) Builder: Jones-Womack $12,400 *Daily Report* (5-1-1958, p. 1) Notice of completion (8-18/19-1958 – Bk. 2995, p. 0015) Tract 1938, Lot 7 (205 South Garnsey Road) Builder: Jones-Womack Legal owner: James D. and Dawn Womack 201 South Garnsey Avenue
206 South Garnsey Avenue	Frank Clegg Residence (Built 1959) Occupation: Oil worker, Atlantic Richfield Oil Company Building permit (10-29-1958) Contract (10-22-1958) Builder: Jones-Womack $14,000 *Daily Report* (11-1-1958, p.1)

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209 South Garnsey Avenue	Lemuel Freeman Residence (Built 1958) Occupation: Employee, Morelock's Nursery Building permit (4-28-1958) Builder: Jones-Womack $13,000 *Daily Report* (5-1-1958, p. 1)
212 South Garnsey Avenue	Ronald Duncan Residence (Built 1958) First owner Occupation: Salesman, Calray Cookies Karl S. Wahl Residence (Second owner, circa 1959) Occupation: Realtor, Elmer F. Karpe Real Estate Hilda Wahl (Spouse) Occupation: Director of Nursing, San Joaquin Hospital Building permit (9-25-1957) Builder: Jones-Womack $13,000 *Daily Report* (9-28-1957, p. 1) Note: Karl Siem Wahl (1903-1988) was born in Nome, North Dakota. He was raised in Bowman, North Dakota, where he was educated in a one-room schoolhouse. He attended business college in Bismarck, North Dakota, then married in 1929. In 1937, he moved to Bakersfield where he was a member of Emanuel Lutheran Church. – "Obituaries," *Bakersfield Californian*, 9 January 1988, B4.
218 South Garnsey Avenue	Clinton C. Sullivan Residence (Built 1958) First owner Occupation: Carpenter, Jones-Womack Harold R. Canaday Residence (Second owner, circa 1960) Occupation: Engineer, Richfield Oil Company Building permit (4-30-1958) Builder: Jones-Womack $11,504 *Daily Report* (5-3-1958, p. 1)
221 South Garnsey Avenue	Jay Alvin "Al" Wheelan Residence (Built 1959) Occupation: Salesman, Elmer F. Karpe Real Estate President, Karpe Real Estate Center Developer, land and subdivision developments Contract (1-6-1959) Building permit (1-16-1959) Builder: Jones-Womack $19,200 *Daily Report* (1-22-1959, p. 1) Addition for Jay A. Wheelan Building permit (12-16-1971) Builder of addition: Moore Gibbons Moore "Obituaries," *Bakersfield Californian*, 22 February 1987, C16.

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221 South Garnsey Avenue (continued)	Robert Karpe Residence (Owner circa 1976) Occupation: Chairman, Karpe Real Estate Center Note: Under Governor Ronald Reagan, Robert Karpe was appointed California State Real Estate Commissioner. Under President Ronald Reagan, Karpe served as President of the Government National Mortgage Association (G.N.M.A.) in Washington, D.C. Karpe was awarded an Honorary Doctorate Degree by California State University, Bakersfield in 2005.
255 South Garnsey Avenue *Formerly 301 S Garnsey Ave*	James F. Dandy Residence (Built 1960) First owner Occupation: President, J. L. Dandy & Company Ken Lifquist Residence (Second owner circa 1964) Occupation: Teacher, Beardsley School Salesman, Elmer F. Karpe Real Estate Building permit (1-22-1960) Builder: Dandy Homes, Inc. $16,520 *Daily Report* (1-28-1960, p. 1) Pool permit (4-8-1964)
275 South Garnsey Avenue	George Malcolm Stahl Residence (Built 1960) Occupation: Farmer, Romero Farms (Panama District) and Beatrice Foods Building permit (3-11-1960) Bonds (3-3-1960 – Bk. 3244, p. 0712; Bk. 3244, p. 0714) Builder: Jones-Womack $21,000 *Daily Report* (3-16-1960, p. 1)
295 South Garnsey Avenue *Formerly 319 S Garnsey Ave*	Jones-Womack Speculative House (Built 1959) Alex D. Blake Residence (1959) Occupation: Manager, Elmer F. Karpe Real Estate Building permit (7-15-1959) Builder: Jones-Womack $18,000 *Daily Report* (7-23-1959, p. 4) (Appears misprinted as 200 South Garnsey Avenue)
300 South Garnsey Avenue	Edward D. Poole Residence (Built 1960) Occupation: Salesman, Burr Realty Building permit (10-16-1959) Builder: Jack L. Brown (b. 12-4-1929 –) $15,000 *Daily Report* (10-22-1959, p. 1) "Miss Cox Becomes Bride of Jack Brown; Journey North," *Bakersfield Californian*, 2 November 1950, 24.

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306 South Garnsey Avenue	Edward D. Poole Speculative House (Built 1960) John F. Hardy Residence (circa 1961) Occupation: British golf pro, Stockdale Country Club Building permit (10-16-1959) Builder: Jack L. Brown (b. 12-4-1929 – ——) $15,000 *Daily Report* (10-22-1959, p. 1) Note: General contractor Jack L. Brown was born in Taft, California. He graduated from Bakersfield High School in 1948, where he was a Block B letterman. From 1948 to 1951, Brown worked as an apprentice carpenter for builder William A. Drennan (1914-1965) before serving during the Korean War with Company B of the 835th Engineers. *Grantee-Grantor Index* (Bk. 2040, p. 0445)
317 South Garnsey Avenue	Harold T. Ricards Residence (Built 1959) Occupation: Merchant, Ricards Bootery Building permit (4-29-1959) Builder: Lewis V. Christensen (b. 11-4-1923 –) $25,000 *Daily Report* (5-2-1959, p. 1) Note: General contractor Lewis V. Christensen was born in Santa Ana, California. He served in the United States Navy during World War II as an electronics technician. *Grantee-Grantor Index* (Bk. 1308, p. 0016)
320 South Garnsey Avenue *Formerly 3750 Elcia Drive*	Edward L. R. Armstrong Residence (Built circa 1940) Occupation: Broker, Ward D. Watson Realty Moved to this site in 1958 (Tax Assessor's record date) Building permit (12-2-1957) Sewage pit
321 South Garnsey Avenue	David F. Snedden Residence (Built 1966) Occupation: Representative, Bakersfield Production Credit Association (Farm Loans) Cattle Rancher, Snedden Land & Cattle Company, Santiago Creek (Maricopa) and Lockwood Creek (Ventura) Building permit (7-25-1966) Notice of completion (11-18-1966 – Bk. 3997, p. 0192) Builder: "Jim Womack" $23,000 (see also1968 alterations, $4,402) *Daily Report* (7-28-1966, p. 1); *Daily Report* (8-10-1968, p. 1) Horse stall ("J. D. Womack," builder, no construction date)
330 South Garnsey Avenue	Jack L. Gammon Residence (Built 1961) Occupation: Farmer, Maricopa District Building permit (3-6-1961); Deed (Bk. 3353, p. 0390) Builder: Jones-Womack $18,000 *Daily Report* (3-9-1961, p. 1)

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3755 Elcia Drive	Benjamin Johnson Residence (Built circa 1950) Occupation: Production Manager, Richfield Oil Company First assessed in 1958 (Tax Assessor's record date)
3749 Elcia Drive	Joan Carlton Residence (Built circa 1920 and 1967) Occupation: Bookkeeper, Walden Construction Unit 1(1920); Unit 2 (1967) Tax Assessor's record dates Builders: Undetermined $2,000 (Fire damage repairs) *Daily Report* (6-4-1966, p. 1)

Notes about principal developers and builders of Tract #1938 and allied parcels

Jones-Womack General Contractors

Glen J. Jones	Born: 6-29-1901 (Oregon) Died: 2-5-1958 (Kern) "Final Services Saturday for Glen J. Jones," *Bakersfield Californian*, 7 February 1958, 22.
James Donald Womack	Born: 1-15-1923 (Louisiana) Died: 9-17-2003 (Kern) "Funerals," *Bakersfield Californian*, 23 September 2003, B2.
Gwendolyn "Dawn" Womack	Born 1-19-1922 (California) Died: 5-1-2005 (Kern) "Funerals," *Bakersfield Californian*, 5 May 2005, B2.

Tract Map 1938 (Bk. 0009, p. 0115) – 20 December 1956

Subdividers: Edward L. R. Armstrong and Monica D. Armstrong
Civil Engineer/Surveyor: W. Alan Harrison, L.S. #2263

Edward L. R. "Jack" Armstrong	Born: 10-20-1914 (Colorado) Died: 8-12-2001 (Kern) "Funerals," *Bakersfield Californian*, 16 August 2001, B2.
Monica D. Armstrong	Born: 30 June 1913 (South Dakota) Died: 6 June 2004 (Kern) "Funerals," *Bakersfield Californian*, 8 June 2004, B3.

Note: The Armstrongs were principal supporters and namesakes of the E. L. "Jack" and Monica Armstrong Youth Center, Boys & Girls Clubs of Kern County, 801 Niles Street at Beale Avenue in East Bakersfield, California.

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W. Alan Harrison

Born: 18 April 1910 (Oklahoma)
Died: 16 August 1980 (Kern)
"Obituaries," *Bakersfield Californian*, 18 August 1980, D8.

Mr. Harrison was born in Okmulgee, Okla., on April 18, 1910 and had resided in Kern County since 1946. He was a licensed land surveyor and at the time of his retirement was the senior partner in Harrison-Lusich and Associates. He has since worked as a land developer and developed many subdivision[s] in Bakersfield, Three Rivers, Bear Mountain and helped relocate Kernville and develop the Kern River Valley. He was a member of the First Presbyterian Church and at the time of his death was serving in the capacity of Elder-Trustee. He was also a member of the Bakersfield Lodge #224, F&AM, East Bakersfield Rotary Club, an active supporter of the Salvation Army and the Boy Scouts and was a member of the Kern Karavanners Trailer Club.

Note: Civil Engineer W. Alan Harrison, who laid out a portion of Historic Kern Woods, shares credit for the phased design of La Cresta Heights with Ashley Cooper (1883-1948), a mechanical and civil engineer for the Kern County Land Company and Kern River Water Storage Company, and Richard E. White (1884-1976), a Naval Academy alumnus and civil engineer who, with landscape architect Howard Gilkey (1890-1972), designed Hart Park, its famous pool, and the park's historic water wheel.

The Armstrong-Womack Historic District

The Armstrong-Womack Historic District is a secluded 1956 pocket subdivision. It is for the most part comprised of late 1950s and early 1960s custom-built upper-middle-class California Ranch-style houses. Over half of the houses in the district were built by James Donald Womack (1923-2003), principal of Jones-Womack Construction, either in partnership with Glen J. Jones (1901-1958) or as the sole builder after Jones' death. The homes were originally owned almost exclusively by a close-knit circle of friends working in the construction, real estate development, and real estate sales professions who were socially prominent and politically influential in the community, as well as by members of long-established or historic farming and cattle ranching enterprises in Kern County. A handful of older properties dating from the 1920s, 1930s, and 1940s served as bookends to the short street district, including a site considered locally historic for an early-day bootlegging operation on the premises. The subdivision also preserves underground bomb shelters built after the Cuban Missile Crisis of October 1962.

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Supplemental note regarding 195 South Garnsey Avenue and Tract #1938

[1] Although considerable attention has been paid to the earlier residency of George Barsotti at this site (Lois Henry, *Bakersfield Californian*, 12-29-2012), as well as to the site's associated criminal history during Prohibition (1920-1933), much of this property's significance is vested in a later period of ownership by Omar A. Cavins (and to any alterations Cavins may have made to the property after 1946, and prior to 1961). The Cavins context, unlike the earlier Barsotti tenure, has a direct relationship to the subdivision of acreage comprising Tract #1938, designated the "Armstrong-Womack Historic District." The latter development far exceeds the minimum 66⅔% statistical requirement for listing as a residential historic district under National Register Criterion C. The district additionally appears to qualify under the seven (7) guidelines and the "Rule of Thumb" for National Register integrity compliance, including acceptable material changes that have been adopted over time in response to state and national energy conservation goals and mandates. For associated National Register of Historic Places Criterion B justifications, see also: Baum, Willa K., project director and interviewer, "Omar Cavins: Coming of Age in Bakersfield," *Earl Warren Oral History Project*. (Berkeley: Bancroft Library, Regents of the University of California, 13 January 1970).

Note about the preparer

John Edward Powell, A.B., M.A., studied design, art history, and architectural history at Stanford University and Stanford-in-Britain. He completed graduate work at Stanford University; California College of Arts and Crafts, Oakland; and the University of Idaho, Moscow, where he also taught basic design in the School of Architecture. He subsequently undertook sabbatical studies at Haystack Mountain School, Deer Isle, Maine. Since 1977, Powell has worked professionally in the fields of historic preservation and California architectural history. His formal emphases are architectural biography and the archival conservation of architectural records, renderings, and drawings. His research has been recognized by the National Endowment for the Arts; College of Fellows Fund of the American Architectural Foundation; California Council of the American Institute of Architects; California Committee for the Promotion of History; Leon S. Peters Foundation; a 2005 Governor's Award in Historic Preservation with the Fresno County Public Library; and as one of 22 authors contributing to *Architecture, Ethnicity and Historical Landscapes of California's San Joaquin Valley*, which received a 2009 Governor's Award in Historic Preservation for its publisher, the Planning and Development Department, City of Fresno. From 2000 to 2006, Powell taught part time in the fine arts and art history program at Bakersfield College, and served an academic term as interim art gallery director.

– Draft 14: Revised 14 March 2013 –

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Intellectual Property Representative: Alan S. Wertheimer
Jackoway Tyerman Wertheimer Austen Mandelbaum Morris & Klein
Los Angeles, California
310.553.0305

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Appendix

Architectural Integrity and the Guiding "Rule of Thumb"

The seven (7) principal observations applied to the properties identified in this addendum to the 175-page 2010 Amicus Preservation Brief, and used to assess the affirmative presence of architectural integrity, are defined as follows:

Location (the properties have not been physically relocated from their original sites or, if relocated, have been located at the present sites for over 50 years).

Design (the architectural idioms of the properties and/or other distinguishing stylistic characteristics are identifiable, classifiable, and relevant to local, regional, state, or national architectural history).

Setting (the principal views looking toward the properties, and the principal views looking away from the properties, have not been unduly altered by a loss of neighboring structures; or have not been unduly obstructed by man-made forms or radical changes in the natural terrain. Landscapes – both indigenous and ornamental – are expected to display anticipated, thus acceptable, growth and maturity. Growth and maturity do not negate considerations of the historic setting, although a loss of landscape may).

Materials (the properties retain a reasonable percentage of their original building product(s) – generally 75% or more – as spelled out in original architectural plans and specifications, again subject to acceptable evolutionary changes expected from generation to generation).

Workmanship (the properties continue to reflect the prevailing methods, finishes, and standards of construction as originally engineered at the time of their completion).

Feeling (the properties retain reasonable physical suggestions of their original place in time, without necessarily being "locked" in the past, since all properties undergo acceptable evolutionary changes from generation to generation).

Association (the properties retain reasonable but more intuitive suggestions of their context in time, with an ability to evoke an awareness of their era of origin, as well as the significant events that defined that era socially, politically, and culturally.

Although properties may display aspects of each of these seven (7) components, it is neither required nor essential that all seven (7) be absolutely evident concurrently.

"The Rule of Thumb"

The guiding "Rule of Thumb" as applied to establish architectural integrity is stated as follows: Were the original architects, builders, owners, members of the owners' families, or immediate neighbors to view the properties or neighborhood today, would they definitively be able to recognize the properties or neighborhood?

If so, the basic integrity standard has been met, in spite of any questions regarding material condition, as long as any adverse material conditions are clearly reversible. The material condition of properties (e.g., paint, shingles, masonry, etc., in need of repair) is evaluated separately from integrity.

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State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 6Z
Other Listings _____
Review Code _____ Reviewer _____ Date _____

Page 1 of 21 *Resource Name or # (Assigned by recorder) Map Reference No. 09-11

P1. Other Identifier: Tract No. 1938
*P2. Location: ☐ Not for Publication ☒ Unrestricted *a. County Kern
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
*b. USGS 7.5' Quad Gosford, CA Date 1973 T___; R ___; __ ¼ of Sec ___; _____ B.M.
c. Address See P3a for list of addresses City Bakersfield, CA Zip _____
d. UTM: (give more than one for large and/or linear resources) Zone _____; _____mE/ _____mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
See P3a for list of assessor parcel numbers

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Tract 1938 was subdivided in 1956 and developed over the next four years. This small tract originally featured 12 generally rectangular parcels positioned along the section of South Garnsey Avenue north of Elcia Drive and terminating just south of Stockdale Highway. Eleven of the properties are located within the survey area of this project and were built between 1957 and 1960. They are architecturally similar houses but have individual design elements and characteristics. The tract is located in an unincorporated county island roughly bounded by State Route 58 and Stockdale Highway to the north, Ming Avenue to the south, H Street to the east, and Montclair Street to the west.

The residence located at 200 South Garnsey Avenue has a composition shingle, cross-gable roof with wide eaves. The building has an L-shaped footprint. The walls are clad in stucco, and fenestration includes aluminum sliding windows. The main entrance is located on the interior corner of the main façade. The three-wall garage projects from the south end of the main façade, and is partially supported by square wood posts. The house located at 201 South Garnsey Avenue has a wood-shingle Dutch-hip roof with a hip-roof projection to the north and wide eaves. A small square (See Continuation Sheet)

*P3b. Resource Attributes: (List attributes and codes) HP2 – Single family property
*P4. Resources Present: ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: Photograph 1, 200 S. Garnsey Ave., facing east.

*P6. Date Constructed/Age and Sources:
☒ Historic ☐ Prehistoric ☐ Both
1956-1960, Kern County Assessor Records

*P7. Owners and Addresses:
(See Continuation Sheet)

*P8. Recorded by: (Name, affiliation, address)
Polly Allen/Joseph Freeman/Toni Webb
JRP Historical Consulting, LLC
2850 Spafford Street
Davis, CA 95618

*P9. Date Recorded: March 2009 / December 2012

*P10. Survey Type: (Describe) Intensive

*P11. Report Citation: (Cite survey report and other sources, or enter "none.") JRP Historical Consulting, LLC, "HRER, Centennial Corridor Project, Bakersfield, Kern County, California (EA 06-48460)"

*Attachments: ☐ None ☐ Location Map ☒ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (list) _____

DPR 523A (1/95) *Required Information

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State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
BUILDING, STRUCTURE, AND OBJECT RECORD

Primary # _____
HRI # _____

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*NRHP Status Code 6Z

*Resource Name or # (Assigned by recorder) Map Reference No. 09-11

B1. Historic Name: _____
B2. Common Name: _____
B3. Original Use: Residential B4. Present Use: Residential
*B5. Architectural Style: Ranch
*B6. Construction History: Tract subdivided in 1956; houses = between 1957 and 1960; fallout shelters = summer of 1962.
*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: _____ Original Location: _____
*B8. Related Features: _____
B9. Architect: unknown b. Builder: Womack & Jones Building Contractors
*B10. Significance: Theme n/a Area n/a
Period of Significance n/a Property Type n/a Applicable Criteria n/a

Tract No. 1938, the individual residences, and two fallout shelters associated with two of the residences do not appear to meet the criteria for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR), nor do they appear to be historical resources for the purposes of CEQA. Bakersfield experienced tremendous population growth after World War II that generated a wave of new development. There was a flood of veterans to California immediately following the war, and with it came a great need for more housing. Throughout the decade, Kern County's population remained greater than the available houses, and it was many years before supply caught up with demand. The city's boundaries began to widen as outlying agricultural land was converted to residential tracts, and by the end of the 1950s, the housing gap had successfully been bridged. Twenty square miles of residential development took place in the Greater Bakersfield area from 1945 to 1955, which included approximately 12,000 new houses built between 1950 and 1955. In particular, the land straddling Stockdale Highway southwest of downtown was the scene of development.

The residential area bounded by Stockdale Highway to the north, Apache Avenue to the south, Real Road to the east, and the Stine Canal to the west was mostly developed at the end of the 1950s. Prior to this time, this land was agricultural with only a handful of residences, and Elcia Drive (via Real Road) was the only paved road. In 1956, Edward and Monica Armstrong subdivided their land between the Stine Canal and the west terminus of Elcia Drive as Tract 1938. This called for the construction of South Garnsey Road, though the residential tract included only the west side of the street. It fully developed by the end of that decade.

Before 1945, subdivisions predominately had rectilinear street configurations and parcels were for the most part uniform in size and shape. However trends in residential development changed during the postwar era. Subdivision planners began to employ curvilinear and cul-de-sac streets, both to enhance aesthetics and control the speed of vehicular traffic. Lot sizes decreased and a boom in housing demand led to the mass production of building materials, more (See Continuation Sheet)

B11. Additional Resource Attributes: _____
*B12. References: Kern County Aerial Photographs, flown by the USGS, 1937, 1947, 1956, 1968; "Kern Homes Crisis Aired," Los Angeles Times, 7 December 1945; "Three Hundred Veterans Join Rush for 90 Homes," Los Angeles Times, 22 May 1946; "Shutdown on Veterans' Housing Project Averted," Los Angeles Times, 28 December 1946; "Minter Field Units to House 400 Families," Los Angeles Times, 2 February 1947; "Housing Pact Canceled by Bakersfield," Los Angeles Times, 7 March 1952; Kern County Tract Maps, Book 9 of Maps, Page 115, Tract No. 1938, 20 December 1956. See footnotes.

B13. Remarks:

*B14. Evaluator: Joseph Freeman, Toni Webb, Rand Herbert
*Date of Evaluation: December 2012
(This space reserved for official comments.)

(Sketch Map with north arrow required.)

See continuation sheet.

DPR 523B (1/95)

*Required Information

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State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # _____
HRI # _____
Trinomial _____

Page 3 of 21 *Resource Name or # (Assigned by recorder) Map Reference No. 09-11
*Recorded by P. Allen, J. Freeman, T. Webb *Date March 2009; December 2012 ☒ Continuation ☐ Update

P3a. Description (continued):

cupola is located on the north projecting roof ridge. The house is clad in stucco with a partial brick apron and has replacement vinyl sliding windows. The main entrance is located under an interior corner on the main façade, under a continuous-roof porch. The house has two interior chimneys. The property includes a detached garage that was converted to an attached living space, as well as a detached garage/office space added in 1962. A commercial garage building, constructed in by 1968, is located northwest of the main residence. In addition, the property includes a subterranean fallout shelter constructed in the summer of 1962. The structure (Photographs 12-14) is constructed entirely of board-formed concrete and is approximately 10 feet by 12 feet with a 2-foot extension which provides for a nearly-vertical wood stairway that folds to allow the toilet facility (a simple hole in the ground) behind the stairs. The ceiling was originally clad with acoustic tile that has since been removed. An air intake with what appears to be an electrical blower is located on the shelter's north wall. The aboveground intake pipe with screened hood is visible at the garage's northwest (exterior) corner. The exhaust pipe extends from near the stairs up through the garage's concrete slab. An interior steel water tank is located in the northeast corner of the shelter. Simple wood shelves near the water tank are original to the structure. The steel hatch door was removed within the last five years. Presently the shelter is used for storage.[1]

The house located at 205 South Garnsey Avenue has a hipped roof with several hip-roof projections and wide eaves. The roofing is modern composition shingles. One projection to the southwest contains a two-care garage with a metal panel door. The walls are clad in stucco and horizontal wood siding. Fenestration consists of multi-pane, metal casement windows of varying sizes and configurations. The main entrance is set back on the primary façade and located under an extended roof porch. The residence located at 206 South Garnsey Avenue is topped with a wood-shingle hipped roof with wide eaves. The garage is located on a hip-roof projection to the north and has a modern roll-up door. The main façade has a westward hip-roof projection. The house has modern beveled horizontal metal siding. Fenestration includes metal casement and replacement vinyl windows. A short concrete block planter runs the width of the front façade.

The house located at 209 South Garnsey Avenue has a modern-tile hipped roof, with wide, closed eaves and a projecting hip-roof garage. The house is clad in stucco, and has metal sliding windows. The main entrance is set-back behind a metal gate. The residence located at 212 South Garnsey Avenue sits on an L-shape footprint. It has a side-gable roof with a projecting cross Dutch-hip two-car garage. The roof has composition shingles and wide eaves. The house has vertical board-and-batten wood siding and replacement vinyl windows. The main entrance is located on a setback wall on the primary façade. The panel garage door faces north. This property also includes a subterranean fallout shelter (Photographs 15-19) in the backyard. Constructed in the summer of 1962, this shelter is located beneath a concrete block planter reportedly built during the shelter's construction. The shelter is constructed of concrete block walls with a board-formed concrete ceiling and poured concrete floor. A steel bulkhead provides access to the shelter's wood stairway that leads to long hallway. The main room measures approximately 20 feet long and 12 feet wide and includes a hand-cranked centrifugal intake blower on the north wall and the exhaust pipe is located within the hallway. The aboveground intake pipe with screened hood and exhaust are still extant within the planter. The structure originally included two steel water tanks buried within the planter (outside the shelter) which have recently been removed.[2]

The residence at 218 South Garnsey Avenue is topped with a composition shingle hip roof, and has wide eaves. A two-car garage with replacement rollup door is located in a hip-roof projecting toward the south. A westward hip-roof projection extends from the main façade. The entrance is located under a shed-roof porch which is supported by a stone column. The house has stucco siding with a stone apron, and replacement vinyl sliding windows. The house located at 221 South Garnsey Avenue has a modern-tile hipped roof with wide eaves. The walls are clad in stucco siding and wood board-and-batten siding. Fenestration includes two bays on the main façade with replacement vinyl windows and stone veneer apron, as well as fixed replacement vinyl windows and metal casement windows. The main entrance is located under an extended-roof porch. A detached two-car garage with a hip roof and metal door is located behind the residence.

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[1] Keith Womack, personal communication with Toni Webb, JRP Historical Consulting, LLC, December 12, 2012; Mattie Padilla, personal communication with Toni Webb, JRP Historical Consulting, LLC, December 12, 2012.
[2] Steve Pierce, personal communication with Toni Webb, JRP Historical Consulting, LLC, December 12, 2012

DPR 523L (1/95) ***Required Information**

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State of California – The Resources Agency
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CONTINUATION SHEET

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Trinomial _____

Page 4 of 21 *Resource Name or # (Assigned by recorder) Map Reference No. 09-11
*Recorded by P. Allen, J. Freeman, T. Webb *Date March 2009; December 2012 ☒ Continuation ☐ Update

The house located at 255 South Garnsey Avenue has a composition shingle cross-gable roof above the two-car garage. The house has board-and-batten wood siding above a brick veneer base, and single-hung aluminum windows. The recessed entrance is located beneath a shed-roof porch which is supported by square wood posts with decorative brackets. The house located at 275 South Garnsey Avenue has a side-gable roof with two cross-gable projections, and topped with modern tile roofing. Both projections extend from the north end of the main façade. The larger projection extends slightly while the smaller one projects further east and contains the two-car garage. An exterior chimney is located on the larger projection. The house has horizontal wood and vertical board-and-batten wood siding. Fenestration includes metal windows.

Like 275 South Garnsey Avenue, the house located at 295 South Garnsey Avenue has a side-gable roof with two cross-gable projections. It has composition shingle roofing and wide eaves. The larger projection extends slightly while the smaller one projects further east and contains the two-car garage. The entrance is located under the large gable projection which is partially supported by a brick veneer column. The house has horizontal wood siding with a brick veneer apron, and aluminum sliding windows.

Tract 1938 has a rectilinear layout with asphalt streets, concrete gutters and squared curbs. Most of the properties feature a landscape strip between the curb and the concrete sidewalk. Each of the properties has a lawn in the front yard. Some yards have mature landscaping while others have young vegetation. Utility lines are generally located along wood poles behind the residences. South Garnsey Street terminates at the north end in a cul-de-sac and at the south end at the intersection with Elcia Drive.

Each of the surveyed properties consists of a Ranch house built between 1957 and 1960.

APN	Address	Date	Alterations and/or Additions	Photo #
149-320-01	200 S Garnsey Ave	1960		1
149-221-15, 149-320-05	201 S Garnsey Ave	1957	replacement windows; rear addition, converted garage to living space;fallout shelter, secondary garage.	2
149-320-06	205 S Garnsey Ave	1958		3
149-320-02	206 S Garnsey Ave	1958	replacement vinyl siding; some replacement windows; replacement garage door	4
149-320-07	209 S Garnsey Ave	1958	Replacement stucco siding; replacement tile roofing; fallout shelter	5
149-320-03	212 S Garnsey Ave	1957	Replacement vinyl windows	6
149-320-04	218 S Garnsey Ave	1958	Replacement windows and stucco siding, stone apron wall addition, altered porch	7
149-320-08	221 S Garnsey Ave	1959	Replacement windows and stucco; stone veneer added; replacement tile roofing	8
149-320-09	255 S. Garnsey Ave	1960		9
149-320-10	275 S Garnsey Ave	1960		10
149-320-11	295 S Garnsey Ave	1959		11

P7. Owners and Addresses (continued):

Property Address	Owner	Owner Address
200 S Garnsey Ave	Scott G. Garcia	776 Viola Ct. / Nipomo, CA 93444
201 S Garnsey Ave	Anthony and Mattie Padilla	201 S. Garnsey Ave. / Bakersfield, CA 93309
205 S Garnsey Ave	Charles and Lucia Haney	205 S. Garnsey Ave. / Bakersfield, CA 93309
206 S Garnsey Ave	Trishia L. Duer	206 S. Garnsey Ave. / Bakersfield, CA 93309
209 S Garnsey Ave	Steve and Betty Pierce	209 S. Garnsey Ave. / Bakersfield, CA 93309
212 S Garnsey Ave	Retha J. Miller	212 S. Garnsey Ave. / Bakersfield, CA 93309
218 S Garnsey Ave	Jessie and Monica Ramos	218 S. Garnsey Ave. / Bakersfield, CA 93309
221 S Garnsey Ave	Robert W. Karpe Family	PO Box 1968 / Bakersfield, CA 93303
255 S. Garnsey Ave	Lifquist	255 Garnsey Ave. / Bakersfield, CA 93309
275 S Garnsey Ave	Bill and Carolyn Howerton	275 S. Garnsey Ave. / Bakersfield, CA 93309
295 S Garnsey Ave	Lloyd and Shawna Burns	295 S. Garnsey Ave. / Bakersfield, CA 93309

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B10. Significance (continued):

rapid building construction, and a uniformity in building designs. An entire subdivision could be developed within a year, and the houses generally looked the same, or at least shared similar characteristics. Additionally, many communities had adopted reformed zoning laws to segregate uses. Each specific classification (residential, commercial, and industrial) was allocated to certain areas with stipulated development standards and limitations. For example, single family residences were no longer constructed adjacent to a commercial strip or industrial yard. This particular subdivision incorporates the rectilinear street pattern common in the prewar era of housing development while following the postwar trend toward smaller lot sizes and general architectural homogeny.

Cold War Fallout Shelters Context

The end of World War II marked the beginning of the Cold War and the 45-year struggle between the US and Soviet Union for "global political and military supremacy."[3] Fearing attacks from one another, the two nations each quickly formed alliances with like-minded countries for their joint defense. The effort to remain ahead in this new struggle also led to a nuclear arms race. The US had already shown its nuclear capabilities with the detonation of atomic bombs on Hiroshima and Nagasaki in August 1945. It took another four years for the Soviet Union to conduct its first atomic test. The US responded to the Soviets' test with development of the more powerful hydrogen bomb, first tested in 1952. The following year the Soviet Union tested its own hydrogen weapon. Although both nations had nuclear weapons, at this time neither had means to convey these weapons long distance. It was not until the development of intercontinental ballistic missiles and long range jet bombers that allowed either country to hit targets thousands of miles away, that a full-blown exchange of nuclear weapons was possible.[4]

The fear of nuclear war led the US to establish the Federal Civil Defense Administration (FCDA) in 1950. It was assigned with promotion and public education of survival methods should the nation be faced with nuclear attack. As part of its educational campaign, the FCDA distributed pamphlets that provided emergency procedures, instructions for construction of fallout shelters, and listed supplies needed to survive within a shelter for up to two weeks while radiation dissipated. Because the shelters were to be used long-term, they needed lighting, toilet facilities, water, and filtered air intakes and exhausts. While the FCDA promoted fallout shelter construction during the 1950s, the federal government did not develop a national program for their construction, nor did it provide any funding to the public for their construction. Construction of fallout shelters spiked in the late 1950s, particularly after 1957, when the Soviet Union demonstrated its technological potential to deliver a nuclear weapon, launching the world's first artificial satellite. However, it was not until the early 1960s, when increased tensions between US and the Soviet Union and the subsequent funding augmentation of the nation's civil defense programs sparked a wave of fallout shelter construction [5]

Cold War tensions increased dramatically between 1960 and 1961 as a result of three distinct events that amplified the public's anxiety over nuclear attack. In 1960, just before a US-Soviet summit meeting, the Soviet Union shot down an American U-2 spy plane over Soviet territory. Despite its initial denial, the US eventually conceded its spy mission, dooming hope for talks leading to a nuclear test ban treaty between the two nations. One year later, East Germany and the Soviet Union grew increasingly aggravated by the defection allowed by the open border between East and West Berlin, and threatened to occupy West Berlin. Because the US and its allies remained in West Berlin, President Kennedy publicly announced his willingness to defend West Berlin militarily. During this same period, animosity was building between the US and Cuba. The failed US-backed Bay of Pigs invasion in 1961 and subsequent embargo against Cuba in early 1962 forced Cuba to defend itself by obtaining long-range missiles from the Soviet Union. Upon discovery of the missiles, a US naval blockade of Cuba ensued for nearly two weeks, until the Soviets agreed to remove the missiles in exchange for the removal of US missiles in Turkey, thus ending what became known as the Cuban Missile Crisis.[6] These events heightened

[3] John S. Salmon, *Protecting America: Cold War Defensive Sites, A National Historic Landmark Theme Study* (Washington, D.C: October 2011) 5.
[4] John S. Salmon, *Protecting America: Cold War Defensive Sites*, 13; Caltrans, "Tract Housing in California, 1945-1973," 35-37.
[5] Caltrans, "Tract Housing in California, 1945-1973," 37-40.
[6] Caltrans, "Tract Housing in California, 1945-1973," 37-40.

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the nation's fears about what many believed to be an impending nuclear war, and led private citizens across the country to seek information on construction of fallout shelters.

In Bakersfield, the county's Civil Defense Office reported in 1960 that it had distributed over 100,000 pieces of civil defense literature to the public, along with nearly 10,000 copies of construction plans for family shelters.[7] The increased demand from the public for more information on private fallout shelters spurred the county's Civil Defense Office to construct a working model of an aboveground backyard fallout shelter on the grounds of the Kern County Museum in June 1960. The shelter was based on plans from the US Office of Civil Defense Mobilization's "Family Fallout Shelter" booklets and cost approximately $700 to construct. The shelter is still on display at the museum's Pioneer Village.[8]

Around the same time, companies across the country began designing fallout shelters for sale to families. Prefabricated concrete and metal shelters, some of which were assembled by the property owner, were advertised in newspapers and magazines across the nation, sold door-to-door, and peddled at state and county fairs. Local companies, architects and builders also jumped into design and construction of private fallout shelters. McCarthy Steel & Tank Company, which built steel buildings and storage tanks in Bakersfield, began manufacturing and marketing prefabricated fallout shelters as early 1960. McCarthy displayed at the Kern County Fair in 1960 its five-person steel shelter, complete with air blowers, filters, and bunks that was approved by the county's Civil Defense office. McCarthy's shelters ranged in cost from $1,250 to $2,500, plus installation.[9]

According to the county's Civil Defense Office, inquiries into fallout shelters and request for *The Family Fallout Shelter* booklet increased "100 fold" following the Berlin Crisis in mid-1961. Growing fears led more than 1,700 people to complete the *Individual and Family Survival* course offered by Bakersfield Evening High School (in cooperation with the county's Civil Defense Office) in 1961, and the City of Bakersfield reported issuing five building permits for the construction of subterranean fallout shelters in August. At that time at least three local construction firms had fallout shelter designs that had been approved by city and county building departments.[10] One such company was likely Benum Pools, which designed a precast reinforced concrete shelter that was certified by city and county building departments and approved by county Civil Defense Office. In its marketing of its "U.S. Shelter," the company publicized that its concrete construction provided better acoustics than other steel shelters and its size (a basic model measured 11' by 12') and rectangular shape allowed for easy placement of furniture, shelving and wall hangings, so it could be used as a spare room. The company later introduced enhanced models with stairways and storage space.[11] The number of fallout shelter manufacturers reported nationally in mid-1961 increased from 40 in July to more than 120 companies with governmental approval in September. This, of course, does not include the unknown number of manufacturing companies and local contractors without federal or local approval who added this new construction type to their product line.[12]

Despite the certification or approval of some local fallout shelter plans by the City of Bakersfield's and Kern County's building departments, there were no regulations that permitted or forbade the construction of aboveground or subterranean fallout shelters for the county or city prior to September 1961. Although both the city and county notified the public that building permits must be obtained for the construction of fallout shelters, building departments used general health and safety specifications when approving their construction. This lack of standards was of particular concern in Bakersfield where residents were being denied permits because the proposed shelter plans were incompatible with existing building codes. In an effort to "encourage property owners to construct shelters for the purpose of protecting human life from the

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[7] "Individual Effort Important in Civil Defense," *Bakersfield Californian*, January 5, 1961, p. 20.
[8] "Fallout Shelter," Kern County Museum, accessed online at www.kcmuseum.org/index.cfm?fuseaction=gal_item_detail&item_id=27, December 18, 2012; "Family Fallout Shelter," *Bakersfield Californian*, June 28, 1960, p. 18; "Bomb Shelter on Display at Kern County Museum," Bakersfield Californian, July 5, 1960, pp. 21-22.
[9] "McCarthy Fallout Shelter Attracting Lots of Attention at County Fair," *Bakersfield Californian*, September 30, 1960, p. 28; Advertisement, *Bakersfield Californian*, August 19, 1961, p. 7; "Family Fallout Shelter," *Bakersfield Californian*, June 28, 1960, p. 18; "Bomb Shelter on Display at Kern County Museum," *Bakersfield Californian*, July 5, 1960, pp. 21-22; "Fallout Shelter," Kern County Museum.
[10] "Fallout Shelter," *Bakersfield Californian*, August 29, 1961, p. 24.
[11] "Kern County Residents Begin 'Digging In'—Just In Case," *Bakersfield Californian*, September 16, 1961, pp. 19-20; "Pool Builder Has New Shelter Design," *Bakersfield Californian*, September 18, 1961, p. 24; "Stairway Adds to Shelter Livability," *Bakersfield Californian*, October 14, 1961, p. 28.
[12] Walter Karp, "When Bunkers Last In the Backyard Bloom'd: The Fallout Shelter Craze of 1961," American Heritage, Volume 31, Issue 2, February/March 1980, accessed online at www.americanheritage.com on December 17, 2012.

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hazard of radioactive fallout," the city adopted an emergency ordinance regulating shelter construction in September 1961. The following month, the county adopted its own ordinance (although not an emergency) that established the permitting process and specifications for construction of fallout shelters in unincorporated Kern County.[13]

The wave of construction appears to have been highest in 1961. Los Angeles and San Diego reported a dramatic increase in building permits issued for shelters in the fall of 1961; however, by the end of that year, as the Berlin Crisis and Bay of Pigs incident dropped from the headlines, home shelter construction dramatically declined.[14] Research did not reveal the number of fallout shelters constructed in Bakersfield between 1960 and 1961. A review of the local newspaper does not identify any building permits for such structures issued during this time. Articles marketing specific buildings reveal two residential fallout shelters built during in fall of 1961 in the Greater Bakersfield (3309 Baylor Street and 2535 Beech Street) and model shelters built at Hartman Concrete Yard (Truxtun near Oak Street), and Neudeck Pool Company at 507 West Casa Loma Drive (presently Ming Avenue).[15] Sales and rental advertisements also indicate extant shelters on the residential properties of 3408 Laverne Avenue and 921 Sylvia Drive, as well as a residence near Garces in late 1961.[16] Additionally, a fallout shelter is reportedly located at 3904 Marsha Street (just east of the residential tract documented on this form); however its construction date is unknown.

Despite Congress appropriating more than $200 million to the federal civil defense program in 1962, the money was for shelter surveys, improvement to existing public shelters, construction of new public shelters, as well as supplies to stock public shelters.[17] Interest in fallout shelters continued into early 1962, both from a private and commercial perspective. Anticipating future construction of public or community shelters, well-known local architect Robert Eddy (Eddy & Paynter) attended a federally-sponsored seminar for shelter design and analysis at the University of Colorado in February 1962. However, this seminar was held as part of a federal shelter incentive program, which stressed community fallout shelters in schools, hospitals and public welfare establishments.[18]

While the Cuban Missile Crisis in October 1962 brought civil defense and fallout shelters to the front of the news again, it does not appear that it spurred any new construction of family fallout shelters in a significant way. Other recent scholarship, including Kenneth Rose's comprehensive 2001 study of fallout shelter construction and national policies related to sheltering the civilian population, suggests that the "the flashpoint for this remarkable phenomenon [of constructing home shelters] … was a speech given by John F. Kennedy on July 25, 1961." Rose explained that the speech emphasized the lengths to which the nation would go to defend Berlin from Soviet pressures. During the crisis both sides declared that interference in Berlin would lead to war. He added, "the urgency to build a shelter also decreased after the Berlin and Cuban crises had passed and tensions had eased somewhat between the United States and Soviet Union. But the main reason Americans rejected shelter building had to do with the troubling moral aspects of shelters. These included questions of personal ethics and relationships with ones neighbors." Finally, Rose maintained that "after 1963 the public's involvement with the issues of fallout shelters and nuclear arms rapidly fell off."[19]

Newspaper advertisements and articles about family shelter construction dramatically decreased during the year and in December 1962, the City of Bakersfield reported only issuing one permit for fallout shelters during that entire year. By this time, it had become apparent that with the US and Soviet's growing nuclear arsenals and the probability of total destruction in the event of a nuclear attack, family shelters would be virtually useless. Over the subsequent years, the sense of impeding nuclear threat subsided. In 1963, the Limited Test Ban Treaty was signed by the US, Soviet Union and Canada, which

[13] Legal Notice, *Bakersfield Californian*, October 23, 1961, p. 32; "Shelters to be Taxed," *Bakersfield Californian*, September 12, 1961, p. 25; "Council Adopts Ordinance to Permit Shelter Construction in Front Yards," *Bakersfield Californian*, September 19, 1961, p. 19; City of Bakersfield, Ordinance No. 1383, September 18, 1961.
[14] Caltrans, "Tract Housing in California, 1945-1973," 37-40.
[15] "Fallout Shelter," *Bakersfield Californian*, August 29, 1961, p. 24; "Kern County Residents Begin 'Digging In'—Just In Case," *Bakersfield Californian*, September 16, 1961, pp. 19-20. The *Bakersfield Californian* incorrectly listed the Gullett property at 2523 Beech Street instead of 2535 Beech Street for which Dr. William Gallett Jr. resided as early as 1959.
[16] Advertisements, *Bakersfield Californian*, October 13, 1962, p. 32, and August 11, 1961, p. 31.
[17] Caltrans, "Tract Housing in California, 1945-1973," 37-40.
[18] "Architect Eddy will Take Fallout Course," *Bakersfield Californian*, February 2, 1963, p. 21.
[19] Kenneth D. Rose, *One Nation Underground: The Fallout Shelter in American Culture*, (New York: New York University Press, 2001) [ebook edition] pp. 11, 19.

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prohibited atmospheric and underwater testing of nuclear weapons. This, coupled with increased public attention on the Vietnam Conflict, pushed the US and Soviet's nuclear programs further into the background.[20]

In Bakersfield, only two family fallout shelters (201 and 209 South Garnsey Avenue) are known to have been constructed in the summer of 1962 by local contractor James Womack (Jones and Womack) in a post-war housing tract. Womack's son, Keith Womack, notes that his father built his first shelter on his own property at 201 South Garnsey as a prototype and then immediately constructed the shelter at 209 South Garnsey. The two structures are different in size, construction material and methods, which supports the suggestion that the smaller shelter as a prototype. In fact, the shelter at 209 South Garnsey is similar in design to those shelters promoted by the federal civil defense office. James Womack likely constructed additional shelters during that period but none were built by him after 1962. It appears both were likely constructed without building permits.[21]

Evaluation

California Department of Transportation (Caltrans) has developed a context for evaluating postwar housing tracts that includes important historical events and trends, popular architectural styles, and significant architects and builders. The study also presents guidance for evaluating postwar houses for individual significance and residential tracts as potential historic districts using NRHP criteria.[22] The current evaluation utilizes guidance presented in the Caltrans study as well as evaluation criteria and guidance prepared by the National Park Service entitled "How to Apply the National Register Criteria for Evaluation."[23]

Under NRHP Criterion A (CRHR Criterion 1), a property may be eligible if it has important associations with events or trends that are significant to history. Research indicated that the individual residences documented on this form do not have important associations with local, state or national historical trends that would make them eligible under Criterion A (CRHR Criterion 1). A postwar housing tract, however, might be eligible under this criterion according to the Caltrans study if it is an "early or prototypical housing tract or new community, an unusually large example, or one that incorporates innovative design qualities or mass-production techniques."[24] Tract 1938 is an example of a small collection of residences developed over a period of four years. This tract does not appear to be significant for its association with important historic events. The tract is not an important representation of early housing development, an example of an unusually large tract, or one that incorporates innovative design qualities or mass-production techniques that might make it eligible as a historic district under this criterion. Instead, the development is a small example of a residential tract, many of which were developed during the widespread mid-century build-up of the city's housing stock. Research does not indicate that this tract is significant for incorporating any important or innovative production techniques into its design or construction. Individually, the houses in this tract are not significant under this criterion.[25]

According to the Caltrans study, an example of important associations with postwar housing might include construction of Cold War fallout shelters. The Caltrans study states that public shelters built specifically for that use (as opposed to basements or interiors of large publicly- or privately-owned buildings that were used for fallout shelters) and a housing tract in which family or community fallout shelters were built and marketed as part of the tract, might meet NRHP Criterion A. Furthermore, Caltrans notes that "an intact home fallout shelter in which the residence is also extant would likely meet National Register Criterion A for its association with the Cold War, as a stark reminder of the period's anxieties." To date, only one family fallout shelter in the state, built in January 1962, has been evaluated for the NRHP. The evaluation, completed by Caltrans District 6, noted that within the theme of "Cold War anxiety," the shelter exhibited "some potential for eligibility under Criterion A." However, Caltrans determined that because that shelter never fully functioned and because

[20] "Chief Inspector Notes Building Decline in 1962." *Bakersfield Californian*, December 31, 1962, p. 20; Caltrans, "Tract Housing in California, 1945-1973," 40-41.
[21] Keith Womack, personal communication with Toni Webb, JRP Historical Consulting, LLC, December 12, 2012; Kern County Assessor Records, Building Permit No. 113277, November 8, 1962.
[22] California Department of Transportation, "Tract Housing in California, 1945-1973: A Context for National Register Evaluation," 2011.
[23] U.S. Department of the Interior, National Park Service, "How to Apply the National Register Criteria for Evaluation," Bulletin 15, 1990, revised 1997.
[24] Caltrans, "Tract Housing in California, 1945-1973," 125.
[25] Caltrans, "Tract Housing in California, 1945-1973," 123.

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its associated residence had been demolished, it lacked sufficient integrity to convey any potential significance under NRHP Criterion A. The State Historic Preservation Office concurred with Caltrans' finding of ineligibility. Although the Caltrans study notes that the actual number (or even reliable estimate) of shelters built (or extant) in the state is unknown, it does speculate that several thousand were probably built. Caltrans' broad statement suggests the potential eligibility of thousands of residences with family fallout shelters constructed during the Cold War. Excluding properties where their associated fallout shelters and/or residences lack integrity would reduce this number materially. The Caltrans study notes that there was a significant increase in the construction of shelters in 1957, after the launch of the Soviet's Sputnik satellite and further states that "the period of home shelter construction only lasted a short time, spiking in 1961 but declining precipitously by the end of the year, after the tensions of the Berlin Crisis had dissipated … it does not appear that the Cuban Missile Crisis in the fall of 1962 led to a significant revival of shelter construction."[26]

There are two properties documented on this form with associated fallout shelters. Both were built by James Womack in the summer of 1962, more than four years after their associated residences were constructed; therefore they were not included in the original design or marketing of the residential tract. Each property has been altered in subsequent years which have resulted in compromised integrity. Alterations to the property at 201 South Garnsey include the replacement of the residence's original aluminum sliding windows with vinyl, conversion of the original garage into living space, the construction of a secondary garage atop the fallout shelter, and removal of the fallout shelter steel trap door. Alterations to 209 South Garnsey consist of the replacement of the residence's stucco siding, replacement of original wood shake roof with tile roofing, and removal of the two subterranean water tanks associated with the fallout shelter. Therefore, none of the buildings or structures within the properties at 201 and 209 South Garnsey appear to meet the criteria for listing in either the NRHP of CRHR.

Under NRHP Criterion B (CRHR Criterion 2), the residences within this tract or the two fallout shelters do not appear to be significant for their associations with the lives of persons important to history. These residences were owned or rented by a range of individuals. It does not appear that anyone related to the use of these resources has made demonstrably important contributions to history at the local, state, or national level.[27] As the Caltrans postwar housing tract study points out, "it is unlikely that a district will meet National Register criterion B for association with an important individual." Associations with the developer, architect or builder are considered under Criterion 3 or C.[28] Several original owners worked as salesmen for the Elmer F. Karpe real estate and development company. In addition, James Womack, of Womack & Jones Building Contractors, lived at 201 South Garnsey Avenue. Womack and Jones built many of the houses along South Garnsey Avenue.[29] However, none appear to be significant under this criterion.

Under NRHP Criterion C (CRHR Criterion 3), neither the tract, nor the individual residences are significant for embodying important characteristics of a type, period or method of construction, as the work of master architects or builders, or for possessing high artistic value. The tract does not include important characteristics of a postwar subdivision design, such as evidence of careful planning, curvilinear street layout or distinctive landscaping features, like tree-lined streets and sidewalk plantings. As the Caltrans study notes, it is highly unlikely an individual house within a residential tract would possess the important characteristics of an architectural style that would make it significant because each individual house is similar or the same as many others in the same tract and elsewhere in the region and country.[30] None of the individual residences in this tract represent important examples of a general architectural style. The houses contain elements of the Ranch-style

[26] Caltrans, "Tract Housing in California, 1945-1973," 40-42.
[27] State of California, United States, *Great Register of Voters*, (Sacramento, California: California State Library); *Polk's Bakersfield California City Directory 1936-1945* (Los Angeles: R.L. Polk and Co. Publishers, 1936-1945); *Polk's Bakersfield California City Directory 1952* (Los Angeles: R.L. Polk and Co. Publishers, 1952).
[28] Caltrans, "Tract Housing in California, 1945-1973," 125.
[29] *Polk's Bakersfield California City Directory 1960* (Los Angeles: R.L. Polk and Co. Publishers, 1960); *Polk's Bakersfield California City Directory 1965* (Los Angeles: R.L. Polk and Co. Publishers, 1965); State of California, United States, *Great Register of Voters*, (Sacramento, California: California State Library) accessed online at www.ancesstry.com on December 17, 2009; *Polk's Bakersfield California City Directory 1936-1945* (Los Angeles: R.L. Polk and Co. Publishers, 1936-1945), accessed online at www.ancestry.com on December 17, 2009; "Gwendolyn Dawn Womack [obituary]" *The Bakersfield Californian* May 5, 2005; "Building Activity Stays High," *Bakersfield Californian*, August 6, 1959, p. 28; Keith Womack, personal communication with Toni Webb, December 12, 2012.
[30] Caltrans, "Tract Housing in California, 1945-1973," 123.

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architecture, which became very popular during the mid-twentieth century in suburban communities throughout Bakersfield, the state, and the nation. While the houses in Tract 1938 possess different design elements, they are modest examples of the Ranch style.

Neither the tract nor any of the individual houses are significant as the work of a master architect or builder. The National Park Service guidelines specify that a "master is a figure of generally recognized greatness in a field, known craftsman of consummate skill, or an anonymous craftsman whose work is distinguishable from others by its characteristics style and quality."[31] The tract was subdivided in 1956, but development occurred over the span of four years. The only known contractor for this South Garnsey housing tract was Womack & Jones Building Contractors, which built at least the residences at 200, 201, 206, 209, 221, 275, and 295 South Garnsey Avenue. Research did not indicate that the company Womack and Jones, or the individuals, James Womack and his business partner Glen Jones, were master builders or architects. A house or tract might be eligible as an example of an unidentified master architect if it "rises above the level of workmanship of other properties encompassed by the historic context."[32] However, the design and construction of the houses appears similar in style and method to innumerable other postwar houses. Therefore, the tract is not significant as the work of an identified or unidentified master architect or builder.

The tract does not collectively, nor do the houses individually, possess high artistic value, which might be represented by "unique, high-style houses" that "exhibit an unusual degree of quality in their design, detailing, and craftsmanship."[33] Instead, the houses are modest examples of Ranch-style architecture and exhibit common characteristics of design and craftsmanship. Finally, the Caltrans guidelines state a potential historic district might be eligible under this criterion as "a significant and distinguishable entity whose components may lack individual distinction." The National Park Service guidelines further elaborate that the district must possess architectural or historical significance under one of the other three criteria or other parts of Criteria C or 3.[34] Even though Tract 1938 is a distinguishable entity comprising houses that lack individual distinction, it does not meet the threshold of architectural or historical significance.

Under Criterion C (CRHR Criterion 3) the fallout shelters do not embody distinctive characteristics of type, period or method of construction, nor are they the work of a master builder. Although fallout shelters could be constructed in extant basements, in California, where basements are uncommon, most fallout shelters were installed below ground in backyards. Generally shelters built were either prefabricated steel units, or prefabricated or site-built concrete (block or poured) structures. These shelters appear to be typical examples of privately built fallout shelters that used standard construction methods and materials. While the shelter at 201 South Garnsey was custom designed, it appears the shelter at 209 South Garnsey was likely based on a standard design that was promoted by the federal Civil Defense Office, and customized for size.[35]

Under NRHP Criterion D (CRHR Criterion 4), the tract, the individual residences, and fallout shelters are not significant as sources (or likely sources) of important information regarding history. The residences do not appear to have any likelihood of yielding important information about historic construction materials or technologies.

In order to meet eligibility requirements for the NRHP or the CRHR, a property must have historical significance and retain sufficient integrity to convey its significance. While some of the individual houses retain overall integrity, none meet the significance criteria for eligibility in the NRHP or CRHR. Most of the houses have been altered to some extent, and these modifications have diminished several aspects of integrity of the structures. Alterations (shown in the table in P3a above) include replacement windows, replacement siding, additions, and converted garages. The two residences with fallout shelters have undergone varying levels of significant alteration (as noted above); and the fallout shelters have lost a degree of integrity to their original period of construction because of removal of equipment required for that function.

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[31] U.S. Department of the Interior. National Park Service. "How to Apply the National Register Criteria for Evaluation." 20.
[32] U.S. Department of the Interior. National Park Service. "How to Apply the National Register Criteria for Evaluation." 20.
[33] Caltrans. "Tract Housing in California, 1945-1973." 125-126.
[34] Caltrans. "Tract Housing in California, 1945-1973." 126; U.S. Department of the Interior. National Park Service. "How to Apply the National Register Criteria for Evaluation." 5, 20.
[35] Office of Civil Defense and Mobilization. *The Family Fallout Shelter*. MP-15. June 1959.

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For a historic district to retain integrity, a general rule is that at least two-thirds of the components of the tract must retain sufficient integrity.[36] Components of the tract include not only individual residences, but also design and landscape features, such as street layout, sidewalk, planting strip and trees. Tract 1938 lacks uniformity in some of the design features. Tract 1938 has a rectilinear layout with concrete gutters, squared curbs and sidewalks. The sidewalks and curbs are separated on most properties by a landscaping strip filled with grass. The front yard of each house has lawn. Some properties have mature trees while others have young or no trees in the front yard. The tract, individual residences, and fallout shelters have been evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code.

[36] Caltrans, "Tract Housing in California, 1945-1973," 134.

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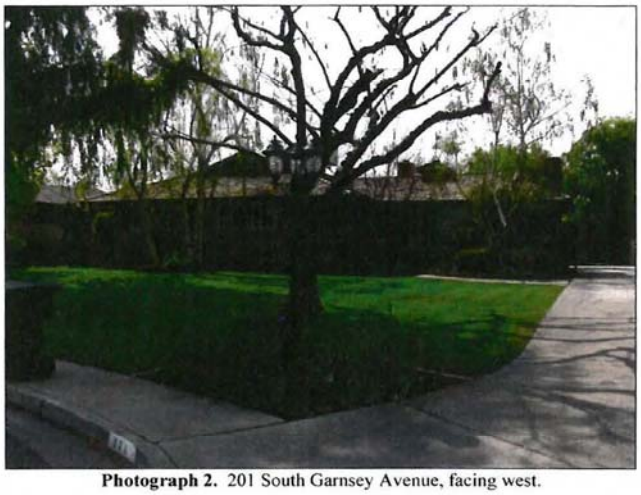
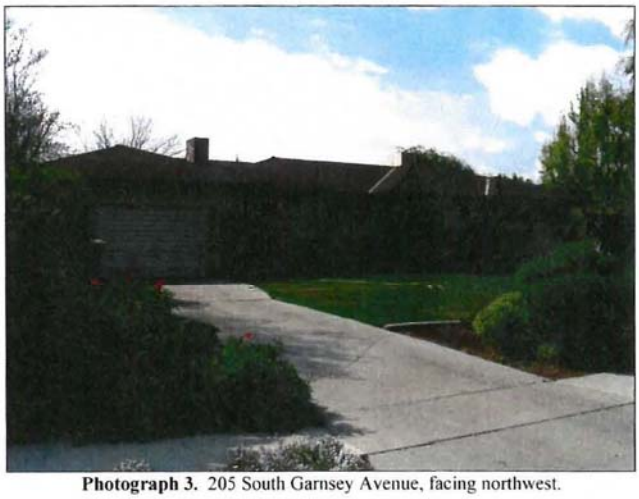
Photographs (continued):



Photograph 2. 201 South Garnsey Avenue, facing west.



Photograph 3. 205 South Garnsey Avenue, facing northwest.

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Photographs (continued):

Photograph 4. 206 South Garnsey Avenue, facing east.

Photograph 5. 209 South Garnsey Avenue, facing west.

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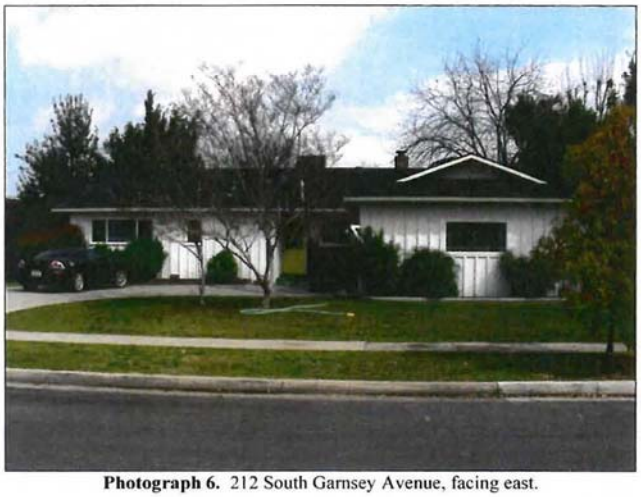
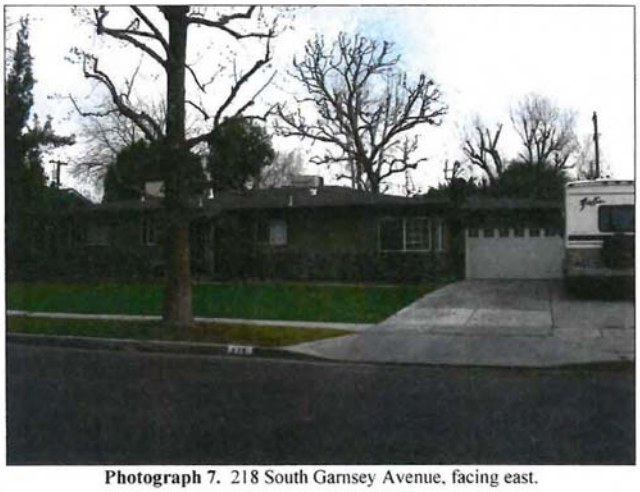
Photographs (continued):



Photograph 6. 212 South Garnsey Avenue, facing east.



Photograph 7. 218 South Garnsey Avenue, facing east.

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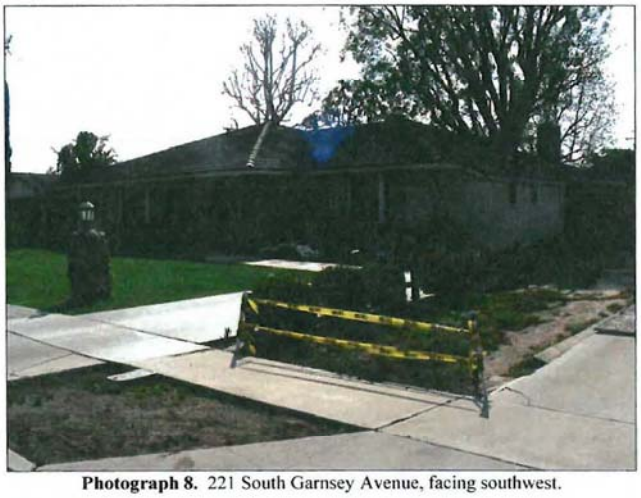
Photographs (continued):



Photograph 8. 221 South Garnsey Avenue, facing southwest.

Photograph 9. 255 South Garnsey Avenue, facing northwest.

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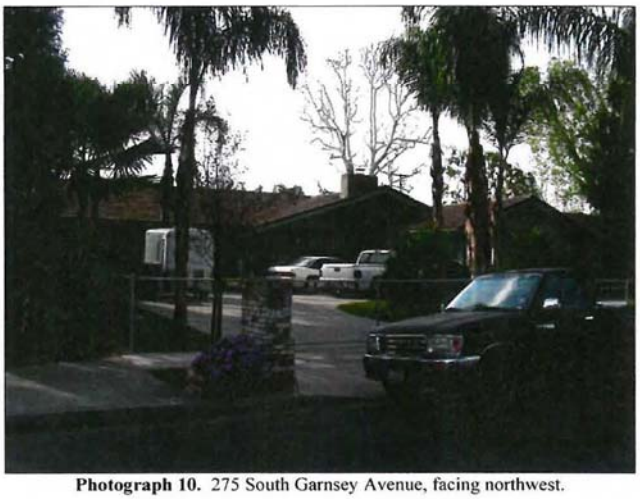
Photographs (continued):



Photograph 10. 275 South Garnsey Avenue, facing northwest.

Photograph 11. 295 South Garnsey Avenue, facing west.

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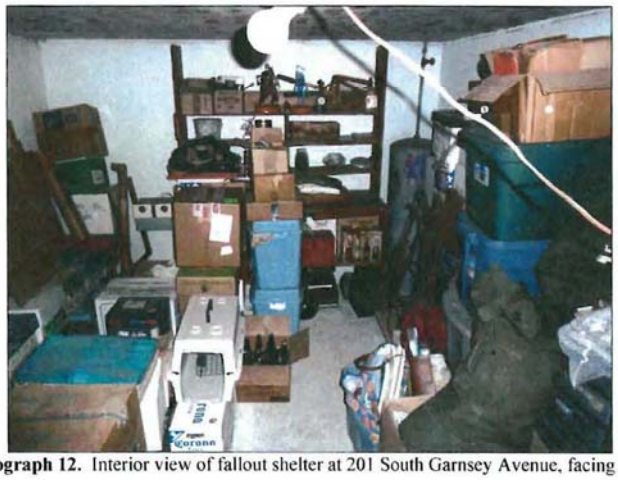
Photographs (continued):



Photograph 12. Interior view of fallout shelter at 201 South Garnsey Avenue, facing north.

Photograph 13. Fallout shelter stairs at 201 South Garnsey Avenue showing intake pipe (near light), facing south.

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Photographs (continued):

Photograph 14. View of fallout shelter entrance at 201 South Garnsey Avenue.

Photograph 15. View of fallout shelter entrance at 209 South Garnsey Avenue.

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Photographs (continued):

Photograph 16. View of fallout shelter entrance at 209 South Garnsey Avenue.

Photograph 17. View of fallout shelter stairway at 209 South Garnsey Avenue.

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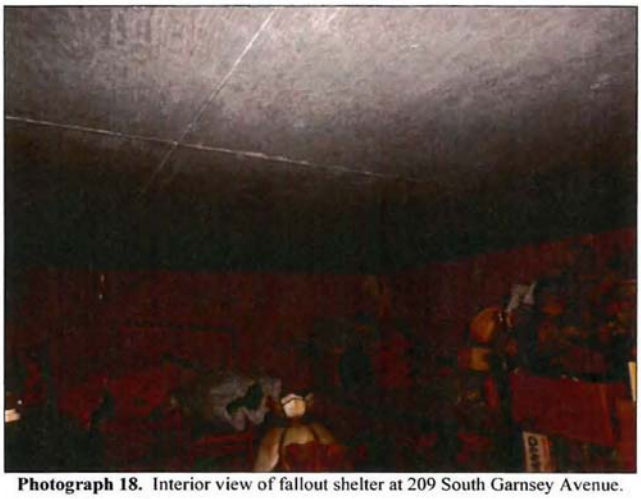
Photographs (continued):



Photograph 18. Interior view of fallout shelter at 209 South Garnsey Avenue.

Photograph 19. Centrifugal blower with handcrank at 209 South Garnsey Avenue.

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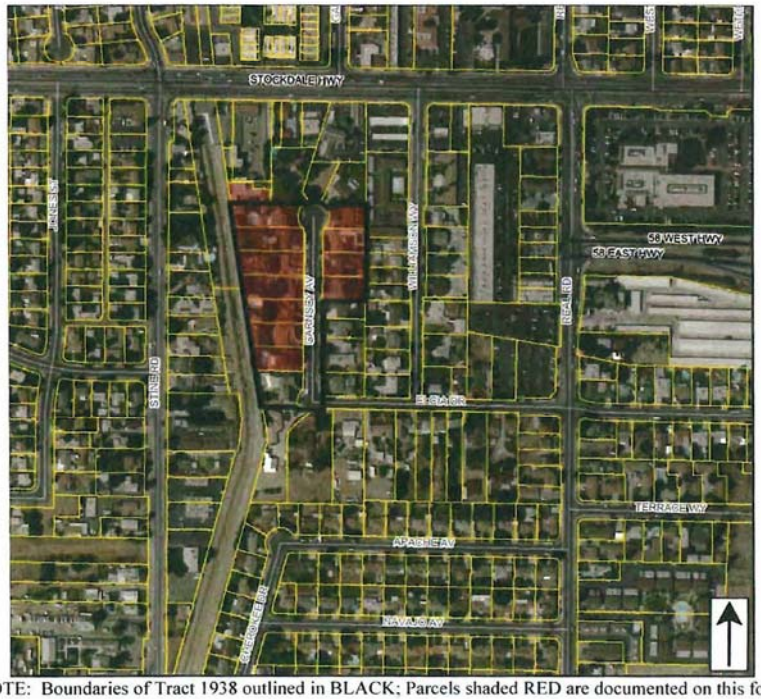
Sketch Map:



NOTE: Boundaries of Tract 1938 outlined in BLACK; Parcels shaded RED are documented on this form.

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PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 6Z
Other Listings _____
Review Code _____ Reviewer _____ Date _____

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P1. Other Identifier: 195 South Garnsey Avenue
***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County** Kern
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Gosford, CA **Date** 1973 **T** ___; **R** ___; __ ¼ **of Sec** ___; _____ **B.M.**
c. Address 195 South Garnsey Ave. City Bakersfield, CA Zip 93309
d. UTM: (give more than one for large and/or linear resources) Zone _____; _____mE/ _____mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
Assessor Parcel Number: 149-221-21
***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This 2,432-square foot residence is situated on a 0.5-acre parcel with a detached garage, basement and a pool. The house and detached garage are setback from the street, at the end of a concrete driveway. The house features a low-pitch side gable roof with exposed rafters and has both board-and-batten and horizontal wood siding. The main entrance is located on the west side of the house, under a shed roof supported by square wood posts and sheltering a full-width porch (Photograph 1). The entrance is off-center and features a glazed wood panel door. Fenestration consists of two 4/4 double-hung wood windows south of the main entrance and a fixed picture window grouped with two wood casement windows north of the entrance. A secondary entrance is located between the double-hung windows, and features a wood-frame glass door. The north side of the house features an exterior brick chimney and a small shed roof extension. This wall is connected to a covered patio (originally built as a carport) that shelters access to the basement. The east side of the house has a shed-roof enclosed projection with a wood-frame door. Windows on this side include 1/1 double-hung wood windows (Photograph 2). (See Continuation Sheet)

***P3b. Resource Attributes:** (List attributes and codes) HP2 – Single family property
***P4. Resources Present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, date, accession #) Photograph 1. Facing north.

***P6. Date Constructed/Age and Sources:**
☒ Historic ☐ Prehistoric ☐ Both
ca. 1930 / 1950, Kern County Assessor

***P7. Owner and Address:**
Quinn M. Miller
195 S. Garnsey Ave.
Bakersfield, CA 93309

***P8. Recorded by:** (Name, affiliation, address)
Polly Allen and Joseph Freeman
JRP Historical Consulting, LLC
2850 Spafford Street
Davis, CA 95618

***P9. Date Recorded:** March 2009

***P10. Survey Type:** (Describe) Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") JRP Historical Consulting, LLC, "HRER, Centennial Corridor Project, Bakersfield, Kern County, California (EA 06-48460)"

***Attachments:** ☐ None ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (list) _____

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*NRHP Status Code 6Z
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B1. Historic Name: 3839 Stockdale Highway
B2. Common Name: _____
B3. Original Use: Residential B4. Present Use: Residential
*B5. Architectural Style: Ranch
*B6. Construction History: Basement built ca. 1930; house built in 1950; pool installed in 1969; covered walkway built between 1969 and 1975; enclosure sheltering exterior basement stairs built after 1994.
*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: _____ Original Location: _____
*B8. Related Features: none
B9. Architect: unknown b. Builder: unknown
*B10. Significance: Theme n/a Area n/a
Period of Significance n/a Property Type n/a Applicable Criteria n/a
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

This property does not appear to meet the criteria for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR), nor does it appear to be a historical resource for the purposes of CEQA. This residence and garage were constructed in 1950 on top of a basement built circa 1930 for use in the production and storage of illegal alcohol during and after Prohibition. The property was formerly owned by Italian immigrant Gaetano "George" Egidio Barsotti and his wife Guiseppina (nee Lorenzi). Barsotti came to Bakersfield in the early 1920s, marrying his wife in late 1923. Research provided little information about Barsotti during his years in Bakersfield. It appears that he purchased land along West Brundage (present-day Stockdale Highway) likely in the mid to late 1920s. At that time the property included a house fronting present-day Stockdale Highway as well as some outbuildings, one of which was purported to be a chicken house. Newspaper accounts reveal that George Barsotti had various arrests for producing, transporting, and storing of illegal wine and distilled spirits during the 1920s; however those accounts do not include any mention of the property documented on this form. In 1938, five years after the end of Prohibition, Barsotti was arrested in his home on Brundage Lane during a raid by the federal government. He was charged with possession of alcohol for which no federal tax had been paid. During the raid federal agents found the underground plant, complete with hydraulic host elevator to lift the finished goods to the surface for transportation. It appears that Barsotti sold some of his land along West Brundage to pay off his tax debt. He eventually sold his property in 1946, moving to a home in the Westchester neighborhood of Bakersfield.

The period immediately following World War II was a time of great population growth for Bakersfield. In the period following World War II, Bakersfield's population and economy grew rapidly, a result of (See Continuation Sheet)

B11. Additional Resource Attributes: _____
*B12. References: Interview with Quinn Miller, November 16, 2011; Kern County Assessor , Residential Property Record for APN 149-221-21; "Takes Blame of Liquor Found in Home of Brother," *Bakersfield Californian*, 5 January 1921, pg. 6 (col. 6); "George Pays Fine," *Bakersfield Californian*, 7 January 1921, pg. 8 (col. 3); "Five Arrested in Midnight Raids," *Bakersfield Californian*, 15 November 1923, pg. n/a (col. 3); "George Barsotti Must Face Trial," *Bakersfield Californian*, 21 April 1939, pg. 15 (col. 4); "Two Petitions Denied for Naturalization; 46 Granted," *Bakersfield Californian*, 17 November 1943, pg. 9 (col. 2). *Bakersfield Californian*, July 22, 1946 p6; see footnotes.

B13. Remarks:

*B14. Evaluator: Joseph Freeman
*Date of Evaluation: August 2011
(This space reserved for official comments.)

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P3a. Description (continued):

The south side of the house features a gateway at the south end of the front porch that includes a gable roof supported by square posts, and an iron gate (Photograph 3). Adjacent the gateway is a shed-roof projection with two 1/1 double-hung wood windows. This gateway is connected on the west side to a covered walkway that leads to the detached garage (Photograph 4). The garage includes board-and-batten wood siding, and has replacement vinyl windows on the south wall. The garage has been converted to an office. A swimming pool is located on the western periphery of the parcel.

The basement (Photographs 6-13) is approximately 2,000 square feet in size and is sited below the residence and both east and north patios. It is accessed from the interior of the house, as well as from wood stairs within an enclosure sheltered under the north patio. The enclosure (Photograph 5) features windows and a modern door. The basement, constructed ca. 1930, is of unreinforced board-formed concrete construction and consists of five rooms that have been converted to living space. The two larger rooms are in the southern portion of the basement while the three smaller rooms are in the northern portion. Rooms are generally connected through cutouts in the concrete walls and have exposed concrete walls and ceilings. The floors are also primarily exposed concrete, but do include patterned brick. The largest room has been finished and has a spiral staircase, drywall and wood paneling, a fireplace, and linoleum floor (Photograph 9).

B10. Significance (continued):

returning veterans and general postwar economic resurgence. However, with little residential construction during the war years, the region was quickly hit by a housing shortage. Low interest rates, fixed mortgages for longer terms, and reduced down payments for veterans contributed to the rise in demand for housing, and resulted in increased development. In the first decade after the war, over twenty square miles of new housing was developed in the greater Bakersfield area and between 1950 and 1955 alone approximately 12,000 new homes were built. The city's boundaries began to expand as outlying agricultural land was converted to residential tracts. From 1950 to 1975, the city tripled in size, as Bakersfield continued to extend its borders to meet the ever-growing housing demand.[1]

Omar Allen Cavins, a retired geologist, and his wife Grace purchased the Barsotti home in 1946, and likely constructed the extant residence and garage during this postwar period. The new house was originally accessed from Stockdale Highway to the north before South Garnsey Avenue was built. The property originally contained the residence and detached garage, and included one or more of the parcels and buildings to the north. In the early 1960s, this residence appears with its South Garnsey Avenue address. In 1961 Judge Earle J. Gibbons and his wife Joan purchased the property from the Cavins. The Gibbons remained at the address until its sale in 1978.[2]

Under NRHP Criterion A or CRHR Criterion 1, this residence does not appear to be significant for its association with important historic events. This basement was constructed around 1930 and used, for a period, to produce and store wine and liquor. The earliest historical documentation revealing the existence of this basement found during research for this project was a newspaper article in 1938 which reported on the arrest of George Barsotti for tax evasion. Photographs of the basement where included with the article. Barsotti had a lengthy history in bootlegging liquor during Prohibition, going back to the early 1920s. During this period, many people engaged in the illegal activities surrounding liquor production and distribution, and Barsotti does not appear to have gained significance for his participation. Likewise, while the basement

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[1] Chris Brewer, *Historic Kern County: An Illustrated History of Bakersfield and Kern County* (San Antonio, TX: Historical Publishing Network, 2001), 77; "Kern Homes Crisis Aired," *Los Angeles Times*, 7 December 1945; "Three Hundred Veterans Join Rush for 90 Homes," *Los Angeles Times*, 22 May 1946; "Minter Field Units to House 400 Families," *Los Angeles Times*, 2 February 1947; "Housing Pact Canceled by Bakersfield," *Los Angeles Times*, 7 March 1952; Chris Brewer, *Historic Kern County: An Illustrated History of Bakersfield and Kern County* (San Antonio, TX: Historical Publishing Network, 2001) 77-80; Joel Kotkin, "Things Are Booming in Bakersfield," *The Washington Post*, 27 Dec. 1975; "City Barely Touched," *Bakersfield Californian*, 2 November 1957.

[2] "George Barsotti Must Face Trial," *Bakersfield Californian*, 21 April 1939, pg. 15 (col. 4); Kern County Recorder, 24 January 1946, Deed, Book 1296, Page 292; State of California, United States, *Great Register of Voters* (Sacramento, California: California State Library, 1950, 1952, 1954, 1956, 1958, 1960); Kern County Recorder, 26 October 1961, Deed, Book 3428, Page 247; Kern County Recorder, 19 June 1978, Deed, Book 5118, Page 2036; Kern County Assessor , Residential Property Record for APN 149-221-21.

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might have been used throughout Prohibition, it does not appear to have gained significance for association with bootlegging. The space was converted to living space by the Gibbons family, and all of the tools and machinery that would have been used in this subterranean factory have been removed, including a hydraulic lift that moved supplies and finished product in and out of the space, and the bulkhead door that gave access to the exterior staircase. Moreover, it is unlikely that the structure provides historical information that might further illuminate potential significance. In addition, the original building under which the basement was constructed no longer exists, having been replaced by a more modern residence.

Research revealed no direct relationship between this property and other important historic events within any context. Specifically, the property does not have significant associations with residential development in Bakersfield during period following World War II. It does not appear that any of the known owners or tenants of this residence made demonstrably important contributions to history at the local, state or national level, and thus the property does not appear to be significant under NRHP Criterion B or CRHR Criterion 2. Under NRHP Criterion C or CRHR Criterion 3, this building does not appear to possess distinctive characteristics of a type, period or method of construction. The house features standard elements of Ranch-style architecture, including a low-pitch gable roof, wide eaves with exposed rafters, and a sprawling footprint. The house was built in 1950, when the Ranch style was immensely popular for residential designs. While it features the distinctive characteristics of the style, it is an unimportant example of the Ranch-style architecture. It also does not appear to be the work of a master architect, nor does it possess high artistic values.

Built environments are rarely significant under NRHP Criterion D or CRHR Criterion 4 and this property does not appear likely to yield important historical information. A structure such as the basement under the house at 195 South Garnsey Avenue might contain sources of information, such as written documents, that could illuminate significant historical events or trends, or provide crucial information about important individuals. A structure could also contain information in its design characteristics that could reveal important information about significant architectural trends or styles. This criterion has two requirements: "The property must have, or have had, information to contribute to our understanding of human history or prehistory, and, the information must be considered important." A property is eligible, therefore, if it "has been used as a source of data and contains more, as yet unretrieved data." It could also be eligible if, through testing or research, it is likely to contain data.

The structure might also contain information in the building design, techniques or method of construction. Information regarding the physical characteristics of the structure has been collected. The Kern County Assessor's office documented the basement in 1962, noting its two-foot thick, poured concrete construction. It was determined to have commercial-grade reinforced concrete exterior and partition walls.[3] An addition to the basement was constructed in 1969, and recorded in assessment records as a family room. The basement was also documented during the current recordation, and the conditions noted in the assessor records were determined accurate. The structure has therefore revealed information about the design of the basement. However, this information has not proved important. The materials, design and method of construction are standard for the period, and does not further inform out understanding of these materials. The design of the basement does not provide important information regarding bootlegging during Prohibition. While it was used to make or store liquor, research did not definitively show that this resource was constructed for bootlegging during Prohibition. Indeed, the only documents that connect the basement to alcohol production came after Prohibition ended. Moreover, even if the basement was concluded to have been built or used for bootlegging during Prohibition, it does not have important information that contributes to our understanding of history. Instead, it is of a standard basement design, with very few elements connecting it to its illicit usage. Those features, including the thick, concrete walls and partitioned rooms, do not fill in gaps in the history of bootlegging. Additionally the feature that connected the basement to illegal activities, the hydraulic hoist elevator system, has been removed and could only be linked to activity after Prohibition.[4]

The removal of the chicken coop that concealed the circa 1930s basement and the construction of the house in 1950 affected the structure's integrity of association with alcohol production in rural Bakersfield. The partial conversion of the basement to living space, the removal of the hydraulic hoist elevator system, and latter additions have also compromised the

[3] No steel reinforcement was noted in any of the basement room openings during field recordation of this property by JRP.

[4] Kern County Assessor Property Cards for APN 149-221-21.

DPR 523L (1/95) *Required Information

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DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # _____
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*Recorded by P. Allen & J. Freeman *Date March 2009 ☒ Continuation ☐ Update

basement's integrity of design, workmanship, materials, and feeling, while maintaining integrity of location. The house itself has undergone few alterations, and appears to retain integrity of location, design, workmanship, materials, and association. The surrounding area has changed since the original construction. Residences were constructed south of the house, in an area that was open land in 1950. To the north, Stockdale Highway has grown into a major thoroughfare, lined with commercial properties. The three parcels adjacent these parcels to the north all contain commercial buildings. These changes have diminished the integrity of setting and feeling. This property has been evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code.

DPR 523L (1/95) *Required Information

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*Recorded by P. Allen & J. Freeman *Date March 2009 ☒ Continuation ☐ Update

Photographs (continued):

Photograph 2: East side of residence, facing north.

Photograph 3: South side of residence, facing north.

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Photographs (continued):

Photograph 4: Detached garage, facing northwest.

Photograph 5: Basement entrance, facing northwest.

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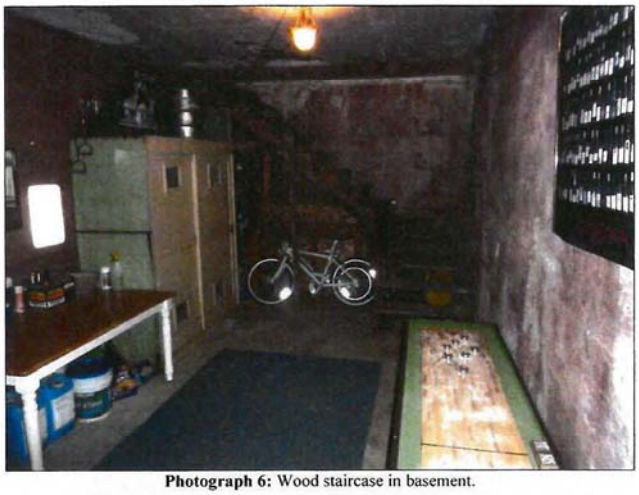
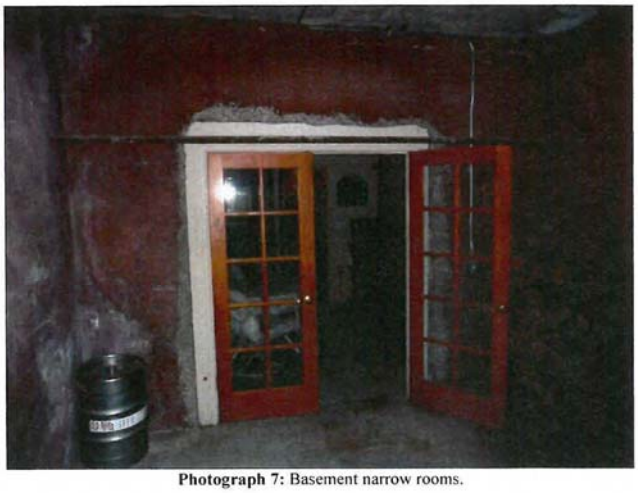
*Recorded by P. Allen & J. Freeman *Date March 2009 ☒ Continuation ☐ Update

Photographs (continued):



Photograph 6: Wood staircase in basement.



Photograph 7: Basement narrow rooms.

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Photographs (continued):

Photograph 8: Basement narrow rooms.

Photograph 9: Basement finished room.

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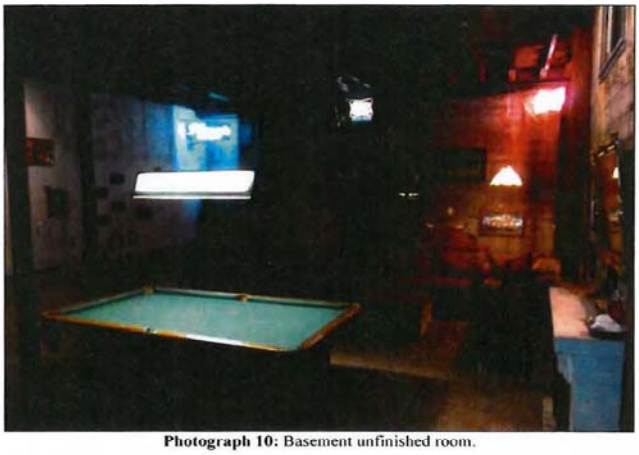
*Recorded by P. Allen & J. Freeman *Date March 2009 ☒ Continuation ☐ Update

Photographs (continued):



Photograph 10: Basement unfinished room.

Photograph 11: Basement unfinished room.

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Photographs (continued):

Photograph 12: Typical opening giving access to basement rooms.

Photograph 13: Extant concrete-constructed distillery features.

DPR 523L (1/95) *Required Information

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State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 6Z
Other Listings _____
Review Code _____ Reviewer _____ Date _____

Page 1 of 3 *Resource Name or # (Assigned by recorder) Map Reference No. 08-31

P1. Other Identifier: 320 South Garnsey Avenue
***P2. Location:** ☐ Not for Publication ☒ Unrestricted *a. County Kern
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Gosford, CA **Date** 1973 **T** ___; **R** ___; ¼ of Sec ___; _____ **B.M.**
c. Address 320 South Garnsey Avenue City Bakersfield, CA Zip 93309
d. UTM: (give more than one for large and/or linear resources) Zone _____; _____mE/ _____mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
Assessor Parcel Number: 149-232-14
***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This 0.35-acre parcel is located in an unincorporated county island roughly bounded by Highway 58 and Stockdale Highway to the north, Ming Avenue to the south, H Street to the east, and Montclair Street to the west. The 2,288-square-foot house, built in 1943, is oriented perpendicular to Garnsey Avenue and its primary façade faces south. It is clad in stucco and has a side-gabled roof with boxed eaves. A shed roof extension supported by metal poles shelters a full-width raised concrete front porch with wrought iron rails. The off-center front entry door is flanked by a pair of two-part vinyl windows on its right. A 1/1 vinyl sash window is located near each corner. The street-facing gabled end has a pair of vinyl sliding windows with canopies, and a louvered vent beneath its apex. There is a gabled extension attached to the east of the house, a 1979 addition, which can roughly be seen from the right-of-way. A two-car detached garage with a gable roof is located north of the house at an angle facing northwest. It was built in 1956.

***P3b. Resource Attributes:** (List attributes and codes) HP2 – Single family property
***P4. Resources Present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, date, accession #) Photograph 1. South and west facades, facing east.

***P6. Date Constructed/Age and Sources:**
☒ Historic ☐ Prehistoric ☐ Both
1943, Kern County Assessor Records

***P7. Owner and Address:**
Scott W. and Renae A. Wade
320 S. Garnsey Ave.
Bakersfield, CA 93309

***P8. Recorded by:** (Name, affiliation, address)
Greg Rainka and Joseph Freeman
JRP Historical Consulting, LLC
2850 Spafford Street
Davis, CA 95618

***P9. Date Recorded:** March 2009

***P10. Survey Type:** (Describe) Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") JRP Historical Consulting, LLC, "HRER, Centennial Corridor Project, Bakersfield, Kern County, California (EA 06-48460)"
***Attachments:** ☐ None ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (list) _____

DPR 523A (1/95) ***Required Information**

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State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
BUILDING, STRUCTURE, AND OBJECT RECORD

Primary # _____
HRI # _____

Page 2 of 3

*NRHP Status Code 6Z

*Resource Name or # (Assigned by recorder) Map Reference No. 08-31

B1. Historic Name: _____
B2. Common Name: _____
B3. Original Use: Residential B4. Present Use: Residential
*B5. Architectural Style: Ranch
*B6. Construction History: 1943; detached garage addition (1956); rear addition (1979) replacement windows (date unknown).
*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: _____ Original Location: _____
*B8. Related Features: _____
B9. Architect: unknown b. Builder: unknown
*B10. Significance: Theme n/a Area n/a
Period of Significance n/a Property Type n/a Applicable Criteria n/a

This building does not appear to meet the criteria for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR), nor does it appear to be a historical resource for the purposes of CEQA. Bakersfield experienced tremendous population growth after World War II that generated a wave of new development. There was a flood of veterans to California immediately following the war, and with it came a need for more housing. Throughout the decade, Kern County's population remained greater than the number of available houses, and it was many years before supply caught demand. The city's boundaries began to expand as outlying agricultural land was converted to residential tracts, and by the end of the 1950s, the housing gap had successfully been bridged. Twenty square miles of development took place in Greater Bakersfield from 1945 to 1955, which included approximately 12,000 new homes built between 1950 and 1955. In particular, the land straddling Stockdale Highway southwest of downtown was the site of new development.

The unprecedented postwar growth period strained Bakersfield's road and highway system. By the 1950s, Bakersfield began planning street and highway improvements to attack congestion problems. The city ultimately wanted traffic to move around, not through, the downtown area. This led to the construction of the Highway 99 bypass in 1963 that routed traffic down a multi-lane freeway along the west edge of the city rather than to and through the city center on Union Avenue. A decade later, the state finished construction of Highway 58 (now the primary east-west route through Bakersfield) directly south of, and parallel to, Brundage Lane. Census figures show a 50% increase in Bakersfield's population from 1970 to 1980. Owing to the new freeways, the southwest of the city was the primary target of growth and new construction efforts. By 1980, 48,000 people lived in the area directly west of the "new" 99 and accessed primarily via Stockdale Highway, a 500% increase from the decade prior, and over one-third of the city's building permits were for residential property in this section of town. (See Continuation Sheet)

B11. Additional Resource Attributes: _____

*B12. References: Kern County Aerial Photographs, flown by the USGS, 1937, 1947, 1956, 1968; "Kern Homes Crisis Aired." *Los Angeles Times*, 7 December 1945; "Three Hundred Veterans Join Rush for 90 Homes." *Los Angeles Times*, 22 May 1946; "Shutdown on Veterans' Housing Project Averted." Los Angeles Times, 28 December 1946; "Minter Field Units to House 400 Families." *Los Angeles Times*, 2 February 1947; "Housing Pact Canceled by Bakersfield." *Los Angeles Times*, 7 March 1952. "City Barely Touched." *Bakersfield Californian*, 2 November 1957; "State Okays Oak Street Freeway." *Bakersfield Californian*, 26 November 1957; URS, "Bakersfield System Study, Summary Report," prepared for Council of Governments, City of Bakersfield, Count of Kern, Caltrans, December 2002, 12-13; Bob Griffith, "Boom in southwest molds city's shape." *Bakersfield Californian*, 6 Oct. 1980; Chris Brewer, *Historic Kern County*, 88. See footnotes.

B13. Remarks:

*B14. Evaluator: Greg Rainka and Toni Webb
*Date of Evaluation: November 2009
(This space reserved for official comments.)

DPR 523B (1/95)

*Required Information

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State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # _____
HRI # _____
Trinomial _____

Page 3 of 3 *Resource Name or # (Assigned by recorder) Map Reference No. 08-31
*Recorded by G. Rainka & J. Freeman *Date March 2009 ☒ Continuation ☐ Update

B10. Significance (continued):

The residential area bounded by Stockdale Highway to the north, Apache Avenue to the south, Real Road to the east, and the Stine Canal to the west mostly developed at the end of the 1950s. Prior to this time, this land was wholly agricultural with only a handful of residences. Elcia Drive (via Real Road) was the only paved way in, and this residence was constructed at its west end in 1943 on property owned by Edward and Monica Armstrong. In 1956, the Armstrongs subdivided their land immediately to the west, between this house and the Stine Canal, as Tract 1938. This called for the construction of South Garnsey Road, though the residential tract included only the west side of the street. It fully developed by the end of that decade, and houses were concurrently constructed on the east side of South Garnsey Road, north of this residence to Stockdale Highway. Williamson Way, a former dirt access road off of Elcia Drive, filled with new houses as well. This residence was given its current address once it no longer fronted Elcia Drive after the construction of a house to its south in 1961.[1]

Under NRHP Criterion A or CRHR Criterion 1, this building is not significant for its association with important historic events. Research did not reveal a direct relationship between this property and important historic events within any context, specifically residential development in Bakersfield near the end of World War II. This house was constructed at the outset of a widespread mid-century build-up of the city's housing stock, specifically on outlying agricultural land converted to buildable residential lots. Under NRHP Criterion B or CRHR Criterion 2, this building is not significant for its association with the lives of persons important to history. This property, as well as much of the surrounding land, was owned by Edward Armstrong of Warde D. Watson Realty. He retained ownership of the house until at least 1965. It does not appear that Mr. Armstrong made demonstrably important contributions to our history at the local, state, or national level.[2] Under NRHP Criterion C or CRHR Criterion 3, this building is not significant for possessing distinctive characteristics of a type, period, or method of construction, nor does it appear to be the work of a master. This building is a modest and typical example of a commonly-produced architectural type that became widely popular in suburban communities nationwide during the late 1940s and 1950s. In addition to failing to meet this criterion, additions and alterations have altogether lent a lack of integrity to the property as a whole in terms of design, materials, workmanship, and feeling. Furthermore, this property does not appear to be a significant or likely source of important information regarding history (NRHP Criterion D and CRHR Criterion 4). This property has been evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code.

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[1] Kern County Aerial Photographs, flown by the USGS, 1937, 1947, 1956, 1968, 1975.

[2] *Polk's Bakersfield California City Directory 1960* (Los Angeles: R.L. Polk and Co. Publishers, 1960); *Polk's Bakersfield California City Directory 1965* (Los Angeles: R.L. Polk and Co. Publishers, 1965); Ancestry.com, *U.S. City Directories* [database on-line] (Provo, UT, USA: Ancestry.com Operations Inc, 2008), original data: Polk's Bakersfield (California) City Directory (Los Angeles: R.L. Polk & Co., 1936-1945); Ancestry.com, *California Voter Registrations, 1900-1968* [database on-line] (Provo, UT, USA: The Generations Network, Inc., 2008), original data: State of California, United States. *Great Register of Voters* (Sacramento, California: California State Library).

DPR 523L (1/95) ***Required Information**

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State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 6Z
Other Listings _____
Review Code _____ Reviewer _____ Date _____

Page 1 of 3 *Resource Name or # (Assigned by recorder) Map Reference No. 08-32

P1. Other Identifier: 306 South Garnsey Avenue
***P2. Location:** ☐ Not for Publication ☒ Unrestricted
***a. County** Kern
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Gosford, CA **Date** 1973 **T** ___; **R** ___; ___ ¼ **of Sec** ___; _____ **B.M.**
c. Address 306 South Garnsey Avenue City Bakersfield, CA Zip 93309
d. UTM: (give more than one for large and/or linear resources) Zone _____; _____ mE/ _____ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
Assessor Parcel Number: 149-232-08
***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This 0.20-acre parcel is located in an unincorporated county island roughly bounded by Highway 58 and Stockdale Highway to the north, Ming Avenue to the south, H Street to the east, and Montclair Street to the west. The 1,746-square-foot T-shaped Ranch house has an overhanging cross gable composite shingle roof with exposed rafter tails. Each gable is swept-back (the peak projects farther than its lower edges), and the south gable has a single cornice return. The front entry door is located in the ell near the building's interior corner, recessed beneath the roof overhang and opposite the two-car garage door that faces south rather than toward the street. The street-facing gable end of the projecting garage wing has a centered shed-roofed square oriel bay with a large sliding window. Fenestration also includes a metal sliding window centered in the ell. The house is clad in stucco above a two-foot brick base and raised flower bed. There is a hint of decorative half-timbering. The rear gabled extension cannot be seen from the right-of-way.

***P3b. Resource Attributes:** (List attributes and codes) HP2 – Single family property
***P4. Resources Present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, date, accession #) Photograph 1. Primary façade, facing northeast.

***P6. Date Constructed/Age and Sources:**
☒ Historic ☐ Prehistoric ☐ Both
1959, Kern County Assessor Records

***P7. Owner and Address:**
Kent M. Pearson and Diana G. Pasqua-Pearson
306 S. Garnsey Ave.
Bakersfield, CA 93309

***P8. Recorded by:** (Name, affiliation, address)
Greg Rainka and Joseph Freeman
JRP Historical Consulting, LLC
2850 Spafford Street
Davis, CA 95618

***P9. Date Recorded:** March 2009

***P10. Survey Type:** (Describe) Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") JRP Historical Consulting, LLC, "HRER, Centennial Corridor Project, Bakersfield, Kern County, California (EA 06-48460)"
***Attachments:** ☐ None ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (list) _____

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DEPARTMENT OF PARKS AND RECREATION
BUILDING, STRUCTURE, AND OBJECT RECORD

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HRI # _____

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*NRHP Status Code 6Z

*Resource Name or # (Assigned by recorder) Map Reference No. 08-32

B1. Historic Name: _____
B2. Common Name: _____
B3. Original Use: Residential B4. Present Use: Residential
*B5. Architectural Style: Ranch
*B6. Construction History: Built 1959; addition of square oriel bay (date unknown).
*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: _____ Original Location: _____
*B8. Related Features: _____
B9. Architect: unknown b. Builder: unknown
*B10. Significance: Theme n/a Area n/a
Period of Significance n/a Property Type n/a Applicable Criteria n/a

This building does not appear to meet the criteria for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR), nor does it appear to be a historical resource for the purposes of CEQA. Bakersfield experienced tremendous population growth after World War II that generated a wave of new development. There was a flood of veterans to California immediately following the war, and with it came a need for more housing. Throughout the decade, Kern County's population remained greater than the number of available houses, and it was many years before supply caught demand. The city's boundaries began to expand as outlying agricultural land was converted to residential tracts, and by the end of the 1950s, the housing gap had successfully been bridged. Twenty square miles of development took place in Greater Bakersfield from 1945 to 1955, which included approximately 12,000 new homes built between 1950 and 1955. In particular, the land straddling Stockdale Highway southwest of downtown was the site of new development.

The unprecedented postwar growth period strained Bakersfield's road and highway system. By the 1950s, Bakersfield began planning street and highway improvements to attack congestion problems. The city ultimately wanted traffic to move around, not through, the downtown area. This led to the construction of the Highway 99 bypass in 1963 that routed traffic down a multi-lane freeway along the west edge of the city rather than to and through the city center on Union Avenue. A decade later, the state finished construction of Highway 58 (now the primary east-west route through Bakersfield) directly south of, and parallel to, Brundage Lane. Census figures show a 50% increase in Bakersfield's population from 1970 to 1980. Owing to the new freeways, the southwest of the city was the primary target of growth and new construction efforts. By 1980, 48,000 people lived in the area directly west of the "new" 99 and accessed primarily via Stockdale Highway, a 500% increase from the decade prior, and over one-third of the city's building permits were for residential property in this section of town. (See Continuation Sheet)

B11. Additional Resource Attributes: _____

*B12. References: Kern County Aerial Photographs, flown by the USGS, 1937, 1947, 1956, 1968; "Kern Homes Crisis Aired," *Los Angeles Times*, 7 December 1945; "Three Hundred Veterans Join Rush for 90 Homes," *Los Angeles Times*, 22 May 1946; "Shutdown on Veterans' Housing Project Averted," Los Angeles Times, 28 December 1946; "Minter Field Units to House 400 Families," *Los Angeles Times*, 2 February 1947; "Housing Pact Canceled by Bakersfield," *Los Angeles Times*, 7 March 1952. "City Barely Touched," *Bakersfield Californian*, 2 November 1957; "State Okays Oak Street Freeway." *Bakersfield Californian*, 26 November 1957; URS, "Bakersfield System Study, Summary Report," prepared for Council of Governments, City of Bakersfield, Count of Kern, Caltrans, December 2002, 12-13; Bob Griffith, "Boom in southwest molds city's shape." *Bakersfield Californian*, 6 Oct. 1980; Chris Brewer, *Historic Kern County*, 88. See footnotes.

B13. Remarks:

*B14. Evaluator: Toni Webb
*Date of Evaluation: December 2011
(This space reserved for official comments.)

DPR 523B (1/95)

*Required Information

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State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # _____
HRI # _____
Trinomial _____

Page 3 of 3 *Resource Name or # (Assigned by recorder) Map Reference No. 08-32
*Recorded by G. Rainka & J. Freeman *Date March 2009 ☒ Continuation ☐ Update

B10. Significance (continued):

The residential area bounded by Stockdale Highway to the north, Apache Avenue to the south, Real Road to the east, and the Stine Canal to the west mostly developed at the end of the 1950s. Prior to this time, this land was wholly agricultural with only a handful of residences, and Elcia Drive (via Real Road) was the only paved way in. In 1956, Edward and Monica Armstrong subdivided their land between the Stine Canal and the west terminus of Elcia Drive as Tract 1938. This called for the construction of South Garnsey Road, though the residential tract included only the west side of the street. It fully developed by the end of that decade, and builders erected houses concurrently on the east side of South Garnsey Road, which included this residence.[1]

This residence appears unaltered, except for the addition of a square oriel bay, since its construction; therefore it retains basic integrity of location, setting, design, workmanship, materials, feeling, and association. Under NRHP Criterion A or CRHR Criterion 1, this building is not significant for its association with important historic events. Research did not reveal a direct relationship between this property and important historic events within any context, including for this house, residential development in post-war Bakersfield. The house is one of thousands constructed during a widespread mid-century build-up of the city's housing stock, specifically on outlying agricultural land converted to buildable residential lots.

Under NRHP Criterion B or CRHR Criterion 2, this building is not significant for its association with the lives of persons important to history. The earliest known owner was John Hardy, a native of England who arrived in the US in 1957 and a golf professional since 1958, and owned the property at least as early as 1965. Hardy became a PGA Master in 1994, and has since become CEO of Zero-In Golf, a club manufacturer. Hardy's importance, however, would be represented by golf courses where he worked and taught (such as Big Canyon Country Club at Newport Beach in the 1970s or Alisal Dude Ranch, Solvang), or at his company facilities, rather than a residence from relatively early in his career. He is currently listed as a PGA Master Professional in instruction in Murrieta, California. Hardy no longer owns the residence. Research did not indicate that any other individuals related to the development and use of this resource, have made demonstrably important contributions to history at the local, state, or national level.[2]

Under NRHP Criterion C or CRHR Criterion 3, this building is not significant for possessing distinctive characteristics of a type, period, or method of construction, nor does it appear to be the work of a master. Though this building retains architectural integrity to its date of construction, it is an example of a commonly produced type that became widely popular in suburban communities nationwide during the late 1940s and 1950s. The traditional Ranch house is one-story, rectilinear in plan, and features a broad, low-pitched roof with wide eaves and a combination of exterior cladding materials. The primary façade is generally asymmetrical and may include an integrated garage that projects to the front or side of the house. Details tend to reference architectural precedents, most commonly Colonial Revival. This building generally reflects all of these defining characteristics. Furthermore, this property does not appear to be a significant or likely source of important information regarding history (NRHP Criterion D and CRHR Criterion 4). This property has been evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code.

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[1] Kern County Aerial Photographs, flown by the USGS, 1937, 1947, 1956, 1968, 1975.

[2] *Polk's Bakersfield California City Directory 1960* (Los Angeles: R.L. Polk and Co. Publishers, 1960); *Polk's Bakersfield California City Directory 1965* (Los Angeles: R.L. Polk and Co. Publishers, 1965); Ancestry.com, *U.S. City Directories* [database on-line] (Provo, UT, USA: Ancestry.com Operations Inc, 2008), original data: Polk's Bakersfield (California) City Directory (Los Angeles: R.L. Polk & Co., 1936-1945); Ancestry.com, *California Voter Registrations, 1900-1968* [database on-line] (Provo, UT, USA: The Generations Network, Inc., 2008), original data: State of California, United States, *Great Register of Voters* (Sacramento, California: California State Library); http://www.golfcalifornia.com/holland11.htm; http://www.pgamediaguide.com/pgaofamerica.cfm?poaid=mp; http://zeroingolf.com/about.html, accessed December 2011.

DPR 523L (1/95) ***Required Information**

GP-35

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 6Z
Other Listings _____
Review Code _____ Reviewer _____ Date _____

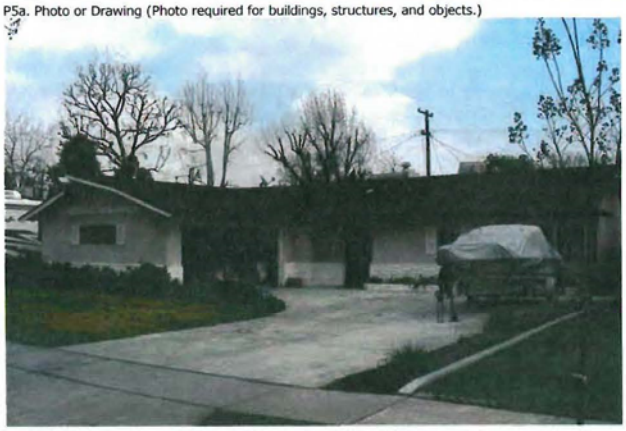
Page 1 of 3 *Resource Name or # (Assigned by recorder) Map Reference No. 08-33

P1. Other Identifier: 300 South Garnsey Avenue
***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County** Kern
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Gosford, CA **Date** 1973 **T**___; **R** ___; __ ¼ **of Sec** ___; _____ **B.M.**
c. Address 300 South Garnsey Avenue City Bakersfield, CA Zip 93309
d. UTM: (give more than one for large and/or linear resources) Zone _____; _____ mE/ _____ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
Assessor Parcel Number: 149-232-01
***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This 0.19-acre parcel is located in an unincorporated county island roughly bounded by Highway 58 and Stockdale Highway to the north, Ming Avenue to the south, H Street to the east, and Montclair Street to the west. The 1,526-square-foot T-shaped Ranch house has an overhanging cross gable composite shingle roof with exposed rafter tails. Each gable is wood-sided and has a beak-like projecting ridge with exposed ridge beam. The front entry door is located in the ell near the building's interior corner, opposite the two-car-wide garage door that faces south rather than toward the street. The street-facing gable end of the projecting garage wing has a centered wide metal sliding window with fixed louvered shutters. Fenestration also includes an aluminum sliding window with louvered shutters centered in the ell and a larger metal sliding window at its corner. The house is clad in stucco above a two-foot tall brick base. The rear gabled extension cannot be seen from the right-of-way.

***P3b. Resource Attributes:** (List attributes and codes) HP2 – Single family property
***P4. Resources Present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #) Photograph 1. Primary façade, facing east.

***P6. Date Constructed/Age and Sources:**
☒ Historic ☐ Prehistoric ☐ Both
1959, Kern County Assessor Records

***P7. Owner and Address:**
Jerry and Delanya Wolford
300 S. Garnsey Ave.
Bakersfield, CA 93309

***P8. Recorded by:** (Name, affiliation, address)
Greg Rainka and Joseph Freeman
JRP Historical Consulting, LLC
2850 Spafford Street
Davis, CA 95618

***P9. Date Recorded:** March 2009

***P10. Survey Type:** (Describe) Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") JRP Historical Consulting, LLC, "HRER, Centennial Corridor Project, Bakersfield, Kern County, California (EA 06-48460)"
***Attachments:** ☐ None ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (list) _____

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BUILDING, STRUCTURE, AND OBJECT RECORD

Primary # _____
HRI # _____

Page 2 of 3

*NRHP Status Code 6Z
*Resource Name or # (Assigned by recorder) Map Reference No. 08-33

B1. Historic Name: _____
B2. Common Name: _____
B3. Original Use: Residential B4. Present Use: Residential
*B5. Architectural Style: Ranch
*B6. Construction History: (Construction date, alteration, and date of alterations) Built in 1959.
*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: _____ Original Location: _____
*B8. Related Features: _____
B9. Architect: unknown b. Builder: unknown
*B10. Significance: Theme n/a Area n/a
Period of Significance n/a Property Type n/a Applicable Criteria n/a

This building does not appear to meet the criteria for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR), nor does it appear to be a historical resource for the purposes of CEQA. Bakersfield experienced tremendous population growth after World War II that generated a wave of new development. There was a flood of veterans to California immediately following the war, and with it came a great need for more housing. Throughout the decade, Kern County's population remained greater than the available houses, and it was many years before supply caught up with demand. The city's boundaries began to widen as outlying agricultural land was converted to residential tracts, and by the end of the 1950s, the housing gap had successfully been bridged. Twenty square miles of residential development took place in Greater Bakersfield from 1945 to 1955, which included approximately 12,000 new homes built between 1950 and 1955. In particular, the land straddling Stockdale Highway southwest of downtown was teeming with new development.

The unprecedented postwar growth period strained Bakersfield's road and highway system. By the 1950s, Bakersfield began planning street and highway improvements to correct congestion problems. The city ultimately wanted traffic to move around, not through, the downtown area, and led to construction of the Highway 99 bypass in 1963 that routed traffic down a multi-lane freeway along the west edge of the city rather than through the city center on Union Avenue. A decade later, the state finished construction of Highway 58 (now the primary east-west route through Bakersfield) directly south of, and parallel to, Brundage Lane. Census data show a 50% increase in Bakersfield's population from 1970 to 1980. Owing to the new freeways, the southwest of the city was the primary target of growth and new construction efforts. By 1980, 48,000 people lived in the area directly west of the "new" 99 and accessed primarily via Stockdale Highway, a 500% increase from the decade prior, and over one-third of the city's building permits were for residential property in this section of town. (See Continuation Sheet)

B11. Additional Resource Attributes: _____
*B12. References: Kern County Aerial Photographs, flown by the USGS, 1937, 1947, 1956, 1968; "Kern Homes Crisis Aired," *Los Angeles Times*, 7 December 1945; "Three Hundred Veterans Join Rush for 90 Homes," *Los Angeles Times*, 22 May 1946; "Shutdown on Veterans' Housing Project Averted," Los Angeles Times, 28 December 1946; "Minter Field Units to House 400 Families," *Los Angeles Times*, 2 February 1947; "Housing Pact Canceled by Bakersfield," *Los Angeles Times*, 7 March 1952. "City Barely Touched," *Bakersfield Californian*, 2 November 1957; "State Okays Oak Street Freeway," *Bakersfield Californian*, 26 November 1957; URS, "Bakersfield System Study, Summary Report," prepared for Council of Governments, City of Bakersfield, Count of Kern, Caltrans, December 2002, 12-13; Bob Griffith, "Boom in southwest molds city's shape," *Bakersfield Californian*, 6 Oct. 1980; Chris Brewer, *Historic Kern County*, 88. See footnotes.

B13. Remarks:

*B14. Evaluator: Toni Webb
*Date of Evaluation: December 2011
(This space reserved for official comments.)

DPR 523B (1/95)

*Required Information

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State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # _____
HRI # _____
Trinomial _____

Page 3 of 3 *Resource Name or # (Assigned by recorder) Map Reference No. 08-33
*Recorded by G. Rainka & J. Freeman *Date March 2009 ☒ Continuation ☐ Update

B10. Significance (continued):

The residential area bounded by Stockdale Highway to the north, Apache Avenue to the south, Real Road to the east, and the Stine Canal to the west mostly developed at the end of the 1950s. Prior to this time, this land was wholly agricultural with only a handful of residences, and Elcia Drive (via Real Road) was the only paved way in. In 1956, Edward and Monica Armstrong subdivided their land between the Stine Canal and the west terminus of Elcia Drive as Tract 1938. This called for the construction of South Garnsey Road, though the residential tract included only the west side of the street. It fully developed by the end of that decade, and houses were concurrently constructed on the east side of South Garnsey Road, which included this residence.[1]

This residence appears unaltered since its construction; therefore it retains basic integrity of location, setting, design, workmanship, materials, feeling, and association. Under NRHP Criterion A or CRHR Criterion 1, this building is not significant for its association with important historic events. Research did not reveal a direct relationship between this property and important historic events within any context, including residential development in post-war Bakersfield. This house is one of thousands that was constructed during a widespread mid-century build-up of the city's housing stock, specifically on outlying agricultural land converted to buildable residential lots.

Under NRHP Criterion B or CRHR Criterion 2, this building is not significant for its association with the lives of persons important to history. Research revealed little information regarding the owners and occupants of this property. The earliest known tenant was Jack Troupe of Culligan Soft Water Service, who resided there at least as early as 1965. It does not appear that Mr. Troupe, and likely any of the individuals related to the development and use of this resource, have made demonstrably important contributions to history at the local, state, or national level.[2]

Under NRHP Criterion C or CRHR Criterion 3, this building is not significant for possessing distinctive characteristics of a type, period, or method of construction, nor does it appear to be the work of a master. Though this building retains architectural integrity to its date of construction, it is an example of a common, oft-produced type that became quite popular in suburban communities nationwide during the late 1940s and 1950s. The traditional Ranch house is one-story, rectilinear in plan, and features a broad, low-pitched roof with wide eaves and a combination of exterior cladding. The primary façade is generally asymmetrical and may include an integrated garage that projects to the front or side of the house. Details tend to reference architectural precedents, most commonly Colonial Revival. This building generally reflects all of these defining characteristics.

Furthermore, this property does not appear to be a significant or likely source of important information regarding history (NRHP Criterion D and CRHR Criterion 4). This property has been evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code.

[1] Kern County Aerial Photographs, flown by the USGS, 1937, 1947, 1956, 1968, 1975.
[2] *Polk's Bakersfield California City Directory 1960* (Los Angeles: R.L. Polk and Co. Publishers, 1960); *Polk's Bakersfield California City Directory 1965* (Los Angeles: R.L. Polk and Co. Publishers, 1965); Ancestry.com, *U.S. City Directories* [database on-line] (Provo, UT, USA: Ancestry.com Operations Inc, 2008), original data: Polk's Bakersfield (California) City Directory (Los Angeles: R.L. Polk & Co., 1936-1945); Ancestry.com, *California Voter Registrations, 1900-1968* [database on-line] (Provo, UT, USA: The Generations Network, Inc., 2008), original data: State of California, United States, *Great Register of Voters* (Sacramento, California: California State Library).

DPR 523L (1/95) *Required Information

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Attachments for page 3

Architectural Integrity and the Guiding "Rule of Thumb"

Corresponding Draft EIR Documents

GP-35

Appendix

Architectural Integrity and the Guiding "Rule of Thumb"

The seven (7) principal observations applied to the properties identified in this addendum to the 175-page 2010 Amicus Preservation Brief, and used to assess the affirmative presence of architectural integrity, are defined as follows:

Location (the properties have not been physically relocated from their original sites or, if relocated, have been located at the present sites for over 50 years).

Design (the architectural idioms of the properties and/or other distinguishing stylistic characteristics are identifiable, classifiable, and relevant to local, regional, state, or national architectural history).

Setting (the principal views looking toward the properties, and the principal views looking away from the properties, have not been unduly altered by a loss of neighboring structures; or have not been unduly obstructed by man-made forms or radical changes in the natural terrain. Landscapes – both indigenous and ornamental – are expected to display anticipated, thus acceptable, growth and maturity. Growth and maturity do not negate considerations of the historic setting, although a loss of landscape may).

Materials (the properties retain a reasonable percentage of their original building product(s) – generally 75% or more – as spelled out in original architectural plans and specifications, again subject to acceptable evolutionary changes expected from generation to generation).

Workmanship (the properties continue to reflect the prevailing methods, finishes, and standards of construction as originally engineered at the time of their completion).

Feeling (the properties retain reasonable physical suggestions of their original place in time, without necessarily being "locked" in the past, since all properties undergo acceptable evolutionary changes from generation to generation).

Association (the properties retain reasonable but more intuitive suggestions of their context in time, with an ability to evoke an awareness of their era of origin, as well as the significant events that defined that era socially, politically, and culturally.

Although properties may display aspects of each of these seven (7) components, it is neither required nor essential that all seven (7) be absolutely evident concurrently.

"The Rule of Thumb"

The guiding "Rule of Thumb" as applied to establish architectural integrity is stated as follows: Were the original architects, builders, owners, members of the owners' families, or immediate neighbors to view the properties or neighborhood today, would they definitively be able to recognize the properties or neighborhood?

If so, the basic integrity standard has been met, in spite of any questions regarding material condition, as long as any adverse material conditions are clearly reversible. The material condition of properties (e.g., paint, shingles, masonry, etc., in need of repair) is evaluated separately from integrity.

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State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #: _____
HRI # _____
Trinomial _____
NRHP Status Code: _____
Other Listings _____
Review Code ____ Reviewer _____ Date __ ____

Page 1 of 6

*Resource Name or #: 3904 Marsha Street
Map Reference No.: 09-21A

P1. Other Identifier:

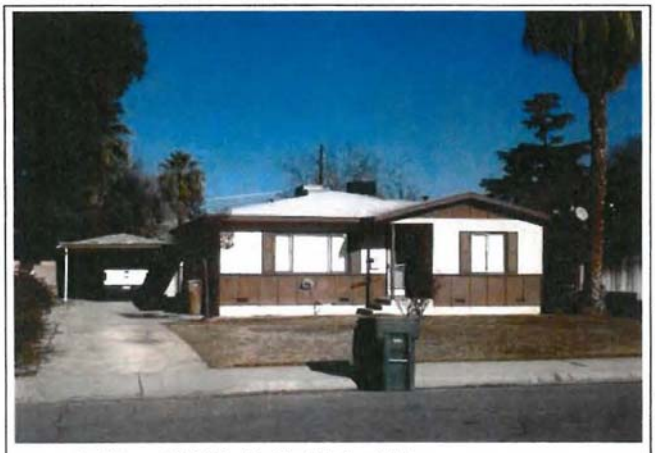
*P2. Location: ☐ Not for Publication ■ Unrestricted *a. County Kern
*b. USGS 7.5' Quad Gosford, CA Date 1973
c. Address 3904 Marsha Street City Bakersfield Zip 93309
*d. UTM:
*e. Other Locational Data: Assessor's parcel number 149-131-03

*P3a. Description:

This one-story residence is a bit more than 1,000 square feet, with a hip roof and a front-gabled extension on the right side of the façade. The exterior walls are stucco, while the façade has wood siding with battens as a wainscot from the foundation up to the window sills and in the gable. The house retains its original metal casement windows. Alterations include replacement of the original roofing material with asphalt shingles and replacement of the front door. A driveway on the left (west) side of the house leads to a detached garage at the rear of the lot. Attached to the front of the garage is a large wood canopy that serves as a carport. The rear yard is enclosed by privacy walls of concrete block, approximately six feet high, at the lot lines.

(See continuation sheet, page 2.)

*P3b. Resource Attributes: HP2 – Single family residence; HP4 – Ancillary Building (fallout shelter)
*P4. Resources Present: ■ Building ■ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other



Residence at 3904 Marsha Street, Bakersfield

P5b. Description of Photo: View north. January 16, 2013

*P6. Date Constructed/Age and Sources: ■Historic 1956 (residence) ca. 1960-62 (fallout shelter)

*P7. Owner and Address: Jose Camberos 3904 Marsha Street Bakersfield, CA 93309

*P8. Recorded by: Andrew Hope Caltrans District 4

*P9. Date Recorded: 1/16/2013

*P10. Type of Survey: Intensive

*P11. Report Citation: JRP Historical Consulting, LLC, *HRER, Centennial Corridor Project, Bakersfield, Kern County, California (EA 06-48460)*, 2012.

*Attachments: ■ Building, Structure, and Object Record ■ Continuation Sheets

DPR 523A *Required Information

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State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary #:
HRI #

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* Resource Identifier: 3904 Marsha Street

* Recorded by: Andrew Hope, Caltrans

* Date: January 2013

■ Continuation ☐ Update

*P3a. **Description (continued from page 1):**

Behind the garage is an underground fallout shelter of concrete construction. An entrance hatch with a metal cover, approximately two feet by six feet, leads down to a short entry hall. An opening to the right at the end of the hall leads to the main room, which is approximately 10 feet square. A ventilation pipe extends about three feet above the ground just to the east of the entrance hatch. The floor of the shelter is approximately 10 feet below ground, with the roof structure about two feet thick. There may have been a wooden stairway in the entrance originally, or the shelter may have always been accessed by a portable ladder.

Entrance to the fallout shelter in the backyard of 3904 Marsha Street. To the right of the opening is the metal hatch cover, and just in front of the opening is the ventilation pipe. Looking west, with the rear wall of the garage at left.

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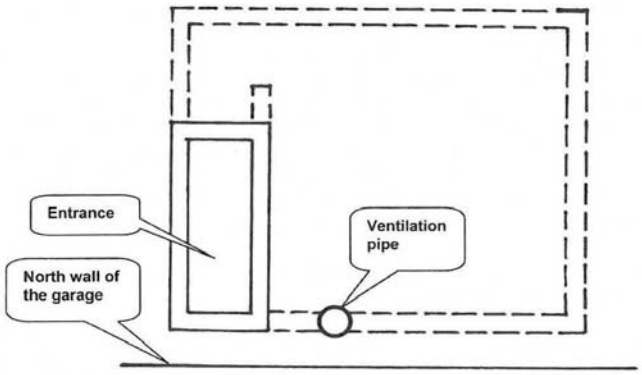
* Resource Identifier: 3904 Marsha Street

* Recorded by: Andrew Hope, Caltrans

* Date: January 2013

■ Continuation □ Update

View down into the fallout shelter.



Plan of the shelter (underground walls are shown as dashed lines)

Caltrans DPR 523L

* Required information

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DEPARTMENT OF PARKS AND RECREATION
Primary #:
HRI#:

BUILDING, STRUCTURE, AND OBJECT RECORD

Page 4 of 6

*NRHP Status Code:
*Resource Name or #: 3904 Marsha Street
Map Reference No.: 09-21A

B1. Historic Name:
B2. Common Name:
B3. Original Use: Residence
B4. Present Use: Residence
*B5. Architectural Style: Postwar tract house
*B6. Construction History:

The house was built in 1956, and the garage was probably built at the same time. The date of the fallout shelter is unknown, but was probably constructed ca. 1960-62.

*B7. Moved? ■ No ☐ Yes ☐ Unknown Date: Original Location:
*B8. Related Features:

The property includes a residence, detached garage and carport, and a family fallout shelter.

B9a. Architect: Unknown (house and shelter) b. Builder: Mobilhome Corp. (house); unknown (shelter)

*B10. Significance: Theme: Cold War era fallout shelters Area: Bakersfield and Kern County
Period of Significance: 1956-62 Property Type: Residence and fallout shelter Applicable Criteria: A

The property at 3904 Marsha Street is part of the Rancho Vista Tract (map reference number 09-21), evaluated elsewhere in this report. It is property #99 on the list and map in the district evaluation for the Rancho Vista Tract, and is a contributor to the National Register eligible district. It is evaluated here as an individual property because it includes a Cold War era fallout shelter in addition to the 1956 residence. Like the other houses in the tract, the residence was prefabricated in a factory, delivered in one piece to its site, and set down on a prepared foundation. The fallout shelter was probably built ca. 1960-62, although no building permit survives and no other record of its construction date has been found. Philip Vallejo and Jon Brady of Caltrans District 6 did the site investigation and took the photographs. The interior of the fallout shelter was not investigated.

(See continuation sheet, page 5.)

B11. Additional Resource Attributes:
*B12. References:

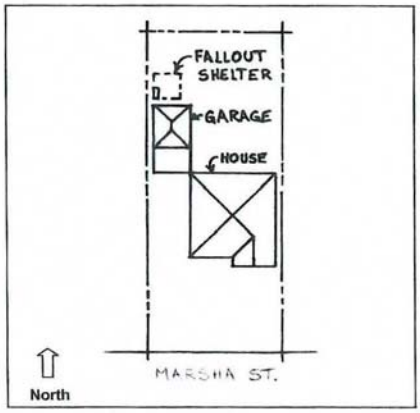
See continuation sheet, page 6.

B13. Remarks:

B14. Evaluator: Andrew Hope
Caltrans District 4
111 Grand Avenue
Oakland, CA 94623

Date of Evaluation: January 17, 2013

(This space reserved for official comments.)



Caltrans DPR 523B *Required Information

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State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary #:
HRI #

Page 5 of 6 * Resource Identifier: 3904 Marsha Street

* Recorded by: Andrew Hope, Caltrans * Date: January 2013 ■ Continuation ☐ Update

*B10. Significance (continued from page 4):

Only one home fallout shelter in California has been evaluated for National Register eligibility to date. That shelter is near Sonora in Tuolumne County, and was evaluated by Caltrans in 2011. It was determined ineligible for National Register listing because the associated residence is no longer extant, and the shelter therefore lacks an important aspect of its historic setting and the contextual association as a family shelter. Two other home fallout shelters are evaluated in this report. (See the evaluation of Tract No. 1938, map reference number 09-11.) Both of these shelters are considered ineligible for National Register listing; one because the associated house lacks integrity and the other because the shelter's immediate setting has been significantly altered by the construction of a later garage directly above the shelter. The integrity threshold established by these evaluations is that for a family fallout shelter to be eligible for National Register listing, the associated residence must be extant and possess integrity, and the shelter must possess integrity of setting with respect to its immediate surroundings and its relationship to other buildings on the property.

Extensive context information on home fallout shelters, both nationally and in Bakersfield and Kern County, is provided in the evaluation of Tract No. 1938, prepared by JRP Historical Consulting. All three of the fallout shelters identified in Bakersfield were brought to Caltrans' attention by members of the community. Two are in rear yards and one is accessed from within a modern garage, which is why none were identified during the original survey efforts for the Centennial Corridor project. The discovery of three home fallout shelters in a short period of time as a result of a public meeting suggests that this property type may be more common than previously supposed. Home fallout shelters may be more common in Bakersfield and Kern County than elsewhere in California due to the active promotion of shelter construction by the county's Civil Defense Office. As described in the evaluation of Tract No. 1938, the Civil Defense Office built a model shelter at the Kern County Museum in 1960, distributed nearly 10,000 copies of plans for family shelters, and offered courses in civil defense measures to more than 1,700 people in 1961. In addition, at least two construction companies in Bakersfield built model shelters on their properties. This was probably an unusually high level of activity and promotion of fallout shelter construction compared to other cities and counties in California.

In addition to being a contributor to the Rancho Vista historic district, the property at 3904 Marsha Street is individually eligible for National Register listing. The property meets National Register Criterion A for its association with Cold War tension between the United States and the Soviet Union, and the fear of nuclear war between the two countries. The fallout shelter at the rear of the property conveys in a stark and visceral manner the grim mindset of the time, and the lengths to which people were willing to go to survive a nuclear holocaust. That people seriously considered spending up to two weeks in a small underground box, expecting to emerge to find a devastated landscape, seems strange and possibly even delusional to Americans in the 21st century. However, home fallout shelters provide the physical evidence that people did make such considerations, and that they calculated the probability of nuclear war in a way that justified the expense of building an underground shelter. No other Cold War era property type conveys so vividly this pervasive fear of nuclear war, and home fallout shelters illustrate Americans' characteristically individual, rather than collective, response to that perceived threat. The robust construction of this shelter, with its unusually thick roof and walls of reinforced concrete rather than concrete block, demonstrates a seriousness of purpose and willingness to bear a considerable expense, particularly in comparison to the relatively modest size and cost of the house.

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Primary #:
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Page 6 of 6 * Resource Identifier: 3904 Marsha Street

* Recorded by: Andrew Hope, Caltrans * Date: January 2013 ■ Continuation □ Update

The residence, garage, and fallout shelter on this property retain a high degree of integrity. The residence has suffered only minor alterations. Although the interior of the shelter was not inspected, it is a simple concrete box, not amenable to alteration (particularly since it is underground), and has not been converted to other uses. It retains integrity of location, design, and materials. The shelter also retains integrity of setting, since the property as a whole appears essentially as it must have appeared in 1962, after completion of the shelter. Most importantly, it retains integrity of feeling and association, which allows the property to convey its original purpose and significance.

In conclusion, the property at 3904 Marsha Street in Bakersfield is individually eligible for National Register listing under Criterion A, at the local level of significance, for its association with the Cold War and civil defense measures to survive in the event of a nuclear war. The period of significance extends from 1956, the construction date of the residence, to 1962, the end of the period of fallout shelter construction in the United States. The historic property boundary coincides with the parcel boundary. Character-defining features of the property include the three elements that date to the period of significance: the residence, garage, and underground fallout shelter. The spatial relationship of these three elements is also a character-defining feature. With respect to the shelter itself, the two features that can be seen from the rear yard, the entry hatch and ventilation pipe, are important character-defining features, as they convey the structure's original purpose.

*B12. **References (continued from page 4):**

Caltrans. *Tract Housing in California. 1945-1973: A Context for National Register Evaluation.* 2011.

JRP Historical Consulting. Evaluation of Tract No. 1938 in Bakersfield. In H*RER. Centennial Corridor Project, Bakersfield, Kern County, California (EA 06-48460)*, 2012.

Caltrans DPR 523L * Required information

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Attachments for page 4

Bakersfield Californian (see next section attachments)

Audio Interview with Lilly Kelly (see next section attachments)

Corresponding Draft EIR Documents

GP-35

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 6Z
Other Listings _____
Review Code _____ Reviewer _____ Date _____

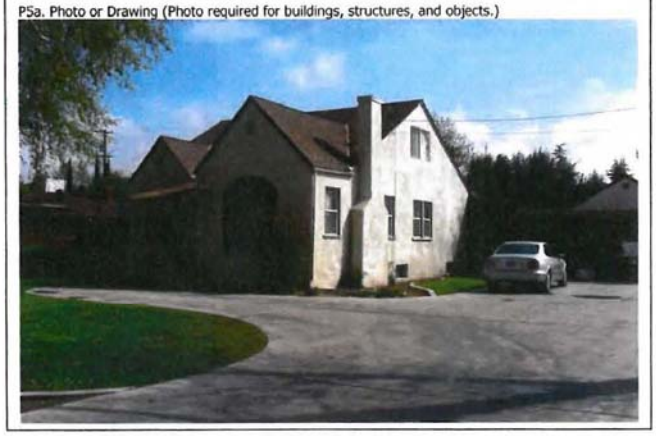
Page 1 of 3 *Resource Name or # (Assigned by recorder) Map Reference No. 09-15

P1. Other Identifier: 30 Stine Road
***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County** Kern
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Gosford, CA **Date** 1973 **T** ___; **R** ___; __ ¼ **of Sec** ___; _____ **B.M.**
c. Address 30 Stine Road City Bakersfield, CA Zip 93309
d. UTM: (give more than one for large and/or linear resources) Zone _____; _____mE/ _____mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
Assessor Parcel Number: 149-221-24
***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This 0.28-acre parcel contains a 1,204-square-foot Tudor Revival house and detached garage. The rectangular residence sits on a concrete foundation, has stucco siding and a composite-shingle side gable roof (Photograph 1). The main entrance is access by concrete steps and sheltered by a shed roof extension which is supported by a modern and decorative metal posts with attached balustrade. The entrance is set between to front-gable projections. Fenestration includes nearly all replacement 1/1 double-hung vinyl windows The smaller projection north of the entrance has a pair of replacement vinyl windows; the larger and more dominant projection to the south has a large fixed single-pane segmental-arch window set in a wood frame. A small louvered vent is centered beneath each roof apex. An exterior stucco chimney is attached to the south side of the building and the front-gabled detached garage located at the southeast corner of the lot has been converted into a living space with a front flat-roof carport (Photograph 2).

***P3b. Resource Attributes:** (List attributes and codes) HP2 – Single family property
***P4. Resources Present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #) Photograph 1. Primary façade, facing east.

***P6. Date Constructed/Age and Sources:**
☒ Historic ☐ Prehistoric ☐ Both
1935, Kern County Assessor Records

***P7. Owner and Address:**
Gary Steelman and Richard Knight
416 Bermuda St.
Bakersfield, CA 93309

***P8. Recorded by:** (Name, affiliation, address)
Greg Rainka and Joseph Freeman
JRP Historical Consulting, LLC
2850 Spafford Street
Davis, CA 95618

***P9. Date Recorded:** March 2009

***P10. Survey Type:** (Describe) Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") JRP Historical Consulting, LLC, "HRER, Centennial Corridor Project, Bakersfield, Kern County, California (EA 06-48460)"

***Attachments:** ☐ None ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (list) _____

DPR 523A (1/95) ***Required Information**

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State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
BUILDING, STRUCTURE, AND OBJECT RECORD

Primary # _____
HRI # _____

Page 2 of 3

*NRHP Status Code 6Z
*Resource Name or # (Assigned by recorder) Map Reference No. 09-15

B1. Historic Name: _____
B2. Common Name: _____
B3. Original Use: Residential B4. Present Use: Residential
*B5. Architectural Style: Tudor Revival
*B6. Construction History: Built 1935; replacement windows (date unknown); addition of shed roof over entry (date unknown); detached garage converted to living space (date unknown).
*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: _____ Original Location: _____
*B8. Related Features: _____
B9. Architect: unknown b. Builder: unknown
*B10. Significance: Theme n/a Area n/a
Period of Significance n/a Property Type n/a Applicable Criteria n/a

This property does not appear to meet the criteria for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR), nor does it appear to be a historical resource for the purposes of CEQA. The residential area directly south of Stockdale Highway and west of the Stine Canal mostly developed during the 1950s when the vast extent of this land was subdivided as Tracts 1005, 1522 and 1610. Prior to this time, this land was wholly agricultural with only a smattering of residences. This included three identical Tudor Revival homes on the east side of Stine Road just north of Peckham Avenue, each dating to 1935.

After World War II, Bakersfield experienced tremendous population growth that generated a wave of new development. With the flood of veterans to California came a great need for more housing, but Kern County's population remained greater than the available houses into the 1950s. The city's boundaries began to widen as outlying agricultural land was converted to residential tracts, and by the end of that decade, housing supply had caught up with demand. Twenty square miles of residential development took place in Greater Bakersfield from 1945 to 1955, which included approximately 12,000 new homes built between 1950 and 1955. In particular, the land straddling Stockdale Highway southwest of downtown was teeming with new construction. The east side of Stine Road filled with homes concurrently with, but independent of, the development of the surrounding residential tracts (the west side of the street was included in Tract 1522). Residences were built to the north, south, and even in between the trio of Tudors. (See Continuation Sheet)

B11. Additional Resource Attributes: _____
*B12. References: Kern County Aerial Photographs, flown by the USGS, 1937, 1947, 1956, 1968; Kern County Tract Maps, Tract No. 1005, July 3, 1931; Kern County Tract Maps, Tract No. 1522, Dec. 29, 1949, Book 7 of Maps, Page 62; Kern County Tract Maps, Tract No. 1610, April 3, 1952, Book 8 of Maps, Page 1; "Kern Homes Crisis Aired," *Los Angeles Times*, 7 December 1945; "Three Hundred Veterans Join Rush for 90 Homes," *Los Angeles Times*, 22 May 1946; "Shutdown on Veterans' Housing Project Averted," *Los Angeles Times*, 28 December 1946; "Minter Field Units to House 400 Families," *Los Angeles Times*, 2 February 1947; "Housing Pact Canceled by Bakersfield," *Los Angeles Times*, 7 March 1952. See footnotes.

B13. Remarks:

*B14. Evaluator: Toni Webb
*Date of Evaluation: December 2011
(This space reserved for official comments.)

DPR 523B (1/95)

*Required Information

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State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # _____
HRI # _____
Trinomial _____

Page 3 of 3 *Resource Name or # (Assigned by recorder) Map Reference No. 09-15
*Recorded by G. Rainka & J. Freeman *Date March 2009 ☒ Continuation ☐ Update

B10. Significance (continued):

Under NRHP Criterion A or CRHR Criterion 1, this building is not significant for its association with important historic events. Research did not reveal a direct relationship between this property and important historic events within any context, specifically residential development in Bakersfield during the years surrounding World War II. Under NRHP Criterion B or CRHR Criterion 2, this building is not significant for its association with the lives of persons important to history. Research revealed little information about the owners or occupants of this property. The earliest known tenant was owner/occupant Frank L. Williams in 1951. Frank died in 1955, but it appears that his widow retained the property for sometime after his death. In 1960, the house was used as a rental property and rented by Vernon Reimer, an electrician. The current owner purchased the property in 2006 and resided at a different address. It does not appear that any of the individuals related to the development and use of this resource have made demonstrably important contributions to history at the local, state, or national level.[1] Under NRHP Criterion C or CRHR Criterion 3, this building is not significant for possessing distinctive characteristics of a type, period, or method of construction, nor does it appear to be the work of a master. This particular building is an example of a common historical revival type that became popular in suburban communities nationwide during the 1920s and 1930s. The Tudor Revival style is derived from a variety of late-medieval models prevalent in 16th century Tudor England, and this house has the standard form of an asymmetrical façade featuring a steeply-pitched front gable and segmental arch door and window openings. In addition to lacking significance under this criterion, the replacement of windows not in kind, alteration of the front entry, and the conversion of the detached garage into a living space lend a lack of integrity to the property as a whole. Also, extensive residential development throughout the area nearly two decades after the construction of this house (in particular the construction of a house in 1957 in between this residence and 22 Stine Road) has compromised integrity of location, setting, feeling and association. Furthermore, this property does not appear to be a significant or likely source of important information regarding history (NRHP Criterion D and CRHR Criterion 4). This property has been evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code.

Photographs (continued):

Photograph 2: Detached secondary residence, facing east.

[1] *Polk's Bakersfield California City Directory 1951* (Los Angeles: R.L. Polk and Co. Publishers, 1951); Ancestry.com, *California Voter Registrations, 1900-1968* [database on-line] (Provo, UT, USA: The Generations Network, Inc., 2008), original data: State of California, United States, *Great Register of Voters* (Sacramento, California: California State Library); "Deaths," *Bakersfield Californian*, 4 June 1955, pg. 20 (col. 3); "For Rent – Houses, Furnished," *Bakersfield Californian*, 16 September 1960, pg. 39 (col. 1); Kern County Assessor Record.

DPR 523L (1/95) *Required Information

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State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 6Z
Other Listings _____
Review Code _____ Reviewer _____ Date _____

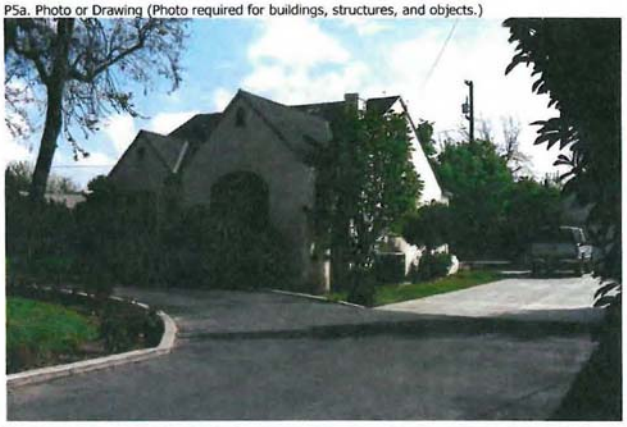
Page 1 of 4 *Resource Name or # (Assigned by recorder) Map Reference No. 09-16

P1. Other Identifier: 22 Stine Road
***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County** Kern
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Gosford, CA **Date** 1973 **T**___; **R** ___; __ ¼ **of Sec** ___; _____ **B.M.**
c. Address 22 Stine Road City Bakersfield, CA Zip 93309
d. UTM: (give more than one for large and/or linear resources) Zone _____; _____mE/ _____mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
Assessor Parcel Number: 149-221-11
***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This 0.44-acre parcel contains a 1,578-square foot Tudor Revival-style house and detached garage. The rectangular residence sits on a concrete foundation, is clad in stucco, and has a composite-shingle side gable roof (Photograph 1). A raised segmental arch front entry door opening is centered on the primary façade above a set of concrete steps and between a projecting steeply-pitched front gable bay and a smaller, steeply-pitched gable bay. The latter bay has a pair of double-hung wood windows and the projecting bay has a large fixed 16-light segmental arch wood window. A small louvered vent is centered beneath each roof apex. An exterior brick chimney is attached to the south side of the building and a modern two-car detached garage is located at the southeast corner of the lot (Photograph 2).

***P3b. Resource Attributes:** (List attributes and codes) HP2 – Single family property
***P4. Resources Present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #) Photograph 1. Primary façade, facing northeast

***P6. Date Constructed/Age and Sources:**
☒ Historic ☐ Prehistoric ☐ Both
ca. 1935, Historic Aerial Photographs

***P7. Owner and Address:**
Bill and Beverly Roper
22 Stine Rd.
Bakersfield, CA 93309

***P8. Recorded by:** (Name, affiliation, address)
Greg Rainka and Joseph Freeman
JRP Historical Consulting, LLC
2850 Spafford Street
Davis, CA 95618

***P9. Date Recorded:** March 2009

***P10. Survey Type:** (Describe) Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") JRP Historical Consulting, LLC, "HRER, Centennial Corridor Project, Bakersfield, Kern County, California (EA 06-48460)"
***Attachments:** ☐ None ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (list) _____
DPR 523A (1/95) ***Required Information**

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State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
BUILDING, STRUCTURE, AND OBJECT RECORD

Primary # _____
HRI # _____

Page 2 of 4

*NRHP Status Code 6Z
*Resource Name or # (Assigned by recorder) Map Reference No. 09-16

B1. Historic Name: _____
B2. Common Name: _____
B3. Original Use: Residential B4. Present Use: Residential
*B5. Architectural Style: Tudor Revival
*B6. Construction History: (Construction date, alteration, and date of alterations) Built c. 1935
*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: _____ Original Location: _____
*B8. Related Features: _____
B9. Architect: unknown b. Builder: unknown
*B10. Significance: Theme n/a Area n/a
Period of Significance n/a Property Type n/a Applicable Criteria n/a

This building does not appear to meet the criteria for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR).The residential area directly south of Stockdale Highway and west of the Stine Canal mostly developed during the 1950s when the vast extent of this land was subdivided as Tracts 1005, 1522 and 1610. Prior to this time, this land was wholly agricultural with only a smattering of residences. This included three identical Tudor Revival homes on the east side of Stine Road just north of Peckham Avenue, each dating to 1935.

After World War II, Bakersfield experienced tremendous population growth that generated a wave of new development. With the flood of veterans to California came a need for more housing, but Kern County's population remained greater than the available houses into the 1950s. The city's boundaries began to spread as outlying agricultural land was converted to residential tracts, and by the end of that decade, housing supply had caught up with demand. Twenty square miles of residential development took place in Greater Bakersfield from 1945 to 1955, which included approximately 12,000 new homes built between 1950 and 1955. In particular, the land straddling Stockdale Highway southwest of downtown was teeming with new construction. The east side of Stine Road filled with homes concurrently with, but independent of, the development of the surrounding residential tracts (the west side of the street was included in Tract 1522). Residences were built to the north, south, and even between, the trio of Tudors. (See Continuation Sheet)

B11. Additional Resource Attributes: _____

*B12. References: Kern County Aerial Photographs, flown by the USGS, 1937, 1947, 1956, 1968; Kern County Tract Maps, Tract No. 1005, July 3, 1931; Kern County Tract Maps. Tract No. 1522, Dec. 29, 1949. Book 7 of Maps, Page 62; Kern County Tract Maps, Tract No. 1610, April 3, 1952, Book 8 of Maps, Page 1; "Kern Homes Crisis Aired," *Los Angeles Times*, 7 December 1945; "Three Hundred Veterans Join Rush for 90 Homes," *Los Angeles Times*, 22 May 1946; "Shutdown on Veterans' Housing Project Averted," *Los Angeles Times*, 28 December 1946; "Minter Field Units to House 400 Families," *Los Angeles Times*, 2 February 1947; "Housing Pact Canceled by Bakersfield," *Los Angeles Times*, 7 March 1952; See footnotes.

B13. Remarks:

*B14. Evaluator: Toni Webb
*Date of Evaluation: December 2011
(This space reserved for official comments.)

DPR 523B (1/95)

*Required Information

GP-35

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # _____
HRI # _____
Trinomial _____

Page 3 of 4 *Resource Name or # (Assigned by recorder) Map Reference No. 09-16
*Recorded by G. Rainka & J. Freeman *Date March 2009 ☒ Continuation ☐ Update

B10. Significance (continued):

Under NRHP Criterion A or CRHR Criterion 1, this building is not significant for its association with important historic events. Research did not reveal a direct relationship between this property and important historic events within any context, specifically residential development in Bakersfield during the years surrounding World War II. Under NRHP Criterion B or CRHR Criterion 2, this building is not significant for its association with the lives of persons important to history. Research revealed little information about the owners or occupants of this property. The earliest known tenant of the property was a Vivian Rae in 1949. By 1951, the property was owned by rancher Jack P. Denio and his wide Muriel. Denio sold the property to oil worker Joseph Farrell and his wife Virginia the following year. The Farrells retained the property into the 1960s. The house was vacant in 1965. The current owner purchased the property in 1992. It does not appear that Mr. Denio or Mr. Farrell, or likely any of the other individuals related to the development and use of this resource, have made demonstrably important contributions to history at the local, state, or national level.[1] Under NRHP Criterion C or CRHR Criterion 3, this building is not significant for possessing distinctive characteristics of a type, period, or method of construction, nor does it appear to be the work of a master. Though this particular building retains architectural integrity to its date of construction, it is an example of a common historical revival type that became popular in suburban communities nationwide during the 1920s and 1930s. The Tudor Revival style is derived from a variety of late-medieval models prevalent in 16th century Tudor England, and this house has the standard form of an asymmetrical façade featuring a steeply-pitched front gable and segmental arch door and window openings. In addition to lacking significance under this criterion, extensive residential development throughout the area nearly two decades after the construction of this house (in particular the construction of a house in 1957 in between this residence and 22 Stine Road) has compromised integrity of location, setting, feeling and association. Under NRHP Criterion D and CRHR Criterion 4, this building is not significant as a source (or likely source) of important information regarding history. It does not appear to have any likelihood of yielding important information about historic construction materials or technologies. This property has been evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code.

[1] "For Bride-to-Be," *Bakersfield Californian*, 13 October 1949, pg. 8 (col. 1); *Polk's Bakersfield California City Directory* (Los Angeles: R.L. Polk and Co. Publishers, 1952, 1956, 1960, 1965); "Entertaining Teachers," *Bakersfield Californian*, 25 May 1953, pg. 19 (col. 1); "Girl, 14, in Crash," *Bakersfield Californian*, 17 July 1957, pg. 1 (col. 7); Ancestry.com, *California Voter Registrations, 1900-1968* [database on-line] (Provo, UT, USA: The Generations Network, Inc., 2008), original data: State of California, United States, *Great Register of Voters* (Sacramento, California: California State Library); Kern County Recorder, 24 June 1952, Deed, Book 1955, Page 102; Kern County Assessor Record.

DPR 523L (1/95) *Required Information

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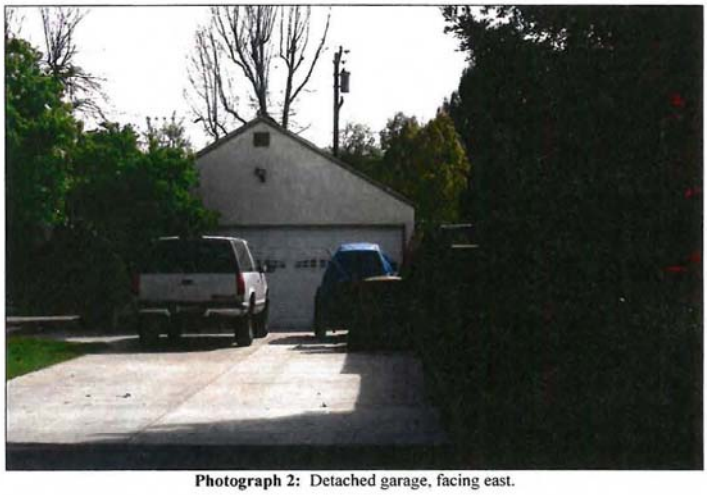
State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # _____
HRI # _____
Trinomial _____

Page 4 of 4 *Resource Name or # (Assigned by recorder) Map Reference No. 09-16
*Recorded by G. Rainka & J. Freeman *Date March 2009 ☒ Continuation ☐ Update

Photographs (continued):



Photograph 2: Detached garage, facing east.

DPR 523L (1/95) *Required Information

GP-35

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 6Z
Other Listings _____
Review Code _____ Reviewer _____ Date _____

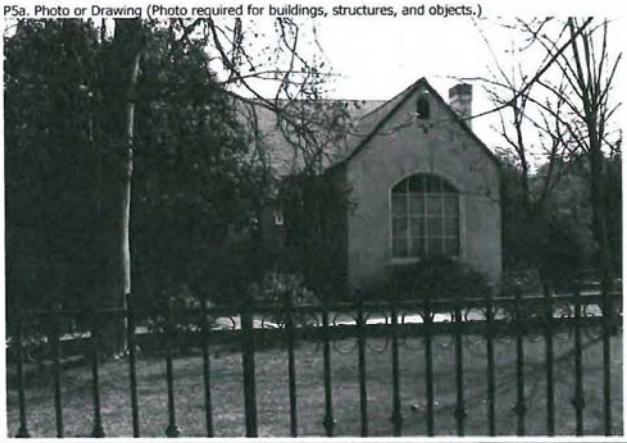
Page 1 of 3 *Resource Name or # (Assigned by recorder) Map Reference No. 09-17

P1. Other Identifier: 16 Stine Road
***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County** Kern
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Gosford, CA **Date** 1973 **T**___; **R** ___; __ ¼ **of Sec** ___; _____ **B.M.**
c. Address 16 Stine Road City Bakersfield, CA Zip 93309
d. UTM: (give more than one for large and/or linear resources) Zone _____; _____mE/ _____mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
Assessor Parcel Number: 149-221-12
***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This 0.22-acre parcel contains a modest 1,204-square foot Tudor Revival-style house and detached garage. The residence sits on a concrete foundation, is clad with stucco siding and has a composite-shingle side gable roof (Photograph 1). The building is dominated by a front-gable projection with a segmented arch 16-light wood window below a small louvered vent. A raised segmental arch front entry door opening is centered on the façade and accessed by concrete steps. Other windows include double-hung wood windows, some with wood board shutters. An exterior brick chimney is attached to the south side of the building. The detached garage has a composition-shingle, front gable roof and a carport attached to its west side (Photograph 2).

***P3b. Resource Attributes:** (List attributes and codes) HP2 – Single family property
***P4. Resources Present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: Photograph 1. Primary façade, facing east.

***P6. Date Constructed/Age and Sources:**
☒ Historic ☐ Prehistoric ☐ Both
1935, Kern County Assessor Records

***P7. Owner and Address:**
Shelley L. Kraft
16 Stine Rd.
Bakersfield, CA 93309

***P8. Recorded by:** (Name, affiliation, address)
Greg Rainka and Joseph Freeman
JRP Historical Consulting, LLC
2850 Spafford Street
Davis, CA 95618

***P9. Date Recorded:** March 2009

***P10. Survey Type:** (Describe) Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") JRP Historical Consulting, LLC, "HRER, Centennial Corridor Project, Bakersfield, Kern County, California (EA 06-48460)"
***Attachments:** ☐ None ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (list) _____

DPR 523A (1/95) ***Required Information**

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State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
BUILDING, STRUCTURE, AND OBJECT RECORD

Primary # _____
HRI # _____

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*NRHP Status Code 6Z
*Resource Name or # (Assigned by recorder) Map Reference No. 09-17

B1. Historic Name: _____
B2. Common Name: _____
B3. Original Use: Residential B4. Present Use: Residential
*B5. Architectural Style: Tudor Revival
*B6. Construction History: (Construction date, alteration, and date of alterations) Built 1935.
*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: _____ Original Location: _____
*B8. Related Features: _____
B9. Architect: unknown b. Builder: unknown
*B10. Significance: Theme n/a Area n/a
Period of Significance n/a Property Type n/a Applicable Criteria n/a

This building does not appear to meet the criteria for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR). The residential area directly south of Stockdale Highway and west of the Stine Canal mostly developed during the 1950s when the vast extent of this land was subdivided as Tracts 1005, 1522 and 1610. Prior to this time, this land was wholly agricultural with only a smattering of residences. This included three identical Tudor Revival homes on the east side of Stine Road just north of Peckham Avenue, each dating to 1935.

After World War II, Bakersfield experienced tremendous population growth that generated a wave of new development. With the flood of veterans to California came a need for more housing, but Kern County's population remained greater than the number of available houses into the 1950s. The city's boundaries began to spread as outlying agricultural land was converted to residential tracts, and by the end of that decade, housing supply had caught up with demand. Twenty square miles of residential development took place in Greater Bakersfield from 1945 to 1955, which included approximately 12,000 new homes built between 1950 and 1955. In particular, the land straddling Stockdale Highway southwest of downtown was the site of new construction. The east side of Stine Road filled with homes concurrently with, but independent of, the development of the surrounding residential tracts (the west side of the street was included in Tract 1522). Residences were built to the north, south, and even between, the trio of Tudors. (See Continuation Sheet)

B11. Additional Resource Attributes: _____
*B12. References: Kern County Aerial Photographs, flown by the USGS, 1937, 1947, 1956, 1968; Kern County Tract Maps, Tract No. 1005, July 3, 1931; Kern County Tract Maps, Tract No. 1522, Dec. 29, 1949, Book 7 of Maps, Page 62; Kern County Tract Maps, Tract No. 1610, April 3, 1952, Book 8 of Maps, Page 1; "Kern Homes Crisis Aired," *Los Angeles Times*, 7 December 1945; "Three Hundred Veterans Join Rush for 90 Homes," *Los Angeles Times*, 22 May 1946; "Shutdown on Veterans' Housing Project Averted," *Los Angeles Times*, 28 December 1946; "Minter Field Units to House 400 Families," *Los Angeles Times*, 2 February 1947; "Housing Pact Canceled by Bakersfield," *Los Angeles Times*, 7 March 1952. See footnotes.

B13. Remarks:

*B14. Evaluator: Toni Webb
*Date of Evaluation: December 2011
(This space reserved for official comments.)

DPR 523B (1/95)

*Required Information

GP-35

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

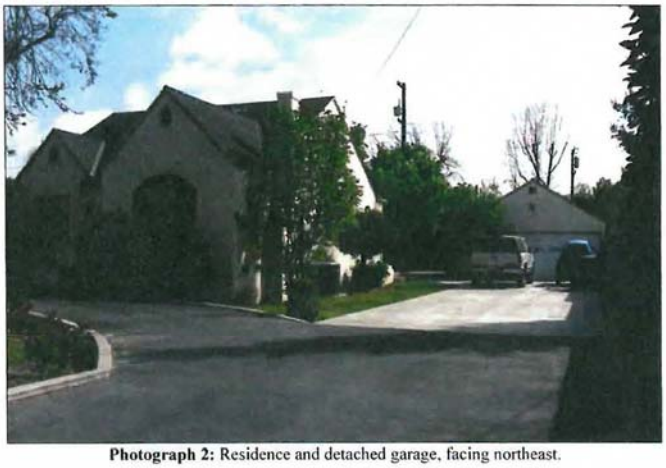
Primary # _____
HRI # _____
Trinomial _____

Page 3 of 3 *Resource Name or # (Assigned by recorder) Map Reference No. 09-17
*Recorded by G. Rainka & J. Freeman *Date March 2009 ☒ Continuation ☐ Update

B10. Significance (continued):

Under NRHP Criterion A or CRHR Criterion 1, this building is not significant for its association with important historic events. Research did not reveal a direct relationship between this property and important historic events within any context, specifically residential development in Bakersfield during the years surrounding World War II. Under NRHP Criterion B or CRHR Criterion 2, this building is not significant for its association with the lives of persons important to history. Research revealed little information about the owners or occupants of this property. The earliest known owner was Mary Gilbreth of Mary's Millinery and Accessories, who owned the home as early as 1950 and sold the property in 1960 to Muriel Ponder. Ponder was a mechanic for Cummins Service and Sales and retained the property until its sale in 1996. The current owner purchased the property in 2005. It does not appear that any of the individuals related to the development and use of this resource, have made demonstrably important contributions to history at the local, state, or national level.[1] Under NRHP Criterion C or CRHR Criterion 3, this building is not significant for possessing distinctive characteristics of a type, period, or method of construction, nor does it appear to be the work of a master. Though this particular building retains architectural integrity to its date of construction, it is an example of a common historical revival type that became popular in suburban communities nationwide during the 1920s and 1930s. The Tudor Revival style is derived from a variety of late-medieval models prevalent in 16th century Tudor England, and this house has the standard form of an asymmetrical façade featuring a steeply-pitched front gable and segmental arch door and window openings. In addition to lacking significance under this criterion, extensive residential development throughout the area nearly two decades after the construction of this house has compromised integrity of location, setting, feeling and association. Under NRHP Criterion D or CRHR Criterion 4, this building is not significant as a source (or likely source) of important information regarding history. It does not appear to have any likelihood of yielding important information about historic construction materials or technologies.

Photographs (continued):



Photograph 2: Residence and detached garage, facing northeast.

[1] "Air Force," *Bakersfield Californian*, 21 November 1950, pg. 24 (col. 3); *Polk's Bakersfield California City Directory* (Los Angeles: R.L. Polk and Co. Publishers, 1952, 1956, 1960, 1965); Advertisement, *Bakersfield Californian*, 7 February 1952, pg. 22 (col. 2); Ancestry.com, *California Voter Registrations, 1900-1968* [database on-line] (Provo, UT, USA: The Generations Network, Inc., 2008), original data: State of California, United States, *Great Register of Voters* (Sacramento, California: California State Library); Kern County Recorder, 13 September 1960, Deed, Book 3302, Page 397; "Romance Told at Champagne Party," *Bakersfield Californian*, 2 April 1968, pg. 27 (col. 7); Kern County Recorder, 6 June 1996, Affidavit – Joint Tenants, Document No. 196072157; Kern County Recorder, 6 June 1996, Deed, Document No. 196072158; Kern County Assessor Record.

DPR 523L (1/95) ***Required Information**

GP-35

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 6Z
Other Listings _____
Review Code _____ Reviewer _____ Date _____

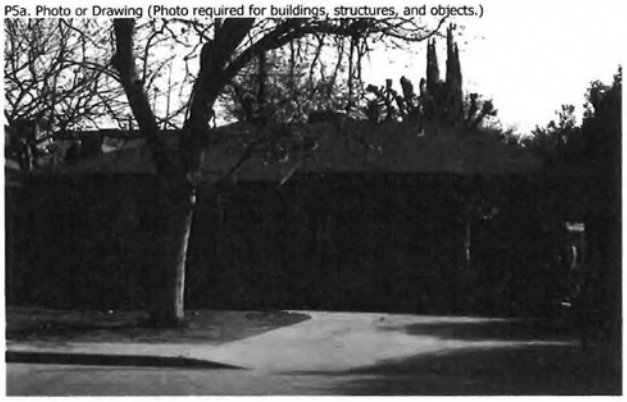
Page 1 of 3 *Resource Name or # (Assigned by recorder) Map Reference No. 09-18

P1. Other Identifier: 20 Stine Road
***P2. Location:** ☐ Not for Publication ☒ Unrestricted *a. County Kern
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Gosford, CA **Date** 1973 **T** 30S; **R** 27E; NE ¼ **of Sec** 2; _____ **B.M.**
c. Address 20 Stine Road City Bakersfield, CA Zip 93309
d. UTM: (give more than one for large and/or linear resources) Zone _____; _____ mE/ _____ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
Assessor Parcel Number: 149-221-13
***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This .8-acre parcel property contains a Ranch-style residence, a storage building, and a shed. The 992-square foot residence has an L-shape footprint, concrete foundation, stucco siding, and a composition-shingle cross hip roof with narrow eaves. The front entry door is centered on the west façade beneath a narrow shed roof extension. Fenestration includes multi-light metal casement windows. The building also includes an attached carport which was added in 1967. Both the shed (constructed after 1968) and storage are not visible from the public right-of-way.

***P3b. Resource Attributes:** (List attributes and codes) HP2 – Single family property
***P4. Resources Present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: View of main façade, facing east.

***P6. Date Constructed/Age and Sources:**
☒ Historic ☐ Prehistoric ☐ Both
1956, Kern County Assessor Records

***P7. Owner and Address:**
Eric Alan Prebilsky
20 Stine Rd.
Bakersfield, CA 93309

***P8. Recorded by:** (Name, affiliation, address)
Greg Rainka and Joseph Freeman
JRP Historical Consulting, LLC
2850 Spafford Street
Davis, CA 95618

***P9. Date Recorded:** March 2009

***P10. Survey Type:** (Describe) Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") JRP Historical Consulting, LLC, "HRER, Centennial Corridor Project, Bakersfield, Kern County, California (EA 06-48460)"

***Attachments:** ☐ None ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (list) _____

DPR 523A (1/95) ***Required Information**

GP-35

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
BUILDING, STRUCTURE, AND OBJECT RECORD

Primary # _____
HRI # _____

Page 2 of 3

*NRHP Status Code 6Z
*Resource Name or # (Assigned by recorder) Map Reference No. 09-18

B1. Historic Name: _____
B2. Common Name: _____
B3. Original Use: Residential B4. Present Use: Residential
*B5. Architectural Style: Ranch
*B6. Construction History: 1956; carport addition in 1967; storage building built in 1956; shed constructed after 1968.
*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: _____ Original Location: _____
*B8. Related Features: _____
B9. Architect: unknown b. Builder: unknown
*B10. Significance: Theme n/a Area n/a
Period of Significance n/a Property Type n/a Applicable Criteria n/a
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

This building does not appear to meet the criteria for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR), nor does it appear to be a historical resource for the purposes of CEQA. In the period following World War II, Bakersfield's population expanded rapidly, a result of returning veterans and an improved economic environment. Coupled with federal housing programs that enabled many people to buy homes, the increased population created a demand for housing in Bakersfield that quickly grew beyond the existing available residences. The city's boundaries began to widen as outlying agricultural land was converted to residential tracts; by the end of the 1950s, housing supply had caught up with demand. From 1950 to 1975, the city tripled in size, as Bakersfield continued to enlarge its borders to meet the ever-growing housing demand.

Twenty square miles of residential development took place in Greater Bakersfield from 1945 to 1955, which included approximately 12,000 new homes built between 1950 and 1955. In particular, the land straddling Stockdale Highway (just north of the residence described in this form) southwest of downtown was teeming with new construction during this period. The residential area directly south of Stockdale Highway and west of the Stine Canal developed when the majority this area was subdivided as Tracts 1522 and 1610 in the late 1940s and early 1950s. Prior to this time, this land was wholly agricultural with only a smattering of residences dating to the 1930s. Only the land west side of Stine Road was included in a subdivision (Tract 1522); the parcels on the east side of Stine Road (where this residence is located) appear to have been sold to and developed by individual owners as infill construction. (See Continuation Sheet)

B11. Additional Resource Attributes: _____

*B12. References: "Kern Homes Crisis Aired." *Los Angeles Times*, 7 December 1945; "Three Hundred Veterans Join Rush for 90 Homes." *Los Angeles Times*, 22 May 1946; "Shutdown on Veterans' Housing Project Averted." *Los Angeles Times*, 28 December 1946; "Minter Field Units to House 400 Families." *Los Angeles Times*, 2 February 1947; "Housing Pact Canceled by Bakersfield." *Los Angeles Times*, 7 March 1952; Chris Brewer, *Historic Kern County: An Illustrated History of Bakersfield and Kern County* (San Antonio, TX: Historical Publishing Network, 2001), 77-78; "Big Population Increase Noted." *Los Angeles Times*, 8 May 1955; Kern County Aerial Photographs, flown by the USGS, 1937, 1947, 1956, 1968; Kern County Aerial Photographs, flown by the USGS, 1937, 1947, 1956, 1968; Kern County Tract Maps, Tract No. 1005, July 3, 1931; Kern County Tract Maps, Tract No. 1522, Dec. 29, 1949; Kern County Tract Maps, Tract No. 1610, April 3, 1952. See footnotes.

B13. Remarks:

*B14. Evaluator: Andrea Trickey and Toni Webb
*Date of Evaluation: November 2009
(This space reserved for official comments.)

DPR 523B (1/95)

*Required Information

GP-35

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # _____
HRI # _____
Trinomial _____

Page 3 of 3 *Resource Name or # (Assigned by recorder) Map Reference No. 09-18
*Recorded by G. Rainka and J. Freeman *Date March 2009 ☒ Continuation ☐ Update

B10. Significance (continued):

Although this residence retains integrity, with the only evident alteration being the carport in 1967, it appears to lack significance under any of the NRHP or CRHR criteria. Under NRHP Criterion A (CRHR Criterion 1), this building is not significant within the context of residential development in Bakersfield during the years following World War II. Instead this house was one of thousands constructed near Bakersfield during the postwar years. Research revealed little information about the owners or occupants of this property. It appears that Walter J. Moore, and his wife Vaurice, owned and occupied this residence as early as 1960. Walter earned a living as a mechanic for Glenn Rose Engineering during the 1960s. The Moores are listed in city directories at this address until at least 1965, however it appears they resided within another residence in later years while retaining this home until Walter's death in 1991. It does not appear that Moores made demonstrably important contributions to history at the local, state, or national level; therefore this building does not appear to be significant under NRHP Criterion B (CRHR Criterion 2).[1] Under NRHP Criterion C (CRHR Criterion 3), this building does not appear to be significant for possessing distinctive characteristics of a type, period, or method of construction, nor does it appear to be the work of a master. This particular building is a modest and ubiquitous example of mid-twentieth century Ranch-style architecture, which became immensely popular in suburban communities nationwide during the late 1940s and 1950s. Furthermore, this property does not appear to be a significant or likely source of important information regarding history (NRHP Criterion D and CRHR Criterion 4). This property has been evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code.

[1] *Polk's Bakersfield California City Directory 1952* (Los Angeles: R.L. Polk and Co. Publishers, 1952); *Polk's Bakersfield California City Directory 1956* (Los Angeles: R.L. Polk and Co. Publishers, 1956); *Polk's Bakersfield California City Directory 1960* (Los Angeles: R.L. Polk and Co. Publishers, 1960); *Polk's Bakersfield California City Directory 1965* (Los Angeles: R.L. Polk and Co. Publishers, 1965); Ancestry.com, *U.S. City Directories* [database on-line] (Provo, UT, USA: Ancestry.com Operations Inc, 2008), original data: Polk's Bakersfield (California) City Directory (Los Angeles: R.L. Polk & Co., 1936-1945); Ancestry.com, *California Voter Registrations, 1900-1968* [database on-line] (Provo, UT, USA: The Generations Network, Inc., 2008), original data: State of California, United States, *Great Register of Voters* (Sacramento, California: California State Library).

DPR 523L (1/95) ***Required Information**

GP-35

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 6Z
Other Listings _____
Review Code _____ Reviewer _____ Date _____

Page 1 of 4 *Resource Name or # (Assigned by recorder) Map Reference No. 09-19

P1. Other Identifier: 3899 Stockdale Highway
*P2. Location: ☐ Not for Publication ☒ Unrestricted *a. County Kern
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
*b. USGS 7.5' Quad Gosford, CA Date 1973 T___; R ___; __ ¼ of Sec ___; _____ B.M.
c. Address 3899 Stockdale Highway City Bakersfield, CA Zip 93309
d. UTM: (give more than one for large and/or linear resources) Zone _____; _____mE/ _____mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
Assessor Parcel Number: 149-221-17; Alternate address: 8 Stine Rd.
*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The property at 3899 Stockdale Highway includes three buildings, two of which were built in 1977 and the third, a Spanish Eclectic building, was constructed in 1932. The property is located at the southeast corner of Stockdale Highway and Stine Road, and is bordered on the east side by the Stine Canal. The 1,486-square-foot Spanish Eclectic commercial building, originally used as a residence, is situated diagonally on the parcel facing northwest. It includes a two-part roof. The front section has a side gable with red-tile roofing and the rear two-thirds has a flat roof extending from the gable ridge and has composite shingle roofing. A prominent circular tower with a conical red-tile clad roof and segmental arch door openings is centered on the primary façade and flanked by large wood-framed picture windows on both sides. Similar-sized windows are located throughout; however most have fixed or horizontal sliding aluminum sash. The main entrance, located within the tower, consists of an aluminum-framed glass door with sidelights. A detached garage was demolished in 1977 when the building was converted to a commercial property and two buildings were added to the lot. (See Continuation Sheet)

*P3b. Resource Attributes: (List attributes and codes) HP6 – 1-3 story commercial building
*P4. Resources Present: ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, date, accession #) Photograph 1. Facing south.

*P6. Date Constructed/Age and Sources:
☒ Historic ☐ Prehistoric ☐ Both
1932, Kern County Assessor

*P7. Owner and Address:
Alan Prebilsky
3899 Stockdale Hwy.
Bakersfield, CA 93309

*P8. Recorded by: (Name, affiliation, address)
Joseph Freeman and Greg Rainka
JRP Historical Consulting, LLC
2850 Spafford Street
Davis, CA 95618

*P9. Date Recorded: April 2009

*P10. Survey Type: (Describe) Intensive

*P11. Report Citation: (Cite survey report and other sources, or enter "none.") JRP Historical Consulting, LLC, "HRER, Centennial Corridor Project, Bakersfield, Kern County, California (EA 06-48460)"

*Attachments: ☐ None ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (list) _____

DPR 523A (1/95) *Required Information

GP-35

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
BUILDING, STRUCTURE, AND OBJECT RECORD

Primary # _____
HRI # _____

Page 2 of 4

*NRHP Status Code 6Z
*Resource Name or # (Assigned by recorder) Map Reference No. 09-19

B1. Historic Name: _____
B2. Common Name: Health Unlimited
B3. Original Use: Residential B4. Present Use: Commercial
*B5. Architectural Style: Spanish Eclectic
*B6. Construction History: Built in 1932; converted to commercial space in 1977; detached garage demolished in 1977; rear additions (date unknown); boarded window openings (date unknown); two buildings added 1977.
*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: _____ Original Location: _____
*B8. Related Features: _____
B9. Architect: unknown b. Builder: unknown
*B10. Significance: Theme n/a Area n/a
Period of Significance n/a Property Type n/a Applicable Criteria n/a
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

This building does not appear to meet the criteria for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR), nor does it appear to be a historical resource for the purposes of CEQA.

The former residence at 3899 Stockdale Highway was initially developed in 1932, during a time of great growth in Bakersfield and Kern County that is largely attributable to the construction of the Atchison, Topeka and Santa Fe Railway, discovery of oil, and agricultural success of the county. Combined, these nineteenth century events expanded the agricultural and industrial markets for Kern County which in turn spurred an influx of new settlement to the region. Between 1905 and 1920, Bakersfield's population more than doubled thanks to the seemingly endless riches teeming from the surrounding oil and agricultural fields. The interest and capital flowing into the city led to more intensive development of the area. During this period more houses and commercial buildings were constructed in Bakersfield than in the city's first forty years. To accommodate the housing needs of this increased population, development extended south and west and the city annexed thousands of acres of unincorporated county lands.

The property was originally constructed in an area populated by agricultural land near the corner of Stockdale Highway and Stine Road, and used the address 8 Stine Road. Several houses along Stine had been constructed south of this residence and one to the north; however, most of the area remained large, open tracts with residences sporadically placed. By the end of World War II, Bakersfield's population exploded and a severe housing shortage led to extensive (See Continuation Sheet.)

B11. Additional Resource Attributes: _____
*B12. References: Historic Population Census California Counties & Towns 1850-2000, accessed online on October 6, 2009 at www.dof.ca.gov/research/demographic/reports/census-surveys/historical_1850-2000/; Chris Brewer, *Historic Kern County: An Illustrated History of Bakersfield and Kern County* (San Antonio, TX: Historical Publishing Network, 2001), 77; "Street Map of Greater Bakersfield, Kern Co., Calif.," (Bakersfield, CA: M.R. Parra & Co., 1917); "May Annex Suburbs of Valley City," *Los Angeles Times*, 4 Jan. 1923; "City of Bakersfield Annexes Territory," *Los Angeles Times*, 8 May 1924. See footnotes.

B13. Remarks:

*B14. Evaluator: Joseph Freeman
*Date of Evaluation: December 2011
(This space reserved for official comments.)

DPR 523B (1/95) *Required Information

GP-35

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # _____
HRI # _____
Trinomial _____

Page 3 of 4 *Resource Name or # (Assigned by recorder) Map Reference No. 09-19
*Recorded by J. Freeman and G. Rainka *Date April 2009 ☒ Continuation ☐ Update

P3a. Description (continued):

Directly south of the main building is a front-gable and flat roof building clad in textured stucco and wood siding with aluminum-sash windows and a glass-panel double-door entrance (Photograph 2). To the south is a Dutch-hip roof building with wide eaves, stucco siding and vinyl- and aluminum-sash windows (Photograph 3).

B10. Significance (continued):

development. This area along Stockdale Highway quickly became a target of developers, and by the early 1950s several subdivisions had been constructed. As the area continued to expand, Stockdale Highway became a commercial row, increasingly populated by businesses instead of residences. Several houses along this stretch of road were converted to commercial properties, as the house recorded here was in 1977. The house north of this building recorded here was eventually demolished. Afterwards the building took the Stockdale address.[1]

The property has lost integrity due to the addition of two modern buildings south of the 1932 Spanish Eclectic building, the conversion of that building from a residence to a commercial building, and alterations that have been made over time. Alterations to the original building, including replacement windows and front entrance and the removal of the detached garage, have diminished the integrity of design, materials, workmanship, and feeling. The addition of new buildings and the conversion of the property to a commercial business has diminished the integrity of association, setting and feeling. Under NRHP Criterion A or CRHR Criterion 1, this residence does not appear to be significant for its association with important historic events. Research revealed no direct relationship between this property and important historic events within any context. Specifically, the property does not have significant associations with residential development in Bakersfield during early twentieth century. The property was one of hundreds of homes constructed on agricultural lands converted to residential property during the 1930s. Research did not reveal the original owners or residents of this property. By 1952, when the house used its former address 8 Stine Road, Jesse Robert and Edith L. Rogers lived here. The Rogers lived here until at least 1960. Jesse Rogers worked previously as an oil worker and fireman. In 1979 Gay Don Gibson and Zada L. Mitchell purchased the property. They sold it to the current owner Alan Prebilsky in 1999. The individuals related to the development and use of this resource did not make demonstrably important contributions to history at the local, state, or national level, and thus the property does not appear to be significant under NRHP Criterion B or CRHR Criterion 2.[2]

Under NRHP Criterion C or CRHR Criterion 3, this building is not significant for possessing distinctive characteristics of a type, period, or method of construction, nor does it appear to be the work of a master. The 1932 building is a modest example of Spanish Eclectic style architecture. This style was used commonly during the first part of the twentieth century for residential buildings, especially in Southern California. The features on this house that represent the style include the round tower located on the front façade, the red tile roofing on the front portion of the structure, and the textured stucco siding. Aside from these few features, however, the building is a typical and modest small house from the early 1930s. Furthermore, built environments are rarely significant under NRHP Criterion D and CRHR Criterion 4 and this property does not appear likely to yield important historical information. This property has been evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code.

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[1] Kern County Assessor Records, "3899 Stockdale Highway, Bakersfield, CA, APN: 149-221-17-00," as reported to First American Real Estate Solutions online service, accessed 2008; United States Department of Interior, Division of Geological Survey, Kern County Aerial Photographs, flown by Western Air Photo, file number 8M-832 2923, 1975; United States Department of Interior, Geological Survey, Aerial Photography Kern County, File Number GS-WK 22-13, Scale 1:23,600, August 1952; United States Department of Agriculture, Aerial Photography Kern County, File Number ABL-19R-131, flown by Hycon Aerial Surveys, 1956; United States Department of Agriculture, Kern County Aerial Photographs, file number 13ABL 10-9, 1937.

[2] Kern County Recorders Office Records, Grantor/Grantee online index, accessed online at http://recorderonline.co.kern.ca.us/ on 30 October 2009; .com, *California Voter Registrations, 1900-1968* [database on-line] (Provo, UT, USA: The Generations Network, Inc., 2008) original data: State of California, United States, *Great Register of Voters*, (Sacramento, California: California State Library); Ancestry.com, *U.S. City Directories* [database on-line]:

Response to Comment GP-35

Comment Code	Response
GP-35-1	Thank you for your comments; we appreciate the additional research you have conducted and presented to us. All known historic properties within the project's area of potential effects have been identified and evaluated by professionals who meet the Secretary of the Interior's Professional Qualifications Standards for Archaeology and Historic Preservation as stated in 36 *Code of Federal Regulations* 61. Within the project study area for Alternatives A through C, 839 historic resources were evaluated, including the properties discussed in your comment letter. For a historic building to be protected under the California Environmental Quality Act or Section 106 of the National Historic Preservation Act, it must meet certain specific criteria for the California Register of Historic Places, the National Register of Historic Places, or as an important property under the California Environmental Quality Act. For a building to qualify, these criteria must be met in terms of how significant it is architecturally or historically and whether it retains what is called the "integrity" of its original state (i.e., whether it retains its original design or materials, among other factors). The qualified architectural historians who conducted historic research and evaluated the subject properties on and near Garnsey Avenue considered the additional information you provided; however, the information did not alter the original determination that the resources are not eligible for listing in the National Register of Historic Places, based on established criteria, and are not historical resources for the purposes of the California Environmental Quality Act. In addition, substantive alterations of character-defining features have been made to the properties over time so that they no longer meet the technical criterion of possessing "integrity," described above. The Historic Property Survey Report was prepared to document identification and evaluation efforts for historic properties (eligible for the National Register of Historic Places) to date. The Historic Property Survey Report followed best practices as set forth by the California Historic Preservation Program, the Secretary of the Interior's historic preservation guidance, and Caltrans' Environmental Handbook/Standard Environmental Reference Volume 2 on Cultural Resources. This document and its attachments provided the information needed to solicit State Historic Preservation Officer concurrence on Caltrans' determination of National Register of Historic Places eligibility and ineligibility for evaluated resources within the area of potential effect. On April 15, 2013, the State Historic Preservation Officer concurred with Caltrans' identification and evaluation findings to date, as presented in the above-noted Historic Property Survey Report. While Caltrans does not submit nominations to the National Register, interested individuals and/or organizations may do so.

Comment GP-36

GP-36

June 18, 2014

Jennifer H. Taylor, Office Chief
Central Region, Environmental, Southern San Joaquin Valley
855 M Street, Suite 200
Fresno California 93721

Ms. Taylor:

Bike Bakersfield requests an addition to the Centennial Corridor project to include a bicycle crossing from Easton Drive to Commerce Drive over the canal. This improvement would improve the bicycle network in Bakersfield by creating a pleasant route for community members to access the Kern River Parkway Trail from the offices and apartments along California Avenue.

The Centennial Corridor presents the opportunity to continue bicycle infrastructure on smaller streets by crossing California Avenue at Easton Drive and then crossing the canal to Commerce Drive and Commercial Way. The City of Bakersfield is improving the traffic signal at Commercial Way and Truxtun Avenue to add a pedestrian crossing and bicycle access across Truxtun to the City's main class 1 bike path. When the project is complete, a family-friendly bicycle route would be provided from Southeast Bakersfield all the way to Southwest Bakersfield. GP-36-1

The Centennial Corridor provides an opportunity to greatly improve bicycle access to the existing Class 1 bike path on the Kern River Parkway. By improving that access, the project will improve bicycle access to an area that does not currently have a pleasant connection to the Kern River Parkway Trail. The addition of this crossing will reduce pollution in our community by reducing vehicle miles traveled while improving the quality of life by making active transportation more convenient.

This project is in line with the principles supported by the City of Bakersfield in the recently adopted Bicycle Transportation Plan. The plan proposed more than 100 miles of family-friendly bikeways and routes that avoid high-traffic and high-speed arterials in order to encourage those who are interested but concerned to feel comfortable riding on local streets.

Currently bicyclists have to ride on arterial streets like California Avenue and Mohawk to reach the Class 1 bike path and the numerous destinations that can be accessed from it, such as California State University Bakersfield. These roads carry high volumes of vehicle traffic at fast speeds. These conditions minimize the number of people willing to get out and bike for transportation thus minimizing our opportunity to reduce vehicle miles traveled by maximizing our opportunities to promote biking for transportation. GP-36-2

Bike Bakersfield request the addition of a bicycle crossing from Easton Drive to Commerce Drive over the canal. We believe it is a cost-effective way to help reduce vehicle miles traveled and greenhouse gas while improving our quality of life. GP-36-3

Thank you very much for your time and consideration.

GP-36

Sincerely,

Jason Cater
Executive Director

Response to Comment GP-36

Comment Code	Response
GP-36-1	Caltrans has developed a conceptual layout of a bicycle and pedestrian connection crossing the Carrier Canal between California Avenue and Commerce Drive. Caltrans has decided to include this bicycle and pedestrian crossing as part of the Centennial Corridor Project. This decision was made in response to public requests for a bicycle connection spanning over the Carrier Canal. This improvement would enhance bicycle, pedestrian, and vehicle connectivity and would result in minimal effects to the environment during construction. Please see Appendix E, Volume 2, for project plans.
GP-36-2	Your comment is acknowledged. Caltrans values the safety of the public. If feasible, a new bike path for entering the Class I bike path would be constructed. It is the goal of the Centennial Corridor Project to improve the quality of life for the Bakersfield community, including reducing traffic and vehicle miles traveled. Caltrans recognizes the cost effectiveness and positive effects of nonmotorized transportation on the environment and would continue to look for opportunities to increase bicycle usage.
GP-36-3	Your comment is acknowledged.

Comment GP-37

GP-37

July 3, 2014

Jennifer H. Taylor, Office Chief
California Department of Transportation
855 M Street, Suite 200
Fresno, CA 93721

Reference: Alternative B

Dear Jennifer,

I am a home owner in the path of the proposed freeway; my house will remain, but will be in a reconfigured neighborhood that will destroy all the features that attracted me when I bought this house in 2004. I bought this house because of the location with its accessibility from Stockdale, California Ave and Real Road – that will change with the freeway. I have other concerns that are not properly addressed in the EIR; GP-37-1

The Centennial Park is very popular and parking is a problem and with the reconfigured neighborhood it will get worse. The reconfigured neighborhood leaves me with one way in and out and with busy days at the park I could be trapped. GP-37-2

The proposed Sound Wall is next to my neighbor's house, so I am very close to the proposed freeway. I will pickup added traffic noise, smells, pollution that I don't have now. During the construction there will be dust, noise, vibration and construction traffic that will further destroy my quality of life. GP-37-3

The EIR noted a decrease in local traffic, but that does not sound correct, I believe it will be just the opposite. This extension of 58 is not to reduce local traffic, it will accommodate interstate traffic. GP-37-4

The areas / lots next to the sound wall are shown to be vacant. I believe these areas will become a haven for undesirable activities. My home safety will be compromised. GP-37-5

When I bought this house in 2004, it was a beautiful neighborhood, everyone took care of their houses, but since the announcement of the proposed freeway the neighborhood has been in decline. Your project has destroyed the value of all of our homes and made it nearly impossible for us to sell our homes for what we paid. GP-37-6

Please stop this route through my neighborhood and choose the "No Build" option. GP-37-7

Sincerely,

Larry Sharette
Homeowner
4405 Kentfield Drive
Bakersfield, CA

Response to Comment GP-37

Comment Code	Response
GP-37-1	It is acknowledged that substantial changes to existing neighborhoods and local circulation would occur. Travel patterns would change as a result of implementing Alternative B due to permanent street closures. Access to Stockdale Highway, California Avenue, and Real Road would be available after construction of the project via local streets and crossings. The proposed overcrossings at La Mirada Drive and Marella Way, as well as the proposed undercrossing at Ford Avenue, would provide three local streets between California Avenue and Stockdale Highway to remain open. These crossings are essential in maintaining local connectivity and traffic circulation for travel within Bakersfield for nonmotorized and motorized uses. At this early stage of the project, it is assumed that all of the above-mentioned design options (Marella Way Overcrossing, Ford Avenue Undercrossing, and La Mirada Drive Overcrossing) would be constructed as part of the project to maintain community cohesion and connectivity at either side of the Alternative B alignment.
GP-37-2	After construction of the project, access to Kentfield Drive will only be provided via Fallbrook Street. The proposed project would not affect the availability of on-street parking along Fallbrook Street once the project is constructed; however, Fallbrook Street would be converted into a cul-de-sac at Marella Way, which would eliminate a few existing on-street parking spaces. There would be sufficient surplus parking on the adjacent streets, and the existing surface parking lots at the park would remain available to park users.
GP-37-3	*Potential Noise Impacts* Project construction would result in short-term noise impacts from use of heavy equipment during construction, as well as the delivery and removal of materials to the area. Section 3.6, Construction Impacts, included standard conditions (CI-23 through CI-25) listed under Avoidance, Minimization, and Mitigation Measures that would reduce temporary construction-related noise and vibration, which would cease when construction is completed. The current Preferred Alternative B alignment has been designed to the greatest extent practicable to be depressed in the general area of your property to aid in mitigating potential noise impacts. Additionally, the potential short- and long-term noise effects of the project and measures to address those effects are detailed in Section 3.2.7, Noise, of the final environmental document (Volume 1). Your property is represented as RB-51. A comparison of current noise levels to the projected noise levels in 2038 under the No Build Alternative and the build alternatives is provided. Results of the noise analysis for each build alternative indicate traffic noise would generally increase as a result of the Preferred Alternative B. Traffic noise is anticipated to increase from 51 decibels to 62 decibels. To mitigate for noise impacts, a sound wall will be constructed (S529), which would reduce noise levels to 59 decibels at your property. A noise level of 59 decibels is not considered a noise impact as this noise level is well below the FHWA Noise Abatement Criteria of 67 decibels for residential land uses. In addition the 59 decibels will only be experienced during peak traffic hours; the daily exposure would be even less than 59 decibels because traffic noise subsides drastically during late night or early morning hours. *Permanent Air Quality Effects* The air quality study prepared for the Centennial Corridor Project indicates that potential air quality impacts were found to be less than significant and that the project would improve regional air quality due to reduction in congestion on local roadways and vehicle idling. Improvements to air quality are also attributed to the improved pollution emission performance of a modernizing fleet of all vehicles, especially heavy diesel trucks, as a result of Federal and State fuel content and engine emissions rules. In addition, the results of the air quality analysis indicate that the Centennial Corridor Project would be within regional and Federal air quality

Comment Code	Response
	standards and would not cause or contribute to a violation of any air quality standards. To further minimize air quality pollutants within the general area of the project, Caltrans has entered into a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District. Through this agreement, targeted improvements will be provided within the general area along the Preferred Alternative B alignment. More detailed information on air quality analysis can be found in Section 3.2.6, Air Quality. For more information on the Voluntary Emission Reduction Agreement, please see Appendix L, Volume 2, of this final environmental document. *Air Quality Effects during Construction* Construction of the project has the potential to create air quality impacts through the use of heavy-duty construction equipment. Fugitive dust emissions would result from earthwork and onsite construction activities. Reductions in fugitive dust can be achieved by onsite mitigation measures. Compliance with the standard conditions SC-CI-20 through SC-CI-22 listed under Avoidance, Minimization, and Mitigation Measures – Air Quality, Standard Conditions (refer to Section 3.6, Construction Impacts), would reduce construction emissions. Some of these measures to control dust include using water or chemical stabilizer/suppressant, covering disturbed areas with tarps, and limiting speeds in unpaved areas. Air emissions associated with construction activity would be temporary and would cease to occur after project construction is completed. *Potential Traffic Impacts during Construction* The potential for traffic disruption during construction of the project would mostly exist where bridge crossings would be built, at connections to existing road and highway facilities, and where ramp work would be done, including ramp closure work. The duration of construction travel-time delays in the vicinity of specific construction zones is contingent on the scope of the work and could be expected to last from a few days to more than a year, depending on the construction zone, and may require motorists to adjust their schedules to accommodate longer travel times. Detour routes will be provided if road closures are required. A Traffic Management Plan will be prepared during the final design phase. This document would provide details on detour plans and required notifications prior to any road or lane closures.
GP-37-4	The Centennial Corridor Project relieves traffic on local streets such as Truxtun Avenue, Stockdale Highway, Ming Avenue and Rosedale Highway. The Preferred Alternative B alignment would also relieve the double loading of vehicular traffic on State Route 99 between State Route 58 (East) and Rosedale Highway (current alignment of State Route 58 West). The additional capacity provided by the build alternatives compared to the No Build Alternative would help reduce congestion on adjacent local roadways because traffic is expected to shift to the freeway. Traffic volumes will increase on State Route 58 East, State Route 99 south of State Route 58 East, and the Westside Parkway. Figure 3-16 of the Traffic Study technical report illustrates roadways which will experience reduced traffic volumes compared with the No Build alternative.
GP-37-5	Vacant spaces next to sound walls are sometimes necessary to provide workers access for general maintenance of sound walls and landscaping. Please note that the project has limited design at this stage of the project development process, and areas that are shown to be vacant may be used to construct other features of the project, such as stormwater treatment devices. If excess remnant lots are not used by the project after construction, Caltrans may decide to keep or offer to sell the excess property to the city of Bakersfield. If a home or building has been acquired for the project, Caltrans and the city of Bakersfield have developed a strategy to minimize vacant properties. To enhance safety and to minimize, graffiti and vagrancy problems associated with vacant buildings, Caltrans and the city of Bakersfield would reduce the amount of vacancy by implementing the following options for acquired properties: (1) rent the homes and businesses on a month-to-month basis to keep them occupied as long as

Comment Code	Response
	possible in advance of demolition; or (2) demolish each building as soon as feasible after acquisition. This latter option would result in vacant lots interspersed in business areas and neighborhoods. With either option, proper management of acquired property is a key consideration. In addition, the Bakersfield Police Department, the Kern County Sheriff's Department, and the California Highway Patrol would continue to provide law enforcement and police protection services to the project area. Furthermore, emergency vehicle access for police, fire protection, and emergency services would be maintained at all times. Law enforcement, fire, and emergency services could experience slightly increased response times because of construction-related road closures, temporary detours, and increased traffic congestion. It is not expected that temporary road closures would result in more than 1 mile of out-of-direction travel because nearby alternative routes would be maintained and identified as part of the detour plans. In addition, Chapter 8.29 (Litter Control) and 8.80 (Abatement of Public Nuisances) of the Bakersfield Municipal Code would be enforced throughout Bakersfield, including on vacant lots and areas adjacent to the project right-of-way. The city of Bakersfield's Litter Ordinance prohibits littering and provides that no person shall throw, deposit, or accumulate litter in or upon any public place or private premises. Furthermore, each violation of the Litter Ordinance is declared to be a public nuisance. The Bakersfield Municipal Code provides general enforcement authority over public nuisances and mandates that it shall be the duty of every property owner to abate any public nuisance defined under the Bakersfield Municipal Code. Accordingly, the Bakersfield Municipal Code allows for issuance of notices of violations, correction orders, field citations, inspection of public or private property, and the use of whatever judicial and administrative remedies provided under the Bakersfield Municipal Code or applicable State law. Therefore, enforcement of the Bakersfield Municipal Code and applicable State laws is anticipated to deter undesirable activities from vacant areas and lots located adjacent to the project.
GP-37-6	Several comments were received regarding property values. Some individuals have expressed a general belief that the project would result in decreased property values due to various reasons, including temporary construction impacts, property acquisitions, and/or project features being closer to properties than previously. However, the final environmental document does not specifically discuss property values as part of the California Environmental Quality Act/National Environmental Policy Act analysis. The Centennial Corridor Project may have an effect on property values, but it is not likely to be a major change based on literature that Caltrans reviewed and summarized as part of its standard environmental practice. The effects of highway improvements on property values have been studied extensively, especially the impacts on single family residential property. Most studies, though not all, conclude that new transportation facilities, including freeways, have an overall positive effect on property values. One such independent research study, conducted by professors from Cal Poly University, Pomona, evaluated the effects on housing prices of a new freeway in Southern California, the Interstate 210 extension, which opened in 2002 (Reibel, et. al. 2008[17]). It is worth noting that in analyzing four years of housing sales data, the researchers found that while all house prices generally continued to climb in the freeway corridor, those houses located within 0.4 mile of the new freeway facility did not see their values rise quite as rapidly. The authors attributed this, as have other studies, to certain negative effects associated with freeways which are often found at very short distances on houses nearby, such as increased noise and air pollution, and which may have the effect of keeping the value of the house from increasing at

[17] Reibel, Michael. House Price Change and Highway Construction: Spatial and Temporal Heterogeneity. California State Polytechnic University, Pomona.

Comment Code	Response
	the same rate of those located a bit further away (that is, beyond 0.4 mile). At the next functional range of distances, the benefits are still close enough to be beneficial but the general negative freeway proximity impacts are diminished. At even greater distances away from the new freeway, the added value of increased mobility and accessibility gradually declines to zero, where there is no perceived benefit. In particular, price appreciation following the freeway construction is the slowest for houses in the closest proximity to the freeway (within 0.4 mile), much faster at moderate distances, and slower again as the distance further increases. In addition, another study concluded that freeway design is also an important factor, with depressed freeways contributing most to property values (Siethoff 2002[18]). This pattern is consistent with earlier studies reviewed for Caltrans Standard Environmental Reference Volume 4 Appendix D. Another study conducted for the Arizona Department of Transportation and the Federal Highway Administration California found that property values increase at a greater rate for both commercial and multi-unit apartments over single family residences (Carey: 2001[19]). For more information regarding residential property values, please refer to Section 4.2.2 of the *Community Impact Assessment* (2014) and/or Caltrans' *Right of Way Manual*, available online at http://www.dot.ca.gov/hq/row/rowman/manual/.
GP-37-7	Your support for the No Build Alternative is acknowledged.

[18] Siethoff, Brian ten. Property Values and Highway Expansions: An Investigation of Timing, Size, Location, and Use Effects. Cambridge Systematics, Inc. Cambridge, MA. January 2002.

[19] Carey, Jason. Impact of Highways on Property Values: Case Study of the Superstition Freeway Corridor. Arizona Department of Transportation. Phoenix, AZ. October 2001.

Comment GP-38

GP-38

Brian and Sharon Self
11120 Rockridge Way
Bakersfield, CA 93311
Home phone: (661) 665-0076
e-mail: brian_self2003@yahoo.com

July 4, 2014

Ms. Jennifer Taylor
California Department of Transportation
Environmental Division
855 M Street, Ste 200
Fresno, CA 3712

RE: EIR of Alternative B of the Centennial Corridor Project

Dear Ms. Taylor,

We are writing to express our opposition to the selected Alternative B of the proposed Centennial Corridor Project. There are also multiple inaccuracies and outright errors in the DRAFT EIR document. The EIR also leaves many critical issues either partially or completely unanswered. These should be address in the FINAL EIR document. We believe Alternative C is far superior and should have been the selected option and even the "No Build" Option is superior to Alternative B. GP-38-1

Our interest in this project comes from Brian's position as a board member at Bakersfield First Assembly of God, board member of Stockdale Christian Schoo,l and branch manager of a 9 person business in the impacted area. Also, both of our children attended Stockdale Christian School. We also have many friends and family in the areas that would be impacted by all three alternatives.

4(f) Finding

It would appear that the major justification for selection of Alternate B rests on the finding that Alternative C violates Section 4(f) of the Department of Transportation Act of 1966. This is in spite of Alternative C having remediation so that the park in question, Saunders Park, would, AFTER the project is complete be the same size, at the same location and with the same or improved amenities. While a small sliver (3.2 acres of the park) would be used for the project, this would be replaced by the same amount of land that is currently adjacent to the park. Therefore, if a park exists at 3300 Palm St. and after Alternative C is complete the same park is still there with the same local access, size and features then has anything really been "used". Is there any case law or legal precedent that support this narrow interpretation? GP-38-2

Environmental Justice Communities

Extensive discussion is spent on the disparate impact to certain minorities regarding properties taken in all Alternatives. The implication is that using percentage of minorities is a valid measurement. This ignores two basic facts. At multiple community meetings, people potentially impacted by Alternative C where excited. Many said things like, "I hope they take my dump and move me somewhere nicer". This GP-38-3

GP-38

compares with the residents who will lose their homes under Alternative B who have formed a legal defense fund to try and stop the project. Even under the best of circumstances, the costs of Alternative B will increase due to litigation expenses. Were any surveys conducted to residents potentially displaced under the various Alternatives as to their attitudes? What about their neighbors? The anecdotal evidence seems to show the residents of Alternative C are mixed (some want C, some want No Build, some want B and many don't care). Conversely, the residents of Westpark are universally opposed to Alternative B. The actual "justice" to many of the lower income areas of Alternative C might be to "take" those properties and move the impacted families. To not even consider their opinions seems to miss the point. GP-38-3

Second, Alternative B actually forces more minorities to lose their homes. While the percentage is higher in a few census tracks, the actual numbers of minority families forced to move is higher with Alternative B. GP-38-4

Section 4.2.3 Valley Fever

Has any testing been done to see if Valley Fever spores are present in the dirt of the proposed route? The section of roadway that will be adjacent to Stockdale Christian School and the Assembly Manor will be elevated. How much fill dirt will be used in this section? Where will the fill dirt come from? What testing, if any, will be done to the fill dirt PRIOR to it being used to ensure the dirt and resulting dust from the construction of the elevated sections will be free from Valley Fever spores?

The DRAFT EIR mentions mitigation measures will be used including dust masks for construction crews. What, if any, mitigation measures will be available for the hundreds of children at Stockdale Christian School? GP-38-5

Given that there are over 1,000 sensitive receptors with heightened vulnerability to Valley Fever who live and/or attend school within 400' of the proposed elevated section of the roadway, what indemnification, if any, will be provided to Bakersfield Assembly of God church and Stockdale Christian School in the event that a student, worker, member or member of the Assembly Manor contract Valley Fever?

Community Character – pg 100

The report states, "with Alternative C, air quality impacts would be experienced by residents living closer to the freeway in a similar way as that described under Alternative A and B above". This is factually incorrect. Much of Alternative C parallels existing SR99. For residents living to east of SR99, there would be little to no change. If they live 300' from SR99 today they would still be 300' from the freeway. Residents living 300' west of SR99 would now be perhaps 100' away from the new freeway. As a result, residents might experience some additional air quality impacts but they would be minor. GP-38-6

Conversely, with Alternative A and B, large numbers of people who are today 1,000' OR MORE from the nearest freeway (including all the children at Stockdale Christian School and all the senior tenants of the Assembly Manner) will be within 500' of the new freeway. Any calculation of the number of households and the distance to the freeway (under Alt A, B, C and No Build) would show a huge INCRESASE in numbers exposed to increased air pollution with Alt A or B compared with C or No Build.

GP-38

Community Impact Assessment – Property Values

This section of the report assumes (with no actual facts or analysis) that there will be no long-term impact or reduction in property taxes to the City of Bakersfield. This assumption is patently false. The report reaches this conclusion (again, with no facts) by assuming that a 5% decrease in values in the "abutting zone" is off-set by increases in the "secondary zone".

Page 122 discusses and defines a "Secondary Zone" of 5-8 blocks from the freeway. The report states, "this zone typically receives some of the benefits generally associated with being located near roadway improvements, in the form of improved accessibility....". For this project, there is NO "secondary zone". Currently, the access to the freeway system is at California or Stockdale Highway (SR99) or Mohawk (Westside Parkway). These will be the same access points under all alternatives including No Build. No residents of the Westpark neighborhood or any adjacent neighborhood will have improvement in access.

The next paragraph makes an even more patently false assumption that "there is likely to be no substantial net increase or decrease in the overall property values at the local level". The actual facts in this case have shown a reduction in property values for the Westpark neighborhood of over 25% compared to comparable neighborhoods that are away from this project. It is interesting that when valuing property for "takings" for the project, per Cal Trans regulations, appraisers are using similar properties in unaffected neighborhoods where the values are 25% higher. Yet, the Draft EIR makes the assumption that there will be no negative tax impacts on the city. Actual observable facts in this project would imply a 25% reduction in property values for the entire Westpark neighborhood. GP-38-7

This tax base reduction would be expected for Alternative A and B but not for Alternative C or the No Build Option. Since Alternative C is largely adjacent to existing freeway there actually would be minimal impact to existing property values and the tax base. Our estimates of the actual, long-term tax loss would be $ 1.5 million per year for a 20 year impact of $ 30 million. While this is a very small part of the City of Bakersfield's overall budget, it is significant enough (and easy enough to measure and calculate) that it should be included in the document. The decision making process should include these lost tax revenues (which will result in either higher taxes or lower services by the residents of the city).

For the Final EIR, can you calculate (or at least estimate) the actual long-term tax loss to the City of Bakersfield for each Alternative? At the very least, all properties within 500' of the proposed route (we would argue that the real distance is much greater based on observed results) should be discounted by 25% (again, this is the actual observed impact) and then the property tax reduction calculated.

Community Character – Religious Institutions

Please note that there is no mention of Bakersfield First Assembly of God on page131 or on Table 4.20. This is a gross and frustrating oversight. Bakersfield First Assembly has hosted multiple meeting including those attended by Cal Trans staff. The church is the largest in the area (by both members, services and attendees) and is located within 400' of Alternative B. Please correct this oversight in the final document. Assembly Manor is at least mentioned on both page 11 and Table 4.20,(pg 130) but listed as a retirement home.....(actually it is senior living apartments for low income seniors but close enough). GP-38-8

GP-38

Also, please correct the "approximate distance" in Table 4.20 for Stockdale Christian School. It currently shows 1000' when the actual distances from the school rooms and playgrounds are more like 400' (less than that to the nearest classroom.....our estimate is 350'). GP-38-8

Air Quality

Under the discussion of "sensitive receptors", page 171 ignores BOTH Stockdale Christian School AND The Assembly Manor. Both of these are well within 400' and should be included in this discussion. This error is propogated throughout the document. Pg 32 under Alternative B Sensitive Receptors also states "Stockdale Christian School, located about 1,000' west of the alignment". Again, this is factually incorrect as the school and nearest classrooms and playgrounds are approximately 350-400' from the proposed location of Alternative B. GP-38-9

For Carbon Monoxide, page 21 sates, "carbon monoxide micro-scale modeling is require to determine whether a transportation project would cause or contribute to localized violations of carbon monoxide NAAQS." It does not look like any micro-scale modeling was done, even in areas with large populations of sensitive receptors. If not, why were these not done? If so, where are the results?

Under small particulate future trends, page 46, Table 4-5, where were these trends based on?

Chapter 6 – Mitigation

Table 4-9 shows NOx pollution will be approximately six times the legal limit during year one of construction (11.26 vs. threshold of 2.0). The discussion of mitigation efforts references fees paid. Who pays the fees? Where is the money spent? On the surface, it would appear that the impact of increased pollution would be born locally. The "fees" would increase the cost of the project which will ultimately be borne by local taxpayers (given that Federal Funds are limited and capped, all extra costs and fees will be local responsibility). Are there any assurances that these "fees", if any, would be used locally? It certainly looks like local taxpayers would pay a penalty for a project that worsens our local air and then see the money from these penalties spent on other projects (improved full efficiency elsewhere in the state?) for "off-site emissions reduction". Who determines what qualifies for "off-site emissions reduction" and who ultimately approves and authorizes the use of the funds. GP-38-10

Schedules

Page 9 states construction "is expected to begin in June 2016". There have been numerous schedules and delays in the project so far. What is this tentative start date based on? Can we get a more detailed GANT or PERT chart of the various steps and process? Specifically, how long will the dirt movement and actual construction take? GP-38-11

Thank you for you consideration of these concerns.

Regards,

Brian and Sharon Self

Response to Comment GP-38

Comment Code	Response
GP-38-1	Your opposition to Alternative B and your support for Alternative C and the No Build Alternative are acknowledged.
GP-38-2	Both Rancho Vista and Saunders Park are properties protected by Section 4(f) of the Department of Transportation Act. Section 4(f) prohibits the Secretary of Transportation from approving a project that uses a Section 4(f) protected property if there is a feasible and prudent alternative to that use. Under Section 4(f) regulations, neither Alternative A nor C can be identified as the Preferred Alternative unless no other build alternative could be shown not to be prudent and feasible. Even with modifications to Alternatives A and C, avoidance of Section 4(f) resources was not possible. The analytical process required by Section 4(f) is addressed in extensive detail in the final environmental document in Appendix B, Section 4(f) Evaluation. The analysis adhered to Caltrans' Standard Environmental Reference, Federal Highway Administration guidance and the regulations of 23 *Code of Federal Regulations* 774, and it has received approval from the Federal Highway Administration following a legal sufficiency review. The Section 4(f) analysis is adequate.
GP-38-3	Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, mandates that federal agencies take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Neighborhood demographics serve as the main criteria for objectively identifying environmental justice communities. More subjective methodologies such as public opinion, do not factor into the analysis. However, Caltrans developed and mailed a neighborhood survey form to about 16,000 residents living within 1,000 feet of each of the build alternatives in 2009 (see Section 3.1.4.1, Community Character and Cohesion, Volume 1) to gauge residents' sense of the Centennial Corridor Project; more than 920 responses were returned. The survey included questions relating to one's perceived quality of life and sense of neighborhood. Information gathered from those surveys was included in the discussion concerning neighborhoods.
GP-38-4	While environmental justice communities were identified to exist in each of the alternatives, with a slightly higher percentage number of people residing within the affected Census tract block groups of Alternatives A and C over Alternative B, the analysis concluded the Centennial Corridor Project would not result in "disproportionately high and adverse" effects on environmental justice communities with any of the project alternatives because of the roughly equivalent distribution of the effects on all communities through which the alignments pass. Because of the way U.S. Census data is collected, and the need to protect the confidentiality of individuals and households, the number of people who may be displaced and who fall within the definition of belonging to environmental justice population cannot be precisely determined. However, while Census Tract 18.01 Block Group 1 is considered an environmental justice community, not all residents would be displaced. Section 3.1.4.3, Environmental Justice, discusses how many residences and businesses would be displaced in this area compared to the rest of each alignment. For Alternative A, about 7.5 percent of this group would be displaced, with only about 1.6 percent displaced by Alternative B, but about 26.6 percent to be displaced by Alternative C. Impacts to an environmental justice community from relocation would be considered to be much greater for Alternative C.

Comment Code	Response
GP-38-5	Caltrans has outlined appropriate mitigation efforts for Valley Fever and air quality, including the use of a chemical stabilizer/suppressant, tarps and vegetative groundcovers, and water during construction. Valley Fever fungal spores can be found throughout the country and it is recognized that temporary soil disturbance during construction grading activities could cause fungal spores (if present) to become airborne, potentially putting residents at risk of contracting Valley Fever, especially children and the elderly. However, there are many preventive and precautionary measures that can be undertaken by individuals to reduce exposure, including the use of dust masks when conducting outdoor activities; seeking prompt medical treatment if flu-like or respiratory illness occurs during or within a few weeks following outdoor activities; and getting a *coccidioidin* skin test to determine susceptibility to the disease. Compliance with Standard Condition SC-CI-21, under the Avoidance, Minimization, and Mitigation Measures in Section 3.6, Construction Impacts, of the final environmental document (Volume 1), would control dust during project construction. As a result, those measures would reduce the potential for Valley Fever exposure during construction of the project. Approximately 525,000 cubic yards of fill dirt will be used between California Avenue and the depressed portion of State Route 58. The borrow site will be identified by the construction contractor. Testing of fill dirt for Valley Fever spores are beyond the requirements under the California Environmental Quality Act and National Environmental Policy Act.
GP-38-6	It is acknowledged that there will be a slight decrease in air quality in your neighborhood where it did not exist previously. However, the air quality study prepared for the Centennial Corridor Project indicates that potential air quality impacts were found to be less than significant and that the project would improve regional air quality due to reduction in congestion on local roadways and vehicle idling. Improvements to air quality are also attributed to the improved pollution emission performance of a modernizing fleet of all vehicles, especially heavy diesel trucks, as a result of Federal and State fuel content and engine emissions rules. In addition, the results of the air quality analysis indicate that the Centennial Corridor Project would be within regional and Federal air quality standards and would not cause or contribute to a violation of any air quality standards. More detailed information on air quality analysis can be found in Section 3.2.6, Air Quality. Current residents living along the State Route 99 between the existing SR-58 and Rosedale Highway would experience a reduction in vehicle emissions due to diverted traffic to the Preferred Alternative B alignment. The concentration of air pollutants within this segment of SR-99 from vehicles would be less intense as a result of the project. To further minimize air quality pollutants within the general area of the Preferred Alternative B alignment, Caltrans has entered into a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District . Through this agreement, targeted improvements will be implemented adjacent to the Preferred Alternative B alignment. See Appendix L, Volume 2, for information on the programs and grants that are offered to local businesses, residents and municipalities that are designed to generate real and quantifiable reductions for the Bakersfield area through this Voluntary Emission Reduction Agreement. With the programs offered to residents near the project alignment, reductions in construction emissions within the project area would be reduced by the following in three years: • Year 1 – 1.9 tons of reactive organic gasses/33.6 tons of nitrous oxides/7.6 tons of particulate matter (PM_{10}). • Year 2 – 1.45 tons of reactive organic gasses/16.5 tons of nitrous oxides/7.3 tons of particulate matter (PM_{10}). • Year 3 – 0.4 tons of reactive organic gasses/2.55 tons of nitrous oxides/0.7 tons of particulate matter (PM_{10}).

Comment Code	Response
	In addition to the Voluntary Emission Reduction Agreement, Caltrans would provide a one-time $200,000 grant to a non-profit organization to give trees to residents along the Preferred Alternative B alignment. Trees will be offered to residents living within 500 feet of either side of the new freeway. If trees are available after the initial offering, they would be offered to residents living within 1,500 feet of the new freeway. Although the trees are supplied through this grant, it is the responsibility of the person(s) accepting the tree(s) to plant and maintain them.
GP-38-7	The analysis contained in the final environmental document concerning property values is based on established Caltrans procedures. For more information regarding Caltrans procedures on property values, please visit http://www.dot.ca.gov/hq/row/rowman/manual/ch10.pdf. Positive and adverse effects of projects have been studied in various states and by the Federal Highway Administration. Primary factors include the property's proximity to the new highway facility. Some of the more common effects that can decrease property values are noise and emissions from traffic. Properties generally increase in value with improved access and mobility. Whether the net effect is positive depends on how close the property is to the transportation facility, the type of land use (e.g., commercial or residential), and the relative changes in accessibility, noise, and air quality. Some businesses could experience an increase in economic activity with improved access, increased capacity from the new State Route 58 freeway facility, and an increase in the number of potential customers. Based on traffic studies, it has been found that the overall reduction in traffic congestion brought about by the Centennial Corridor Project will enhance rather than impair access throughout the project study area. Associated landscaping and refinements in design aesthetics, such as the proposed mitigation for the Centennial Corridor Project, have in other case study examples demonstrated a positive effect on residential property values than without those features incorporated into a project. The potential for loss of value specifically related to construction of the Centennial Corridor Project is addressed in the project Community Impact Assessment, as well as in the final environmental document Section 3.1.4, Community Impacts. The Community Impact Assessment contained additional analysis that is summarized in the final environmental document. Although additional fiscal analyses could be performed, this effort would yield very little new information in terms of either public disclosure or providing information to aid in the selection of a Preferred Alternative. It should be noted, however, the displacement of business properties results in the loss of the property taxes they pay to finance local government activities, loss of sales tax and business tax generated by the businesses, and loss of jobs that are held by local citizens.
GP-38-8	The analysis in the final environmental document considers Stockdale Christian School, Assembly Manor, and First Assembly of God Church within 375 feet of the nearest travel lane. The distance of these buildings to the Alternative B alignment has been revised throughout the document.

Comment Code	Response
GP-38-9	The final environmental document has been revised to indicate that the distance of the Alternative B alignment to Stockdale Christian School and Assembly Manor are within 400 feet of the alignment and are considered sensitive receptors. Micro-scale modeling was conducted for the project and the results are provided in Section 3.1.4.3 under the *Air Quality* sub-section. A total of 10 intersections were analyzed using the micro-scale model. At these intersections, none of the calculated concentrations were above the established Federal or State standards and all have been shown to be about the same in absolute value. Particulate matter emissions were modeled using the current Environmental Protection Agency approved emissions model EMFAC2011. Results of the EMFAC modeling and conformity analysis determined that annual average concentrations of fine particulate matter ($PM_{2.5}$) along the study area corridor would be less than the currently established applicable National Ambient Air Quality Standard. Concentrations of fine particulate matter ($PM_{2.5}$) along the study area corridor would not exceed no-build concentrations and would be in conformity with the State Implementation Plan for achieving the 24-hour fine particulate matter ($PM_{2.5}$) standard.
GP-38-10	The fees associated with construction are required to comply with the San Joaquin Valley Air Pollution Control District Rule 9510. The San Joaquin Valley Air Pollution Control District assumes full control of these fees and uses them throughout the San Joaquin Air Basin to ensure that timely attainment of all air standards are met per Federal guidelines.
GP-38-11	The tentative construction start date is based on the approval of this environmental document, completion of final design plans and right-of-way acquisition. A detailed schedule of earth moving activities and construction will be developed during the construction stage of the project and when a construction contractor has been identified.

Comment GP-39

GP-39

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Topics

Alternatives

why is alt "B" such a favored option when alt "C" is such a no brainer? granted, alt "C" would cost more in the beginning, in the long run it would save some 300 families from the trauma of losing their homes and many many more from having to live in a blighted area which westpark would eventually become if alt "B" goes through as planned. with the stroke of a pen alt "C" could be the plan of choice if caltrans would only push ii. GP-39-1

1

Response to Comment GP-39

Comment Code	Response
GP-39-1	Many state and Federal laws and regulations must be followed to abide by the National Environmental Policy Act and the California Environmental Quality Act. As discussed in Section 2.1.4 in Volume 1, Identification of a Preferred Alternative, three build alternatives, A, B, and C, were identified and evaluated at an equal level of detail in the technical studies and the final environmental document. All three alternatives meet the project purpose and need of providing route continuity for State Route 58. Alternatives A and C both directly affect Section 4(f) resources; therefore, an avoidance alternative must be considered. Alternative B avoids all Section 4(f) resources and is considered prudent and feasible. Even with design plan modifications to Alternatives A and C, it was not possible to completely avoid Section 4(f) resources. Alternative B would have no impacts on Section 4(f) resources; therefore, it remains the only prudent and feasible alternative. Please refer to Table B.3 in Appendix B of Volume 2, Section 4(f), for a breakdown of feasibility analysis for Section 4(f) resources. Alternative A requires the most property acquisitions and would produce the greatest number of displacements, totaling 356 residences and 127 businesses. Alternative C would require fewer residential displacements, but would displace198 business. Although Alternative B may affect more housing displacements compared to Alternative C, it has fewer business displacements compared to the other two alternatives; however, Alternative B has more community impacts because the proposed alignment would bisect the Westpark neighborhood, changing travel patterns within the general area. Alternative C would concentrate most of its residential displacements in two environmental justice communities, with the largest concentration of single-family home displacements in the environmental justice community south of Saunders Park. Comparing the cost of each alternative, Alternative B is the least expensive at $570 million. Alternative A is the most expensive at $691 million, followed by Alternative C at $665.5 million. Additionally, Alternative B has the least impact on jurisdictional waters compared to Alternatives A and C. Please refer to Section 2.1.3, Comparison of Alternatives (Volume 1), for more information about impacts for each build alternative. After comparing and weighing the benefits and impacts of Alternatives A, B, and C, some of which are summarized in Tables S.1 and 2.1 of Volume 1 of this final environmental document, Caltrans has identified Alternative B as the Preferred Alternative. Please see Section 2.1.4, Identification of a Preferred Alternative, in Volume 1 for more information on how the Preferred Alternative is selected.

Comment GP-40

GP-40

Name: Bob Smith

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Topics

Project Design Modifications

I believe the project should make a bicycle connection between Easton Dr and Commerce Way in order to conform with Complete Streets Policy reduce green house gas and improve quality of life in Bakersfield. The connection would tie to a class 1 bicycle path and help complete a more family friendly bicycle network in the City of Bakersfield. GP-40-1

Traffic GP-40-2

A more complete bicycle network will help reduce traffic congestion

Air Quality

a more complete bicycle will improve air quality GP-40-3

Quality of Life / Community Cohesion

The bicycle connection will tie east Bakersfield with all other parts of Bakersfield. GP-40-4

Aesthetics/Landscaping

The left over parcels should be developed as green space in order to provide a public amenity through the neighborhood GP-40-5

1

Response to Comment GP-40

Comment Code	Response
GP-40-1	Caltrans has decided to include a bicycle and pedestrian connection between California Avenue and Commerce Drive as part of Alternative B. This decision was made in response to public requests for a bicycle connection spanning over the Carrier Canal. This improvement would enhance bicycle and pedestrian connectivity and would result in minimal effects to the environment during construction.
GP-40-2	Your comment is acknowledged. It is the goal of the Centennial Corridor Project to improve the quality of life for the Bakersfield community, including reducing traffic.
GP-40-3	Your comment has been noted.
GP-40-4	Your comment is acknowledged.
GP-40-5	The city of Bakersfield will have the first right of refusal for remnant and undeveloped properties proposed as excess right-of-way. Direct sales of excess land to the city shall be for public uses per Caltrans Right-of-Way Manual Section 16.04.05.02. In addition, following construction of the freeway, Caltrans and the city will coordinate to identify possible park uses that could be developed in conjunction with other areas in which Caltrans will maintain easements to the Centennial Corridor freeway for maintenance and other responsibilities. Remnant and vacant parcels will be discussed between Caltrans and the city of Bakersfield during the final design phase when exact right-of-way information is available.

Comment GP-41

GP-41

Name: Leah Pineda

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Topics

Traffic

I think this project will help reduce much of the traffic in our city. GP-41-1

1

Response to Comment GP-41

Comment Code	Response
GP-41-1	Thank you for participating in the environmental process for the Centennial Corridor Project. Your acknowledgement about traffic improvement as a result of project implementation is noted.

Comment GP-42

GP-42

Name: Diane Hamlin

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Topics

Traffic

A continuity of traffic flow is vital to Bakersfield for it's ability to grow. Although this alternative does not make the most sense as far as traffic flow it seems to have the least impact on the community in the long-run. My heart goes out to the people who will be displaced. Thank you for this opportunity to have a say. GP-42-1

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Response to Comment GP-42

Comment Code	Response
GP-42-1	Your acknowledgement about traffic improvement as a result of project implementation is noted. For the properties subject to relocation, Caltrans will follow the provisions listed in the Relocation Assistance Program and comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. The purpose of the Relocation Assistance Program is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably.

Comment GP-43

GP-43

Name: Brad Barbeau

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ZIP: 93301
Email: bbarbeau@commercialdevelopers.com

Submitted By: ,El Torito Building

Topics

Project Design Modifications

We lose access from Easton drive as a way to enter the property from the west. Is it possible to get an access point from Easton (under the freeway) to the El Torito parking lot? Can an opening be made in the wall and under the freeway for pedestrian and vehicle access? Also, could there be a left hand turn from California Avenue directly into the property? The height of the freeway blocks visibility looking at the property from the east. Is it possible to get a location for a pylon sign on the Easton Drive side of the freeway? GP-43-1

Aesthetics/Landscaping

The walls, bridges and unoccupied property to the east of Easton drive create an attractive nuisance to the homeless. GP-43-2

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GP-43

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Topics

Project Design Modifications

I am one of the owners of the El Torito building on California Avenue. There is a proposed drainage basin just north of the El Torito building in the present design. Please move that drainage basin further north away from El Torito. It should be located on the northern most portion of the excess property. GP-43-3

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Response to Comment GP-43

Comment Code	Response
GP-43-1	The project design plans have yet to be finalized. At this stage of the project, limited design is available. Specific details, such as access points, could not be provided until the final design stage. If feasible, the project may include a direct access point to El Torito from Easton Drive. Additionally, a left-hand turn into the El Torito parking lot from California Avenue may be implemented if it is considered feasible and safe to construct. The request for a pylon sign outside of the property requires permission from the property owner of where the proposed sign is to be located. All proposed signs within the city of Bakersfield or Caltrans right-of-way are required to follow local ordinance or specifications and receive permission from these agencies.
GP-43-2	Your concern has been noted. It is highly speculative as to whether the construction of bridges, walls, and unoccupied property would attract transients to occupy an area. It is acknowledged that, like many cities across California, there are homeless and transient people in various locations in Bakersfield, including public places, such as downtown areas or within areas designated as a transportation corridor such as the Centennial Corridor Project. There is no way to restrict access by homeless and transient people to certain areas in Bakersfield. Unless a homeless or transient person is breaking the law or local ordinances, the Bakersfield Police Department cannot physically remove or restrict their access to public areas. To enhance safety and to minimize graffiti and vagrancy problems associated with vacant buildings, a strategy for handling the acquired properties would be developed to include the following options: (1) rent the homes and businesses on a month-to-month basis to keep them occupied as long as possible in advance of demolition; or (2) demolish each building as soon as feasible after acquisition. This latter option would result in vacant lots interspersed in business areas and neighborhoods. With either option, proper management of acquired property is a key consideration. All property acquisitions for the project would comply with the provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. A summary of relocation benefits is also provided in Appendix D of the final environmental document, Volume 2.
GP-43-3	At this current stage of the project, minimal design has been prepared and project design may change during the next phase. If moving the drainage basin is feasible and would not result in additional environmental impacts, Caltrans may consider relocating the drainage basin farther away from the restaurant. The Centennial Corridor Project team would coordinate with affected businesses during the final design phase of the project to determine whether requests for specific design changes are feasible to implement.

Comment GP-44

GP-44

Name: Bonnie Doyle

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Topics

Property Acquisition / Relocation

My question is: MELLO-ROOS TAX If I find a house in the area that has this tax, will I be subject to that tax? Am I subject to any increases in annual tax renewals, or interest charges due to this tax? Can my relocation package be implemented into this tax as my income will not increase? I am retired. I feel that this Mello-Roos tax is keeping me out of the neighborhood I have picked out. Is this a case of just because my income isn't what someone else can pay every year, and can increase, I am being discriminated against just for this.. I am paying for roads, schools, law enforcement, etc. I am a tax paying citizen. I can buy this house with my income as it stands. This tax is keeping me from having the home I have picked out? GP-44-1

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Response to Comment GP-44

Comment Code	Response
GP-44-1	Mello-Roos taxes on new properties purchased by displaced real property owners are beyond the purview of this final environmental document. In most cases, if a Mello-Roos Community Facilities District exists, as approved by 2/3 of voters within the district, applicable Mello-Roos special taxes would be levied as part of the annual property tax bill for all properties located within the Community Facilities District. It is noted that special taxes and assessments, such as Mello-Roos taxes, are secured by a lien against the specific property. Until the bonds issued by the district are paid off, whoever owns the property must pay for this debt, because the tax is already attached to it. In the case of Mello-Roos districts, sellers are now legally required to provide the buyer with a Notice of Special Tax. Specifically, California Civil Code Section 1102.6 requires sellers to make a good faith effort to give property buyers a "Notice of Special Tax" if the property is in a Mello-Roos district. As a result, it is anticipated that this would be beneficial for buyers when considering a home's tax burden and determining the total cost of the home. It is noted that Section 2(d) of Article XIII-A of the California Constitution and Section 68, Rule 462.5 of the Revenue and Taxation Code generally provide that property tax relief shall be granted to any real property owner who acquires comparable replacement property after having been displaced by governmental acquisition or eminent domain proceedings. As discussed in Section 3.1.4.2, Relocation and Property Acquisition, per Standard Condition SC-R-1, Caltrans, in coordination with the city of Bakersfield, shall implement all property acquisition and relocation activities in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act) of 1970 (Public Law 91-646, 84 Stat. 1894). The Uniform Act mandates that certain relocation services and payments be made available to eligible residents, businesses, and nonprofit organizations displaced by the project. The Uniform Act provides uniform and equitable treatment by Federal or Federally assisted programs of persons displaced from their homes, businesses, or farms, and establishes uniform and equitable land acquisition policies. See Appendix D in Volume 2 for more information on Caltrans' Relocation Assistance Program. Additionally, Mitigation Measure R-1 includes measures that may be considered by Caltrans for incorporation into the relocation plan to minimize impacts to displaced businesses and residents. Right-of-way impacts are discussed in more detail in Section 3.1.4.2, Relocation and Property Acquisition, in Volume 1 of this final environmental document. Right-of-way acquisition will not be finalized until the final design phase. All potential acquisitions are subject to change during final design. Caltrans offers brochures explaining the acquisition process for renters, property owners, and businesses. The Right-of-Way Manual can be found on the Caltrans web site: http://www.dot.ca.gov/hq/row/.

Comment GP-45

GP-45

Name: Cindy Parra

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Topics

Quality of Life / Community Cohesion

It is important that a connection be made to the Kern River Bike Path across the Carrier Canal from north to south along the corridor alignment. This connection will open up neighborhoods and businesses to the south that would have to travel a further distance along busy arterials. A recommended bicycle friendly route already exists through the Garnsey neighborhood and making the connection from there across the Carrier Canal to give access to the bike path will help promote a better quality of life. GP-45-1

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Response to Comment GP-45

Comment Code	Response
GP-45-1	Your comment has been noted. Caltrans recognizes the positive effects of nonmotorized transportation, such as bicycles, on the environment and the community. By providing a bicycle connection within the Centennial Corridor Project area, it is possible that an improved bicycle connection to an existing Class I and Class II bicycle facility could increase bicycle usage. Caltrans has decided to include a bicycle and pedestrian connection between California Avenue and Commerce Drive as part of the project. This decision was made in response to public requests for a bicycle connection spanning over the Carrier Canal. This improvement would enhance bicycle and pedestrian connectivity and would result in minimal effects to the environment during construction. The bicycle and pedestrian connection will provide access to the Garnsey neighborhood about a half mile north with an access point located on Easton Drive and California Avenue.

Comment GP-46

GP-46

Name: Robert Braley

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Topics

Project Design Modifications

Cul de sac at La Mirada GP-46-1

Other

Traffic west of city cannot be justified by the expense. Please explain how 490 total vehicles (Kern Cog Figure, 2011) at 58 and Tracy Ave justify this type of expense. GP-46-2

1

GP-46

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Topics

Other

How much money is available from Thomas funds for this project? How much is design going to cost? Acquisition? Construction? Please, break down into three categories. This should be total values. Total Tomas funds. GP-46-3

Response to Comment GP-46

Comment Code	Response
GP-46-1	Your support for the La Mirada cul-de-sac option has been noted. As described in the final environmental document (Volume 1), the Preferred Alternative B includes an overcrossing at La Mirada Drive to help traffic circulation and maintain connectivity to other neighborhoods across the proposed Alternative B alignment. An overcrossing at La Miranda Drive would help maintain circulation between neighborhoods that would otherwise be cut off. Caltrans has analyzed the benefits associated with minimizing impacts on the remaining neighborhood, costs, and internal circulation needs.
GP-46-2	The daily traffic volume on State Route 58 immediately to the east of Tracy Avenue is approximately 7,000 vehicles per day, of which approximately 850 vehicles are heavy trucks having five or more axles. The Centennial Corridor Project addresses many needs, one of which is to accommodate traffic volumes traveling to and from Interstate 5. The design year (2038) forecast of traffic on the Centennial Corridor, to the west of State Route 99, is 121,375 vehicles per weekday, for Alternative B. Future traffic volumes indicate the need to widen an east-west roadway to connect to Interstate 5. The Centennial Corridor Project construction widening limits terminate at Heath Road and would provide intersection improvements only at Stockdale Highway/State Route 43 (known locally as Enos Lane). This project will not widen Stockdale Highway west of Allen Road to connect to Interstate 5. The timing for construction of Stockdale Highway (Segment 3) is unknown, but it would not occur until there is sufficient funding and greater traffic demand on those portions of the highway. If the need to widen Stockdale Highway at this location in the future is identified, then a separate project would be developed.
GP-46-3	As discussed in Chapter 2 of the final environmental document, the escalated 2016/17 fiscal year cost of Alternative B is estimated at $570 million, with $390 million for construction and support costs (including final design), and $180 million for right-of-way costs. Furthermore, in terms of cost-benefit analysis and savings in travel time over the 20-year (2018-2038) study period for Alternative B compared to the No Build Alternative, the resulting savings is estimated at approximately $794 million. Funding for the project comes from multiple sources, including the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, Federal legislation signed into law on August 10, 2005. The following funding sources have been identified: • Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users Section 1301 = $90.44 million • Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users Section 1302 = $289.2 million • Other Federal sources = $12.97 million • State = $53 million • Kern County bond = $57.5 million • City of Bakersfield = $206.89 million

Comment GP-47

GP-47

Name: Jay Gauthier

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Topics

Project Design Modifications

Please Re-Think an Off-Ramp at Stockdale Hwy. The traffic at Ming is already a mess. Real Rd from both directions from California Ave or Ming will Not be able to manage the New Increases in Traffic. The many business as well as a main entry to CSUB will be Highly Impacted.Plus, the Ramp is already there and can be modified as a small % o overall cost. GP-47-1

Safety

Keep Stockdale off-ramp. Real Rd will become a dangerous road. GP-47-2

Aesthetics/Landscaping

Do it Right, do it Fair, compared to other California Cities. Our Freeways are a Reflection of our City, as in Most other cities. Minimize the Plain Concrete center dividers, add stamped & Green to the mix to Represent our Valley. Think Valencia,Paso Robles,just as Hot, or The NEW 210 Frwy SECTION,Ivy on walls, low water maintenance plants in the ground. Help change our Perception. Painted Chain Link (Blk or Grn) (I'm thinking 99,and east 58) The New freeway is very nice, but for center dividers, Grow some Ivy! GP-47-3

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Response to Comment GP-47

Comment Code	Response
GP-47-1	Your concern regarding the loss of direct freeway access to Stockdale Highway via the southbound State Route 99 Stockdale Highway off-ramp is acknowledged. Based on traffic studies, it has been found that the overall reduction in traffic congestion brought about by the Centennial Corridor Project will enhance rather than impair access throughout the project study area, and it will result in better overall design. The existing Stockdale Highway off-ramp is a partial interchange providing access to State Route 99 in only the southbound direction. This ramp does not meet Caltrans acceptable design standards. Caltrans' Highway Design Manual does not allow for local street ramps located within a mile of a freeway-to-freeway interchange (Caltrans' Highway Design Manual, Section 502.2). These ramps have proven to be a safety concern in past freeway designs because of the potential for wrong-way movements. The existing Wible Road on-/off-ramps to northbound State Route 99 and the Real Road on-ramp to southbound State Route 99 will also be closed due to the changed geometry of the highway improvements that are part of the proposed project. These ramps present undesirable safety issues resulting from insufficient acceleration and deceleration lengths, tight curve radius on the on- and off-ramps, inadequate sight distances around the curves, and insufficient storage length for future on-ramp metering. Depending on the destination, the changes in travel patterns due to closure of these ramps would increase travel distances, but result in only slight increases in travel time. Studies concluded this increase in travel time would be less than significant, taking into account the overall reductions in regional traffic congestion brought about by the project. Regarding access to Cal State University, Bakersfield, given the existence of the Westside Parkway, it is anticipated that residents would choose a different route to the university other than exiting State Route 99 to Stockdale Highway. In approaching from anywhere east of State Route 99, motorists could stay on State Route 58/Centennial Connector/Westside Parkway and exit at Coffee Road or Calloway Drive. West of State Route 99, motorists could drive to Coffee Road or Calloway Drive along an east-west arterial, and then use Coffee Road or Calloway Drive to get to the university, avoiding State Route 99 altogether. From the north, motorists could drive south on State Route 99, exit at Rosedale Highway, drive to Mohawk Street, and cut over to Coffee Road or Calloway Drive using the Westside Parkway. Along State Route 178, motorists could take State Route 178 to Downtown Bakersfield, use 24th Street to Oak Street, take Oak Street to Truxtun Avenue, and take the Truxtun Avenue extension to the Westside Parkway, exiting at Coffee Road or Calloway Drive.
GP-47-2	The design of the project would improve operations and enhance safety for all modes of traffic. Sidewalks and crosswalks would also be provided at all intersections to facilitate the movement of nonmotorized and pedestrian traffic in the project area. Accordingly, the project would result in safety benefits associated with considerably less congestion on local streets and State Route 99. It is noted Real Road is lightly used except when it runs into the bottleneck at Stockdale Highway. The Centennial Corridor Traffic Study examined the intersection at Stockdale Highway and Real Road, which was experiencing level of service F in 2008. The traffic study examines existing, opening year (2018), and design year (2038) traffic conditions. By 2038, traffic volumes passing through this intersection (identified as intersection #51 in the Traffic Study report) under "No Build" conditions will increase to 11,260 vehicles for the two peak hours, AM and PM combined, an increase of 56 percent. Under the No Build Alternative, the intersection would result in further safety problems due to the increase in congestion. In order to address this increase in traffic, Stockdale Highway will be widened to six through lanes, compared to the four through lanes that currently exist at Stockdale Highway's intersection with Real Road. The widening will allow for better traffic flow

Comment Code	Response
	and a decrease in congestion as the build conditions will attract vehicles away from the surface arterial streets. In conjunction with the elimination of the Stockdale off-ramp, traffic volumes will be less on Stockdale Highway and Real Road compared with the no-build conditions; the reduction in congestion would enhance safety for all motorists. The average delay per vehicle data can be found in the Executive Summary on page 27 and in the main body of the Traffic Study technical report on page 45 (Table 2-5) for existing, page 189 (Table 4-14) for future No Build, and page 243 (Table 4-28) for Build Alternative B. The intersection turning movement volumes passing through intersection #51 can be found in Figure 2-14 on page 41. Year 2038 peak-hour intersection traffic volumes for the No Build Alternative are reported on page 95 in Figure 3-8 and in Figure 3-18 on page 123 for Alternative B.
GP-47-3	The overall Centennial Corridor aesthetic design theme is intended to be compatible with surrounding neighborhoods and in keeping with the overall Westside Parkway design theme, to the extent feasible, including landscaping, sound walls, bridge treatments, and lighting fixtures. By designing aesthetic treatments to be consistent with the Westside Parkway, this would provide a cohesive visual character to the highway corridor. Furthermore, landscaping would be implemented upon completion of construction. Plant material would consist of native, drought-tolerant, and self-sustaining species. Any proposed plant material shall be approved by the District Landscape Architect and would not include any invasive species. With similar aesthetic treatment, no visual contrast along the corridor would be seen.

Comment GP-48

GP-48

Name: Jason Cater

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Topics

Project Design Modifications

Please provide a connection for bicyclists between Easton Drive and Commerce Way across the canal that cuts in between the business areas that these roads service. A bicycle connection here will provide a safe, family friendly connection for residents along the south side of California Avenue to the Kern River Parkway Trail. Also the connection will provide a quality route for those who work in the areas surrounding Easton Drive and are interested but concerned about biking to work to bike to their workplace from the Kern River Parkway Trail with a safe and efficient route. GP-48-1

Traffic

By filling in this spot gap in the bicycle network you will improve connectivity for bicyclists in the area. This will in turn generate more bicycle trips being made to/from the area and reduce vehicle trips. GP-48-2

Air Quality

By increasing bike trips and reducing automobile trips you will reduce air pollution. GP-48-3

Quality of Life / Community Cohesion

Biking is a great way to improve a community's quality of life. Additionally reducing vehicle traffic will reduce the pollution in our air. GP-48-4

Safety

By building this connection you will create a safer route for local bicyclists to access/leave the area. GP-48-5

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Response to Comment GP-48

Comment Code	Response
GP-48-1	Caltrans recognizes the positive effects of nonmotorized transportation, such as bicycles, on the environment. By providing a bicycle connection within the Centennial Corridor Project area, it is possible that an improved bicycle connection to an existing Class I and Class II bicycle facility could increase bicycle usage. Caltrans has decided to include a bicycle and pedestrian connection between California Avenue and Commerce Drive as part of the project. This decision was made in response to public requests for a bicycle connection spanning over the Carrier Canal. This improvement would enhance bicycle and pedestrian connectivity and would result in minimal effects to the environment during construction.
GP-48-2	Your comment has been noted. It is the goal of the Centennial Corridor Project to improve quality of life for the Bakersfield community, including reducing traffic.
GP-48-3	Your comment is acknowledged.
GP-48-4	Your comment has been noted.
GP-48-5	Your comment is acknowledged. Caltrans thanks you for participating in the environmental process for the Centennial Corridor Project.

Comment GP-49

GP-49

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Topics

Project Design Modifications

While I am in support of Centennial Corridor project and the multi-agency effort to alleviate traffic, decrease commute times, and improve air quality in the southern San Joaquin valley, I question the overall design of the project as it relates to connectivity with existing freeways (California Route 99). If the goal of Centennial Corridor project is to improve metro Bakersfield connectivity and move vehicle traffic off surface streets and to new highway projects, why is there no plans to fully connect the major North/South freeway with the new East/West freeway? Based on current designs, to transition to West-bound Centennial Corridor from South-bound 99, motorist would need to exit at Rosedale Hwy...travel several miles on heavily congested road...to Mohawk, then reconnect with westside parkway. By my count there are 6 traffic signals and one railroad crossing along this route. Same travel issue with East-bound travel to North-bound 99? A true 'cloverleaf' interchange seems to be missing from the design. Hwy 99, the major North/South route through metro Bakersfield, and the new project connecting the westside parkway with 58 (a major East/West route), allowing multi-directional transition of traffic from all directions seems logical. Without connectors, motorist would exit onto surface streets then reenter the desired freeways at different point. This seems to be counter to what TRIP and Caltrans envisioned in its collective goal to improve metro-Bakersfield mobility. Examples include 99/80B/50 in Sacramento and 168/41/180 in Fresno. Even 99 south allows for transition to 180 west in Fresno (180 only spans metro-Fresno whereas 58 is a vital east/west inter-state route via I-40). To have two major California freeway routes intersect but not allowing for directional transitions seems to defeat the purpose of building a new freeway. If a traveler has to exit one highway, travel on surface streets to reenter a second freeway when the two cross paths, why build at all? GP-49-1

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Response to Comment GP-49

Comment Code	Response
GP-49-1	A southbound State Route 99 to westbound State Route 58 direct connector will not be constructed as part of the Centennial Corridor Project; none of the build alternatives analyzed provide direct connector ramps from southbound State Route 99 to westbound State Route 58 because of the low southbound-to-westbound traffic volumes for existing and projected future traffic forecasts. A deficiency in traffic operations for either current or future conditions is required to substantiate the need for a southbound State Route 99 to westbound State Route 58 direct connector. If future traffic volumes necessitate construction of this direct connector, a separate project that would allow for the integration of a southbound State Route 99 to westbound State Route 58 direct connector would be initiated by Caltrans. Caltrans acknowledges commuters along southbound State Route 99 would have to use local surface streets to connect to westbound State Route 58. Access to westbound State Route 58 from State Route 99 is provided on the State Route 99 interchange with existing Rosedale Highway, connecting to the Westside Parkway via Mohawk Street. Caltrans is improving the State Route 99/Rosedale Highway interchange by providing additional turn lanes at the southbound off-ramp, which will enhance the turning capacity from the current one left-turn plus one shared left- and right-turn lane configuration to two left-turn lanes and two free-right-turn lanes. As part of a separate project, Caltrans will widen Rosedale Highway from two lanes in each direction to three lanes in each direction from west of Gibson Street to Mohawk Street and beyond. Rosedale Highway will be constructed with or without the Centennial Corridor Project. Although the project is not providing a southbound State Route 99 to westbound State Route 58 direct connector because of the low traffic demand for this direction of travel, the Centennial Corridor Project meets the purpose and need by providing route continuity and associated traffic congestion relief along State Route 58 within metropolitan Bakersfield and Kern County from the existing State Route 58 (East) (at Cottonwood Road) to Interstate 5. An eastbound State Route 58 to northbound State Route 99 connector is also not included as a project feature due to the low traffic volumes for the eastbound to northbound movement. It is anticipated that vehicles traveling east on State Route 58 would take the Mohawk Street exit and travel via Rosedale Highway to the Rosedale Highway/State Route 99 interchange for northbound travel. If traffic demand necessitates construction of this connector, Caltrans will initiate a future stand alone project. The project would be designed to allow for the eastbound-to-northbound connector to be added in the future.

Comment GP-50

GP-50

Thank you for your comment on the Centennial Corridor Project. Your comment has been received.

Name: mike P

Address: 127 stock dale hwy
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ZIP:
Email:

Topics

Noise

What will the landscape look like ?	GP-50-1 West side parkway is ugly	GP-50-2 How many trees will be planted and what type	GP-50-3

1

Response to Comment GP-50

Comment Code	Response
GP-50-1	The overall Centennial Corridor aesthetic design theme shall be compatible with surrounding neighborhoods and in keeping with the overall Westside Parkway design theme, to the extent feasible, including landscaping, sound walls, bridge treatments, and lighting fixtures. By designing aesthetic treatments to be consistent with the Westside Parkway, a cohesive visual character will be created.
GP-50-2	Your comment has been noted.
GP-50-3	An exact number of trees to be planted could not be quantified because of the limited design plans available during the environmental phase of the project. The number and type of trees to be planted depend on the mitigation requirements of the project and the landscape plan that would be developed during the final design phase of the project. However, the Centennial Corridor Project will fund a $200,000 grant to be provided to a non-profit organization, who will administer the voluntary tree planting program in order to plant as many trees as possible within 1,500 feet of the project until funds have been exhausted. The voluntary tree-planting program would allow property owners to have this air quality mitigation on their property if they are willing to take responsibility for watering and care of the tree(s). The estimate of $200,000 is based on the commercial-nursery cost of providing one 24-inch boxed tree for each property within 500 feet of the freeway. Trees would be planted within private properties on a voluntary basis, with the highest priority of tree plantings to environmental justice communities within1,000 feet of the Preferred Alternative B alignment, and secondly, properties within 500 feet of each side of the Alternative B alignment. If trees are available after the primary and secondary targeted areas, property owners within 1,500 feet of each side of the alignment would be given an opportunity for tree plantings. If trees are still available, they may be planted at other locations in consultation with and approved by the city of Bakersfield. To construct the project, it will be necessary to remove trees. Caltrans intends to preserve as many mature trees as feasible. A tree survey will be completed during the final design phase of the project that would identify locations of existing mature trees (larger than 20 feet high). Caltrans would identify trees within the project area that could be preserved and provide fencing in the design plans to protect them. If a tree could not be preserved, the landscape plan will incorporate a tree replacement plan with a replacement ratio of 1:1—for every tree removed, a tree will be planted. Mature trees that are to be removed shall be replaced using 20-inch box trees. When the number of trees to be removed has been identified, an exact number and type of plantings could be provided, which will be included in the landscape plans during final design.

Comment GP-51

GP-51

Name: Brian Holle

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Topics

Project Design Modifications

I used to think this was needed until I heard that the design eliminates all access points to all freeways at the 99/58 interchange. Residents in 2 mile radius area will have to go miles out of their way on surface streets to access a freeway that they have used to have easy access to. THIS IS NOT PROGRESS! Any design should IMPROVE access and traffic flow, not INCREASE CONGESTION! (Don't tell me it will improve traffic flow) Furthermore, it is my understanding there will be no access from 99 to 58/58 to 99 which is insane. This looks to be a colossal blunder that will leave everyone wishing they had the old freeway system back, and the bulldozing of homes and businesses for this inept and grossly deficient design is unconscionable. NO BUILD OR SEND IT BACK TO THE DRAWING BOARD! GP-51-1

Traffic

Design will increase commuter and cross town traffic on surface streets being used to drive out of way to access freeway. GP-51-2

Noise

Residents near bulldozed homes will have to deal with noise from a freeway that they don't even have access to GP-51-3

Air Quality

Can you imagine living between these freeways in what is already one of the most polluted cities in the nation? GP-51-4

Quality of Life / Community Cohesion

Once again, a neighborhood gets split and deals with the negative impact of a freeway that they don't even get access to. At least if they had access, they could make efficient, smooth commutes and trips across town. GP-51-5

Property Acquisition / Relocation

GP-51-6

1

GP-51

This is never pleasant, but if sacrificies are made with people forced from their homes, it should be worthwhile and not leave congestion, noise and gridlock for the people left behind. GP-51-6

Property Values

This will decrease property values for everyone within a 1.5 mile radius of ground zero of this project. I don't care what kind of "studies" are done, when people see this inept design, it will decrease demand. GP-51-7

Alternatives

I don't think valid alternatives were truly explored. Too many topics to list here, but there are some valid alternative locations that were not considered. For example, add a lane to existing 99 and leaving interchange at 99/58 intact with a reconfiguration of California Avenue exit to include a viaduct over or under the railroad would have been a better alternative. Spared the park, spared the neighborhood, preserved and enhanced access, improved traffic flow... GP-51-8

2

Response to Comment GP-51

Comment Code	Response
GP-51-1	Your support for the No Build Alternative is acknowledged. The design of the Centennial Corridor will not eliminate all access points to State Route 99 and State Route 58. The Centennial Corridor Project will remove the State Route 58 connector to southbound State Route 99 and eastbound State Route 58 at Real Road. However, access to State Route 99 and State Route 58 will remain the same to the north, east, and south of the interchange. In addition, the Centennial Corridor Project is proposing to construct connectors linking State Route 58 and State Route 99 for the following movements: westbound State Route 58 to northbound State Route 99, southbound State Route 99 to eastbound State Route 58, northbound State Route 99 to eastbound State Route 58 and eastbound State Route 58 to southbound State Route 99. The Centennial Corridor Project would remove a section of State Route 58 from State Route 99, so State Route 58 traffic would be rerouted to help relieve congestion on State Route 99. However, the project is not providing a southbound State Route 99 to westbound State Route 58 or an eastbound State Route 58 to northbound State Route 99 connector for the reasons described below. A southbound State Route 99 to westbound State Route 58 direct connector will not be constructed as part of the Centennial Corridor Project; all of the build alternatives analyzed do not provide direct connector ramps from southbound State Route 99 to westbound State Route 58 because of the low southbound-to-westbound traffic volumes for existing and projected future traffic forecasts. A deficiency in traffic operations for either current or future conditions is required to substantiate the need for a southbound State Route 99 to westbound State Route 58 direct connector. However, preliminary plans for all of the alternatives allow for the integration of a southbound State Route 99 to westbound State Route 58 direct connector ramp to be constructed at a future date when the need for this direct connector has been identified. If future traffic volumes necessitate construction of this direct connector, a separate project would be initiated by Caltrans. Caltrans acknowledges commuters along southbound State Route 99 would have to use local surface streets to connect to westbound State Route 58. Access to westbound State Route 58 from State Route 99 is provided on the State Route 99 interchange with existing Rosedale Highway, connecting to the Westside Parkway via Mohawk Street. Caltrans is improving the State Route 99/Rosedale Highway interchange by providing additional turn lanes at the southbound off-ramp, which will enhance the turning capacity from the current one left-turn plus one shared left- and right-turn lane configuration to two left-turn lanes and two free-right-turn lanes. As part of a separate project, Rosedale Highway will be widened from two lanes in each direction to three lanes in each direction from west of Gibson Street to Mohawk Street and beyond. Rosedale Highway will be constructed with or without the Centennial Corridor Project. Although the project is not providing a southbound State Route 99 to westbound State Route 58 direct connector because of the low traffic demand for this direction of travel, the Centennial Corridor Project meets the purpose and need of the project by providing route continuity and associated traffic congestion relief along State Route 58 within metropolitan Bakersfield and Kern County from the existing State Route 58 (East) (at Cottonwood Road) to Interstate 5. An eastbound State Route 58 to northbound State Route 99 connector is also not included as a project feature due to the low traffic volumes for the eastbound to northbound movement. It is anticipated that vehicles traveling east on State Route 58 would take the Mohawk Street exit and travel via Rosedale Highway to the Rosedale Highway/State Route 99 interchange for northbound travel. If traffic demand necessitates construction of this connector, Caltrans will initiate a future stand alone project. The project would be designed to allow for the eastbound-to-northbound connector to be added in the future.

Comment Code	Response
GP-51-2	As discussed in Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, the traffic study showed the build alternatives would provide better traffic flow for all vehicles due to direct route continuity compared to both the existing condition and the No Build Alternative in the future years. Furthermore, the additional capacity provided by the build alternatives compared to the No Build Alternative would also help reduce congestion on adjacent local roadways because traffic is expected to shift to the freeway.
GP-51-3	The potential short- and long-term noise effects of the project and measures to address those effects are detailed in Section 3.2.7, Noise, of the final environmental document (Volume 1). Results of the traffic noise analysis for each build alternative indicate traffic noise would generally increase as a result of the build alternatives. Sound walls are proposed to reduce the traffic noise at the residential areas adjacent to the freeway. No traffic noise increase is anticipated at 226 Cypress Street, due to the distance to State Route 99 and the new portion of the roadway.
GP-51-4	The Air Quality Study Report conducted for this project concludes that air quality impacts would be less than significant. There will be minimization measures implemented in this project to ensure adequate air quality levels during project construction and after project completion. Please refer to Section 3.2.6, Air Quality, of the final environmental document (Volume 1) for information on specific mitigation techniques and healthy air quality levels. *Air Quality Effects during Construction* It is acknowledged that construction of the project has the potential to create air quality impacts through the use of heavy-duty construction equipment. Fugitive dust emissions would result from earthwork and onsite construction activities. Reductions in fugitive dust can be achieved by onsite mitigation measures. Compliance with the standard conditions SC-CI-20 through SC-CI-22 listed under Avoidance, Minimization, and Mitigation Measures – Air Quality, Standard Conditions (refer to Section 3.6, Construction Impacts), would reduce construction emissions. Some of these measures to control dust include using water or chemical stabilizer/suppressant, covering disturbed areas with tarps, and limiting speeds in unpaved areas. Air emissions associated with construction activity would be temporary and would cease to occur after project construction is completed. *Permanent Air Quality Effects* The air quality study prepared for the Centennial Corridor Project indicates that potential air quality impacts were found to be less than significant and that the project would improve regional air quality due to reduction in congestion on local roadways and vehicle idling. Improvements to air quality are also attributed to the improved pollution emission performance of a modernizing fleet of all vehicles, especially heavy diesel trucks, as a result of Federal and State fuel content and engine emissions rules. In addition, the results of the air quality analysis indicate that the Centennial Corridor Project would be within regional and Federal air quality standards and would not cause or contribute to a violation of any air quality standards. To further minimize air quality pollutants within the general area of the project, Caltrans has entered into a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District. Through this agreement, targeted air quality improvements will be implemented within the general area along the Preferred Alternative B alignment. More detailed information on air quality analysis can be found in Section 3.2.6, Air Quality. For more information on the Voluntary Emission Reduction Agreement, please see Appendix L, Volume 2 of this final environmental document.
GP-51-5	It is acknowledged substantial neighborhood disruption would occur as a result of implementing Alternative B, including business and residential displacements; permanent street closures; higher exposure to vehicle noise; and division of the existing Westpark neighborhood. Between Ford Avenue and California Avenue, the alignment would be generally depressed, with overcrossings proposed at

Comment Code	Response
	Marella Way and La Mirada Drive to help with local traffic circulation and provide access across the proposed freeway from areas formerly served by other nearby streets. In addition, Marella Way would be designated as a bikeway to replace an existing bikeway on Montclair Street that would be closed by the project. An undercrossing at Ford Avenue was also considered, and Caltrans has decided to implement the crossing. The Ford Avenue undercrossing would maintain the connection of Ford Avenue between Stine Road and McDonald Way. Changes to several local residential streets would be required as part of construction of the new freeway, resulting in street closures; however, local access and circulation would be maintained for residents adjacent to the Alternative B alignment. Within a 2-mile area of the Westpark neighborhood, access to the freeway is provided at three locations: California Avenue, Mohawk Street, and Ming Avenue.
GP-51-6	Based on the preliminary design, right-of-way and construction easements required to build the project would necessitate partial and full acquisitions of many parcels. At times, the property acquisition process would result in some properties being acquired, while neighboring properties remain in place. Alternative B would fully acquire 293 properties and partially acquire 129 properties. Of these, 215 of the full acquisitions would be residential parcels, and 34 of the partial acquisitions would be residential parcels. Please refer to Response to Comments GP-51-2 and GP-51-3 for discussions on congestion and noise. As discussed in Section 3.1.4.2, Relocation and Property Acquisition, per Standard Condition SC-R-1, Caltrans, in coordination with the city of Bakersfield, shall implement all property acquisition and relocation activities in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act) of 1970 (Public Law 91-646, 84 Stat. 1894). The Uniform Act mandates that certain relocation services and payments be made available to eligible residents, businesses, and nonprofit organizations displaced by the project. The Uniform Act provides uniform and equitable treatment by Federal or Federally assisted programs of persons displaced from their homes, businesses, or farms, and establishes uniform and equitable land acquisition policies. See Appendix D in Volume 2 for more information on Caltrans' Relocation Assistance Program. Additionally, Mitigation Measure R-1 (Section 3.1.4.2) includes measures that may be considered by Caltrans for incorporation into the relocation plan to minimize impacts to displaced businesses and residences. Accordingly, acquisitions would be conducted as necessary to build the approved project, and displaced residents would be provided just compensation in accordance with the Uniform Act. Right-of-way acquisition will not be finalized until the final design phase. All potential acquisitions are subject to change during final design. Caltrans offers brochures that explain the acquisition process for renters, property owners, and businesses. The Right-of-Way Manual can be found on the Caltrans web site: http://www.dot.ca.gov/hq/row/.
GP-51-7	It has been expressed in some of the comments received from the public that the project would result in decreased property values due to temporary construction impacts, permanent construction impacts, and property acquisitions. The final environmental document does not specifically discuss property values as part of the analysis. Real estate market prices are mainly based on comparative sales in the area. Many factors contribute to market values, including location, neighborhood, current real estate sales in the area, school system, crime, taxes, government services, parks/recreation, and features of the home. The Centennial Corridor Project may or may not have an effect on the property values. Past research using case studies on the effects of introducing new highway facilities near residential properties indicates that over the duration of a longer time period, property values will rise after an initial period of downward movement.

GP-51-8	As part of the initial scoping process for the Centennial Corridor Project, Caltrans considered a wide range of alternatives. Six build alternatives were developed by Caltrans and introduced at a public information meeting in March 2008. In addition, alternatives suggested by the public and alternatives from previous studies (the *Bakersfield Systems Study* [2002] and the *Final Route 58 Route Adoption Project, A Tier I Environmental Impact Statement/Environmental Impact Report* [2001]) were also evaluated as part of the initial screening. Even though the earlier studies rejected some of these alternatives, Caltrans determined they should be subject to the initial screening criteria as potential alternatives for the Centennial Corridor Project. Nineteen (19) alternatives were reviewed as part of the initial screening process. Eighteen (18) of these alternatives proposed construction of new roadway alignments (see Figure 2-7 provided in Volume 2), and 1 alternative proposed the Transportation Systems Management/Transportation Demand Management/Transit Alternative (Alternative M). The initial screening process done in 2008 determined that Alternatives A, B, C, and D, the No Build Alternative, and Alternative M warranted further study. These alternatives all received further analysis and additional screening. If an alternative does not achieve the intended purpose established for the project, it does not make sense to continue spending resources evaluating it, so it is eliminated from further consideration. Another factor in screening alternatives was the cost. An alternative was eliminated if the cost substantially exceeded the available funding. Alternatives D and M were eliminated after further screening because they did not meet the intended purpose and exceeded the cost. As discussed in Section 2.1.4, Identification of a Preferred Alternative, as part of the screening process, three build alternatives, A, B, and C, were identified and evaluated at an equal level of detail in the technical studies and the final environmental document. All three alternatives meet the project purpose and need of providing route continuity for State Route 58. Section 4(f) evaluations for each of the build alternatives were critical for determining the Preferred Alternative, among other things. Section 4(f) requires consideration of impacts on parkland and historic properties. Alternative B is the feasible and prudent alternative because it avoids impacts to Section 4(f) resources. Alternative A would impact the Kern River Parkway and the Rancho Vista Historic District, while Alternative C would have direct impacts to Saunders Park, a Section 4(f) property in an environmental justice community. Even with design modifications to Alternatives A and C, Section 4(f) resources could not be avoided; therefore, they could not be determined to be the Preferred Alternative. Alternative B has no impacts to Section 4(f) resources. Please refer to Table B.3 in Appendix B of Volume 2, Section 4(f), for a breakdown of feasibility analysis. In addition to having no impacts to Section 4(f) resources, Alternative B has the least impact on jurisdictional waters. The cost of Alternative B is also the lowest, costing about $100 million less than the other two build alternatives. Therefore, after comparing and weighing the benefits and impacts of Alternatives A, B, and C, some of which are summarized in Tables S.1 and 2.1 of Volume 1 this final environmental document, Caltrans has identified Alternative B as the Preferred Alternative. For more information about the selection process, please see Section 2.1.4, Identification of Preferred Alternative, in Volume 1. The alternative suggested is very similar to Alternative C and Section 4(f) Avoidance Alternatives: East Avoidance Realignment and Construct State Route-58 in Median of State Route 99 (see Appendix B, Section 4(f) Evaluation, Section 6.0). These three alternatives propose to add additional lanes adjacent to State Route 99 and provide a viaduct over California Avenue. Alternative C proposes additional lanes to the west of State Route 99, the East Avoidance Realignment proposes to construct lanes east of State Route 99 and the Construct State Route 58 in the Median of State Route 99 proposed to build within State Route 99. The alternative proposed by the commenter does not consider Caltrans' design requirements for improving an existing state route. The commenter's proposed alternative to "add a lane to existing 99 and leaving interchange at 99/58 intact" does not meet the intended purpose established for the project to provide a continuous

Comment Code	Response
	route along State Route 58 because it would continue as a shared route with State Route 99 between Rosedale Highway and the State Route 58/State Route 99 interchange for both north and south travelling vehicles. The impacts of these three similar alternatives were studied and documented. The two Section 4(f) Avoidance Alternatives were determined to be not prudent (see Table B.3 Summary of Avoidance Alternatives Analysis) because of the extraordinary additional costs; severe social, economic or environmental impacts of extraordinary magnitude; and not allowing for future expansion of the state route facility.

Comment GP-52

GP-52

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Topics

Project Design Modifications

I would prefer the Corridor to be routed outside of town if a "No Build" option isn't approved. However, if it has to be built I would like to see more on/off ramps so it can be used by local traffic.....I'm very concerned about the traffic routing on La Mirada and Marella Way as well as how the residents on Kentfield Drive and Hillsbrough will drive in and out of the area since there will only be one way in and one way out (Fallbrook will be closed on one end). The park will be a real problem for us left behind (will address under Parks below). GP-52-1

Traffic

I have lived in this neighborhood for over 35 years. I can not see how Alt B will help with the local traffic - it will only make it worse since so many residents 'cut through' Westpark to avoid California Avenue & Stockdale Hwy during the rush hours now. Since the only entrance/exit ramps to the Centinnial Corridor in the area are Ming Avenue and Mohawk I predict more residents will use Stockdale and/or California Ave thus making the local traffic more congested than it is now. GP-52-2

Noise

We can hear Hwy 99 from our home at night....I can't imagine how much noise there will be having it 3 doors from our home! Can CalTrans promise that sound walls will really make a difference and if they don't work what is our recourse as residents? GP-52-3

Air Quality

Can we get assistance form Cal Trans to put in dual pane windows to help reduce the noise/dust that will certainly be a result of the construction phase and actual build out? GP-52-4

Quality of Life / Community Cohesion

It is already a forgone conclusion the impact Alt B has had on Westpark...residents are abandoning their homes (just look at Marella Way)in anticipation of what's coming...it is such a shame. The quality of life in Westpark GP-52-5

1

GP-52

will just continue to decline in my opinion.....I was born and raised in Bakersfield and lived here 60 years and remember what Bakersfield was like before Hwy 58 was extended to Real Road as well as the Fwy 178 build out....the adjoining properties have declined over the years next to the freeways. GP-52-5

Property Acquisition / Relocation

My house will be 3 doors from the freeway so I my home won't be taken and I don't qualify for acquistion/relocation unfortunately. GP-52-6

Property Values

It's obvious the values have dropped and it's not just because of the economy.....many resident's don't want it in 'their' neighborhood so what is the incentive to move in to the area now? GP-52-7

Construction Related Impacts

I am very worried about our pool - what is my recourse if it is cracked during construction or if our cultured stone/built in BBQ is cracked or our raised patio with cultured stone? Also - the 'critters' (ie bugs/rodents) will run for the hills when construction starts and our block will be in the direct path to the park....any suggestions on how we battle the displaced ant nests, cockroaches, rats? And last, but not least, how are we going to be assisted when our street looses power/water/sewer/gas since all of the those services will need to be re-routed (our block becomes a cul-te-sac)....will we be provided with alternative housing during the disruptions if they run into days/weeks instead of hours? GP-52-8

Parks / Public Lands / 4(f)

There only a handful of homes left in our area and we will be trapped between Centennial Park/Alt B freeway/new sump....we were hoping our few homes would be taken so the park could be extended for parking/green area/additional BBQ area (Hillsbrough/Kentfield Dr). We are greatly concerned about the residents useage of Centennial Park for BBQ/Dog Unleash area/Soccer/Tennis, etc. on our side of the park....the parking now is terrible on most weekends (nearly year round) and we can't imagine what it will be like when residents can only drive in from La Mirada Dr .....where will they park? They already park in front of our homes and block our driveways often. If this is a foregone conclusion please, please have the city move the BBQ's/picnic tables to the other side of the park where there will be more parking available. GP-52-9

Safety

As stated above we are concerned about the limited access on to Kentfield Dr & Hillsborough with Fallbrook being closed on one end...problems leaving the area in the event of a fire/earthquake/Lake Isabella failing, etc. are a worry, especially if we can't get out of our driveways due to congestion from Centennial Park's limited parking on the east side after build-out. GP-52-10

Aesthetics/Landscaping

If it has to be built I am in favor of forgoing landscaping (since it's not maintained anyway on our existing freeways) for more decorative walls, etc. We were recently in Reno and their freeways are very attractive and clean with no landscaping, but decorated walls and some iron work which would require little upkeep. GP-52-11

Alternatives

It is so unfortunate that the Bakersfield City Council and Mayor Hall failed to keep their promise (in writing in 2000-2001) that the Cenntenial Corridor would never go through Westpark. As a result of their promise we GP-52-12

2

GP-52

decided to stay in our home and renovated our back yard with built in bbq, stonework, etc. in addition to re-roofing our home/paint, etc. If it has to be built I can not figure out why Hwy 58 isn't re-routed around the city instead of cutting right through the heart of Bakersfield. GP-52-12

Other

In closing - I appreciate the opportunity to provide my input....I'm aware that it will not likely change the outcome....however I do hope that some of the requests (ie decorative walls vs landscaping/moving BBQ's & picnic tables at Centennial Park, etc.) will be considered and adopted. It will be helpful for those of us left behind who will live next to the Corridor. Thanks again for reading my comments. GP-52-13

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Response to Comment GP-52

Comment Code	Response
GP-52-1	Your support for the No Build Alternative is acknowledged. Caltrans thanks you for participating in the environmental process for the Centennial Corridor Project. Based on preliminary design plans for Alternative B, on- and off-ramps are provided at Mohawk Street, California Avenue and Ming Avenue. These interchanges are located less than 2 miles from the Westpark neighborhood. Between Ford Avenue and California Avenue, the alignment would be depressed, with overcrossings proposed at Marella Way and La Mirada Drive to help with local traffic circulation and provide access across the proposed freeway from areas formerly served by other nearby streets. In addition, Marella Way would be designated as a bikeway to replace an existing bikeway on Montclair Street that would be closed by the project. An undercrossing at Ford Avenue was also considered, and Caltrans has decided to implement the crossing. The Ford Avenue undercrossing would maintain the connection of Ford Avenue between Stine Road and McDonald Way. Preliminary design plans also indicate access to and from Kentfield Drive will require travel on Fallbrook Street. It is anticipated traffic volumes on Kentfield Drive and Hillsborough Drive would decrease due to several residential acquisitions. As a result of the decrease in neighborhood traffic on these two streets, traffic along Fallbrook Drive would also decrease.
GP-52-2	The Kern Council of Governments Regional Travel Demand Model was utilized, along with existing traffic counts and engineering judgment, to forecast peak-hour traffic volumes at key study intersections. One of the key intersections was Stockdale Highway and California Avenue, identified as intersection #35 in the Traffic Study technical report. A comparison of Year 2038 traffic volumes at this intersection under no-build conditions and Build Alternative B conditions indicates that traffic volumes will decrease as a result of the build project on both California Avenue and Stockdale Highway passing through this intersection. The traffic reductions during the PM peak hour (the peak hour with the heaviest volumes) will range from -10 to -31 percent for eastbound and westbound Stockdale Highway approach volumes respectively, and -4 to -19 percent for northbound and southbound California Avenue approach volumes, respectively.
GP-52-3	The predicted future peak hourly average traffic noise level at Receiver RB-51 which is the second house from the freeway would be 62 decibels in comparison to the existing peak hourly noise level of 51 decibels. This impact is lower than the noise abatement criteria of 67 decibels for residential areas, as shown in Table 3.32 in Section 3.2.7, Noise, Volume 1. Nevertheless, a sound wall would be constructed at this location. The proposed 12 foot sound wall at this area would reduce the noise level to 59 decibels, resulting in a net increase of 8 decibels in comparison to the existing noise level. Traffic noise levels were not predicted at 4413 Kentfield Drive, but based on the distance to the freeway, traffic noise would be lower by 3 decibels in comparison to Receiver RB-51. Therefore, the future predicted peak hourly noise level at 4413 Kentfield Drive with the proposed sound wall would be 56 decibels, about 5 decibels higher than the existing peak hour noise level. An increase in noise less than 5 decibels is barely perceptible to the human ear. Traffic noise levels will be much lower during the evening and night hours. Sound walls provide a substantial reduction in traffic noise levels, but they would not completely eliminate traffic noise.
GP-52-4	Caltrans will not be providing dual-pane windows to address potential noise and air impacts. Sound walls would be constructed as part of this project to address noise impacts.
GP-52-5	Your comment has been noted. Real estate market prices are mainly based on comparative sales in the area. Many factors contribute to market values, including

Comment Code	Response
	location, neighborhood, current real estate sales in the area, school system, crime, taxes, government services, parks/recreation, and features of the home.
GP-52-6	Your comment has been noted. Property acquisition is determined by the property's location within Caltrans's right-of-way to construct the project. Caltrans will only purchase property if the parcel is needed for a project, or if a property is being affected to such an extent it is considered nonfunctional (inadequate access to and from your property). Your property is not within the required Caltrans right-of-way, and your property will not be affected to an extent where it is considered nonfunctional.
GP-52-7	It has been expressed in some of the comments received from the public that the project would result in decreased property values due to various reasons, including temporary construction impacts, permanent construction impacts, and property acquisitions. Real estate market prices are mainly based on comparative sales in the area. Many factors contribute to market values, including location, neighborhood, current real estate sales in the area, school system, crime, taxes, government services, parks/recreation, and features of the home. The Centennial Corridor Project may or may not have an effect on the property values. In addition, Caltrans has found no literature, studies, or evidence that property values would decrease because of the realization of the Centennial Corridor. Past research using case studies on the effects of introducing new highway facilities near residential properties indicate that over the duration of a longer time period, property values will rise after an initial period of downward movement. More information regarding property values can be found in the Community Impact Assessment Study.
GP-52-8	The house at 4413 Kentfield Drive is located at least 250 feet from nearest major construction activities related to the proposed freeway construction. At such distance construction activities such as moving dirt, grading, and compacting would not generate strong enough vibration to cause any structural damage. The contractor will be monitoring vibration levels during major construction activities and will implement the proper mitigation measures to reduce vibration levels. The project construction and/or operation is not expected to attract any additional bugs or rodents to the area than what previously existed. It is also not expected that the project construction would cause either bugs or rodents currently in the area to relocate in homes, neighborhoods or public spaces. The construction areas associated with the project are urbanized and/or developed areas that are not suitable habitat for any bugs or rodents. These areas include existing development and roadway facilities. In addition, the implementation of utility relocation plans would be used so long-term service disruption is not expected. Prior to the start of construction, neighborhoods along the project alignment will be provided contact information for getting additional information or file claims.
GP-52-9	After construction of the project, access to Centennial Park via Fallbrook Street is only provided at La Mirada Drive. The proposed project would not affect the availability of on-street parking along Fallbrook Street once the project is constructed. However, Fallbrook Street would be converted into a cul-de-sac at Marella Way, which would eliminate a few existing on-street parking spaces. There would be sufficient surplus parking on the adjacent streets, and the existing surface parking lots at the park would remain available to park users. While Caltrans will work closely with the city of Bakersfield to minimize potential impacts to local traffic and pedestrian access near Centennial Park during the construction phase of the project, we encourage you to work with the city of Bakersfield Recreation and Parks Department to influence the relocation of the park's physical amenities. Additionally, if your driveway is blocked by illegally parked vehicles, please notify the Bakersfield Police Department. If on-street parking

Comment Code	Response
	severely affects access to your property, you could notify the city of Bakersfield's Public Works Department to request parking restrictions within your area.
GP-52-10	Please see end of response GP-52-9 concerning contacting the city's Police Department or Public Works Department, depending on the issue. Caltrans acknowledges that your concern about limited parking is valid due to the proximity of the park in your area; however, it is important to note that similar cul-de-sacs and short streets with only one exit are fairly common in the Westpark neighborhood.
GP-52-11	The project landscape/aesthetic plans have yet to be finalized. If feasible, the project will accommodate more decorative designs on the walls. Additionally the landscaping would include several factors, such as aesthetics and drought tolerant plants.
GP-52-12	Several alternatives were initially screened prior to the preparation of the draft environmental document. One of the alternatives includes construction of a new freeway along State Route 223, which would have traversed outside the city. This alternative, known as Public Alternative 3, did not meet the purpose of the project and would have exceeded the availability of funds (at a cost of $1.72 billion). As a result, this alternative was not carried forward. Discussion regarding eliminated alternatives can be found in Section 2.1.5, Alternatives Considered but Eliminated from Further Discussion, in Volume 1 of this final environmental document.
GP-52-13	Your comment is acknowledged.

Comment GP-53

GP-53

Name: Juston Pack

Address: 4408 Vista Mesa Drive
City: Bakersfield
State: CA
ZIP: 93307
Email: juston@live.com

Topics

Project Design Modifications

Please consider an addendum to the Corridor general plan that includes a transition ramp from southbound CA-99 onto westbound CA-58 using the Stockdale Highway exit ramp as a means of accomplishing this potential task. The continuation of CA-58 westward is long overdue, but the omission of that connection from 99 south the 58 west would be a huge oversight if not actualized. GP-53-1

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Response to Comment GP-53
(Comment Received after Public Review Period)

Comment Code	Response
GP-53-1	None of the alternatives analyzed would provide direct connector ramps from southbound State Route 99 to westbound State Route 58 because of the low southbound-to-westbound traffic volumes for existing and projected future traffic forecasts. A deficiency in traffic operations for either current or future conditions is required to substantiate the need for a southbound State Route 99 to westbound State Route 58 direct connector. However, preliminary plans for all of the alternatives allow for the integration of a southbound State Route 99 to westbound State Route 58 direct connector ramp to be constructed at a future date when the need for this direct connector has been identified. If future traffic volumes necessitate construction of this direct connector, a separate project would be initiated by Caltrans. For more information please refer to Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, Volume 1 of this final environmental document.

Comment GP-54

GP-54

Name: Frank Jones

Address: 13213 Providence Pl
City: Bakersfield
State: CA
ZIP: 93314
Email: Fjinps@yahoo.com

Topics

Alternatives

It seems from my perspective that the BEST alternative would be to tie into HWY. 99 (I believe ALT C) since minimal homes and businesses would be taken. This seems to be the biggest concern of a majority of those in opposition. But since CALTRANS has judged it to be the LEAST favorable alternative, it's difficult to address the differences between ALT B and ALT A. Both take a LARGE number of private residences and businesses, which ALT C does not. GP-54-1

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Response to Comment GP-54

Comment Code	Response
GP-54-1	Caltrans thanks you for participating in the environmental process for the Centennial Corridor Project. After comparing and weighing the benefits and impacts of all of the feasible alternatives (Alternatives A through C), Caltrans has identified Alternative B as the Preferred Alternative. This determination was made after reviewing the environmental impacts, including the following factors: Section 4(f) requires consideration of impacts on parkland and historic properties. Alternative B is the feasible and prudent alternative because it avoids impacts to Section 4(f) resources. Alternative A would impact the Kern River Parkway and the Rancho Vista Historic District, while Alternative C would have direct impacts to Saunders Park, which is a Section 4(f) property in an environmental justice community. Even with design modifications, neither Alternative A nor Alternative C could avoid Section 4(f) resources; therefore, only Alternative B was found as reasonable and prudent. Please refer to Table B.3 in Appendix B in Volume 2, Section 4(f), for a breakdown of feasibility analysis. Relocations were another crucial factor for the evaluation of the Build Alternatives. Alternative A requires the most property acquisitions and would produce the greatest number of displacements, totaling 356 residences and 127 businesses. Alternative C would displace fewer residents, but would require the most business displacements by taking 198 businesses. Alternative B would affect more housing displacements, but less business displacements than Alternative C. Alternative B has more community impacts since the alignment would bisect the Westpark neighborhood (in a diagonal manner), changing travel patterns within the general area. Alternative C would concentrate most of its residential displacements in two environmental justice communities, with the largest concentration of single-family home displacements in the environmental justice community south of Saunders Park. Alternative B has the least impact on environmental justice communities. The cost of the Build Alternatives also came under review. Alternative B was found to be the least expensive to construct compared to the other two build alternatives. Alternative B provides the most effective and feasible solution to predicted traffic congestion. Future 2038 traffic forecasts indicate better freeway operations for Alternative B; four deficient freeway segments are identified for Alternative B, while five deficient freeway segments are identified for Alternative C. Please review Section 2.1.3, Comparison of Alternatives, in the final environmental document (Volume 1) for more detail about each alternative and their impacts on pollution, construction, and cost. The decision to select Alternative B as the Preferred Alternative is not solely a Caltrans decision; input from the city of Bakersfield, County of Kern, and the public were considered prior to the selection of Alternative B.

Comment GP-55

GP-55

Name: janice malouf

Address: 3711 Garnsey Lane
City: Bakersfield
State: CA
ZIP: 93309
Email: jmalouf@yahoo.com

Topics

Air Quality

Large trees would be removed which currently help mitigate pollution from existing freeways in the area. This removal as well as the construction disturbances would result in a large extended neighborhood having dangerous air quality. GP-55-1

Quality of Life / Community Cohesion

While probably feasible, the project is not prudent. Among other issues, it would severely disrupt an established community. See SER CH 20 section 4f definition of prudent.
http://www.dot.ca.gov/ser/vol1/sec3/special/ch204f/chap20.htm#avoidance GP-55-2

Parks / Public Lands / 4(f)

while centennial park may technically be untouched, the neighborhood would completely lose its character and cohesion. GP-55-3

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Response to Comment GP-55

Comment Code	Response
GP-55-1	Caltrans acknowledges that landscaping reduces surface warming and reduces carbon dioxide and understands the benefit of trees in reducing air quality pollutants and will preserve as many mature trees as practical. The landscape plan will incorporate a tree replacement plan that would plant one tree for every tree removed using 20-inch box (mature) trees. Caltrans is also proposing to provide tree plantings within private property. The Centennial Corridor Project will fund a $200,000 grant to be provided to a non-profit organization, who will administer the voluntary tree planting program in order to plant as many trees as possible within 1,500 feet of the project alignment until funds have been exhausted. The voluntary tree-planting program would allow property owners to have this air quality mitigation on their property if they are willing to take responsibility for watering and care of the tree(s). Trees would be planted within private properties on a voluntary basis, with the highest priority for tree plantings in environmental justice communities within 1,000 feet of the Preferred Alternative B alignment, and secondly, properties within 500 feet of each side of the Alternative B alignment. If trees are available after the primary and secondary targeted areas, property owners within 1,500 feet of each side of the alignment would be given an opportunity for tree plantings. If trees are still available, they may be planted at other locations in consultation with and approved by the city of Bakersfield. *Permanent Air Quality Effects* The air quality study prepared for the Centennial Corridor Project indicates that potential air quality impacts were found to be less than significant and that the project would improve regional air quality due to reduction in congestion on local roadways and vehicle idling. Improvements to air quality are also attributed to the improved pollution emission performance of a modernizing fleet of all vehicles, especially heavy diesel trucks, as a result of Federal and State fuel content and engine emissions rules. In addition, the results of the air quality analysis indicate that the Centennial Corridor Project would be within regional and Federal air quality standards and would not cause or contribute to a violation of any air quality standards. To further minimize air quality pollutants within the general area of the project, Caltrans has entered into a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District. Through this agreement, targeted air quality improvements will be provided within the general area along the Preferred Alternative B alignment. More detailed information on air quality analysis can be found in Section 3.2.6, Air Quality. *Air Quality Effects during Construction* Construction of the project has the potential to create air quality impacts through the use of heavy-duty construction equipment. Fugitive dust emissions would result from earthwork and onsite construction activities. Reductions in fugitive dust can be achieved by onsite mitigation measures. Compliance with the standard conditions SC-CI-20 through SC-CI-22 listed under Avoidance, Minimization, and Mitigation Measures – Air Quality, Standard Conditions (refer to Section 3.6, Construction Impacts), would reduce construction emissions. Some of these measures to control dust include using water or chemical stabilizer/suppressant, covering disturbed areas with tarps, and limiting speeds in unpaved areas. Air emissions associated with construction activity would be temporary and would cease to occur after project construction is completed.
GP-55-2	After evaluating all comments received during the public review period for the Draft Environmental Impact Report/Environmental Impact Statement, Caltrans has selected Alternative B as the Preferred Alternative. Caltrans has certified that the project complies with the California Environmental Quality Act, prepared findings for all significant impacts identified, prepared a Statement of Overriding Considerations for impacts that will not be mitigated below a level of significance, and certified that

Comment Code	Response
	the findings and Statement of Overriding Considerations have been considered before project approval. The three build alternatives share many impacts that are the same or similar in magnitude. When determining a Preferred Alternative, the comparison focuses on those areas where the impacts are different or one alternative has greater impacts than the other alternatives. For the Centennial Corridor project, Alternative B avoids Section 4(f) properties, would not have disproportionate impacts on environmental justice communities, and is less costly. Section 4(f) of the Department of Transportation Act prohibits the Secretary of Transportation from approving a project that uses a Section 4(f) protected property if there is a feasible and prudent alternative to that use. Under Section 4(f) regulations, neither Alternative A nor C can be identified as the Preferred Alternative unless all of the other build alternatives can be shown not to be prudent and feasible. Even with design modifications, Alternatives A and C did not avoid Section 4(f) resources and were not found to be prudent or feasible. The analytical process required by Section 4(f) is addressed in extensive detail in the final environmental document in Appendix B, Section 4(f) Evaluation. Of the three build alternatives presented, Alternative A is the most expensive, has the greatest number of displacements, and would have the greatest impact on wetlands. It also affects a park and the Rancho Vista Historic District, both Section 4(f) properties. Alternative C is the more expensive when compared to Alternative B and would impact two environmental justice communities. It would also impact a Section 4(f) resource, Saunder's Park. Only Alternative B presents an alternative that avoids all Section 4(f) resources and is considered prudent and feasible.
GP-55-3	Caltrans agrees that construction of the freeway would cause impacts to the local neighborhood near Centennial Park. Chapter 3 of the final environmental document analyzes all three build alternatives and concludes that each would impact the existing community character in the areas they would traverse, including Westpark with Alternative B. The character and cohesiveness of this suburban development, which has existed since the early 1970s as an integrated community, would be changed, as detailed in Section 3.1.7, Visual/Aesthetics, Section 3.2.7, Noise, and Section 3.1.4, Community Impacts, in Volume 1. Impacts experienced at the neighborhood level would change the quality of life of many of the residents who live next to the new freeway. In addition, bisecting Westpark, as discussed in Section 3.1.1.5, could hinder the connectivity of the area. Access within the neighborhood, currently characterized by the ability to travel by means of a variety of modes, including walking and bicycling, would be altered. Construction of a freeway would create physical barriers in Westpark where none existed before; however, community impacts have been reduced through implementation of several mitigation measures, including providing three crossings at Marella Way, La Mirada Drive, and Ford Avenue; aesthetic design treatments; preserving as many mature trees as practical and replacing all trees on a 1:1 basis; and being especially sensitive and providing enhanced attention to people with special needs—especially the elderly, disabled, and low-income population groups—as part of the relocation process.

Comment GP-56

GP-56

-----Original Message-----
From: Debi [mailto:rtdrraa@yahoo.com]
Sent: Tuesday, July 08, 2014 8:54 AM
To: Centennial@DOT
Subject: Centennial wall

Sent from my iPhone
I am opposed of the freeway entering in my neighborhood no matter how high you put that wall up. The noise level will still be there and the pollution from all the vehicles traveling will have a effect on my family since I have asthmatics and my neighbors are asthmatic as well but that will be saved for a future lawsuit against cal trans . GP-56-1

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GP-56

-----Original Message-----
From: Debi [mailto:rtdrraa@yahoo.com]
Sent: Tuesday, July 08, 2014 4:25 PM
To: Centennial@DOT
Subject: Centennial wall 58fwy

Sent from my iPhone
I am opposing the freeway coming down my street. As it shows by the map I will be across the street from the ding dong thing and if I wanted to be near the freeway I would have bought a home just as close but I chose to be as far away as I could but it seems to me cal trans will be doing whatever the heck they feel like doing regardless what home owners have to say about the expansion. But since I will be so close I guess air pollution from all those vehicles won't cause my family's asthma to act up but if it does then that's a law suit cal trans will have to endure. You can make that wall fifty feet high and it still would not solve the problems. GP-56-2

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Response to Comment GP-56

Comment Code	Response
GP-56-1	The potential short- and long-term noise effects of the project and measures to address those effects are detailed in the Noise Section, 3.2.7, of the final environmental document (Volume 1). Results of the noise analysis for each build alternative indicate traffic noise would generally increase as a result of project implementation. The primary function of sound walls is to provide noise abatement. However, these walls could also function to block vehicle emissions from nearby residents.
GP-56-2	As mentioned in Response to Comment GP-56-1, the primary function of sound walls is to provide noise abatement; however, these walls could also function to block vehicle emissions from nearby residents. *Permanent Air Quality Effects* The air quality study prepared for the Centennial Corridor Project indicates that potential air quality impacts were found to be less than significant and that the project would improve regional air quality due to reduction in congestion on local roadways and vehicle idling. Improvements to air quality are also attributed to the improved pollution emission performance of a modernizing fleet of all vehicles, especially heavy diesel trucks, as a result of Federal and State fuel content and engine emissions rules. In addition, the results of the air quality analysis indicate that the Centennial Corridor Project would be within regional and Federal air quality standards and would not cause or contribute to a violation of any air quality standards. To further minimize air quality pollutants within the general area of the project, Caltrans has entered into a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District. Through this agreement, targeted improvements will be provided within the general area along the Preferred Alternative B alignment. More detailed information on air quality analysis can be found in Section 3.2.6, Air Quality. For more information on the Voluntary Emission Reduction Agreement, please see Appendix L in Volume 2 of this final environmental document.

Comment GP-57

GP-57

-----Original Message-----
From: Susan Wyatt [mailto:susanowyatt@gmail.com]
Sent: Tuesday, July 08, 2014 9:08 AM
To: Centennial@DOT
Subject: Property taxes

Are we going to be allowed to take our property taxes currently on our home that we must sell with us to our new residence and if so what is the procedure . Our we also guaranteed that those transferred taxes will not over inflate in a year or two. GP-57-1

Susan Wyatt,GRI,CRS

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Response to Comment GP-57

Comment Code	Response
GP-57-1	It is noted that Section 2(d) of Article XIII-A of the California Constitution and Section 68, Rule 462.5 of the Revenue and Taxation Code generally provide that property tax relief shall be granted to any real property owner who acquires comparable replacement property after having been displaced by governmental acquisition or eminent domain proceedings. Accordingly, your current property tax rate may be transferable to a newly purchased, comparable replacement property. If the property is acquired by the project, right-of-way agents will provide further information and stipulations of the tax relief process. As discussed in Section 3.1.4.2, Relocation and Property Acquisition, per Standard Condition SC-R-1, Caltrans shall implement all property acquisition and relocation activities in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act) of 1970 (Public Law 91-646, 84 Stat. 1894) in coordination with the city of Bakersfield. The Uniform Act mandates that certain relocation services and payments be made available to eligible residents, businesses, and nonprofit organizations displaced by the project. The Uniform Act provides uniform and equitable treatment by Federal or Federally assisted programs of persons displaced from their homes, businesses, or farms, and establishes uniform and equitable land acquisition policies. See Appendix D in Volume 2 for more information on Caltrans' Relocation Assistance Program. Additionally, Mitigation Measure R-1 includes measures that may be considered by Caltrans for incorporation into the relocation plan to minimize impacts to displaced businesses and residences. These nine potential measures included in Mitigation Measure R-1 are a conscientious approach to the relocation of businesses and homes. They emphasize children's educational needs and resident's accessibility to relocation assistance materials and were developed to facilitate the relocation process. See Section 3.1.4.2, Relocation and Property Acquisition, in Volume 1, and/or Appendix F in Volume 2 for more information about Mitigation Measure R-1. Right-of-way acquisition will not be finalized until the final design phase. All potential acquisitions are subject to change during final design. Caltrans offers brochures that explain the acquisition process for renters, property owners, and businesses. The Right-of-Way Manual can be found on the Caltrans web site: http://www.dot.ca.gov/hq/row/.

Comment GP-58

GP-58

Begin forwarded message:

From: Randa Hunter <rjhracer@aol.com>
Subject: Comments Centennial Corridor Project
Date: July 8, 2014 at 4:48:15 PM PDT
To: Centennial@dot.ca.gov

The Bakersfield Californian dated May 10, 2014 stated that West Park path would require far more demolition than previously though, expanding earlier demolition numbers by 50%. What are the cumulative impacts to this mammoth miscalculation? It is only logical that the EIR and all of the separate Technical Studies i.e. Community Impact Assessment, Traffic Analysis, and Noise Studies would require addendum's. Logic would follow that these addendum's will require hundreds of man hours. As a result of this miscalculation, what will be the monetary impact to the projects total cost? Ultimately, who will bear the financial burden of CALTRANS significant mistakes- we the tax payers? GP-58-1

From Vanessa Vangel
2224 A Street
Bakersfield, ca 93301
Vanessavangel@yahoo.com

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GP-58

-----Original Message-----
From: Randa Hunter [mailto:rjhracer@aol.com]
Sent: Tuesday, July 08, 2014 5:00 PM
To: Centennial@DOT
Subject: Comment to Centennial Corridor

When does CALTRANS plan on re-designating "Centennial Corridor" (very attractive name)! to its true name INTERSTATE 40? Do city and county tax payers typically foot the bill for a Federal highway project ? GP-58-2

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GP-58

-----Original Message-----
From: Randa Hunter [mailto:rjhracer@aol.com]
Sent: Tuesday, July 08, 2014 5:12 PM
To: Centennial@DOT
Subject: Comments to Centennial Corridor

The Centennial Corridor project was given three alternatives, A, B, and C plus no build. Is there a state or federal law that mandates the number of viable alternatives plus no build to a highway project? GP-58-3

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GP-58

-----Original Message-----
From: Randa Hunter [mailto:rjhracer@aol.com]
Sent: Tuesday, July 08, 2014 5:25 PM
To: Centennial@DOT
Subject: Comments Centennial Corridor

CALTRANS claims that Alternative A, a connector southwest of Alternative B, would affect the Rancho Vista Historic District. I have resided in Bakersfield for over 40 years and have never heard of this historic district. When and by whom was this area given a historic designation? GP-58-4

From Vanessa Vangel
2224 A Street
Bakersfield, CA 93301
vanessavangel@yahoo.com

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Response to Comment GP-58

Comment Code	Response
GP-58-1	A follow-up article was published by *The Bakersfield Californian* on September 10, 2014, clarifying their error on the number of property acquisitions. The author counted temporary construction easements, which are not subject to permanent acquisition. If additional impacts are identified following approval of the Centennial Corridor final environmental document, either the final environmental document will need to be updated or a re-evaluation will be required, along with supporting studies and documents. However, neither of these options is anticipated at this time.
GP-58-2	There are currently no plans to convert the Centennial Corridor into Interstate 40. Furthermore, it is not uncommon for Federal highway projects to include funding portions from local sources, commonly referred to as a "local match." Typically, local match funds can be raised through numerous funding mechanisms, including city and/or county tax funds. Accordingly, funding for the project comes from multiple sources, including Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, Federal legislation signed into law on August 10, 2005. The following funding sources have been identified: • Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users Section 1301 = $90.44 million • Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users Section 1302 = $289.2 million • Other Federal sources = $12.97 million • State = $53 million • Kern County bond = $57.5 million • City of Bakersfield = $206.89 million
GP-58-3	State and/or Federal law do not mandate a specific number of viable alternatives to be analyzed. It is noted that both the California Environmental Quality Act and National Environmental Policy Act require analysis of a no-build alternative for an environmental impact report and environmental impact statement, respectively. Under the California Environmental Quality Act, an environmental impact report requires analysis of a reasonable range of alternatives, including those which would attain most of the basic project objectives while avoiding or reducing the environmental effects of the project. Additionally, the National Environmental Policy Act requires that an environmental impact statement include analysis of all reasonable alternatives, including the no-build. Each viable alternative must be considered and discussed to a comparable level of detail. As part of the initial scoping process for the Centennial Corridor project, Caltrans considered a range of alternatives. Six build alternatives were developed by Caltrans and introduced at a public information meeting in March 2008. In addition, alternatives suggested by the public and alternatives from previous studies (the *Bakersfield Systems Study* [2002] and the *Final Route 58 Route Adoption Project, A Tier I Environmental Impact Statement/Environmental Impact Report* [2001]) were also evaluated as part of the initial screening. Even though the earlier studies rejected some of these alternatives, Caltrans determined they should be subject to the initial screening criteria as potential alternatives for the Centennial Corridor project. A total of 19 alternatives were reviewed as part of the initial screening process. Eighteen of these alternatives proposed construction of new roadway alignments (see Figure 2-7 provided in Volume 2), and one alternative proposed transportation system management and transit improvements. The initial screening process done in 2008 determined that Alternatives A, B, C, and D, and the No-Build Alternative, and the Transportation Systems

Comment Code	Response
	Management/Transportation Demand Management/Transit Alternative (Alternative M) warranted further study. These alternatives all received further analysis and additional screening and can be found in Section 2.1.5, Alternatives Considered but Eliminated from Further Discussion, in Volume 1 of this final environmental document. If an alternative does not achieve the intended purpose established for the project, it does not make sense to continue spending resources evaluating it, so it is eliminated from further consideration. Another factor in screening alternatives was the cost. An alternative was eliminated if the cost substantially exceeded the available funding. Alternatives D and M were eliminated after further screening because they did not meet the intended purpose and exceeded cost.
GP-58-4	The Rancho Vista District is not listed on the California Register of Historical Resources, nor is it on the National Register of Historic Places. However, many single-family residences on these streets were identified as being eligible for the National Register of Historic Places under Criteria A and C; therefore, they must be considered part of the Section 4(f) considerations. In Appendix B, Section 4.3 of the Centennial Corridor final environmental document Volume 2, the district is identified as eligible "under Criterion A for its significance in incorporating innovative mass-production technology during post-World War II. [And] under Criterion C the Rancho Vista Historic District is an important example of a postwar subdivision consisting entirely of houses built by the whole-house fabrication method." Please refer to Section 3.1.8 (Cultural Resources) of the final environmental document (Volume 1) to read more about the Rancho Vista Historic District. As part of the identification and evaluation efforts required by Section 106 of the National Historic Preservation Act and in compliance with 36 Code of Federal Regulations 800.4, Caltrans prepared an Historic Property Survey Report for the Centennial Corridor Project, prepared by architectural historians and archaeologists who meet the Secretary of Interior's Professional Standards (36 Code of Federal Regulations 61) for their respective discipline. Four properties within the project's area of potential effects, including the Rancho Vista Historic District, were determined eligible for inclusion in the National Register of Historic Places following extensive research and field investigations. Rancho Vista Historic District was found to be a significant historic property for its collection of post-World War II tract houses incorporating innovative mass-production technology and a pioneering whole-house fabrication method. Please refer to Volume 1 of the Centennial Corridor final environmental document Section 3.1.8 to read more about the Rancho Vista Historic District. Caltrans has prepared a publication (available online), "*Tract Housing in California, 1945-1973: A Context for National Register Evaluation*" (2011), which establishes the analytical framework that architectural historians use to assess this property type.

Comment GP-59

GP-59

From: Gary Crabtree [mailto:gary@affiliatedappraisers.biz]
Sent: Thursday, June 19, 2014 10:38 AM
To: Putler, Richard C@DOT
Cc: Taylor, Jennifer H@DOT; 'Wagner, Daniel'; Romero, Ken J@DOT
Subject: RE: Sound Wall S-509

Thank you Richard,

I have a couple more questions:

1. In the EIR you have stated that the proximity to Stockdale Christian School is 1,100 feet. I think that you need to recalculate that measurement. According to my measurement, the SCS playground boundary is approximately 340 feet from the nearest traffic lane of the alignment. The nearest classroom is approximately 370 feet. Assuming this data is true, how is the EIR impacted with reference to California Code – Section 21151.8? GP-59-1
2. With respect to the above cited code. How can DOT assure the 750 students and their parents, plus the school staff, that the health risks from the alignment with respect to pollution sources do not and will not constitute an actual or potential endangerment of public health to persons who would attend or be employed at the school. GP-59-2
3. With respect to the sound wall (S-509). According to the EIR, the current dBA is 52. The future traffic noise is predicted to range from 61 to 76 dBA or an increase of 9 to 24 dBA. As I understand the EIR, for every foot of height of a sound wall the dBA decreases 1 dBA and the maximum reduction with a 16 foot sound wall will range from 54 to 64 dBA. Are these sound measurements predicted for Stockdale Christian School at your stated 1,100 foot proximity? If so, what would the dBA levels be if that distance is lowered to 340 feet. GP-59-3

Thank you for your consideration.

Gary

Gary Crabtree, SRA
Affiliated Appraisers
Bakersfield, California
Office - (661) 327-9045
Cell - (661) 747-9466

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Response to Comment GP-59

Comment Code	Response
GP-59-1	Thank you for participating in the environmental process for the Centennial Corridor Project. It is acknowledged that Stockdale Christian School is within approximately 375 feet of the Preferred Alternative B alignment. The final environmental document has been revised to indicate the correct distance between the Stockdale Christian School and the nearest travel lane. The California Environmental Quality Act statutes reference (PRC § 21151.8) specifically pertain to purchase of a school site or construction of a new public elementary or secondary school by a school district, and it is silent regarding a new roadway facility being placed adjacent to a private school. While State law CEC §17213 and PRC § 21151.8 prohibits construction of a new school within 500 feet of a freeway, there are no regulations restricting the construction of a freeway near existing school facilities.
GP-59-2	*Permanent Air Quality Effects* The air quality study prepared for the Centennial Corridor Project indicates that potential air quality impacts were found to be less than significant and that the project would improve regional air quality due to reduction in congestion on local roadways and vehicle idling. Improvements to air quality are also attributed to the improved pollution emission performance of a modernizing fleet of all vehicles, especially heavy diesel trucks, as a result of Federal and State fuel content and engine emissions rules. In addition, the results of the air quality analysis indicate that the Centennial Corridor Project would be within regional and Federal air quality standards and would not cause or contribute to a violation of any air quality standards. More detailed information on air quality analysis can be found in Section 3.2.6, Air Quality. *Air Quality Effects during Construction* Construction of the project has the potential to create air quality impacts through the use of heavy-duty construction equipment. Fugitive dust emissions would result from earthwork and onsite construction activities. Reductions in fugitive dust can be achieved by onsite mitigation measures. Compliance with the standard conditions SC-CI-20 through SC-CI-22 listed under Avoidance, Minimization, and Mitigation Measures – Air Quality, Standard Conditions (refer to Section 3.6, Construction Impacts), would reduce construction emissions. Some of these measures to control dust include using water or chemical stabilizer/suppressant, covering disturbed areas with tarps, and limiting speeds in unpaved areas. Air emissions associated with construction activity would be temporary and would cease to occur after project construction is completed. Potential localized operational and construction related air quality impacts will be further minimized though the Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District. Appendix L provides a copy of the Voluntary Emission Reduction Agreement.
GP-59-3	The draft environmental document incorrectly stated the distance to the Stockdale Christian School at 1,000 feet for Alternative B. However, the Stockdale Christian School noise analysis was correctly modeled, which is represented by Receiver RB-38. The distance between the RB-38 and the edge of the proposed shoulder is approximately 375 feet; hence, the results of the noise analysis for RB-38 as presented in Section 3.2.7 are correct. The Stockdale Christian School was represented by Receiver RB-38 in the traffic noise impact analysis, which is approximately 375 feet from the edge of the proposed shoulder. The existing peak exterior noise level of 52 decibels is based on the long-term measurement site (LT9), which was within 200 feet of the school. The predicted future peak noise hour traffic noise level for Alternative B at the school is 58 decibels, which is 6 decibels higher than the existing noise level, but it is 8

Comment Code	Response
	decibels below the threshold for impact (as outlined in Section 3.2.7, Noise, in Volume 1); therefore, the school is not considered impacted and does not qualify for abatement under Federal Highway Administration and Caltrans guidelines. In addition, Sound walls S509 and S519, which are considered for the impacted residences along Del Ray Court, would also provide 1 decibel of traffic noise reduction to the school. Therefore, the future exterior traffic noise levels at the school will be 57 decibels with the sound walls, which will be 5 decibels higher than the existing noise level. The increase of 5 decibels is barely noticeable to the human ear and is below the Federal Highway Administration Noise Abatement Criteria of 67 decibels for the exterior of a school. These Noise Abatement Criteria are defined in Title 23 Code of Federal Regulations 772 and can also be found in Section 3 of the Caltrans Traffic Noise Analysis Protocol, May 2011. The traffic noise levels for the receivers range from 61 to 76 decibels without a sound wall for Alternative B. However, it is erroneous to assume that each height increase of 1 foot to the sound wall corresponds to a noise reduction of 1 decibel. Table H-2 on page 455 of the Noise Study Report shows the noise levels and sound wall performance for Receiver RB-38, which represents the Stockdale Christian School, as well as the other receivers in this area.

Comment GP-60

GP-60

Tami L. Conrado
Chief, Office of Public Information and Legislative Affairs
Caltrans - District 6
(559) 488-4082
http://www.dot.ca.gov/socialmedia

From: Freer, Marcy@DOT **On Behalf Of** Web Admin@DOT
Sent: Tuesday, June 10, 2014 5:34 PM
To: Conrado, Tami L@DOT
Subject: FW: Caltrans web feedback page

Hi Tami – see below, from the web. Thanks

Marcy Freer
Phone 916.654.3644
External Affairs

-----Original Message-----
From: ray_clanton@oxy.com [mailto:ray_clanton@oxy.com]
Sent: Tuesday, June 10, 2014 12:26 PM
To: Web Admin@DOT
Subject: Caltrans web feedback page

Below is the result of your feedback form. It was submitted by ray_clanton@oxy.com on June 10th, 2014 at 12:25PM (PDT).

county: Kern
URL: http://dot.ca.gov/dist6/environmental/projects/centennial/publichearing.html
message: I cant attend the hearing, but would like to comment. HWY 58 dead ending into a subdivision is embarrassing, when you fix this, make sure you can expand it later as Bakersfield is growing. Thanks for fixing this and please work with or planners to avoid stupid mistakes like this. In the future. The city needs a loop (without traffic signals! GP-60-1
email: ray_clanton@oxy.com

-------- Env Report --------
REMOTE_HOST:
REMOTE_ADDR: 149.136.20.125

1

Response to Comment GP-60

Comment Code	Response
GP-60-1	Your comment is noted. Caltrans recognizes the deficiency of the current State Route 58 (east) terminating at Real Road and has developed the Centennial Corridor Project to address this issue. Caltrans will continue to work to address future deficiencies in traffic operations in the area. There are no current plans to construct a freeway loop around the perimeter of the metropolitan area of Bakersfield. Discussion regarding alternate designs can be found in Section 2,1.5, Alternatives Considered but Eliminated from Further Discussion, in Volume 1 of this final environmental document.

Comment GP-61

GP-61

Name: alan booth

Address: po box
City:
State: CA
ZIP:
Email: alan@portfolioproprties.com

Topics

Property Acquisition / Relocation

lower property values — GP-61-1

Property Values

will be negatively impacted

Parks / Public Lands / 4(f) — GP-61-2

you can certainly mitigate the Saunders Park with a swipe of Obama's pen

1

Response to Comment GP-61

Comment Code	Response
GP-61-1	Thank you for participating in the environmental process for the Centennial Corridor Project. Several comments were received regarding property values. Some individuals have expressed a general belief that the project would result in decreased property values due to various reasons, including temporary construction impacts, property acquisitions, and/or project features being closer to properties than previously. However, the final environmental document does not specifically discuss property values as part of compliance for either California Environmental Quality Act/National Environmental Policy Act analysis since it is not required or expected. The Centennial Corridor Project may have an effect on property values, but it is not likely to be a major change based on literature that Caltrans reviewed and summarized for Appendix D of the Standard Environmental Reference Volume 4 (Community Impact Assessment). The effects of highway improvements on property values have been studied extensively, especially the impacts on single family residential property. Most studies, though not all, conclude that new transportation facilities, including freeways, have an overall positive effect on property values. One such independent research study, conducted by professors from Cal Poly University Pomona, evaluated the effects on housing prices of a new freeway in Southern California, Interstate 210 extension, which opened in 2002 (Reibel, et. al. 2008[20]). It is worth noting that in looking at four years of housing sales data, the researchers found that while all house prices generally continued to climb in the freeway corridor, those houses located within 0.4 mile of the new freeway facility did not see their values rise as rapidly. The authors attributed this, as have other studies, to certain negative effects associated with freeways which are often found at very short distances on houses nearby, such as increased noise, and air pollution, and which may have the effect of keeping the value of the house from increasing at the same rate of those located further away (that is, beyond 0.4 mile). At the next functional range of distances, the benefits are still close enough to be beneficial but the general negative proximity impacts are diminished. At even greater distances away from the new freeway, the value of increased mobility and accessibility gradually declines to zero. In particular, price appreciation following the freeway construction is the slowest for houses in the closest proximity to the freeway (within 0.4 mile), much faster at moderate distances, and slower again as the distance further increases. In addition, another study concluded that freeway design is also an important factor, with depressed freeways contributing most to property values (Siethoff 2002[21]). Freeway grade has a consistent impact on land value, with the depressed sections having the highest land value for residential properties. The rationale is that the less visible the freeway, the higher the value to residential owners. This pattern is consistent with studies reviewed for Caltrans Volume 4 Appendix D. Another study conducted for the Arizona Department of Transportation and the Federal Highway Administration California found that property values increase at a greater rate for both commercial and multi-unit apartments over single family residences (Carey: 2001[22]).

[20] Reibel, Michael. House Price Change and Highway Construction: Spatial and Temporal Heterogeneity. California State Polytechnic University, Pomona.

[21] Siethoff, Brian ten. Property Values and Highway Expansions: An Investigation of Timing, Size, Location, and Use Effects. Cambridge Systematics, Inc. Cambridge, MA. January 2002.

[22] Carey, Jason. Impact of Highways on Property Values: Case Study of the Superstition Freeway Corridor. Arizona Department of Transportation. Phoenix, AZ. October 2001.

Comment Code	Response
	Past research using case studies on the effects of introducing new highway facilities near residential properties indicates that over the duration of a longer time period, property values will rise after an initial period of downward movement.
GP-61-2	Your comment is acknowledged. Saunders Park will not be affected under the Preferred Alternative (Alternative B). Saunders Park would only be affected under Alternative C, which would result in permanent impacts totaling 3.27 acres.

Comment GP-62

GP-62

Name: Jonathan Mills

Address: 1222 Woodrow Ave.
City: Bakersfield
State: CA
Email: jonathan.rbsandrini@gmail.com

Topics

Project Design Modifications

I believe Option B is the best option for our community — GP-62-1

Traffic

Building a connection between hwy 99 and I-5 via the Centennial corridor is vital to the growth of our community. — GP-62-2

Quality of Life / Community Cohesion

This project will reduce traffic on surface streets and allow better flow of traffic between Hwy 99 and I-5 — GP-62-3

Property Acquisition / Relocation

while I am not directly affected I do feel that the people who will be displaced will need more than just "fair market value" we also need to provide assistance to the displaced property owners and make sure that they are not left out on the streets with nowhere to go. with this said I am still in support of completing the centennial corridor — GP-62-4

Construction Related Impacts

There will be some growing pains but it is for the greater good — GP-62-5

Safety

This project will increase safety on the roads by reducing traffic on major choke points on our local roads — GP-62-6

Other

My late Grandfather L. Dale Mills (ret.Director of public works for Kern county) dreamed about completing this project before there were so many houses in the way. We should have done this sooner but right now our Community and Economy depend on the completion of this project. — GP-62-7

Response to Comment GP-62
(Comment Received after Public Review Period)

Comment Code	Response
GP-62-1	Your support for Alternative B is acknowledged.
GP-62-2	The Centennial Corridor Project is anticipated to provide an efficient movement of traffic, goods, and materials through metropolitan Bakersfield by providing route continuity from the State Route 99/State Route 58 interchange to Interstate 5. Bakersfield is positioned to be the economic center of the San Joaquin Valley because of its proximity to Interstate 5 and State Route 99, the two major corridors for goods movement, as well as its location between Los Angeles and the Bay Area. In addition, improved access throughout Bakersfield would benefit agricultural-oriented businesses that are west and east of Bakersfield because travel time and associated costs to and from those businesses and distribution facilities in the downtown area of Bakersfield and along State Route 99 and State Route 58 would be reduced.
GP-62-3	A discussion of the positive benefits of the project on traffic is provided in Section 3.1.6, Construction Impacts, of the final environmental document.
GP-62-4	Caltrans, in coordination with the city of Bakersfield, shall implement all property acquisition and relocation activities in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act) of 1970 (Public Law 91-646, 84 Stat. 1894). The Uniform Act mandates that certain relocation services and payments be made available to eligible residents, businesses, and nonprofit organizations displaced by the project. The Uniform Act provides uniform and equitable treatment by Federal or Federally assisted programs of persons displaced from their homes, businesses, or farms, and establishes uniform and equitable land acquisition policies. See Appendix D in Volume 2 for more information on Caltrans' Relocation Assistance Program. Additionally, Mitigation Measure R-1 (Section 3.1.4.2) includes measures that may be considered by Caltrans for incorporation into the relocation plan to minimize impacts to displaced businesses and residences. Accordingly, acquisitions would be conducted as necessary to build the approved project, and displaced residents would be provided just compensation in accordance with the Uniform Act.
GP-62-5	Construction-related impacts are anticipated as a result of the proposed project. These temporary impacts may include traffic impacts due to lane/road closures, air quality, and noise. The proposed project will implement measures to minimize impacts to the greatest extent feasible. Construction-related mitigation and minimization measures are provided in Section 3.6, Construction Impacts, in this final environmental document.
GP-62-6	Your comment is acknowledged.
GP-62-7	Your comment is acknowledged.

Comment GP-63

GP-63

Jose Espinoza
July 8

Property Acquisition/Relocation
Neighborhood they will be using to comp. has a F rating for crime. This is unfair to our home market value. GP-63-1

Response to Comment GP-63

Comment Code	Response
GP-63-1	Real estate market prices are mainly based on comparative sales in the area. Many factors contribute to market values, including location, neighborhood, current real estate sales in the area, school system, crime, taxes, government services, parks/recreation, and features of the home. Real estate appraisals would be conducted fairly using comparative sales within the general area of your property. Whether or not the comparable sales area is rated "F" for crime, right-of-way agents will explain their real estate appraisal with the property owners. Real estate property acquisitions would comply with the provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act) of 1970. The Uniform Act mandates that certain relocation services and payments be made available to eligible residents, businesses, and nonprofit organizations displaced by the project. The Uniform Act provides uniform and equitable treatment by Federal or Federally assisted programs of persons displaced from their homes, businesses, or farms, and establishes uniform and equitable land acquisition policies. Caltrans has developed the Relocation Assistance Program to satisfy the provisions stated in the Uniform Act and to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. See Appendix D in Volume 2 for more information on Caltrans' Relocation Assistance Program. As discussed in Section 3.1.4.2, Relocation and Property Acquisition, per Standard Condition SC-R-1, Caltrans, in coordination with the city of Bakersfield, shall implement all property acquisition and relocation activities in accordance with the Uniform Act and Caltrans's Relocation Assistance Program. Right-of-way agents will follow standardized guidelines during the appraisal process to determine a fair market value of the property. Additionally, principles of real estate market values are primarily based on comparative sales in the area. Many factors contribute to market values, including location, neighborhood, current real estate sales in the area, school system, crime, taxes, government services, parks/recreation, and features of the home.

Comment GP-64

GP-64

From: Shelley kraft [mailto:skshelley4@gmail.com]
Sent: Sunday, July 13, 2014 2:37
To: Centennial@DOT
Subject: SAVE THE TREES

I wanted to express my concern for saving some of the rather old trees along the corridor's way. Thank you. GP-64-1

Response to Comment GP-64

Comment Code	Response
GP-64-1	Caltrans thanks you for participating in the environmental process for the Centennial Corridor Project. To construct the project, trees (including old mature trees) would be required to be removed. Caltrans would preserve (protect in place) as many mature trees as feasible. Because of the limited available design at this phase of the project, detailed information on the number of mature trees could not be quantified; therefore, a determination could not be made whether mature trees could be preserved. A tree survey will be completed during the final design phase of the project that would identify locations of existing specimen-sized trees (larger than 20 feet high). Caltrans would identify trees within the project area that could be preserved and provide fencing in the design plans to protect them. If a tree could not be preserved, the landscape plan will incorporate a tree replacement plan with a replacement ratio of 1:1 (i.e., for every one tree removed, a tree will be planted). Mature trees (larger than 20 feet high) that are to be removed would be replaced using 20-inch box trees.

Chapter 7 Responses to Oral Comments Received at the June 11, 2014 Public Hearing

This section provides oral comments received on the draft environmental document from persons attending the public hearing held on June 11, 2014. A total of 6 oral comments were recorded and are summarized below. Transcripts of the oral comments and responses to topics of concern are provided on the pages that follow.

Table 7.1 Summary of Oral Comments Recorded at the June 11, 2014, Public Hearing

Comment Code	Commenter Name	Comment Topics
PH-1	Jim Landers	Design modification
PH-2	Dennis Fox	General
PH-3	Karen Landers	Design modification
PH-4	Roberta Bender	Design modification
PH-5	Vicky Gresham	General, Design modification, Traffic
PH-6	Darlene Simpson	Community cohesion, Relocation

Comment PH-1

PH-1

Centennial Corridor Meagan 6-11-14.TXT

BAKERSFIELD, CALIFORNIA

Centennial Corridor
Public Comments
June 11, 2014

Transcribed by: Meagan Coles

JIM LANDERS: Jim Landers, L-a-n-d-e-r-s. I would like to have La Mirada Drive turned into a cul-de-sac. That's an option to have over there. They said you need to tell us, and that's what I am doing. And that's about it for right now. PH-1-1

Response to Comment PH-1

Comment Code	Response
PH-1-1	Caltrans thanks you for participating in the environmental process for the Centennial Corridor Project. As described in the final environmental document (Volume 1, Summary, and Section 2.1.1, Build Alternatives), the Preferred Alternative (Alternative B) includes an overcrossing at La Mirada Drive to help traffic circulation. Sheet 10 for Alternative B shows the overcrossing and can be found in Appendix E of Volume 2. Caltrans has analyzed the benefits associated with minimizing impacts on the remaining neighborhood, costs and maintaining circulation between neighborhood sections that would otherwise be cut off. The proposed overcrossings at La Mirada Drive and Marella Way, as well as the proposed undercrossing at Ford Avenue, would allow three local streets to remain open between California Avenue and Stockdale Highway. At this early stage of the project, it is assumed that all of the above-mentioned design options (Marella Way Overcrossing, Ford Avenue Undercrossing, and La Mirada Drive Overcrossing) would be constructed as part of the project. These crossings would help to maintain community cohesion and connectivity between either side of the neighborhood.

Comment PH-2

PH-2

Centennial Corridor Meagan 6-11-14.TXT

BAKERSFIELD, CALIFORNIA

Centennial Corridor
Public Comments
June 11, 2014

DENNIS FOX: My name is Dennis, two "Ns," Fox with one "X." I was on the 2010 plan, and that goes 20 years before 2010. They did a 2010 General Plan for the city of Bakersfield. At that time the circulation element -- it was when Bakersfield was being sold. Bakersfield was sold along with stock and politician

PH-2-1

PH-2

Centennial Corridor Meagan 6-11-14.TXT

from people who, uhm, the factors -- the people who got us to invade and take over Hawaii. And, uhm, we got into the -- the service level was dropped from Service Level A to Service Level D, and, you know, for the benefit of the developer. And they decided that the freeway was needed to go out there.

Bakersfield, as you may know, is always behind 20 years' current stuff. We are a conservative area, not conservative like (unintelligible) and self reliance. "Conservative" here means backward and getting goodies from Uncle. That's why we always have to say we are conservative to deny that we always have to get something from somebody else, like Water from farmers in California. We want their water for here to sell to LA and stuff like that.

2 PH-2-1

The, uhm, the development originally was to be on the eastside. There was even a Catholic school and Catholic church on Niles, and I think there was a couple of schools that died because Bakersfield -- the General Plan just -- Bakersfield development moved from east Bakersfield over to the west where it is now. Very, very odd on behalf of an outside entity. And Bakersfield is always talking about being southern, but for 150 years we are always dependent on outside entities to tell them what to do, especially, with the water and with the development. So at that time they wanted a freeway and -- this current freeway.

Originally the freeway -- 58, which dead ends -- dead ended into a house, and they had cows --

Page 2

PH-2

cows. I remember they had semis driving into the people's house. They had to go out and lasso the cows on the freeway. So they put in the Wild West Shopping Center where they lassoed the cows. Wild West -- and they put up a burn there to catch the cars. The freeway was suppose to go straight from there and continue west.

Well, the rest of the reservation stopped because the developers wanted to put houses in there. It was because we were unable to do future thinking

before other people's immediate profits take over, you know, and what's more important at the time. So the freeway did not go out past Cal State anyway.

PH-2-1

And in the General Plan -- not a lot but some others thought expressways would be better for less money. Expressways were getting quite common in urban areas -- new urban areas like Temecula and Sacramento. And I brought up Sacramento, they were using expressways, and they are limited access like a freeway. And they're very inexpensive, you know. They get two for the cost of one freeway -- two or three, you know. So they thought that was better. One was 7th Standard going out, and then there was one where there was a north expressway instead of what they have now, which they could have done the expressway -- to come in and have 24th Street go across the 178. They all wrapped up in a flyover. This sounds good. This means we will be a large and sophisticated town if we

PH-2

Centennial Corridor Meagan 6-11-14.TXT

had a freeway and a flyover. That's bizarre.

The -- I am going to give you a lot of history. With me, it is current events that go back 150 years.

Uhm, the route that was put -- the newspaper that we have is very, very ruthless and has a lot of turnover and people not knowing what is going on and

4

what. So -- uhm, and our electronic media -- I mean, we have people on TV who are just here for a while generally to where they can get a better job and put it on their tapes -- on their audition tapes and say, "Do you want fries with that?" Which, actually, I found out is a better paid profession. PH-2-1

So the environmental movement here is fixated on a river parkway. Or a -- riverbed parkway shall we say is probably more appropriate, and -- a lot of people don't know where the river goes. Most people in Bakersfield don't know where the river goes. Do you know where the river goes? It goes to LA. So anyway -- with a little help. So anyway, they were fixating on this, and they don't want to look across a river and a freeway. So they want the river to go out and go through the endangered species complex and that section, which is currently being looked at by 10 section oil field, which is an endangered species preserve and the environmentalist, S.U.L.D., and I will tell you why.

Uhm, that was brought up -- and going through the water bank and the endangered species areas this

Page 4

PH-2

was mentioned by the water -- the Cali PA -- uhm, Linda Adams. Ask why do you want that freeway to go through all that endangered animals areas? To which she said,

5

Carl Pope. They deny that they are a cult, but they had their own pope. The Sierra Club Chapters do very anti-environmental things, but if they were to call them on it, they would fire him. Very telling. So that's where the freeway is going -- out there.

The freeway is now going and has to go through these people's houses, and that's because of the Thomas Road Improvement Act, TRIP, which should be -- T-R-I-P, Thomas Road Improvement Project -- which should be the Planning of the Road of Kern, or "PORK," because it is "PORK" that is a conservative area because of so much federal money that he acquired. He is also famous, but not locally, for setting up Medicare Part D, which was heavily influenced by his dahlins with the lady lobbyist fors the big pharmaceutical companies, which the federal government -- bankrupting the federal government by paying full price for prescription drugs where other countries -- uncivilized, negotiate a price.

PH-2-1

So it is my contention this freeway should not be called the Westside Parkway, but the Debbie Stealmen (phonetic) freeway. For it is doing to the residents of the area what Congressmen Thomas was doing to Debbie Stealmen.

But anyway, it would have been just as -- it

PH-2

would make more sense to go straight across and be a lot less expensive to run that freeway right over to the 99 and not go through all the houses. The thick of the problem is that we might lose funding because it would take off a chunk of Saunders Park, which shows the need for federal. We can't do things here locally, and it would probably cost us greatly since you are talking about houses to run it across the river. Maybe take out a piece of Beach Park rather than -- but we would lose gifts from Uncle Sam, and that's the main thing.

Anyway, I think it would be cost effective to run that out there. I think it would be more effective to have a expressway on 7th Standard. This is because the semis now use Rosedale, which they will still do, and every time they have to go through all the gears and going through the gears is what causes them to put out pollutants, and they go from stop light to stop light to stop light. So on the expressway they run. PH-2-1

I would also -- I have been making cracks about Paramount, but they have a large industrial complex on 7th Standard, and I would like to see stuff moved there so they can train -- so they can ship our water in the form of almonds and nuts to China. It's good for the balance of payments. I have problems with

some aspects of Paramount's operations, but other

PH-2

Centennial Corridor Meagan 6-11-14.TXT

things I don't, you know. And their pumping water out from under Bakersfield I am not in favor of because of the -- they are not going to go get the water to push back up. They are losing underground water capacity, and they have subsidies in the Valley. The Valley is sunk 20 - 30 feet. So they want to restore the San Joaquin area and end up with a big mud puddle. So it would take years and tons and tons of water to get that thing turned back into a river. They don't do long -- sometimes my long-term projections -- I will admit, get involved, you know. It won't hold up things -- you know, it's best to look at. Sometimes you have to just go ahead and do it. But this one will not only -- you don't lose the houses that it's taking up. You are going to lose a whole neighborhood and objectivity. PH-2-1

And, uhm, I was wondering -- but definitely we have to give it the Debbie Stealmen name in there and, uhm, wonder if that's going to be a twofer.

The developers are quite generous with their political contributions, which after your political career you get to keep. The houses that people lose, their houses will move out and buy new houses for them. So, you know, why don't they just give them free houses

8

on behalf of the developers? It would be nice if they do that. Next time he is here from North Carolina, if they had (unintelligible) go consider that. I am getting snotty, but, uhm, rhetorically it gets

Page 7

PH-2

attention.

But mainly, I see it as the Debbie Stealmen -- it is -- it's counterproductive. Where as if they modified "A" and moved into the north, they could get a twofer off the 178, and that's it -- I think. I am forgetting something.

You do know by the way, about planning it? Highway 58 comes into Bakersfield six lanes. When it's in the town where the people are it drops to four. I think that is inconsistent. I do not believe that Bakersfield -- and I have been told this by somebody who would know from the planning -- can do it's own planning, but it's being done by outside entities, and it's own destiny is outside of the water and everything. PH-2-1

I don't think that Bakersfield should be doing it's own planning on water -- it's own water managing -- groundwater management area. It just gives it -- because it's an area of extracting. I am getting repetitious. It's an area of economic -- it's an economic calling where things -- we don't make things

here. Basic things are extracted here. You following me?

Although as Workmen (phonetic) says, who writes for the LA Times, Bakersfield is the most interesting town in America, and I agree. Not to many towns like it. He wrote the book about -- he has written a couple of books about the area, and it's a comedy and stuff.

PH-2

Seventy-five years since the publication of "Grapes of Wrath" and not all that much has changed. Seriously. It's a pattern, and it's a habit; and power of habits just came out with an interesting book. Habits, you don't get rid of them, but you can change them; and I don't see them changing, and I don't see them being dropped. We are always going to be Bakersfield, subservant to other peoples' plans and designs for the area. Yeah, I think this is a perfect example of it.

Couldn't ISTEA federal funding be used to offset going through parks? Why don't they get it? That is a big question. I should have stopped and asked that one because it was quick, but it was more fun being snotty and sarcastic.

PH-2-1

STATE OF CALIFORNIA.)
)
COUNTY OF KERN) ss.

I, Meagan Coles, do hereby certify that I transcribed the foregoing-entitled matter; and I further certify that the foregoing is a full, true, and correct transcription of such proceedings.

Dated this 1st day of June, 2014, in

PH-2

Bakersfield, California.

Meagan Coles

Response to Comment PH-2

Comment Code	Response
PH-2-1	Caltrans thanks you for participating in the environmental process for the Centennial Corridor Project. Your opposition to Alternative B is acknowledged.

Comment PH-3

PH-3

Centennial Corridor Tiffany 6-11-14.TXT

BAKERSFIELD, CALIFORNIA

Centennial Corridor
Public Comments
June 11, 2014

Transcribed by: Tiffany Barbour

THE REPORTER: Just give me your name --
MS. LANDERS: My name is Karen Landers. Oh, just say what I want --
REPORTER: Is that spelled L-a-n- --
KAREN LANDERS: Oh, I'm sorry. L-a-n-d-e-r-s. And do you want me to keep talking? Okay.
This is about the proposed cul-de-sac on La Mirada. I know they're thinking about having it go straight through or a cul-de-sac. And I think there's

PH-3-1

Page 1

PH-3

going to be a lot of traffic on the remaining homes if it's -- if it goes through. So I would love to see La Mirada turned into a cul-de-sac. That's it. Thanks.

PH-3-1

Response to Comment PH-3

Comment Code	Response
PH-3-1	Caltrans thanks you for participating in the environmental process for the Centennial Corridor Project. As described in the final environmental document (Volume 1, Summary, and Section 2.1.1, Build Alternatives), the Preferred Alternative (Alternative B) includes an overcrossing at La Mirada Drive to help traffic circulation. Sheet 10 for Alternative B shows the overcrossing and can be found in Appendix E of Volume 2. Caltrans has analyzed the benefits associated with minimizing impacts on the remaining neighborhood, costs and maintaining circulation between neighborhood sections that would otherwise be cut off. The proposed overcrossings at La Mirada Drive and Marella Way, as well as the proposed undercrossing at Ford Avenue, would allow three local streets to remain open between California Avenue and Stockdale Highway. At this early stage of the project, it is assumed that all of the above-mentioned design options (Marella Way Overcrossing, Ford Avenue Undercrossing, and La Mirada Drive Overcrossing) would be constructed as part of the project. These crossings would help to maintain community cohesion and connectivity between either side of the neighborhood.

Comment PH-4

PH-4

MS. BENDER: Roberta Bender.
THE REPORTER: Could you spell that for me?
MS. BENDER: Roberta is Robert with an "a," B-e-n-d-e-r. And I propose -- I think a cul-de-sac on La Mirada would be helpful because it would save a lot of homes. It would keep -- keep that open from becoming a thoroughfare for so much traffic and pollution and noise level right across people's front yards. So....
THE REPORTER: Go ahead.
MS. GRESHAM: My name is Vicky Gresham, the

PH-4-1

2

Page 2

Response to Comment PH-4

Comment Code	Response
PH-4-1	Caltrans thanks you for participating in the environmental process for the Centennial Corridor Project. As described in the final environmental document (Volume 1, Summary, and Section 2.1.1, Build Alternatives), the Preferred Alternative (Alternative B) includes an overcrossing at La Mirada Drive to help traffic circulation. Sheet 10 for Alternative B shows the overcrossing and can be found in Appendix E of Volume 2. Caltrans has analyzed the benefits associated with minimizing impacts on the remaining neighborhood, costs and maintaining circulation between neighborhood sections that would otherwise be cut off. The proposed overcrossings at La Mirada Drive and Marella Way, as well as the proposed undercrossing at Ford Avenue, would allow three local streets to remain open between California Avenue and Stockdale Highway. At this early stage of the project, it is assumed that all of the above-mentioned design options (Marella Way Overcrossing, Ford Avenue Undercrossing, and La Mirada Drive Overcrossing) would be constructed as part of the project. These crossings would help to maintain community cohesion and connectivity between either side of the neighborhood.

Comment PH-5

PH-5

THE REPORTER: Go ahead.

MS. GRESHAM: My name is Vicky Gresham, the last name is G-r-e-s-h-a-m. I live at 4200 La Mirada Drive, and I am opposed to making the freeway go all the way through our neighborhood and would like see it go with the plan to make the cul-de-sac on the end of La Mirada because I feel like it will be safer for our children in the neighborhood. It would bring the traffic down, that it will hold our home values better to be in a cul-de-sac. And, also, they need to put some stop signs while they are at it on Mira Loma. La Mirada turns into Mira Loma. It goes directly to a school. And I'm afraid that it's really unsafe, and we may have more traffic in the the local neighborhood than we have had in the past. I'm all for the cul-de-sac.

PH-5-1

Page 2

PH-5

THE REPORTER: What was that?

MS. GRESHAM: I said, I'm all for the cul-de-sac.

Response to Comment PH-5

Comment Code	Response
PH-5-1	Caltrans thanks you for participating in the environmental process for the Centennial Corridor Project. As described in the final environmental document (Volume 1, Summary, and Section 2.1.1, Build Alternatives), the Preferred Alternative (Alternative B) includes an overcrossing at La Mirada Drive to help traffic circulation and maintain access connection between the two areas of the community divided by the new freeway. Caltrans has analyzed the benefits associated with minimizing impacts on the remaining neighborhood, costs and maintaining circulation between neighborhood sections that would otherwise be cut off. The proposed overcrossings at La Mirada Drive and Marella Way, as well as the proposed undercrossing at Ford Avenue, would allow three local streets between California Avenue and Stockdale Highway to remain open. The project would help to maintain community cohesion and connectivity between either side of the neighborhood. It is acknowledged that a cul-de-sac option on La Mirada Drive may lessen through traffic along La Mirada; however; vehicular traffic would have to find other means to cross the Alternative B alignment and would travel a circuitous local route, which would increase traffic on other local streets. A request for a stop sign at an intersection must meet the requirements of the four-way stop sign to warrant analysis. Construction of a four-way stop sign at a local street is the responsibility of the city of Bakersfield. Please contact the city of Bakersfield Public Works Department and submit a formal request. It has been expressed in some of the public comments received that the project would result in decreased property values due to various reasons, including temporary construction impacts, permanent construction impacts, and property acquisitions. Real estate market prices are mainly based on comparative sales in the area. Many factors contribute to market values, including location, neighborhood, current real estate sales in the area, school system, crime, taxes, government services, parks/recreation, and features of the home. The Centennial Corridor Project may or may not have an effect on the property values. In addition, Caltrans has found no literature, studies, or evidence that property values would decrease because of the realization of the Centennial Corridor. Past research using case studies on the effects of introducing new highway facilities near residential properties indicates that over the duration of a longer time period, property values will rise after an initial period of downward movement.

Comment PH-6

PH-6

Centennial Corridor Tiffany 6-11-14.TXT

e

MS. SIMPSON: I'm Darlene Simp- -- Simpson, D-a-r-l-e-n-e; Simpson, S-i-m-p-s-o-n. And I just wanted to say I just love the neighborhood. It's such a different kind of a neighborhood, and I would hate to see it all torn up. It's a wonderful place to walk; it's a wonderful place to -- to live, and I really appreciate it. So it's going to be hard trying to find another place like this one. So, uhm, that's all I can think of right now, and I just wanted to say I really enjoy being here. It's got the curvy roads, and it's just nice. I guess that's all.

PH-6-1

3

Page 3

Response to Comment PH-6

Comment Code	Response
PH-6-1	Your opposition to Alternative B has been noted. Caltrans thanks you for participating in the environmental process for the Centennial Corridor Project.

Chapter 8 Responses to Comments from Native American Tribes

This section provides comments received from Native American tribes. A copy of the draft environmental document was sent to the following Native American Tribes:

- Kawaiisu Tribe
- Tejon Indian Tribe
- Tule River Indian Tribe
- Kitanemuk and Yowlumne Tejon Indians
- Kudzubitcwanap Palap Tribe
- Monache Inter-Tribal Association
- Michahai Wukasachi Band of Eshom Valley
- Chumash Council of Bakersfield
- Kern Valley Indian Councils
- Tubatulabals of Kern County
- Carol A. Pulido
- Santa Rosa Rancheria

One comment was received and is listed below.

Table 8.1 Comment Received from Native American Tribes

Comment Code	Commenter Name	Date Comment Received
NA-1	Colin Rambo, Tribal Historic Preservation Technician, Tejon Indian Tribe	7/7/2014

Comment NA-1

NA-1

TEJON
INDIAN TRIBE

July 7, 2014

Jennifer H. Taylor
Office Chief, Central Region
Environmental Southern San Joaquin Valley
855 M Street, Suite 200
Fresno, California 93721

RE: Centennial Corridor Project EIR/EIS

Dear Ms. Taylor

First, please allow me to formally introduce myself. My name is Colin Rambo, and I was recently hired by the Tejon Indian Tribe (the Tribe) for the purpose of establishing their Tribal Historic Preservation Office. Further, the Tribe's Chairperson, Kathryn Montes Morgan, has delegated to me the authority to review and comment on all Tribal Consultation matters related to cultural resources on behalf of the Tribe.

Secondly, thank you for your letter, dated 7 May 2014, inviting the Tribe to comment on the Centennial Corridor Project (Project) EIR/EIS. The Project EIR/EIS states that no prehistoric or ethnohistoric cultural resources were discovered during the cultural resource surveys, but that extended Phase I geoarchaeological testing will be conducted in order to test the subsurface sensitivity model developed for the Project. The Tribe is respectfully requesting to monitor the geoarchaeological testing. Pending the results of the geoarchaeological study, the Tribe may also request to monitor ground-disturbing activities related to the Project. Additionally, the Tribe is now pleased to offer Cultural Resource Sensitivity Training (CRST) courses for projects that include ground disturbance but do not warrant full-time archaeological or Native American cultural monitoring, and would like to offer these services for the Project, and any other Caltrans projects in Kern County (i.e. the Tribe's service area). NA-1-1

Please feel free to contact me, or have the Caltrans District 6 Native American Liaison, Mandy Marine contact me in regard to the abovementioned requests. Thank you for including the Tribe in the consultation process, and I look forward to working with your office in the future.

Respectfully,

Colin Rambo

Colin Rambo
Tribal Historic Preservation Technician
Tejon Indian Tribe
colin.rambo@tejontribe.net

1731 Hasti-acres Drive, Suite 108 Bakersfield, California 93309 Office: (661) 834-8566 Fax: (661) 834-8564

Response to Comment NA-1

Comment Code	Response
NA-1-1	The information and recommendation provided in your comment letter, received July 7, 2014, are acknowledged. As discussed in Section 3.1.8 of the final environmental document (Volume 1), in November 2012, an extended Phase I geoarchaeological model was prepared for the project. The Extended Phase 1 Geoarchaeological Report: Stage 1 Geomorphic Sensitivity Study indicated that given the sensitivity of portions of the project area, further identification efforts for archaeological resources were needed to be undertaken for the Preferred Alternative. Prior to finalization of the environmental document, Caltrans conducted Stage 2 of the archaeological sensitivity study to field-check the preliminary buried site geomorphic sensitivity study of areas believed to have high and very high archaeological sensitivity. Prior to conducting the geoarchaeological Stage 2 work, the Tejon Tribe and the Santa Rosa Rancheria Tachi Yokuts were contacted concerning the potential for archaeological monitoring. They delegated the monitoring to the Tribal Archaeological Monitor of the Tule River Indian Reservation who participated in field activities. During the second round of fieldwork to do the coring excavations, the Tule River Indian Tribal Monitor communicated that he did not feel the need to be present based on results of the earlier trenching fieldwork and the limited extent of the coring effort. Although the Cultural Specialist of the Santa Rosa Tachi Yokuts expressed an interest in monitoring the second round of fieldwork, she was not able to provide a monitor during the scheduled fieldwork, which occurred December 2 and 3, 2014. On December 3, 2014, the Stage 2 field work was completed. No cultural features were identified in the field, nor were any artifacts discovered. The subsurface core samples taken in the field are currently undergoing laboratory testing, prior to preparation of the study report. Per Caltrans's policy and in accordance with your request, the Tejon Indian Tribe will be notified of the results of the study. In addition, before starting construction activities in sensitive areas identified in the study results, Caltrans shall contact the Tejon Indian Tribe and other tribes expressing interest to provide them with the opportunity to observe grading activities. If it is determined that any discovered resource(s) meets any of the National Register/California Register criteria, appropriate mitigations measures will be undertaken. Accordingly, a qualified archaeologist retained by Caltrans, as well as Native American representative(s), shall be present at preconstruction conferences; establish areas of archaeological sensitivity that would need archaeological resource surveillance based on data gathered from the field survey and the Extended Phase 1 Geoarchaeological Study (Stages 1 and 2); and establish procedures for temporarily halting or redirecting work to be followed if artifacts or features are discovered. Minimization Measure CI-1 from Section 3.6, Construction Impacts (Volume 1), has been incorporated into the project to address potential discovery of cultural resources, procedures for handling discoveries, and consultation with Caltrans, including the District Cultural Resources and Native American Coordinators.

Chapter 9 Responses to Comments from Elected Officials

This section provides comments received from Elected Officials from the city of Bakersfield. A copy of the draft environmental document was sent to the following elected officials:

- Andy Vidak, U.S. Senator
- Barbara Boxer, U.S. Senator
- Shannon L. Grove, State Assembly 34th District
- Rudy Salas, State Assembly, 32nd District
- Diane Feinstein, U.S. Senator
- Kevin McCarthy, House of Representatives
- Jean Fuller, U.S. Senator
- David Valadao, House of Represenatives
- Leticia Perez, Kern County Board of Supervisors
- Mike Maggard, Kern County Board of Supervisors
- Zack Scrivner, Kern County Board of Supervisors
- Mick Gleason, Kern County Board of Supervisors
- David Couch, Kern County Board of Supervisors
- Harvey L. Hall, Mayor of Bakersfield
- Ken Weir, Bakersfield City Council
- Terry Maxwell, Bakersfield City Council
- Willie Rivera, Bakersfield City Council
- Bob Smith, Bakersfield City Council
- Harold Hanson, Bakersfield City Council
- Jacquie Sullivan, Bakersfield City Council
- Russell Johnson, Bakersfield City Council
- Roberta Gafford, City Clerk of Bakersfield

A total of two comment letters were received as summarized below.

Table 9.1 Comments Received from Elected Officials

Comment Code	Commenter Name	Date Comment Received
EO-1	Bob Smith, Councilmember, Ward 4, city of Bakersfield	5/16/2014
EO-2	Terry Maxwell, Councilmember, Ward 2, city of Bakersfield	7/8/2014

Comment EO-1

EO-1

Jennifer H. Taylor
Office Chief, Central Region, Environmental Southern San Joaquin Valley
855 M Street, Suite 200
Fresno California 93721

RE: Centennial Corridor Project, Draft EIR

I believe the Centennial Corridor Project offers an opportunity to greatly improve bicycle access to the existing Class 1 bike path on the Kern River Parkway. By improving bicycle access the project will help reduce air pollution and greenhouse gas emissions. Improving bicycle access will also be consistent with Cal Trans Complete Streets Policy and the Pedestrian and Bicycle guidance of the FHWA.

The City of Bakersfield adopted a Bicycle Transportation Plan in November of 2013. The plan greatly expanded the amount of Family Friendly Bikeways by proposing just over 100 miles of routes which avoid the high traffic and high speed arterials.

The Centennial Corridor Project presents an opportunity to provide another Family Friendly Bikeway that would not be available without the project. The enclosed map shows the route extends from Palm Ave crossing State Route 99 without any on or off ramps then proceeds through the Westpark neighborhood to California Ave. The bicyclist would then need to ride on the arterial streets of California Ave and Mohawk in order to reach the Class 1 bike path and the numerous destinations that can be accessed such as California State University Bakersfield. EO-1-1

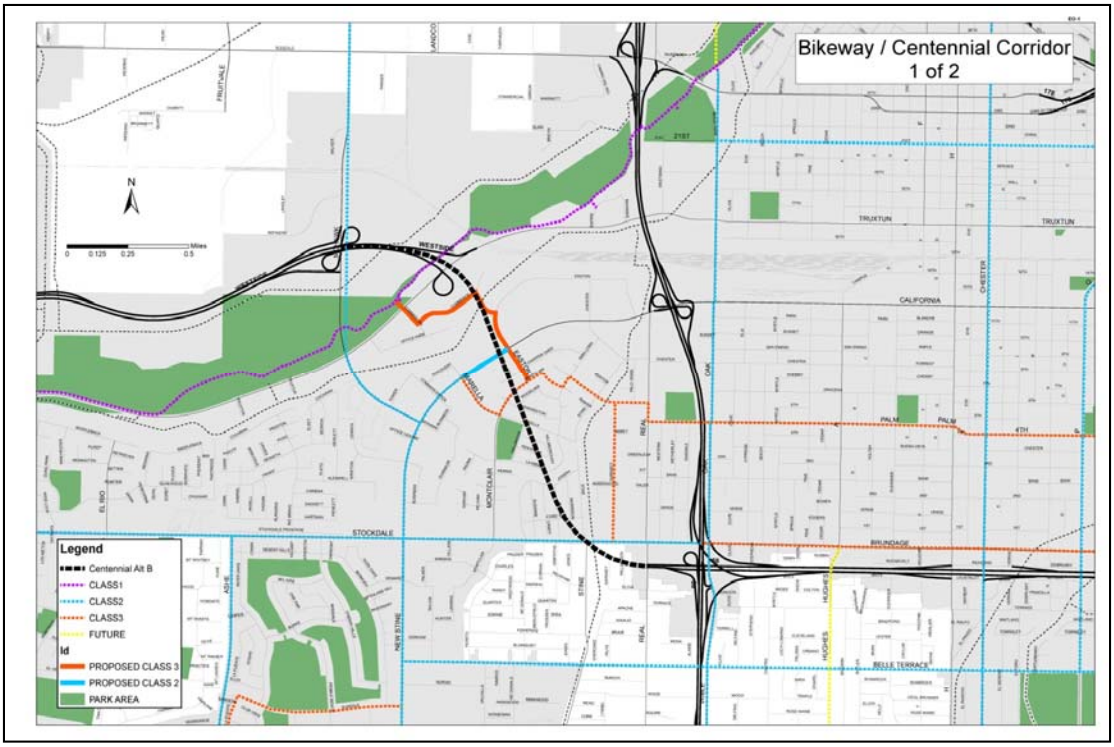
The opportunity that is presented by the Centennial Corridor Project is to continue on smaller streets crossing California Ave on Easton Drive and then crossing the canal to Commerce Dr. and Commercial Way. The City of Bakersfield is improving the traffic signal at Commercial Way and Truxtun Ave to add a pedestrian crossing and bicycle access across Truxtun to the Class 1 bike path. Thus when the project is complete a Family Friendly Bicycle Route would be provided from southeast Bakersfield all the way to Southwest Bakersfield.

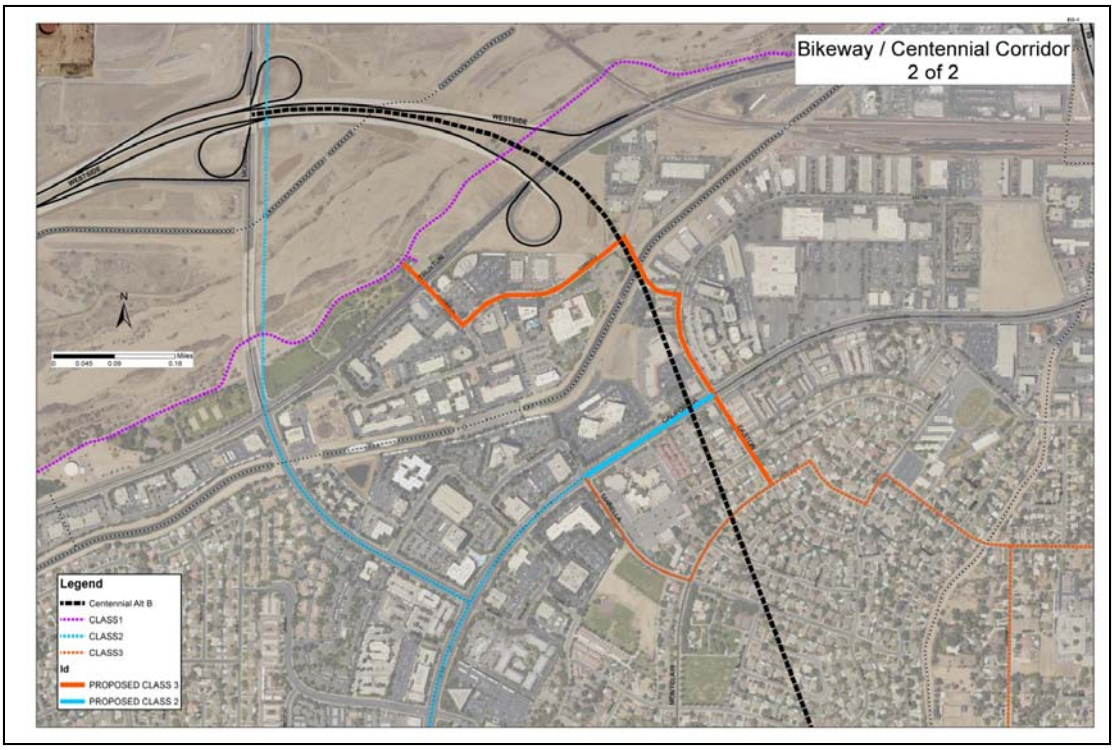
I am requesting that the Centennial Corridor Project include a bicycle crossing from Easton Dr. to Commerce Dr. over the canal. This would greatly enhance the bicycle network in Bakersfield and therefore help reduce air pollution and greenhouse gas emissions.

Thank you

Bob Smith
Councilmember ward 4 City of Bakersfield

11421 Queensbury Dr Bakersfield, 93312
bobsmith727@me.com
661-330-1404


Bikeway / Centennial Corridor
1 of 2
Legend
Centennial Alt B
CLASS1
CLASS2
CLASS3
FUTURE
Id
PROPOSED CLASS 3
PROPOSED CLASS 2
PARK AREA


Bikeway / Centennial Corridor
2 of 2
Legend
Centennial Alt B
CLASS1
CLASS2
CLASS3
Id
PROPOSED CLASS 3
PROPOSED CLASS 2

Response to Comment EO-1

Comment Code	Response
EO-1-1	Caltrans recognizes the positive effects of nonmotorized transportation, such as bicycles, on air quality and the environment. By providing a bicycle connection within the Centennial Corridor Project area, it is possible that an improved bicycle connection to an existing Class I and Class II bicycle facility could increase bicycle usage and reduce vehicle trips within the area. Caltrans has decided to include a bicycle and pedestrian connection between California Avenue and Commerce Drive as part of the project. This decision was made in response to public requests for a bicycle connection spanning over the Carrier Canal since the Carrier Canal offers an existing bridge crossing that provides pedestrian and bicycle connectivity with the route chosen. Access to Easton Drive via a bicycle connection to California Avenue will be implemented a short distance away from the original request. This improvement would enhance bicycle and pedestrian connectivity and would result in minimal effects to the environment during construction. In addition, the project would be consistent with the city of Bakersfield's Bicycle Transportation Plan (November 2013). Caltrans in coordination with the city of Bakersfield will consider the feasibility of constructing a Class I bike path connection from the Westpark neighborhood to the existing Class I bike path located north of the Carrier Canal.

Comments EO-2

EO-2

Dear Sirs,

This letter is being written to question the Draft EIR for the Centennial Corridor Project in Bakersfield California. As I have many questions about the Project, I will break these up into Compliance issues with the Projects design, how the Exceptions were approved and legal considerations, Project design's not considered or rejected and suggestions for compliance, and items specifically from the Draft EIR. I have several references in my Appendix section to which I will be referring.

Section 1- Project Design

The Highway Design Manual for the State of California in Chapter 501.1 clearly states that the design requirement for crossing freeways are to have a 2 mile buffer zone where no off or on ramps may exist (Appendix A). This part of the Spacing section is Boldfaced and according to the Design Manual the Boldface type specifies that this requirement is a mandatory standard (Appendix B).

The Ming Ave. interchange is well within this 2 mile zone. The California Ave. interchange is within this 2 mile zone. The Chester Ave./H St. interchange is within the 2 mile zone. These are clear violations of this Mandatory Standard. Please explain how 3 clear violations of this design requirement will affect the flow of traffic, affect the interweaving of traffic and why this rule exists. After the reasons have been delineated, please explain what the effect of one exception means to the interchange, two exceptions means to the interchange, and three exceptions means to the interchange. Please discuss how the increase of exceptions increases the complexity of proper function. Please give examples from the past 5 years where this number of exceptions was granted. EO-2-1

In the Highway Design Manual for the State of California in chapter 502.3- Freeway to Freeway Interchanges, it is stated that all interchanges "must" have all 8 basic movements (Appendix C). The only exception is where there is a managed lane or park and ride lots exist. The present design for this interchange is missing two of the 8 basic movements. It is missing the Southbound 99 to the Westbound Centennial Corridor (future 58 or I-40) and the Eastbound Future 58/I-40 to the Northbound 99. The Right of way acquisition in this area is not an issue because there is plenty of space that the interchanges would require. Please explain why this rule exists and the traffic flow will be inhibited by this exception. Please explain how an exception was obtained, what argument was used, and examples from the last 5 years where two exceptions were granted.

There appears to be 5 distinct exceptions for the proposed interchange that is the subject of this EIR.

EO-2

Please explain what effect one exception traditionally creates for the interchange between two freeways and how the addition of 4 more exceptions complicates the equations. Does the addition of each exception add to the complexity linearly or exponentially? Please explain through the use of at least 3 traffic modeling formulas. EO-2-1

This corridor is expected to have an unusually high number of Trailer trucks and Semi-trucks. Is there an increase in likely accidents due to the tight space in which cars and Semi-trucks will be merging? If this large number of exceptions which have been designed into this project results in injury or death, who will be the responsible party? Where in the EIR is this environmental impact addressed? If it was not addressed, why and under what reasoning would significant, and what is termed "mandatory", design exceptions not be considered to have an environmental impact? EO-2-2

EO-2

Section 2

I have reviewed the Project Development Procedures Manual, Chapter 9 and Chapter 21- Exceptions to Design Standards. (Appendix D) I have a few questions as to how this procedure has been applied here as well as in the past.

Chapter 9 refers to Public Representation not associated with CALTRANS or any elected official. Who was contacted from the public? Please describe how you have complied with all of the requirements of Chapter 9.

How often are exceptions denied?

Have the exceptions in this EIR requested ever been either approved or denied in the past 5 years? If so, please explain.

In this EIR there are 5 exceptions requested. Are those exceptions considered separately or as a whole? Please explain. EO-2-3

Have 5 exceptions to mandatory design standards from the Highway Design Manual been approved for a project that covers such a short distance been approved in the last 5 years? If so, please explain the purpose of the mandatory design requirements if they can be ignored by an established procedure.

Is there a requirement that any and all persons that have an interest or object to this request for exceptions are to be informed of the meetings by the state and federal agencies reviewing such requests? If not, please explain why. Are the minutes of these meetings available?

Was there any effort to inform the public in this case about the application for exceptions?

At these meetings are both the pros and cons to the proposal presented?

EO-2

Section 3

I would like to present a highway design plan and would ask why it was never considered as an alternative. It follows all current rules and I will give examples of current freeway systems in the State of California with similar designs.

At the base of the ridge route the Northbound I-5 splits into the 99 freeway and the I-5, both headed northbound. Both of these Freeways traverse the San Joaquin Valley and reconnect in North Sacramento. I would propose to rename the 99 freeway I-995. This is based on similar designs for the I-5 and I-405 which separate north of Los Angeles and reconnect south of Los Angeles. A similar design exists for the I-5 and I-805 in San Diego, the Bay area has a series of freeways starting with the I-580 off of the I-5 and eventually reconnects as the I-80 in Sacramento. The I-580 has several I-X80's that traverse the area providing a series of loops and connections in that area. (See Appendix E)

It is proposed the SR-58 will become I-40. The argument against merging the SR-58 with the 99 freeway for about 4 miles up to 7th Standard Rd. is because according to the design manual, the two freeways would have to stay separated rather than merged up to 7th Standard Rd. I will note that in the 2000/2002 Masterplan for transportation in Kern County, 7th Standard Rd. was to become the primary nexus between the 99 Freeway and I-5, not the Westside parkway. The Westside Parkway connection to I-5 was to be a project sometime in the future (Appendix F). This was supported by traffic counts, connection plans with the other freeways in the area, and very low impact to the environment. If a freeway were to be constructed where 7th Standard Rd. now exists between the 99 Freeway and I-5, it would not remove one house. Right-of-way expenses would be minimal and not have the detrimental environmental impact on homeowners and businesses that the Project being proposed does.

EO-2-4

I propose that the SR-58 east of Bakersfield be renamed the I-40 and that it terminate at its juncture with the newly named I-995. The access to Real Rd. would be eliminated. The freeway between this point and 7th Standard road would be widened to 5 or 6 lanes in each direction. This would make this part of the I-995 one of the widest freeway sections in the State of California. I would also reconstruct 7th Standard road into a 4-lane auxiliary interstate freeway between the I-995 and I-5 and name it the I-450.

I can support the termination of the I-40 at its junction with I-995 with examples from our current Caltrans freeway system. The I-710 and the I-110 both terminate into the I-10 in Los Angeles. The I-605 terminates/starts between the I-210 and the I-5 on the east side of Los Angeles. In San Diego, I-8

EO-2

terminates into I-5, as does I-15. There are so many examples in the Bay area, I will refer you to Appendix D, but I count about 8 examples of Interstates terminating into other Interstates. I have already covered the split off and rejoinders for the Bay Area, Los Angeles and San Diego and those are further examples of interstates terminating into other interstates. At these terminations there is little to no accommodation for increased traffic by the existence of extra lanes. The Bakersfield area has had little to no growth over the past 6 years. 2008, six years ago, is when the current project was proposed and the projected population growth was forecasted. The growth which projected the future needs was obviously inaccurate. At this point, based on population history, six lanes in this section will more than accommodate the expected volume of traffic.

The last element of this Regional Traffic Model is the creation of I-450 (currently 7th Standard Rd.) between I-995 and I-5. This is a 21 mile stretch of unobstructed road. This plan would require about four overpasses to be created, the off-ramp from the I-995 would need to be changed and the interchange at I-5 reconstructed. All of these requirements would be substantially below the current price tag to complete the proposed Project that is the subject of this EIR. As support for this proposal, please refer to Appendix E and Appendix G. The interstate system currently has many examples of auxiliary connectors that are part of the Interstate and have an Interstate designation. These connectors have three numbers to them and they exist throughout the state connecting primary interstates to primary interstates, primary intestates to other auxiliary interstates, and auxiliary interstates to other auxiliary interstates. This proposal connects a primary Interstate to an auxiliary interstate. The distance of 21 miles would not be the shortest distance for an auxiliary interstate. Appendix G shows that I-105, I-110, I-205, I-305, I-380,I-780, and I-980 are all shorter in distance than the proposed I-450. In addition, I-710 could be added to the list. EO-2-4

This proposal would have honored the Highway Design Manual, created the regional East/West transportation corridor, and would damage no homes in the process.

Was this design which is outlined above and is not very complicated, since it is prevalent in this state, ever considered?

Would this design have a smaller Environmental Impact than the current Project?

What would be the cost differential between what I have proposed to attain the same goals as the present project? Please evaluate this calculation based on 1) starting from scratch, as if this was the preferred proposal, and 2) what the cost would be to abandon the present Project and substitute this proposal. Please note; I propose that the current interchange where the Westbound 58 and 99 meet be retained, the freeway between 58 intersection and the 7th Standard Exit be widened to five or six lanes, the intersection of 7th Standard Rd. be reconstructed for a Westbound Freeway without any stopping,

EO-2

7th Standard Rd. be turned into a four-lane auxiliary interstate freeway to I-5, and the interchange at I-5 be improved. My point is, why weren't similar alternatives addressed? EO-2-4

What is the environmental impact of the current Project versus this proposal in that that the Project in this EIR does not create a freeway between I-5 and the 99 freeway and the proposal does complete this important goal? Please evaluate the impact on the Air Quality, which is an important environmental impact and consideration, between these two designs. EO-2-5

What process must Caltrans go through to rename the 99 Freeway and construct and name 7th Standard Rd. as an auxiliary Interstate highway? How long does this process take? EO-2-6

Please evaluate the traffic patterns for SR 46, Lerdo Hwy, 7th Standard Rd and SR 58 to the traffic on Stockdale Hwy. Show how the current traffic warrants the construction of the Project in this EIR. Please keep in mind that projected volume does not warrant stop signs and stop lights, only current traffic volumes can be considered. If you choose to use projections, then project the traffic patterns that would apply to what I have proposed and its impact on environmental impacts (air quality and economic impact). EO-2-7

What are the comparative right of way expenses and number of businesses and homes affected by the Project in this EIR and this proposal? EO-2-8

There are two designs for a regional transportation plan and one does not require any exceptions and the other requires 5 exceptions and deviations from mandatory standards in the Highway Design Manual. How is a decision made under those conditions? EO-2-9

If there is a lower Environmental Impact with this proposal when compared to the Project, does it become impossible to claim that this EIR has NO environmental impact? EO-2-10

EO-2

Section 4

The Draft EIR for the Centennial Corridor project has been based on certain projections. These projections are the basis of the studies that were used to justify the need for this Project

First are the population projections. On page 13 it is stated that the population of the City of Bakersfield will be 848,487 by the year 2035. It is further stated that the population growth between the years 2000 to 2009 was at 2.5%. If the population was 333,719 (Appendix H) in the year 2009 and the population continued to grow at 2.5% the population by 2035 would be 633,000. The population growth between the years 2007 and 2013 was only 1.78% (Appendix H), going from 323,213 to 359,221. Using 1.78% as the annual growth for the next 22years, which is consistent with the last six years, the population of Bakersfield would be 527,000. In order for the population of Bakersfield to grow to 848,487 by 2035 based on the population in 2009, the yearly growth would have to be 3.5% annually. Since there is data for 2013 to work from, the population of Bakersfield would now have to grow at 4.0% annually to reach 848,487. EO-2-11

I would like to know how the calculation was made to determine this population number of 848,487. Has there ever been a 26 year period where population growth in the City of Bakersfield has been 3.5% annually or a period of 22 years where the growth has been 4.0%? In what industries will we see growth to drive and sustain 848,487citizens and what will the median income be for this population?

In a study from 1986 the population growth for Bakersfield was forecasted for geographic areas of the city. The accuracy of the total growth seems to be accurate, although I have not researched the numbers to certify they are correct. The geographic forecasts were very inaccurate. Forecasts for growth in the northwest were substantially low, in the northeast too high, and in all sectors projections were off by a large enough amount that the standard deviation would be in double digits. From the journal called **Transportation** (Appendix I) there was a recent article on the inaccuracy of traffic modeling in general. If the population estimates have been inflated as it appears they have, the modeling was based on those numbers, and the modeling is at best only 40% accurate, isn't the conclusions you have based this EIR on completely unreliable? The article I have referenced focuses on the underestimation of costs and the overzealous projections of traffic. Please comment as to how this EIR is not subject to these errors. Please include the accuracy of population estimates from this EIR in that analysis. The book **Gridlock**, by R. O'toole advocates that our infrastructure is adequate based on how our cars will basically drive themselves in the future. Today we see commercials on TV for cars that are smart enough to brake when the driver is not paying attention. This will reduce the number of accidents substantially. The next step is for cars to drive themselves using a GPS computerization on-board of every car. Cars will travel much closer to each other and the capacity of most roads will attain a "C" or better LOS. The "Google Map" GPS systems are forecast to be in most new models within the next 8 years. The modeling studies are designed to take into account the needs 20 years into the future. Was the addition of GPS self-drive cars taken into account for this EIR? Please keep in mind that the generation life cycle EO-2-12

EO-2

for 95% of all cars is 8 years. This generation life cycle would imply that 16 years from today 95% of all cars will "drive themselves", reducing the number of accidents and increasing road capacity (these cars will drive closer to each other due to the communication capability of one car to the other and because the reason we drive so far apart from each other and have so much gridlock is because people have much slower response time compared to a computer and we tend to brake when it isn't necessary). EO-2-12

We are currently in a severe drought. The depth of our ground wells which supply traditionally 40% of our water needs are at historically deep levels. Has the EIR looked at the sustainability and environmental impact this population would have on the water supply? Can this area with its limited availability of water sustain this large of a population? How often does the State of California experience severe droughts? If this Project is completed and it drives the increase of population to 848,487, will it have a negative effect on the environment when it comes to water resources? If water is diverted to the population away from farming will this have a negative effect on the economic environment locally and worldwide? Kern County is essential to the food supply and helps to feed the world. EO-2-13

On pages 50, 51, and 52 there is some discussion of Recent and Planned Local Development Projects. Table 3.1 shows 7 current areas of growth. The first two stated developments, Bakersfield Commons and Stockdale Ranch may have some impact on the current Project. The remaining developments will not impact the Project. The Saco Ranch Commercial Center is truly supportive of 7th Standard Rd as the auxiliary interstate. There are currently two projects that show where the true growth for Bakersfield is. Tejon Ranch is opening a Retail Center and the Hoskins Rd. Overpass project. The greatest amount of growth for Bakersfield is and will remain to the south. Please comment whether the growth to the south was included in this EIR. EO-2-14

KERNCOG since 1986 has had many transportation plans it has endorsed. In 1986 the forecasts for where growth would occur were very inaccurate. In this document there are many examples where the Transportation Plan has been altered and there are references to at least six different plans starting in 1994. Why does there seem to be an inability for KERNCOG to develop a plan and stick with it? I believe the answer is that the plans are not being driven by the data and common sense. What were the reasons for abandoning the Masterplan of 2000/2002? It was endorsed and approved by all effected parties. Up until the federal government directing what the project has to look like and how the federal money has to be spent, the beltway system delineated in the 2000/2002 Masterplan supported many growth possibilities as well as solve existing shortcomings with the local transportation system. How does this Project help to form a Beltway system in the Bakersfield area? Wouldn't a beltway system similar to the 2000/2002 Masterplan have a much more positive environmental impact all the way around? If I am not mistaken, it seems like the Project is taking one of the minor, future and almost last components, of the earlier plan and making it the foundation of the transportation needs of this area. Doesn't this Project delay and fracture the true needs in Bakersfield for a Beltway system? The northern portion, which would have turned 7th Standard Rd into a freeway, can't be completed and so the endpoints for the crosstown and western sections of the beltway will have an endpoint instead of a circular pattern. Knowing the elements of the 2000/2002 Masterplan, why was the new overpass on EO-2-15

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Golden State Highway over Garces Circle not made into six lanes? This mistake will be more obvious with the approval and the building of the Hageman Flyover.

What is the current LOS on I-5 between the junction of 99 and the junction of I-580? How will the ultimate goal of the extension of I-40 to I-5 affect the LOS of I-5? Does it fit within the criterion where an improvement to any part of the highway system must be sustainable for a minimum of 20 years, especially when federal money is being used? How much of the current traffic that moves up the 99 Freeway in Bakersfield and uses Rosedale highway, 7th Standard Road, Lerdo Highway, and the 46 to connect to destinations in Kern County and I-5, will be using the new connection out through Stockdale Highway? How much traffic on the Westbound 58 that currently uses the 99 Freeway to travel up to Central California and Northern California will be using the new corridor to Stockdale Highway and then travel up I-5? If this traffic, especially truck traffic, begins to use this new route instead of the 99 freeway what will the effect be on Air Quality? All Truck traffic coming off the Westbound 58 using the 99 Freeway has no stops. The new corridor would slow down traffic because the posted speed limit where the Westpark freeway becomes Stockdale Highway is less than the 99 Freeway. There are also several (at least two) stop signs on Stockdale Highway which requires traffic to come to a complete stop and then accelerate to the posted speed in this corridor. What affect does this have on Air Quality and what is the Environmental Impact? EO-2-16

On page it is stated that the close spacing of the interchanges at Ming Ave and California Ave in relation to the connection of 99 Freeway and SR 58 causes congestion. Part of the Project that has been approved and is moving forward is the improvements to Ming Ave separate from this EIR. Not considered are the improvements to the 58 as it is widened separate from this EIR. Widening the 99 Freeway between the SR 58 interchange and 7th Standard Rd which is the route that a significant amount of future traffic, especially truck traffic, will use due to the large industrial area in Shafter that is expanding tremendously is not considered in this EIR. Why? Why is the EIR not advocating the closure of either the Ming Ave or California Ave off ramps? The California Ave exit in either direction would have to be considered very dangerous. What is the environmental impact to not close this exit since the opportunity has been presented? Where will the liability lay if there is a significant increase in traffic accidents for these exits as more people use (as is forecasted) this corridor? EO-2-17

On page 5 there is a discussion of the Tier 1 and Tier 2 environmental Impact statements. It is stated that KERNCOG evaluated previous transportation studies. Where is the 2000/2002 County of Kern Masterplan which was adopted and endorsed by the County of Kern, the City of Bakersfield and KERNCOG? The 2001 Route 58 Adoption Project Tier 1 Environmental Impact Statement/Environmental Impact Report is not part of the Masterplan that was certified in 2002. When was the public given notice and an opportunity to comment on the obvious differences between the two plans? EO-2-18

On page 6 in the purpose section there is no mention about the congestion on 99 Freeway and that the Project is a regional transportation project. Why? The purpose also documents a desire to consider EO-2-19

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continuity and traffic relief along State Route 58 in Metropolitan Bakersfield. The studies for the traffic that continues through Metropolitan Bakersfield on SR 58 (Rosedale Highway) to I-5 indicate that this through traffic is minimal. Most of the traffic is either local, moves up and down the 99 Freeway, and continuing traffic currently uses 7th Standard Rd, Lerdo Highway, and SR 46. Bakersfield has as its major industries oil and agriculture. Both of these industries require many trucks. The EIR states several times about the high number of trucks in the area. Most of the trucks using and needing access to Rosedale Highway are destination bound. Just one of the Pipe companies on Rosedale Highway has 200 trucks going in and out of it daily. The connection on Rosedale Highway to the 99 Freeway will remain the primary route for this company. Part of the reason for Rosedale continuing to be their primary route for many companies is due to the absence of a northbound connection between the eastbound 58 and northbound 99. Please explain if Air quality improvements for this Projects EIR were based on improvement in the ability for trucks to connect to I-5 through the bypassing of Bakersfield? Would those assumptions be incorrect if the local truck traffic does not change significantly? If the local truck traffic does not improve but more Regional Trucks travel through Bakersfield would that have a negative environmental impact on Air Quality? EO-2-19

Pages 8-14 discuss the level of service (LOS) for the project area. The area truck traffic is referred to but not expanded upon. Where is the current truck traffic headed if in this area "Truck traffic accounts for 27 percent of the total traffic in Kern County? This is three times the state average of 9 percent." (Page 8). It further states that "At a regional scale, the project would promote economic growth and interregional/intraregional trade by improving linkages between existing segments of the State Highway system through Bakersfield." Do you have any proof of this statement? The greatest growth for truck traffic will be on 7th Standard Rd because of the vision of Shafter. This project only improves SR 58's continuity. It has nothing that states it will improve linkages. If improving linkages to the Highway system to promote interregional/intraregional economic growth were the purpose and goal, wouldn't you have to know were the truck traffic is, where its destination is and how the Project will or will not change it? This would be an important environmental consideration for its impact. EO-2-20

On page 13 there is a discussion of "A Traffic Study Report for the Centennial Corridor Project. It states that in 2008 there are 15 key intersections with a worse than D LOS. Many of these intersections were improved, maybe by the opening of the Westside Parkway, because in 2018 without the Project being built, the number of key intersections with a worse than D LOS drops to 12. It could also be because Rosedale Highway will be widened by then. I do not understand how in Table 1.1 the Coffee Rd/Rosedale Highway continues to deteriorate while all other intersections along Rosedale Highway improve. What effect will widening of Rosedale Highway have on traffic? By the year 2038 the "No-Build Alternative" it is stated that the number of Intersections with a worse than D LOS in the Project Area increases to 22. This section is also where the population increase is discussed. The population is to grow 250% from baseline in 2009, but the number of intersections with a worse than D LOS increases to only 142% of baseline. That seems very inconsistent. I have discussed the possible inaccuracy of the population forecast and I would lie to know what effect a lower population forecast does to these numbers. EO-2-21

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Table 1.2 is a review of the LOS along 99 Freeway and SR 58 for 2008, 2018 and 2038 if the "No Build" alternative is chosen. In the year 2008 there is not one on/off ramp that has a worse than D LOS. In 2018 there will be three on/off ramps (although not both AM and PM) that fall below the D LOS and by 2038 there are 11 out of 49 on/off ramps. Due to the documented inaccuracies seen in traffic modeling and forecasting, is it likely the forecast for 2038 is inaccurate? Most importantly, the conjecture that the amount of traffic moving northbound on 99 Freeway from westbound 58 is a concern seems by this report to be unfounded. The LOS for this off/on ramp is never worse than a D LOS. Most of the "Critically Poor" LOS exists at Ming Ave. The interchange at Ming Ave and the 99 Freeway are in violation of the Mandatory interchange buffer zones in the California Highway Design Manual if the Centennial Corridor id built. Please explain how such a "problem intersection already" was not an impediment in the approval of the Design for this Project? Is this creating an unnecessary safety hazard? The EIR states that the Ming Ave and the California Ave off ramps are less than 1 mile from the 99 Freeway and SR 58 interchange. Could you also explain why for the westbound 58 off ramp to the southbound 99 is a "B" or "C" LOS in 2008, 20018, and in the AM for 2038 but is at "E" for the PM in 2038? This is also true for the section between the "H St" on-ramp and the northbound Freeway 99 when traveling west on SR 58. How would widening the 99 Freeway to six lanes from the SR 58 northbound to past 7th Standard Rd improve the LOS? This table states that the LOS for the Eastbound SR 58 from the 99 Freeway is presently a "C" and will remain a "C" through 2038. How does this justify the expense and environmental impact for the Centennial Corridor Project? Some of the LOS worse than D exists due to the Real Rd juncture, is it possible to eliminate that part of the SR 58?

EO-2-22

The stated purpose of this Project is to provide route continuity for SR 58. It is now well known that SR 58 is going to be changed to I-40. I-40 is a major interstate and it implies that the purpose for this Project would change to specifically a regional interstate system and not a local continuity problem to be solved. If the purpose has changed, doesn't that imply that this EIR is not on point and because it did not study the true impacts of the Project, by law, must be redone?

EO-2-23

Section 1.2.3 Independent Utility and Logical Termini is what I will end with. The project limits are stated to be 17.4 and 18.5 miles. This is incorrect since the project is only now from the end of the Westside Parkway to the Junction of 99 freeway and SR 58. This is a distance of about 1.7 miles. Due to the extreme expense, negative environmental impact on residents and property, and all alternatives to achieve the projects stated purpose not being explored, it is impossible to come to the conclusion that point one is satisfied. Does this Project have "Independent Utility"? The answer is "No" based on what is stated. "(2) projects are usable and a reasonable use of funds even if no additional transportation improvements in the area are made" is on page 20 of the Draft EIR. This Project is in no way a "reasonable use of funds". The projected expense to the Federal Government and the City of Bakersfield is in the Hundreds of Millions of dollars. Bakersfield will need to borrow over $250,000,000 if the estimates are accurate. The payback amount over 30 years will total close to $600,000,000 based on current favorable lending rates. Those figures are a "best scenario" and may be much higher in the long run. How can that be "reasonable"? With at least one other alternative which is less expensive and has a potentially smaller impact environmentally, Independent Utility cannot be asserted.

EO-2-24

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In conclusion, it does not appear that this Draft EIR has adequately addressed impacts to the community or relevant and reasonable alternatives. I ask for it to be redone with many of the recommendations provided it this communication. EO-2-25

Sincerely,

Terry Maxwell, Ward 2- City Councilman

The City Of Bakersfield

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APPENDIX A

CHAPTER 500
TRAFFIC INTERCHANGES

Topic 501 - General

Index 501.1 - Concepts

A traffic interchange is a combination of ramps and grade separations at the junction of two or more highways for the purpose of reducing or eliminating traffic conflicts, to improve safety, and increase traffic capacity. Crossing conflicts are reduced by grade separations. Turning conflicts are either eliminated or minimized, depending upon the type of interchange design.

501.2 Warrants

All connections to freeways are by traffic interchanges. An interchange or separation may be warranted as part of an expressway (or in special cases at the junction of two non-access controlled highways), to improve safety or eliminate a bottleneck, or where topography does not lend itself to the construction of an intersection.

501.3 Spacing

The minimum interchange spacing shall be one mile in urban areas, two miles in rural areas, and two miles between freeway-to-freeway interchanges and other interchanges. The minimum interchange spacing on Interstates outside of a Transportation Management Area shall be three miles. These minimum distances are measured between centerlines of adjacent intersecting roadways. To improve operations of closely spaced interchanges the use of auxiliary lanes, grade separated ramps, collector distributor roads, and/or ramp metering may be warranted.

The standards contained within this Index apply to:

- New interchanges.
- Modifications to existing interchanges including access control revisions for new ramps or the relocation/elimination of existing ramps.
- Projects to increase mainline capacity when existing interchanges do not meet interchange spacing requirements.

See Index 504.7 for additional technical requirements related to interchange spacing. Procedures and documentation requirements are provided in PDPM Chapter 27 and must be fulfilled prior to requesting an exception to the above spacing standard. See the FHWA publication "Interstate System Access Informational Guide"

For the application of interchange spacing on Interstates, the one mile urban interchange spacing standard applies to urbanized areas with populations greater than 200,000 known as Transportation Management Areas. See Index 81.3 for mapping and information on Transportation Management Areas.

Topic 502 - Interchange Types

502.1 General

The selection of an interchange type and its design are influenced by many factors including the following: speed, volume, and composition of traffic to be served (e.g., trucks, vehicles, bicycles, and pedestrians), number of intersecting legs, and arrangement of the local street system (e.g., traffic control devices, topography, right of way controls), local planning, proximity of adjacent interchanges, community impact, and cost.

The cost of a structure is a considerable investment where the life of a structure may be 50 to 100 years, far beyond that of the project traffic study projections. New or significant modifications to interchanges should take into consideration future needs of the system; the ultimate configuration for the freeway and the potential for local land development well beyond the 20-year traffic study. Choose an interchange type that is compatible with or can easily be modified to accommodate the future growth of the system.

Even though interchanges are designed to fit specific conditions and controls, it is desirable that the pattern of interchange ramps along a freeway follow some degree of consistency. It is frequently desirable to rearrange portions of the local street system in connection with freeway construction in

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The design standards used for any project should equal or exceed the minimum given in the Manual to the maximum extent feasible, taking into account costs (initial and life-cycle), traffic volumes, traffic and safety benefits, right of way, socio-economic and environmental impacts, maintenance, etc. Because design standards have evolved over many years, many existing highways do not conform fully to current standards. It is not intended that current manual standards be applied retroactively to all existing State highways; such is neither warranted nor economically feasible. However, when warranted, upgrading of existing roadway features such as guardrail, lighting, superelevation, roadbed width, etc., should be considered, either as independent projects or as part of larger projects. A record of the decision not to upgrade the existing non-standard mandatory or advisory features shall be provided through the exception process (See Index 82.2).

This manual does not address temporary construction features. It is recognized that the construction conditions encountered are so diverse and variable that it is not practical to set geometric criteria. Guidance for use of traffic control devices for temporary construction zones can be found in Part 6 – Temporary Traffic Control of the California Manual on Uniform Traffic Control Devices (California MUTCD). Guidance for the engineering of pavements in temporary construction zones is available in Index 612.6. In this manual, design standards and guidance are categorized in order of importance in development of a State highway system. See Index 82.4 for other mandatory procedural requirements.

(2) *Controlling Criteria.* The FHWA has designated thirteen controlling criteria for selection of design standards of primary importance for highway safety, listed as follows: design speed, lane width, shoulder width, bridge width, horizontal alignment, vertical alignment, grade, stopping sight distance, cross slope, superelevation, horizontal clearance, vertical clearance and bridge structural capacity. All but the last of these criteria are also designated as geometric criteria.

The design standards related to the 12 geometric criteria are designated as mandatory standards in this manual (see Index 82.1(2) and Table 82.1A).

(3) *Mandatory Standards.* Mandatory design standards are those considered most essential to achievement of overall design objectives. Many pertain to requirements of law or regulations such as those embodied in the FHWA's 13 controlling criteria (see above). Mandatory standards use the word "shall" and are printed in **Boldface** type (see Table 82.1A).

(4) *Advisory Standards.* Advisory design standards are important also, but allow greater flexibility in application to accommodate design constraints or be compatible with local conditions on resurfacing or rehabilitation projects. Advisory standards use the word "should" and are indicated by Underlining (see Table 82.1B).

(5) *Decision Requiring Other Approvals.* There are design criteria decisions that are not bold or underlined text which require specific approvals from individuals to whom such decisions have been delegated. These individuals include, but are not limited to, District Directors, Traffic Liaisons, Design Coordinators or their combination as specified in this manual. These decisions should be documented as the individual approving desires.

(6) *Permissive Standards.* All standards other than mandatory, advisory, or decisions requiring other approvals, whether indicated by the use of "should", "may", or "can" are permissive.

(7) *Other.* In addition to the design standards in this manual, see Index 82.7 for general information on the Department's traffic engineering policy, standards, practices and study warrants.

Caution must be exercised when using other Caltrans publications which provide guidelines for the design of highway facilities,

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preferable if future extension of the crossroads is expected.

(e) Single Point Interchange (SPI)--The Type L-13 is a concept which essentially combines two separate diamond ramp intersections into one large at-grade intersection. It is also known as an urban interchange. Detailed information on SPI's is provided in the Single Point Interchange Planning, Design and Operational Guidelines (SPI Guidelines), originally issued by memorandum on June 15, 2001. Per the SPI Guidelines, the Design Coordinator and the Headquarters Traffic Liaison must approve the SPI concept.

Type L-13 requires approximately the same right of way as the compact diamond. However, the construction cost is substantially higher due to the structure requirements. The capacity of the L-13 can exceed that of a compact diamond if long signal times can be provided and left turning volumes are balanced.

This additional capacity may be offset if nearby intersection queues interfere with weaving and storage between intersections. The disadvantages of the L-13 are: 1) future expansion of the interchange is extremely difficult; 2) stage construction for retrofit situations is costly; 3) long structure spans require higher than normal profiles and deeper structure depths; and 4) poor bicycle and pedestrian circulation.

(f) Other Types of Interchanges--New or experimental interchanges must have the Design Coordinator and Traffic Liaison's concurrence before selection. Concurrence may require additional studies and documentation.

502.3 Freeway-to-Freeway Interchanges

(1) General. The function of the freeway-to-freeway interchange is to link freeway segments together so as to provide the highest level of service in terms of mobility. Parameters such as cost, environment, community values, traffic volumes, route continuity, driver expectation and safety should all be considered. Route continuity, providing for the designated route to continue as the through movement through an interchange, reduces lane changes, simplifies signing, and reduces driver confusion.

Interstate routes shall maintain route continuity. Where both the designated route and heavier traffic volume route are present, the interchange configuration shall keep the designated route to the left through the interchange.

(2) Design Considerations.

(a) Cost--The differential cost between interchange types is often significant. A cost-effective approach will tend to assure that an interchange is neither over nor under designed. Decisions as to the relative values of the previously mentioned parameters must be consistent with decisions reached on adjacent main line freeways.

(b) System Balance--The freeway-to-freeway interchange is a critical link in the total freeway system. The level of traffic service provided will have impact upon the mobility and overall effectiveness of the entire roadway system. For instance, traffic patterns will adjust to avoid repetitive bottlenecks, and to the greatest degree possible, to temporary closures, accidents, etc. The freeway-to-freeway interchange should provide flexibility to respond to these needs so as to maximize the cost effectiveness of the total system.

(c) Provide for all Traffic Movements--All interchanges must provide for each of the eight basic movements (or four basic movements in the case of a three-legged interchange), except in the most extreme circumstances. Less than "full interchanges" may be considered on a case-by-case basis for applications requiring special access for managed lanes (e.g., transit, HOVs, HOT lanes) or park and ride lots. Partial interchanges usually have undesirable operational characteristics. If circumstances exist where a partial interchange is considered appropriate as an initial phase improvement, then commitments need to be included in the request to accommodate

the ultimate design. These commitments may include purchasing the right of way required during the initial phase improvements.

(d) Local Traffic Service--In metropolitan areas a freeway-to-freeway interchange is usually superimposed over an existing street system. Local and through traffic requirements are often in conflict.

Combinations of local and freeway-to-freeway interchanges can result in designs that are both costly and so complex that the important design concepts of simplicity and consistency are compromised. Therefore, alternate plans separating local and freeway-to-freeway interchanges should be fully explored. Less than desirable local interchange spacing may result; however, this may be compensated for by upgrading the adjacent local interchanges and street system.

Local traffic service interchanges should not be located within freeway-to-freeway interchanges unless geometric standards and level of service will be substantially maintained.

(e) Alignment--It is not considered practical to establish fixed freeway-to-freeway interchange alignment standards. An interchange must be designed to fit into its environment. Alignment is often controlled by external factors such as terrain, buildings, street patterns, route adoptions, and community value considerations. Normally, loops have radii in the range of 150 feet to 200 feet and direct connections should have minimum radii of 850 feet. Larger radii may be proper in situations where the skew or other site conditions will result in minimal increased costs. Direct connection radii of at least 1,150 feet are desirable from a traffic operational standpoint. High alignment and sight distance standards should be provided where possible.

Drivers have been conditioned to expect a certain standard of excellence on California freeways. The designer's challenge is to provide the highest possible standards consistent with cost and level of service.

(3) Types. Several freeway-to-freeway interchange design configurations are shown on Figure 502.3. Many combinations and variations may be formed from these basic interchange types.

(a) Four-Level-Interchange--Direct connections are appropriate in lieu of loops when required by traffic demands or other specific site conditions. The Type F-1 interchange with all direct connections provides the maximum in mobility and safety. However, the high costs associated with this design require that the benefits be fully substantiated.

The Type F-1 Alternative "A" interchange utilizes a single divergence ramp for traffic bound for the other freeway; then provides a secondary directional split. Each entrance ramp on a Type F-1A interchange is provided separately. The advantages of the Type F-1A are: 1) reduced driver confusion since there is only one exit to the other freeway, and 2) operations at the entrance may be improved since the ramps merge with the mainline one at a time.

The Type F-1 Alternative "B" interchange provides separate directional exit ramps and then merges the entering traffic into a single ramp before converging with the mainline. Since the Type F-1B combines traffic from two ramps before entering the freeway, it is important to verify that adequate weaving capacity is provided beyond the entrance. Separating the directional split of exiting traffic reduces the volume to each of the two ramps and therefore may improve the level of service of the weave section prior to the exit.

Design for a four-level interchange may combine the configuration of the Type F1-A and F1-B interchange to best suit the conditions at a given location.

(b) Combination Interchanges--The three-quadrant cloverleaf, Type F-2, with one direct connection may be necessary where

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APPENDIX D

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CHAPTER 21 – Exceptions to Design Standards

ARTICLE 1 General

Responsibility

Headquarters Division of Design (DOD) establishes and supports the consistent application of highway design standards (in accordance with the *Highway Design Manual*) to ensure optimal safety for the traveling public and those who work to construct, operate, and maintain the State Highway System.

Documentation

The purpose of the fact sheet for exceptions to design standards (also known as a design exception fact sheet or fact sheet) is to document engineering decisions leading to the approval of each exception to a design standard. It is essential that adequate records are prepared and preserved to document such decisions and approvals. This documentation is necessary for Caltrans to maintain design immunity.

Identification of Nonstandard Design Features

The registered civil engineer in responsible charge of the work (as defined by California Business and Professions Code, Section 6703), or other licensed professional practicing within the scope of their license, must identify both existing and proposed nonstandard design features. Determination of nonstandard design features should be initiated early in the project development process.

Applicability

The phrase "mandatory design standards" refers to the mandatory standards outlined in *Highway Design Manual*, Table 82.1A, while the phrase "advisory design standards" refers to the advisory standards outlined in *Highway Design Manual*, Table 82.1B. Headquarters Division of Design is responsible for the mandatory design standards except as noted in Table 82.1A. The exceptions include the

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mandatory standards for which responsibility has been delegated to the District Directors and the mandatory standards in *Highway Design Manual* Chapters 600 through 670 that are the responsibility of the State Pavement Engineer. Additionally, the responsibility for all advisory standards has been delegated to the District Directors. See Article 4 for conditions on delegation to District Directors. Article 2, Exceptions to Mandatory Design Standards, is applicable to the mandatory standards which Headquarters Division of Design (delegated to the Design Coordinator) is the approval authority.

Dispute Resolution Process

Occasionally, there may be disagreements between the district and the Design Coordinator on the proper course of action. When disagreements cannot be resolved, the following dispute resolution process must be used:

- Pre-elevation: Every effort should be made to resolve disputes between the district and Headquarters Division of Design, at the lowest possible level.
  - ➢ District design office chief discusses issue with Design Coordinator.
  - ➢ District/region design manager discusses with district design office chief, staff, and project engineer to determine facts.
  - ➢ District/region design manager discusses with Design Coordinator.
  - ➢ Design Coordinator and district/region design manager may discuss with other district staff or Headquarters Division of Design staff.
  - ➢ District/region design manager and Design Coordinator discuss with District Director and other district managers.
- Formal elevation: If there is agreement at the district level and all attempts between the district and Design Coordinator fail to result in concurrence from the Design Coordinator;
  - ➢ District Director prepares written justification to Headquarters Division of Design Chief that includes signature of the district/region design manager.
  - ➢ Headquarters Division of Design Chief will:

    1. Attempt to resolve issue. If no resolution;

    2. Appoint a three member team of subject matter experts to review and make a recommendation to Headquarters Division of Design Chief.

    3. Consider the recommendations of the team and prepare a decision to either support or deny District Director's request.

    4. If Headquarters Division of Design Chief supports the District Director's request, the Headquarters Division of Design Chief will sign as the approval authority.

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- District Director can appeal to Deputy Director Project Delivery (Chief Engineer) with no further appeals.

Definitions

Design standards risk assessment – is a list of design standards that will likely not be met for each alternative and the probability of approval for each potential exception to a design standard. An example of the design standards risk assessment format can be seen in the project report template associated with Appendix K – Preparation Guidelines for Project Report.

Geometrically feasible – means project alternatives are designed in accordance with the *Highway Design Manual* and specifically, alternatives meet the mandatory and advisory standards in the *Highway Design Manual* related to geometric design or have approved fact sheets for exceptions to mandatory and advisory standards.

Distribution and Filing

Once final approval is obtained, the project engineer must send one copy of the approved fact sheet to the Division of Design Division Chief, Attention: Design Exception. Include copies of all correspondence between the district and Federal Highway Administration (FHWA) pertaining to the request for design exception approval.

The signed original fact sheet and when applicable, the FHWA approval letter, must be filed in the project history file. A backup copy should be filed in a separate permanent file or in the district's central file.

EO-2

Figure 21-1 Requirements for Fact Sheet Approval and Distribution to FHWA

	Interstate		Non-Interstate		
	HPP	NHS	HPP	NHS	Non-NHS
Mandatory Design Standard (FHWA 13 Controlling Criteria)*	1) CT DOD Approval 2) FHWA Approval		1) CT DOD Approval 2) Distribute Copy of Completed Fact Sheet to FHWA	CT DOD Approval for State Highways Local Agency Approval for Non-State Highways	
Mandatory Design Standard (Vertical Clearance on Rural and Singular Route System)*	1) CT DOD Approval 2) FHWA Approval 3) SDDCTEA Concurrence Facilitated by FHWA 4) FHWA Final Approval		N/A		
Mandatory Design Standard (Caltrans only)*	1) CT DOD Approval 2) Distribute Copy of Completed Fact Sheet to FHWA	CT DOD Approval	1) CT DOD Approval 2) Distribute Copy of Completed Fact Sheet to FHWA	CT DOD Approval for State Highways Local Agency Approval for Non-State Highways	
Advisory Design Standard#	1) CT DD Approval 2) Distribute Copy of Completed Fact Sheet to FHWA	CT DD Approval	1) CT DD Approval 2) Distribute Copy of Completed Fact Sheet to FHWA	CT DD Approval for State Highways Local Agency Approval for Non-State Highways	

CT – Department of Transportation (Caltrans)
DD – District Director
DOD – Division of Design
FHWA – Federal Highway Administration
HPP – High Profile Projects
NHS – National Highway System
SDDCTEA – Surface Deployment and Distribution Command Transportation Engineering Agency (Department of Defense)
* – For mandatory design standards where the approval is delegated to the District Director, all requirements remain the same except that "CT DOD Approval" is replaced by "CT DD Approval." Also see the following note:
# – See Article 4 for conditions on delegation to District Directors

EO-2

ARTICLE 2 Exceptions to Mandatory Design Standards

Consultation Requirements

Potential nonstandard design features must be discussed with the Design Coordinator as soon as the need for a design exception is identified.

Depending on the level of FHWA oversight, potential design exceptions may need to be discussed with the appropriate FHWA transportation engineer. See sub-article "Approvals" near the end of this article.

Requests for Design Exceptions

Once the Design Coordinator determines that there may be sufficient justification to proceed with the evaluation of a design exception, the following steps must be taken:

1. Prepare the draft fact sheet in conformance with the outline in Appendix BB – Fact Sheets for Exceptions to Mandatory Design Standards.
2. Submit the draft fact sheet to the Design Coordinator for review.
3. Resolve all comments to the satisfaction of the Design Coordinator.
4. Circulate the fact sheet for approval signatures. See sub-article "Approvals" near the end of this article.

Requests to perpetuate existing nonstandard design features within a project's work limits will be made in accordance with the above procedures, except when the Design Coordinator determines that a different form of documentation is more appropriate.

Integration with Project Development Process

District approval of project initiation documents (PIDs) and project approval documents must follow the conditions outlined in this sub-article.

The Design Coordinator determines if there is sufficient justification to approve mandatory design exceptions and is the approval authority for altering the standard practice as outlined in this sub-article, as context warrants.

If the Design Coordinator identifies significant changes to the conditions supporting the exceptions to design standards when the fact sheet is submitted for approval, the Design Coordinator may determine that the identified changes invalidate the previous justification that supported their approvability.

EO-2

Standard Practice

Each alternative must be geometrically feasible in all project initiation and project approval documents except for certain situations as provided for in this sub-article.

A discussion of design standards must be included in all project initiation and project approval documents. For alternatives meeting all standards, a statement of this fact should be included in the report. When alternatives propose new nonstandard design features or perpetuate existing nonstandard design features, the report must include: a brief description of the nonstandard features; discussion of issues related to each nonstandard feature; and a reference to all approved fact sheets that includes the approval authority and date.

The design standards risk assessment table is the method to document deferral of fact sheet approval. It must be included in the appropriate report and the risks included in the project's risk register. The project engineer lists the design standards that are likely to not be met for each alternative. The Design Coordinator provides the rating and justification for the design standards risk assessment and summary language for the discussion in the project development report.

Project Initiation Document

For projects with only one Build alternative, fact sheets must be approved before approval of the PID, except when the PID is a project study report - project development support (PSR-PDS).

It is assumed that projects with multiple Build alternatives will use the PSR-PDS process. However, in the rare case where another type of PID is prepared for a project with multiple Build alternatives, it is expected that one alternative will be geometrically feasible and the other alternatives use the design standards risk assessment when design standards are not met.

Project Study Report - Project Development Support Only

Fact sheets are not required for the PSR-PDS project initiation document. However, there must be a discussion whether each alternative proposes new nonstandard design features or perpetuates existing nonstandard design features. Alternatives should be discussed with the Design Coordinator early in the project initiation process to identify potential nonstandard design features. Alternatives with insufficient information for fact sheet development must go through a design

EO-2

standards risk assessment to indicate a level of risk for conceptual acceptability of the alternative.

Draft Project Report

For projects with only one Build alternative, fact sheets must be approved before approval of the draft project report (DPR) or any other type report serving the purpose as a DPR.

For projects with multiple Build alternatives, the alternatives with proposed nonstandard design features must go through a design standards risk assessment to indicate the level of risk associated with the probability of approval for each potential exception to a design standard. Based on the associated risks and consideration of any previously approved fact sheets, the District Director can then decide if approval of fact sheets should be pursued for specific alternatives to level the engineering risk prior to approval of the DPR.

Project Report

Fact sheets must be approved before approval of the project report (PR) or any other type of project approval document.

Plans Specifications &Estimates

If the need for nonstandard design features is determined after approval of the project approval document, fact sheets should be approved prior to milestone M377 PS&E to DOE and must be approved before milestone M380 Project PS&E.

Construction

During the construction phase of a project, it is the resident engineer's responsibility to ensure that proposed changes to the design meet design standards or have approved fact sheets for nonstandard features. It is the project engineer's responsibility to review proposed changes and prepare and secure approval of fact sheets for proposed nonstandard features. Nonstandard features discovered during construction must have approved fact sheets before the feature is constructed. Design exceptions will not be considered for nonstandard features after they are constructed. If nonstandard features are constructed based on the contract plans, the project engineer is responsible for resolving the issue so the features meet standards. If nonstandard features are constructed not based on the contract plans, the resident engineer is responsible for resolving the issue so the features meet standards. When issues arise,

all appropriate parties need to be involved so timely decisions can be made to minimize the impact to the construction schedule.

Miscellaneous Requirements

- When nonstandard design features are proposed by an encroachment permit applicant, fact sheets are prepared by the applicant's registered civil engineer. The Caltrans functional unit responsible for preparation of the permit engineering evaluation report (PEER) will facilitate the coordination with the Design Coordinator for draft fact sheet review. If a PEER is not required, the fact sheet processing will be facilitated by the functional unit assisting the district permit engineer.
- A single fact sheet may contain multiple design exceptions.
- Nonstandard design features identified after approval of a fact sheet require the preparation of a supplemental fact sheet. The prior approved nonstandard design features should be enumerated in the supplemental fact sheet.
- Fact sheets should not be attached to any project initiation document, project approval document, or engineering report. They should be summarized and referenced in appropriate reports.
- Approval of design exceptions for highway improvement projects on the National Highway System and the Interstate System is a federal administration action that requires compliance with the National Environmental Policy Act (NEPA). Caltrans has developed a "blanket" Categorical Exclusion for NEPA compliance when the approval of design exceptions is the only federal administration action on the project. See the *memorandum* from the Division of Environmental Analysis for more information.
- Commitments for future work should not be made in design exception fact sheets. If a commitment must be made, a follow-up project is to be programmed and Caltrans must have the authority to define the scope of the project to include the commitment. Additionally, the justification for the commitment must be discussed in the appropriate project development report. The district is responsible for minimizing future commitments, monitoring those commitments, determining if prior commitments were made, and documenting commitments made in design exception fact sheets.

Approvals

Signature, Coversheet Format

The fact sheet outline shown in Appendix BB provides a recommended format for the signature/cover sheet. The format may be varied to suit each district's organization; however, each fact sheet must comply with the requirements of Chapter 2, Section 9.

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Caltrans Approval

The responsibility for approval of all exceptions to mandatory design standards on the State Highway System and local facilities within State right-of-way rests with the Headquarters Division of Design Division Chief and has been delegated to the Design Coordinator.

Caltrans has delegated the responsibility for approval of design exceptions for local federal-aid projects, not on the State Highway System, to the public works director or the city or county engineer if the public works director is not a registered civil engineer.

FHWA Approval

Formal FHWA approval is required for design exceptions to the 13 controlling criteria when the project is on the Interstate, regardless of funding sources. See Chapter 80 – Application of Design Standards of the *Highway Design Manual* and the *Joint Stewardship Oversight Agreement between Caltrans and FHWA* for more information.

Separate FHWA design exception approval is also required for any project that does not provide or maintain a minimum vertical clearance over the Department of Defense Rural and Single Interstate Route system. Additionally, design exceptions for vertical clearances over any Interstate route that is not a rural Interstate or a single routing in an urban area will require special notification. See Article 3 for more information.

Requests for FHWA approval should be made by letter, addressed to the FHWA division administrator, and signed by the District Director or a District Division Chief. Requests must be accompanied by a copy of the approved fact sheet.

ARTICLE 3 Exceptions to Vertical Clearance on Department of Defense Rural and Single Interstate Route System

General

In coordination with the Department of Defense, the FHWA has identified a subset of the Interstate System composed of all rural Interstates and a single routing in urban

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areas that would meet the most urgent national defense needs. Those routes shown and described in *Highway Design Manual* Figure 309.2 and Table 309.2B are given special attention in regard to minimum vertical clearance.

The FHWA has made a commitment to the Department of Defense to maintain a 16-foot minimum vertical clearance where it already exists and to upgrade clearances less than 16 feet as rapidly as is practical. Any project on this system (including resurfacing, restoration, & rehabilitation [RRR] projects) will be closely scrutinized to ensure compliance with this vertical clearance standard; exceptions to this standard will be difficult to obtain, and will be subject to additional federal review.

Documentation Requirements

Exceptions for vertical clearances of less than 16 feet over any portion of this system must be processed separately in the form of a design exception fact sheet. See Appendix BB for the appropriate format.

The requests will receive internal reviews within Caltrans and the FHWA Division Office. The FHWA Division Office must obtain concurrence from the Surface Deployment and Distribution Command Transportation Engineering Agency (SDDCTEA) of the Department of Defense prior to approval. Due to this additional and lengthy step, potential requests for design exceptions must be identified and discussed with the Design Coordinator as early as possible.

Additionally, exceptions for vertical clearances of less than 16 feet over any Interstate route that is not a rural Interstate or a single routing in an urban area will require FHWA and Surface Deployment and Distribution Command Transportation Engineering Agency notification.

Wherever possible, vertical clearances should continue to be designed to comply with the Caltrans standards, as described in the *Highway Design Manual*.

It is the responsibility of the project engineer to submit the fact sheet to the FHWA Division Office after approval has been obtained from the Design Coordinator. The transmittal should note whether or not a fact sheet for additional nonstandard design features on the proposed project is anticipated.

Once final approval is obtained from FHWA, the project engineer must send one copy of the approved fact sheet to the Headquarters Division of Design Division

Chief, Attention: Design Exception. Include copies of all correspondence between the district and FHWA pertaining to the request for design exception approval.

ARTICLE 4 Exceptions to Delegated Mandatory Standards and Advisory Design Standards

Authority

Approval of exceptions to some mandatory design standards, as outlined in *Highway Design Manual* Table 82.1A, has been delegated to the District Directors. Also, approval of all exceptions to advisory design standards has been delegated to the District Directors. If the District Director is not a registered civil engineer, written delegation to the district or region manager whose responsibilities include the design function is required.

Documentation

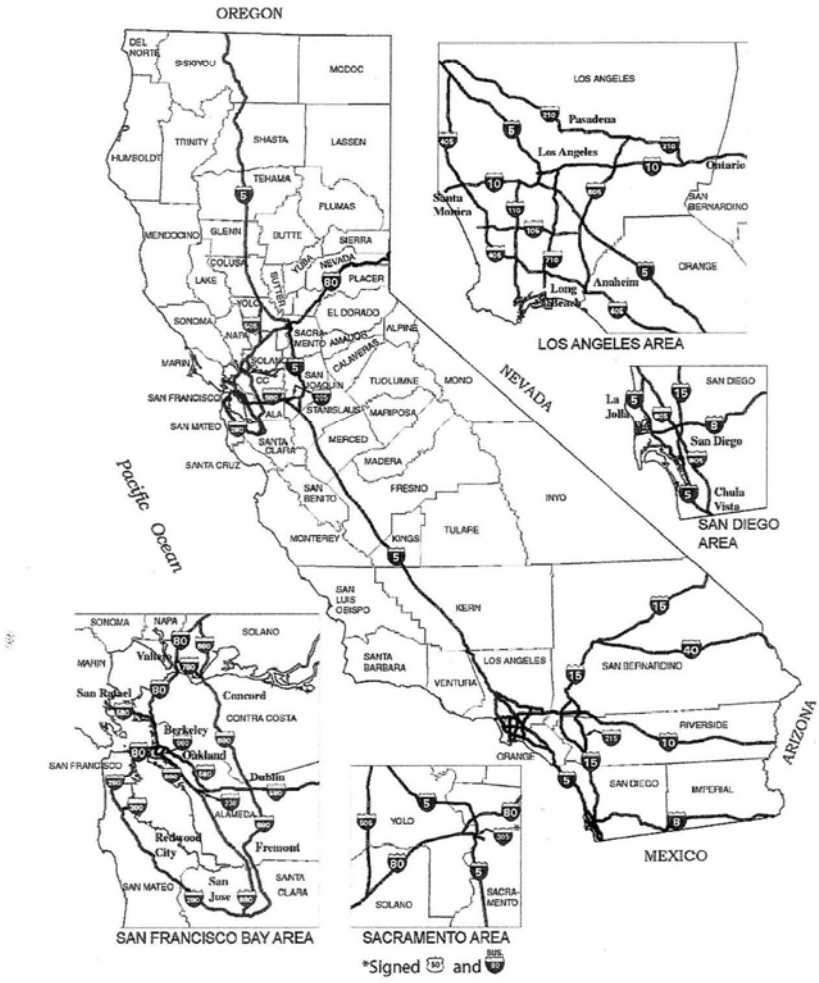
Each district is responsible for formalizing its own procedures for reviewing, documenting, and approving exceptions to delegated mandatory design standards and advisory design standards. The district process should be similar to the process outlined in Article 2 and the fact sheet should cover the same type of project data and justification as that required for the mandatory design standards fact sheet; see Appendix BB. The district may combine the delegated mandatory design standards and advisory design standards into a single fact sheet.

EO-2

APPENDIX E

EO-2

Figure 21.1
Interstate Highway System
in California



EO-2

APPENDIX F

- A proliferation of driveways and traffic signals on arterials.
- Through traffic in residential neighborhoods.
- Unattractive streets which lack adequate landscaping.

OVERVIEW OF CIRCULATION PLAN

A Circulation Element has been devised to avoid the congestion that would result from buildout of the General Plan. Upgrades and extensions are planned for the freeway and arterial systems as described below. Figure III-3 shows the ultimate street system for metropolitan Bakersfield. Right-of-way should be reserved whenever possible for the ultimate freeway system.

FREEWAYS

Seven new freeways are planned; the Crosstown Freeway, the Westside Parkway, the West Beltway, the South Beltway, the East Beltway, as well as a new alignment for State Route 58. These future freeway corridors are shown conceptually in Figure III-3. Specific Plan Lines must be adopted for the corridors which have not been adopted, to assist in right-of-way preservation. If permanent structures could be avoided within these corridors, future freeway construction would be simpler and less expensive.

The Crosstown Freeway (also called the Centennial Corridor) would extend from State Route 178 near Baker Street, around the south side of downtown Bakersfield, to State Route 99. The State Route 178 Corridor Study, prepared jointly by KernCOG, the City of Bakersfield, and Caltrans, recommended this freeway alignment. This alignment was also recommended in the Bakersfield Systems Study conducted jointly by KernCOG, the City of Bakersfield, Kern County, and Caltrans.

The Westside Parkway is a continuation of the Crosstown Freeway extending westerly across State Route 99 along the north side of the Kern River to Interstate 5. The first phase of this freeway would only extend westerly to Stockdale Highway, west of Renfro Road. A Specific Plan Line has been adopted by the City of Bakersfield and Kern County for this first phase. The remaining section to Interstate 5 would be constructed in a later phase. The alignment of the Westside Parkway was recommended in the Bakersfield System Study.

No need for 24th St. Widening

The Crosstown Freeway and the Westside Parkway would provide necessary capacity for east-west travel and relieve congestion on State Route 178 (24th Street Corridor), State Route 58 (Rosedale Highway), California Avenue, and other existing east-west routes.

The West Beltway would link State Route 99 from north Bakersfield with Interstate 5 at the South Beltway, passing through the western portion of metropolitan Bakersfield. The County has adopted portions of the alignment for the West Beltway as a Specific Plan Line. This freeway would provide a bypass and thus relief to State Route 99 and provide an important link across the Kern River from southwest Bakersfield to the Westside Parkway.

The South Beltway extends from State Route 58 around southeast Bakersfield to Interstate 5, near State Route 119 (Taft Highway). This corridor would aid local circulation, as well as provide a bypass of State Route 58 through the City for regional and interstate trips. A

recommended corridor has been adopted by the City of Bakersfield and is shown in Figure III-3. The County of Kern is studying this corridor, as well as alternatives at this time. One such alternative is also shown in Figure III-3.

The East Beltway is shown in Figure III-3 in the area of Comanche Drive and connecting State Route 178 to State Route 58 (connecting to the South Beltway). This corridor has not been studied and may need to be lengthened to extend to an alternate South Beltway.

A new alignment of State Route 58 has been recommended in the Bakersfield Systems Study and is shown in Figure III-3. This corridor would extend northerly from existing State Route 58 near Washington Avenue, to the Union Pacific Railroad tracks, then northwesterly to State Route 99. It would then parallel State Route 99 to north of Seventh Standard Road, then turn westerly to Interstate 5.

This corridor would provide congestion relief to State Route 99 in central Bakersfield, as well as provide a continuous State Route 58 freeway corridor to Interstate 5. Caltrans has not adopted this corridor at this time.

A new alignment for State Route 178 is proposed from near future Vineland Road northeasterly to Rancheria Road. This corridor would provide a new route to the Lake Isabella area which would be more direct and wider than the existing road through the Kern River Canyon.

Upgrading existing freeways would also be necessary. This would include the widening of State Route 178 from Fairfax Road to Alfred Harrell Highway and widening the existing State Route 58 freeway from State Route 99 to Cottonwood Road. These improvements would eliminate areas of spot congestion.

Done

ARTERIALS

Several new arterials and arterial extensions are planned. Generally, the plan calls for widening of existing substandard arterials to the full 110 feet where possible with six travel lanes (four in unincorporated areas) and the extension of the arterial system into the new growth areas. In some areas, the newly-extended arterials would not need to have all four or six travel lanes constructed. The full right-of-way width should be reserved, however, to allow for future expansion. New arterial crossings of the Kern River are called for at Allen Road, Oak Street, Mohawk Road, and Fairfax Road (to China Grade Loop). Arterials are generally spaced at one-mile intervals on section lines throughout the developed area except where topography or other unique features warrant a different pattern.

COLLECTORS

In accordance with existing street patterns in Bakersfield, the plan calls for collector streets (four travel lanes in 90 feet of right-of-way) in a grid pattern on mid-section lines. This pattern is deviated from where physical constraints are present, where collectors are not needed, or where existing development precludes the grid pattern of collector streets.

The objective of the planned street system is to accommodate planned land development without traffic congestion. All new streets and freeways are projected to operate at Level of Service C or better. On streets where the existing level of service is below "C", special

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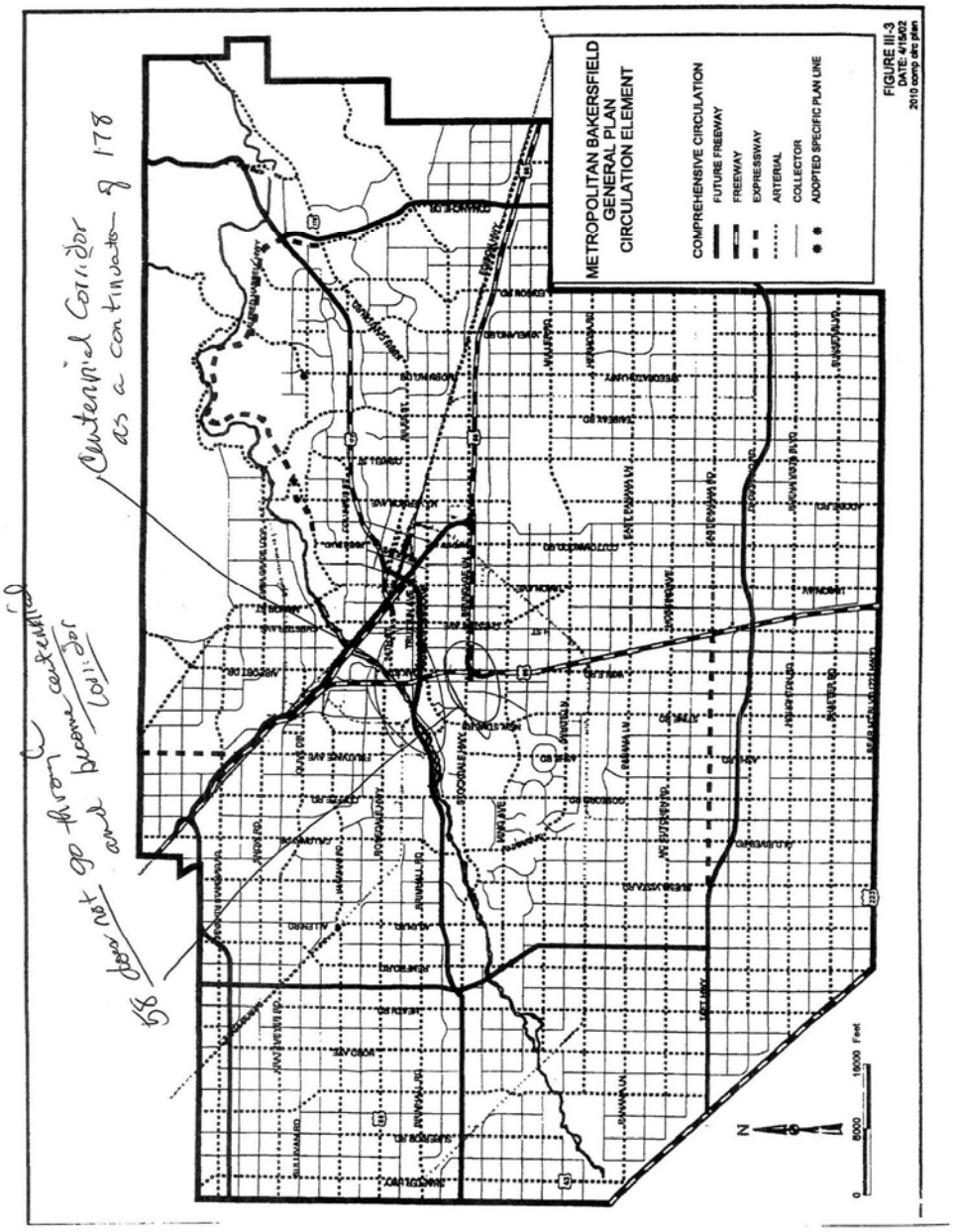
METROPOLITAN BAKERSFIELD
GENERAL PLAN
CIRCULATION ELEMENT
COMPREHENSIVE CIRCULATION
FUTURE FREEWAY
FREEWAY
EXPRESSWAY
ARTERIAL
COLLECTOR
ADOPTED SPECIFIC PLAN LINE
FIGURE III-3
DATE: 4/15/02
2010 comp gnrl plan
0
8000
16000 Feet
N
Centennial Corridor
as a continuation of 178
58 does not go through centennial
and becomes Interstate

EO-2

APPENDIX G

EO-2

The following summarizes California's chargable Interstate milage:

Route	Description	Miles	Miles Per FHWA Log
I-5	International Boundary near Tijuana, Mexico to the Oregon state line near Ashland, Oregon	797.0	796.53
I-8	I-5 in San Diego to the Arizona state line near Yuma, Arizona	170.0	169.92
I-10	Santa Monica to I-5 in Los Angeles and from I-5 in Los Angeles to the Arizona state line near Blythe	240.9	242.54
I-15	I-8 in San Diego to the Nevada state line near Las Vegas, Nevada	287.3	287.26
I-40	I-15 in Barstow to the Arizona state line near Kingman, Arizona	154.6	154.61
I-80	First Street in San Francisco to the Nevada state line near Reno, Nevada	202.2	199.24
I-105	Route 1 (Sepulveda Blvd) at the Los Angeles International Airport to I-605 *: I-105 includes 7.0 "Howard-Cramer" miles.	*17.3	17.32
I-110	Route 47 in San Pedro to I-10 in Los Angeles	20.5	20.43
I-205	I-580 W of Tracy to I-5 E of Tracy	13.0	12.97
I-210	I-5 near Tunnel Station to I-10 near Pomona	48.6	48.72
I-280	I-680 in San Jose to Sixth Street in San Francisco	57.1	57.22
I-305	I-80 W of Sacramento to Route 99 in Sacramento. (Signed as US 50)	5.3	8.44
I-380	I-280 S of San Francisco to the San Francisco International Airport	3.3	3.30
I-405	I-5 near El Toro to I-5 near Tunnel Station	72.4	72.15
I-505	I-80 near Vacaville to I-5 near Dunnigan	33.0	32.98
I-580	Vicinity of Castro Street in Richmond to I-80 in Albany, and from I-80 in Oakland to I-5 near Tracy	68.4	67.83

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I-605	I-405 near Seal Beach to I-210 near Azusa	27.4	27.40
I-680	I-280 in San Jose to I-780 in Benicia	58.0	58.02
I-780	I-80 in Vallejo to I-680 in Benicia	6.5	6.50
I-805	I-5 S of San Diego to I-5 N of San Diego	28.0	28.02
I-980	I-880 in Oakland to S of the San Pablo undercrossing	0.8	1.03
TOTAL CHARGABLE MILAGE (includes 7.0 "Howard-Cramer" miles)		2,311.5	2312.93

The following is a history of routes submitted for inclusion as chargable miles in the Interstate system. Information and maps of the original Interstate proposals may be found at http://www.roadfan.com/intreg.html#yellowbk. Note that these dates are based on those shown in the Caltrans history of Interstate submissions. They may correspond to initial submission dates, or dates the basic route was approved, but not necessarily the number.

- **Routes submitted June 27, 1945**

Current Route #	Route Description	Route Status	Numbering History	
I-5[1]	Mexican border to Oregon state line (via Route 99) Westside Freeway Relocation: May 1957	Approved 8/7/1947	14-Aug-1957	I-5, I-5E Tentatively Approved
			08-Nov-1957	Proposed as I-11
			07-Aug-1958	Back to I-5
			10-Nov-1958	Approved as I-5, I-5E (Sacramento)
I-8[2]	I-5, San Diego to Arizona state line	Approved 8/7/1947		I-8 Tentatively Approved

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APPENDIX H

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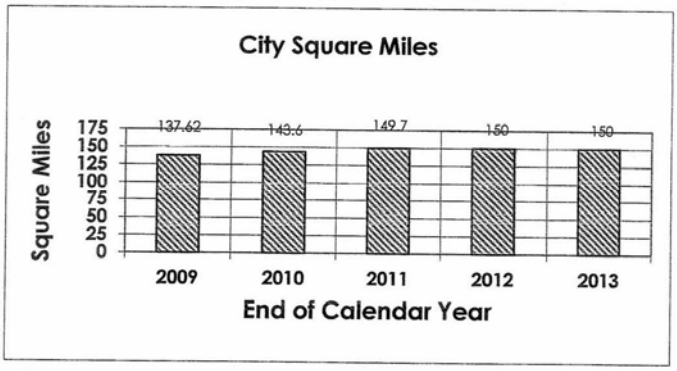
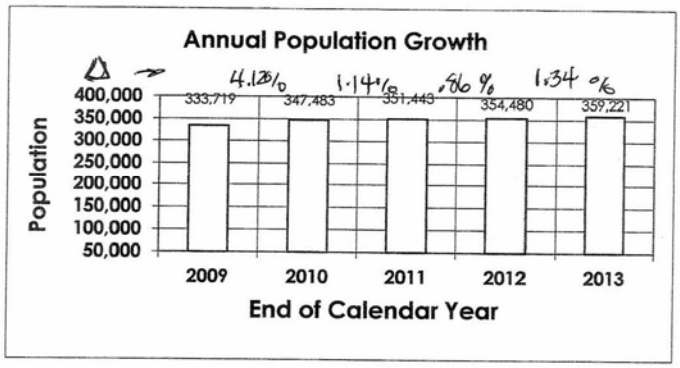
CITY OF BAKERSFIELD

FISCAL YEAR 2014-15





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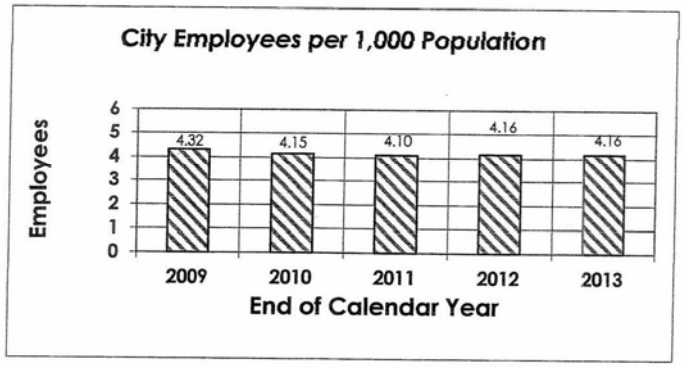

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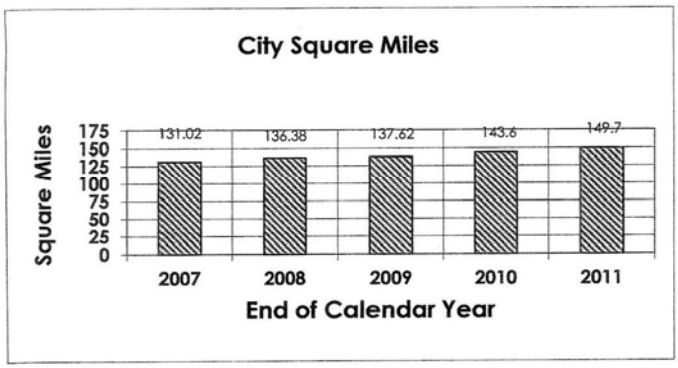
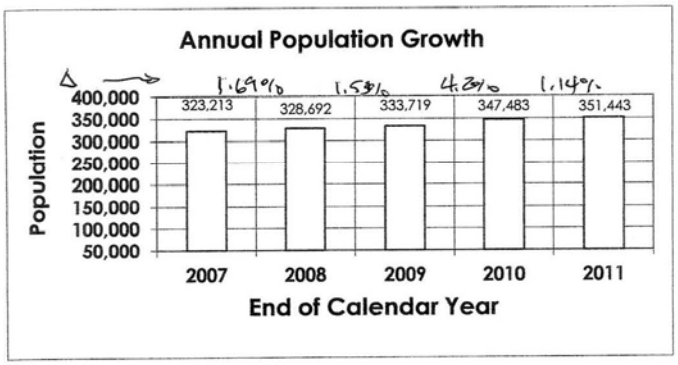
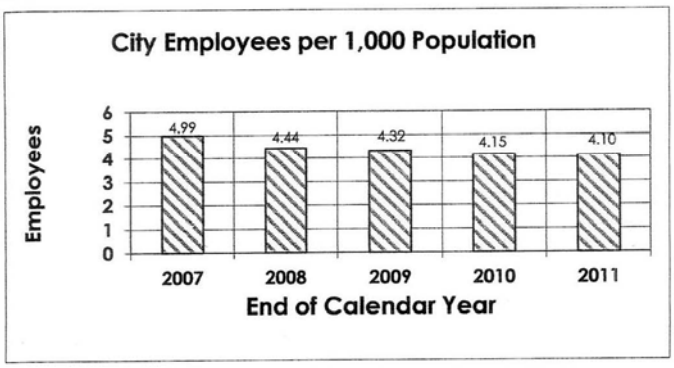
CITY OF BAKERSFIELD

FISCAL YEAR 2012-13







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Transportation
November 2013, Volume 40, Issue 6, pp 1133-1157

Hubris or humility? Accuracy issues for the next 50 years of travel demand modeling

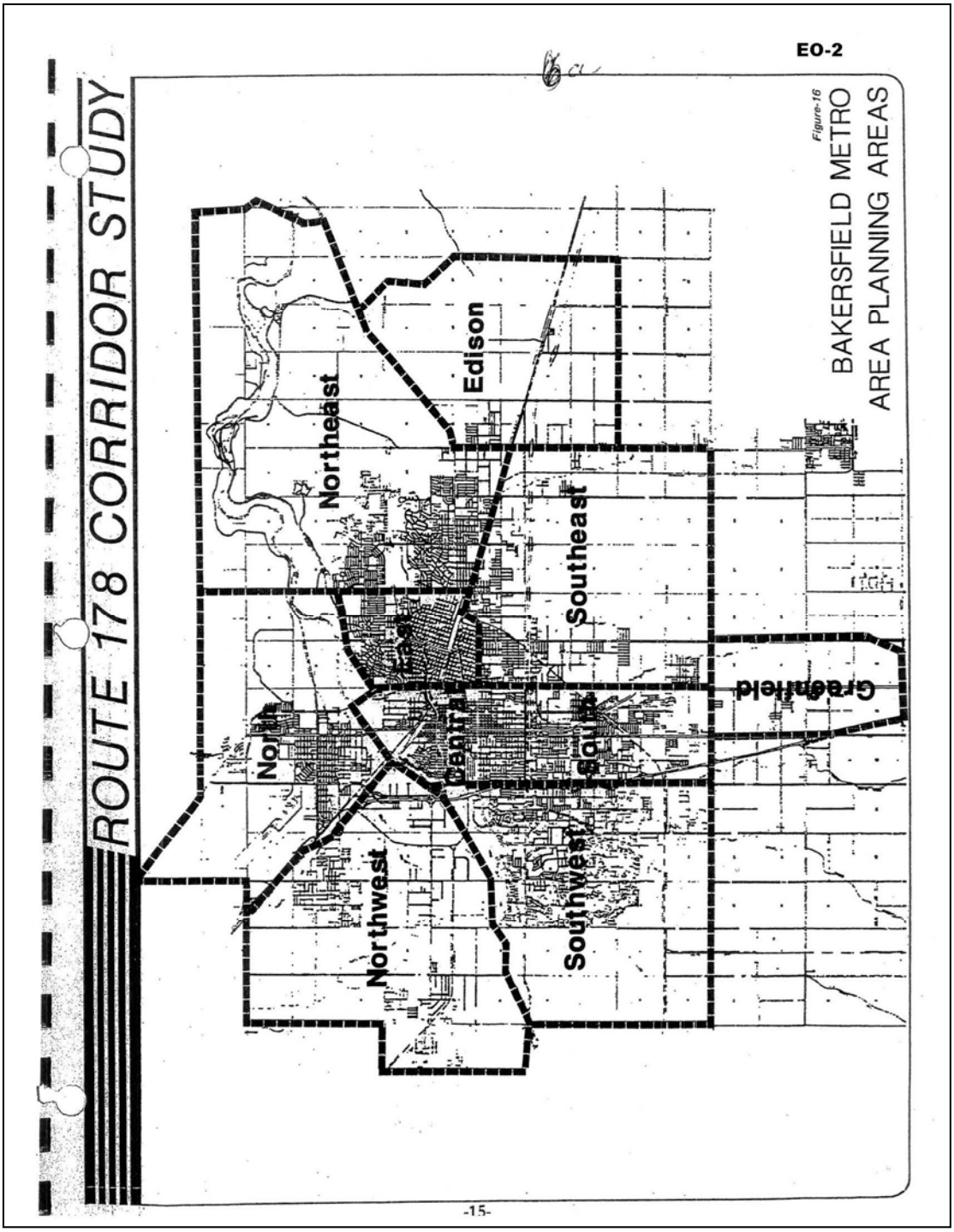
Abstract

This study reviews the 50-year history of travel demand forecasting models, concentrating on their accuracy and relevance for public decision-making. Only a few studies of model accuracy have been performed, but they find that the likely inaccuracy in the 20-year forecast of major road projects is ±30 % at minimum, with some estimates as high as ±40–50 % over even shorter time horizons. There is a significant tendency to over-estimate traffic and underestimate costs, particularly for toll roads. Forecasts of transit costs and ridership are even more uncertain and also significantly optimistic. The greatest knowledge gap in US travel demand modeling is the unknown accuracy of US urban road traffic forecasts. Modeling weaknesses leading to these problems (non-behavioral content, inaccuracy of inputs and key assumptions, policy insensitivity, and excessive complexity) are identified. In addition, the institutional and political environments that encourage optimism bias and low risk assessment in forecasts are also reviewed. Major institutional factors, particularly low local funding matches and competitive grants, confound scenario modeling efforts and dampen the hope that technical modeling improvements alone can improve forecasting accuracy. The fundamental problems are not technical but institutional: high non-local funding shares for large projects warp local perceptions of project benefit versus costs, leading to both input errors and political pressure to fund projects. To deal with these issues, the paper outlines two different approaches. The first, termed 'hubris', proposes a multi-decade effort to substantially improve model forecasting accuracy over time by monitoring performance and improving data, methods and understanding of travel, but also by deliberately modifying the institutional arrangements that lead to optimism bias. The second, termed 'humility', proposes to openly quantify and recognize the inherent uncertainty in travel demand forecasts and deliberately reduce their influence on project decision-making. However to be successful either approach would require monitoring and reporting accuracy, standards for modeling and forecasting, greater model transparency, educational initiatives, coordinated research, strengthened ethics and reduction of non-local funding ratios so that localities have more at stake.

1 Citation 1 Share

Within this Article

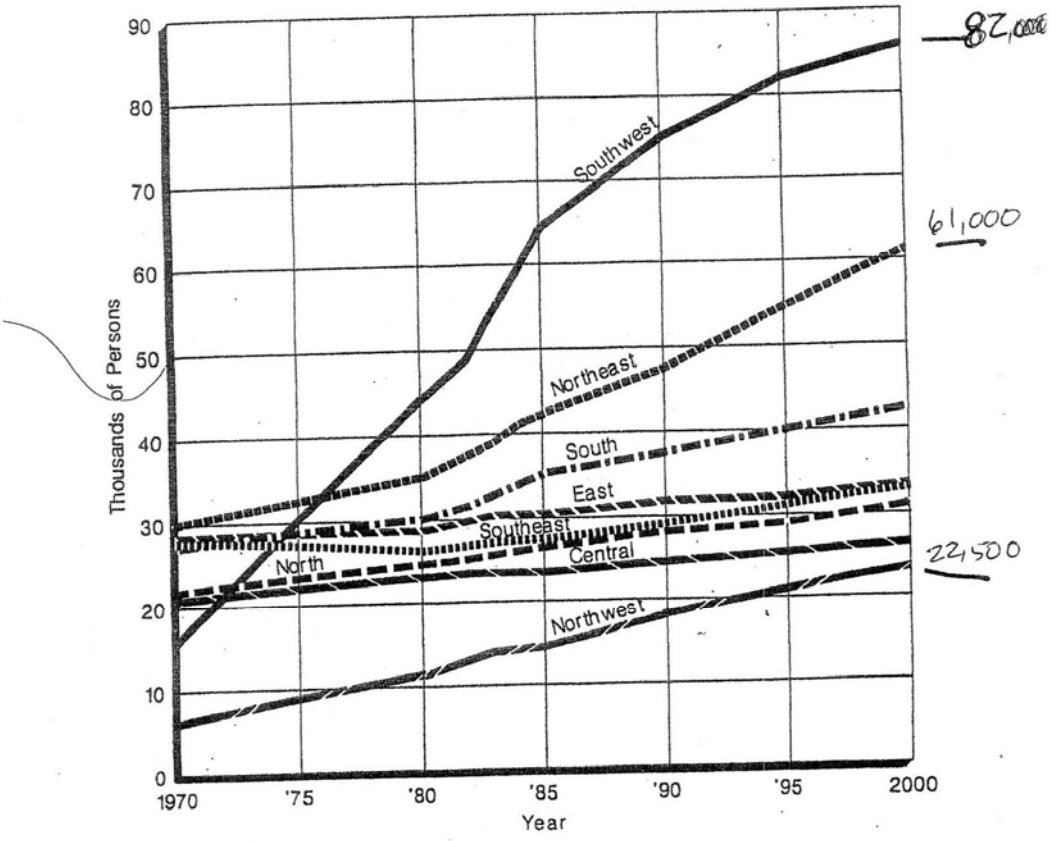
1. Introduction
2. Uncertainty in forecasting


EO-2
ROUTE 178 CORRIDOR STUDY
Figure-16
BAKERSFIELD METRO
AREA PLANNING AREAS
Northeast
Edison
Southeast
Greenfield
Northwest
Southwest
-15-

ng at about 2% per year at least through the year 2010. EO-2

6

growth will put increasing pressure on the metro area street system, i
178. Two of the fastest growing areas of the region will be the south
ortheast (see Figures 15 and 16). Growth will increase the demand f
een these areas, and Route 178 is an integral part of the street syste



Source: Kern County Planning Department

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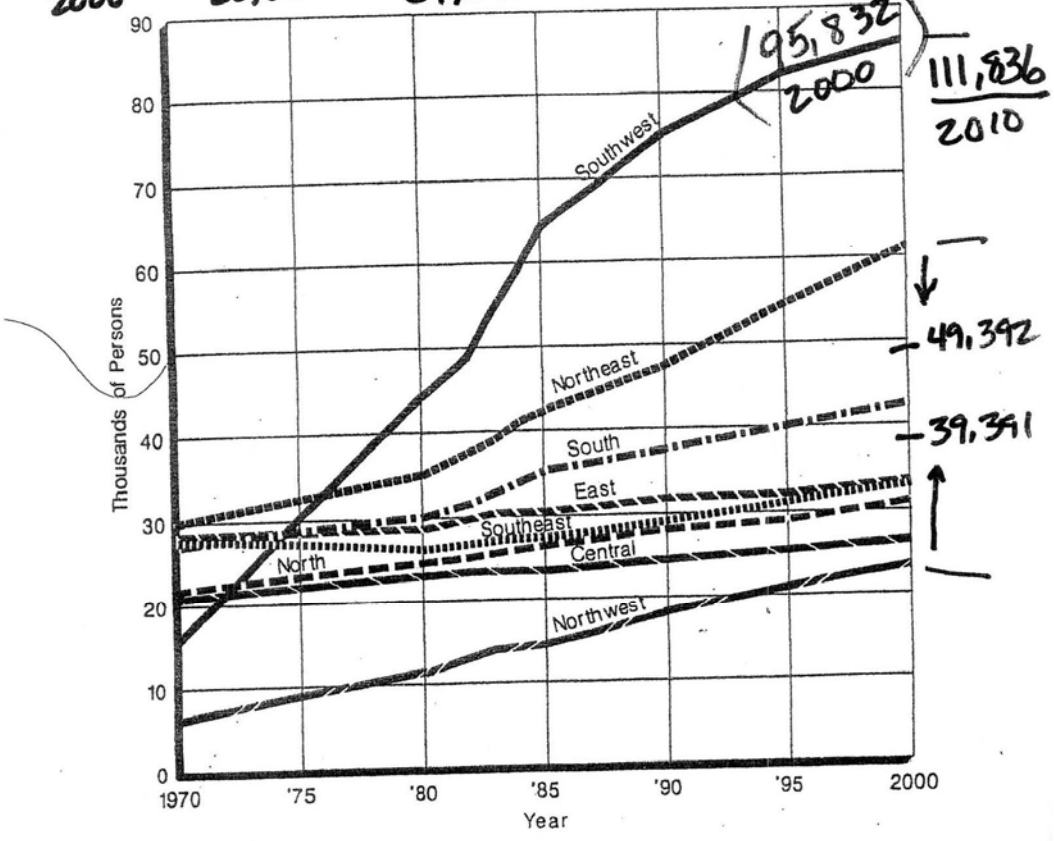
ng at about 2% per year at least through the year 2010.

growth will put increasing pressure on the metro area street system, i
: 178. Two of the fastest growing areas of the region will be the south
ortheast (see Figures 15 and 16). Growth will increase the demand f
een these areas, and Route 178 is an integral part of the street syste

	NE Projected	NE Actual	Diff	2010	Diff
2000	62,1060	49 392	-12600	55,887	-6100

	NW Projected	NW Actual	Diff	2010	
2000	22,560	39,391	16,900	61,498	+39,000



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Hubris or humility? Accuracy issues for the next 50 years of travel demand modeling

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Abstract This study reviews the 50-year history of travel demand forecasting models, concentrating on their accuracy and relevance for public decision-making. Only a few studies of model accuracy have been performed, but they find that the likely inaccuracy in the 20-year forecast of major road projects is ±30 % at minimum, with some estimates as high as ±40–50 % over even shorter time horizons. There is a significant tendency to overestimate traffic and underestimate costs, particularly for toll roads. Forecasts of transit costs and ridership are even more uncertain and also significantly optimistic. The greatest knowledge gap in US travel demand modeling is the unknown accuracy of US urban road traffic forecasts. Modeling weaknesses leading to these problems (non-behavioral content, inaccuracy of inputs and key assumptions, policy insensitivity, and excessive complexity) are identified. In addition, the institutional and political environments that encourage optimism bias and low risk assessment in forecasts are also reviewed. Major institutional factors, particularly low local funding matches and competitive grants, confound scenario modeling efforts and dampen the hope that technical modeling improvements alone can improve forecasting accuracy. The fundamental problems are not technical but institutional: high non-local funding shares for large projects warp local perceptions of project benefit versus costs, leading to both input errors and political pressure to fund projects. To deal with these issues, the paper outlines two different approaches. The first, termed 'hubris', proposes a multi-decade effort to substantially improve model forecasting accuracy over time by monitoring performance and improving data, methods and understanding of travel, but also by deliberately modifying the institutional arrangements that lead to optimism bias. The second, termed 'humility', proposes to openly quantify and recognize the inherent uncertainty in travel demand forecasts and deliberately reduce their influence on project decision-making. However to be successful either approach would require monitoring and reporting accuracy, standards for modeling and forecasting, greater

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model transparency, educational initiatives, coordinated research, strengthened ethics and reduction of non-local funding ratios so that localities have more at stake.

Keywords Accuracy · Travel demand · Forecast · Uncertainty · Optimism bias · Ethics

"All [traffic forecasting] models are wrong; by how much determines their usefulness." George Box.
"The future isn't what it used to be." Yogi Berra.
"Pay no attention to that man behind the curtain!" The Wizard of Oz.

Introduction

Martin Richards, longtime Editor-in-Chief for *Transportation*, has kindly asked me to contribute to this issue and I am most pleased to do so. Under Martin's 41 years of leadership *Transportation* has actively participated in virtually all of the issues and advancements mentioned below, and without his direction it is unlikely that *Transportation* would have achieved its current status. To him we all therefore owe our heartfelt thanks and our applause, and I must say that personally it has been a great honor to serve with him. As *Transportation* moves into its next era, I am confident that those who follow will build on his foundation and that *Transportation* will continue as a central point of focus for thoughtful discussion of the issues that confront us.

The topic of this study is travel demand modeling and forecasting, particularly what needs to be improved regarding modeling accuracy. My thesis advisor Martin Wachs once said, *"Never put a number and a date in the same sentence"*. Of course I proceeded to do exactly that for the next 45 years, carrying both to at least four digits of precision. Sometimes, standard practice encouraged it, sometimes the boss or client, and sometimes hubris. In perhaps a thousand cases varying from site-specific studies and intersection turning movements to broad country-level studies, I have willingly participated in this most basic analysis. In short, I'm a travel demand model-holic.

During the first 25 years of my career there was occasional soul-searching about travel demand forecasting methods and how to improve them, but little discussion about the institutional contexts surrounding them. Of course, there were periodic reviews of model weaknesses (e.g., Transportation Research Board 1973; Stopher and Meyburg 1976), but most in this business know that those are just the surface of much deeper problems that fundamentally challenge our knowledge and our procedures—and which we have only gingerly discussed. I am speaking here of the ethics of forecasting, including the potential for biased assessment, misrepresentation, advocacy, collusion and possibly even fraud.

These are strong words, not to be used lightly in any profession. So this will not be the usual *Transportation* paper with hypothesis, data, model coefficients and interpretation. Instead, it will be a 'frank and honest' (to use the language of diplomacy) assessment of various issues. Many, if not most, of my colleagues will disagree with my views; I ask only for thoughtful and constructive response.

Most of my discussion applies to passenger travel demand modeling, particularly estimating road traffic volumes and transit ridership, and mostly in urbanized areas. While one could make similar observations regarding freight modeling, the additional complexity of that topic and its even greater dearth of paradigms put it beyond my scope.

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Uncertainty in forecasting

The primary reasons to undertake travel demand forecasts for proposed major facilities (new or expanded roads, new transit lines, new bus routes, etc.) are to: 'size' the facility in terms of capacity (width, lanes, buses, trains, seats etc.) per unit time; estimate the cost of project development; estimate revenue for toll-based projects; provide information for facility design such as pavements and supporting features such as nearby intersections; estimate socioeconomic and environmental impacts; and evaluate project costs versus benefits. This predict-and-provide method is intended to ensure that the built facility will have sufficient capacity to operate at the desired level of service over its intended lifespan, that its benefits will outweigh its costs, and that its impacts will be manageable.

The standard method of estimating travel demand for major proposals in urban areas, and for many proposals between urban regions, is the so-called 4-step method. The approach breaks the forecast problem into four computational stages: trip generation, distribution, mode split and assignment. For instance, the 4-step estimate for a forecast of average daily traffic (ADT) in year y on a proposed highway is:

$$ADT_y = \sum_{o,d,l} (\textit{zonal origin and destination populations, employment, wealth, etc})_y$$
$$* \ \textit{trip rates}_y \qquad [\textit{Trip generation, step 1}]$$
$$* \ \textit{distributed trips between O and D}_y \qquad [\textit{Trip distribution, step 2}]$$
$$* \ \textit{share using private vehicles}_y \qquad [\textit{Mode choice, step 3}]$$
$$* \ \textit{share using a particular road link l in year y.} \qquad [\textit{Assignment, step 4}]$$

The forecast traffic is then used in further computations to estimate impacts and design features. For instance, the number of (directional) lanes required to carry the predicted road traffic in year y is:

$$\textit{Lanes}_y = \textit{Next Highest Integer of}:$$
$$\textit{Average Daily Traffic}_y * \textit{directional factor}_y * \textit{peak hour factor}_y * \textit{design hour factor}_y$$
$$/\textit{desirable level} - \textit{of} - \textit{service per} - \textit{lane service volume}_y$$

Typically, each of the above terms is treated as deterministic, with a single value given the circumstances (e.g., Highway Capacity Manual 2010). But each term is also a function of many other factors and is highly variable in time and space. And each of these background factors is also is dependent on numerous additional assumptions, even though in most model applications they are treated as deterministic numbers not subject to variation or uncertainty. Usually, few calculations are made to determine range, variation or likelihood of occurrence of any of these terms. In road planning the problem is sometimes worked backwards, estimating the ADT needed to justify 4, 6, or 8 lanes, using typical values for the needed parameters (e.g., Florida Department of Transportation 2010). In the US most state department of transportation have similar methods for preliminary route planning. For more detailed corridor planning additional methods are also employed, but they also typically do not account for uncertainty.

There are several fundamental problems with this modeling structure. From an accuracy perspective, the method produces results that are increasingly viewed as inaccurate, perhaps 'just plain wrong', significantly biased toward over-statement, and not accurate enough for use as the basis for decisions involving large expenditures.

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European and Australian experience

The magnitude and technical sources of these inaccuracies has been researched for some time. Beginning in the late 1970s the UK Department for Transport (United Kingdom) initiated studies to determine the accuracy of road traffic forecasting models. By 1988, the review had found 41 road projects that met their forecasts (i.e., actual traffic was within 20 % of predicted traffic), and 27 projects that had greater differences (Department for Transport (United Kingdom) 1988). Technical causes of these inaccuracies were attributed to overestimates of diversion to the new facility, underestimates of national traffic growth, failure to account for induced traffic, variations in regional growth, and subsequent changes in land use. Mackie and Preston (1998) identified numerous sources of error and bias in transport modeling, grouping them into those related to project objectives, definitions of alternatives, data errors, model structure and appraisal optimism. The Department for Transport (1998) began to revise its method of forecasting national road traffic in the mid 1990's, modifying the prior high-and-low forecasts (variations of GDP and fuel price, but without probability of occurrence) by adding a central fitted-on forecast intended to represent the most likely (highest probability of occurrence) outcome. By 2008 the Department for Transport (2008) had become more specific, requiring in its guidance for project development that forecasts of road traffic must include a 'core scenario' growth forecast and alternative scenarios above and below, with "*range of uncertainty equal to 2.5 %, times the square root of the number of years beyond the base year.*" However, there appears to be some question regarding how much this guidance is actually followed. The Department has recently expanded the comparative research to 55 projects, finding that about 90 % of forecasts were within 43 % of actual traffic (Department for Transport 2013).

The guidance further specifies that an Uncertainty Log be developed to enumerate and assess the likelihood of various events related to the tested scenarios, such as proposed developments, land use plans or zoning proposals, and infrastructure improvements. These findings are to be thoroughly reported in planning documents. Table 1 provides an outline of the classifications to be used in the Uncertainty Log.

A recent study by the European Court of Auditors (2013) investigated the accuracy of traffic and cost forecasts for 24 road investment projects in Germany, Greece, Poland and Spain. These projects were all non-toll, and included bypasses, road widenings, new 2-and 4-lane segments, new bridges, and upgraded 2-lane roads. Costs ranged from €5 million to over €650 million. The study found that while the projects partly delivered their intended purposes, assessment based on cost-benefit was impossible, and that "*Most of the audited projects were affected by inaccurate traffic forecasts.*" Actual costs came in an average of 23 % higher than predicted. For the 19 projects with traffic forecasts, 5 were within 20 % of the actual traffic, 11 were between 20 and 50 % off, and 3 were greater than 50 % off. On average, the actual traffic was 15 % below the forecast traffic. However, these were mostly 1 year after opening counts.

Another national review of toll road traffic forecasts is on-going in Australia. In a widely cited paper, Li and Hensher (2010) reviewed the traffic forecasting accuracy of 14 major toll Australian toll routes in Sydney, Melbourne and Brisbane. They found overestimates averaging 40 % for five toll roads in the Sydney area. Using regression models relating the percentage error to various characteristics, they attributed most of the error to less toll road capacity (when opened, compared with forecast), elapsed time of operation (roads opened longer had higher traffic levels), time of construction (longer construction time delayed traffic growth and increased the error), toll road length (shorter roads

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Table 1 Outline for the Uncertainty Log (DfT 2008)

Probability of the input	Status
Near certain: the outcome will happen or there is a high probability that it will happen.	Intent announced by proponent to regulatory agencies.
	Approved development proposals.
	Projects under construction.
More than likely: the outcome is likely to happen but there is some uncertainty.	Submission of planning or consent application imminent.
	Development application within the consent process.
Reasonably foreseeable: the outcome may happen, but there is significant uncertainty.	Identified within a development plan.
	Not directly associated with the transport strategy/scheme, but may occur if the strategy/scheme is implemented.
	Development conditional upon the transport strategy/scheme proceeding.
	Or, a committed policy goal, subject to tests (e.g. of deliverability) whose outcomes are subject to significant uncertainty.
Hypothetical: there is considerable uncertainty whether the outcome will ever happen.	Conjecture based upon currently available information.
	Discussed on a conceptual basis.
	One of a number of possible inputs in an initial consultation process.
	Or, a policy aspiration.

attracted less traffic), cash payment (modern no-cash payment increased traffic), and fixed/distance based tolling (fixed tolls reduced traffic). Li and Hensher's re-analysis of the US toll road data (see below) yielded findings similar to that of Australia. In a recent review of seven Australian toll roads opened since 2005, Bain (2013) found that in all seven, the counted traffic volumes were lower than the predicted volumes by 40–60 %. Reviews for Sweden, Norway (Welde and Odeck 2011), Spain (Vassallo 2007), the Netherlands (de Jong et al. 2007) and PPP projects worldwide (World Bank 2008) have similar findings. The Australian government (Australian Government 2012) subsequently cited "*inaccurate and over-optimistic*" traffic forecasts as a threat to investor confidence. Three lawsuits now underway challenge the forecasts for toll road traffic that subsequently came in significantly under projections (Bain 2013).

US experience

In contrast, in the US the focus has been largely on the accuracy of transit ridership forecasts. In the first major US review, the Federal Transit Administration (FTA) examined the accuracy of ridership and cost forecasts for 10 major fixed-guideway transit projects built between 1971 and 1987 (Pickrell 1989, 1992). The study found that transit ridership was substantially overestimated and costs substantially underestimated for all 10 projects. Ridership forecasts were over actual ridership by an average of 257 %, and costs were low by an average of 61 %. FTA updated the study in 2003 using an additional 19 cases; they found modest improvements in cost forecasting since the 1989 report, but still systematically underestimating actual costs by 17 % on average. Ridership forecasts had also improved since the 1989 study. In 2009 FTA updated the study again, this time with 18 fixed-guideway projects completed between 2003 and 2007 (FTA 2009, Session 2). Actual

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construction costs still exceeded the inflation-adjusted estimates developed in alternatives analysis by 40 %, and the actual ridership averaged just 75 % of predicted ridership. Curiously, FTA concluded that the cost forecasting had improved, but that ridership forecasting accuracy had not.

FTA does not have formal published guidelines for forecasting. Instead, FTA refers New Start sponsors to its recent workshops and draft policy Guidance (FTA 2009, 2013). The website and draft Guidance describe two basic methods of estimating fixed-guideway transit ridership: (1) a locally-based method using either a conventional 4-step model, an activity-based model, or a simplified data-driven incremental mode choice model of changes in travel times and costs for those trips that are within the influence area of a proposed project; and (2) a simplified national model called STOPS (Simplified Trips-on-Project Software) that (after completion of testing) sponsors will be able to use to prepare ridership forecasts for FTA New and Small Starts ratings purposes. The pre-cursor to STOPS was the ARRF (Aggregate Rail Ridership Forecasting) model that has been used by agencies for several years as a quality control comparison point to forecasts prepared from other methods. Both ARRF and STOPS are based on the experiences from regions with completed transit projects, and relates guideway ridership to census journey-to-work data, but STOPS is calibrated further with both BRT and rail projects and includes GTFS (General Transit Feed Specification) networks and peak period zone-to-zone auto travel times as inputs. Also, both methods encourage estimating opening-year patronage (FTA 2013), rather than focusing solely on long-range future estimates.

FTA also optionally permits (but does not require) proposals for New Start projects to address uncertainty in the forecasts of model inputs and other factors, suggesting a range of ridership forecasts (lower, most likely, upper). FTA also strongly recommends (but does not require) an 'incremental build-up' of the forecast for the locally preferred alternative, as well as a discussion of the specific sources of uncertainty ('upside' and 'downside') and their likelihood (FTA 2009, Session 10), similar to the Uncertainty Log used in the UK. FTA also requires before-after and predicted-actual comparisons of ridership.

However, the range of uncertainty may be too narrow. Reviewing 80 alternative total-travel scenarios from 50 large US regions, Bartholomew (2007) found that the on average the estimates of predicted regional vehicle-miles of travel varied only slightly (on average, about −2.3 % for an 11 % increase in regional density) from baseline forecasts, suggesting that the tests were not extreme. Whether transit sensitivity tests are broad enough is unknown.

Looking primarily at technical model accuracy, Chatterjee et al. (1997) reviewed the capability of traditional 4-step modeling techniques to provide increasingly detailed estimates of mobile source emissions resulting from transportation development and operations. They found that, in practice, some steps in the traditional modeling sequence (e.g., trip generation, distribution, and assignment) tended to decrease relative uncertainty (because they accumulate numerous estimates over a large numbers of cases), while others (particularly mode choice) tended to increase it (because they make estimates of small proportions). Nevertheless, the range of uncertainty in traditional traffic model forecasts was estimated to be on the order of 15–30 % for a major-road 20-year forecast, far wider than the detail needed for estimating emissions variations likely to be needed for air quality conformity tests, but considerably smaller than that estimated for toll roads, discussed below. The authors suggest ways in which current practice and analysis tools can be improved to increase the accuracy of their results. Bain (2011) reports an even wider variation for UK and other nation's projects, noting that "*at the 90 % confidence level, 5-year traffic forecasts for new roads are likely to have an accuracy of* ± *27.5 %*". In his

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review of US urban resurgence between 1970 and 2000, Wachs (2013) notes the failure of academics to see how transportation and urban resurgence are related, even though by 1975 virtually every large city in the US had a travel demand model and was using it for forecasting.

In a theoretical assessment of error propagation, Zhao and Kockelman (2002) used a simulation-driven 4-step model applied to the Dallas region to trace the uncertainty error through the 4-step process. They found that "*modeling error in effect grows* [from an average of ±30 % prior to generation to ±42 % in mode choice] *through the application of trip generation, trip distribution, and mode choice models… However, the final step of traffic assignment enjoys [an improvement] in uncertainty* [to an average of ±30 %] *(at the link-flow level), thanks to overlap in different trips' routings and mode and trip distribution choices across all travelers, along with congestion feedbacks (which moderate the presence of high link-demand values).*"

However, in contrast to the experience of other nations, only a very limited number of empirical studies have been undertaken regarding US road traffic forecasting accuracy. The US's National Cooperative Highway Research Program (NCHRP 2006) undertook a review of forecasting errors for 15 US toll roads opened between 1986 and 1999. They found, on average, that the actual traffic was 35 % below the predicted traffic. For revenue, only 3 of 26 toll roads reviewed were above revenue projections after 1 year, and only three were still above projections after 5 years. Referring to the study, Naess et al. (2006) found that 13 of 14 US toll roads had over-predicted traffic by an average of 42 %. The key factors affecting the accuracy of toll road forecasts were identified as demographic forecasts, travel characteristics, tolling culture (local familiarity), value of time and willingness to pay, personal preferences and reliability, ramp-up period, truck use, time choice modeling, model validation, peer review, risk assessment, and optimism bias. NCHRP concluded that "*the most successful [toll road traffic] forecasts generally had accurate or even conservative economic forecasts with moderate anticipated growth levels. These toll roads were built in corridors that were fully developed and where congestion already existed*" reflecting Bain's work.

In another very recent development, the New York Supreme Court (2013) permitted to go to trial a case involving alleged fraudulent action to conceal 'success fee' payments to a traffic forecasting company, and thus optimistic traffic forecasts, if five toll roads were ultimately purchased by an investor group. To the author's knowledge, this is the first lawsuit in the US that concerns the accuracy of traffic forecasts.

However, unlike the EU study, no US studies have empirically evaluated the accuracy of travel demand forecasts for *un-tolled* new roads, or for other types of actions such as road widenings which are commonly proposed in metropolitan regions. That issue focuses directly on the accuracy of travel demand models for toll-free proposals. Spielberg et al. (2007) reviewed the status of travel demand forecasting methods in US metropolitan areas, to identify "*shortcomings in travel forecasting models, obstacles to better practice, and actions needed to ensure the use of appropriate technical approaches*". They found that while the 4-step methods were generally adequate for analyzing major investment proposals, the 4-step methods did not adequately address the range of emerging policy options now being discussed, nor for financial analysis such as is needed for toll road evaluation. But they did not quantify the degree of uncertainty in travel demand forecasts. The study identified the primary weaknesses of current travel demand forecasting methods as lacking behavioral content, policy insensitiveness, and lacking dynamic conditions. This study recommended substantial funding increases for improved modeling (to $ 20 m annually), pooled fiscal resources from urbanized areas, and increased attention to activity modeling.

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The report did not, however, call for new paradigms of travel or propose international efforts, nor did it address broader methodological or process issues.

The US federal government guidance for road traffic forecasting (Federal Highway Administration 2010, p. 23) has identified the major "*substantial uncertainties*" in traffic forecasts as *"population and employment forecasts, housing trends and costs, global and local economic conditions, other planned transportation improvements, time-of-day assumptions, parking prices, fuel prices, and long-term changes in vehicle technology"*. To deal with this form of uncertainty, the Guidance recommends an "*incremental buildup*" of the forecast, adding each element sequentially to the baseline traffic model until the full future forecast is made. This approach provides just one forecast for each alternative, and does not address the issue of uncertainty or inherent variation in each of the components of the forecast.

Recently the National Cooperative Highway Research Program (Donnelly et al. 2010) reviewed the advances in travel demand modeling, looking at activity-tour models, dynamic modeling, integrated land use, and freight. Regarding risk and uncertainty, the recommended approach is to conduct what-if scenarios that vary the most significant input assumptions about land use and system performance. The study did not address institutional issues such as non-local shares for major projects, lengthy planning timelines, regulations tying modeling to legal requirements, or optimism bias. NCHRP has also recently initiated a comprehensive assessment of very large and long-range strategic issues that might affect US transportation. The study is still underway, but the first report (NCHRP 2010) focused on broad trends like aging population, increased global trade, climate regulation, protectionism, and sustainability. The study has yet to assign probabilities to various events, let alone suggest how they might be accounted for in travel demand modeling. A third stream of recent research has focused on methods to incorporate uncertainty of travel time and the value of travel time into traffic modeling (Strategic Highway Research Program II 2013a, b). This research also recommends the use of scenarios (optimistic, average, and pessimistic) to deal with uncertainties in inputs.

More recently Chow et al. (2012) have noted the increased fracturing of travel demand modeling and its strained efforts to address emerging issues. They call for a broader educational structure based on fundamental flow principles rather than modal or topical issues, but do not address ethical or institutional issues. Work is also progressing on such issues as probabilistic estimates of travel time delays. For instance, Jaggi and Axhausen (2013) investigate how to incorporate dynamic loading by hour, variation within hour, and variation in capacity. They propose a probabilistic method of estimating travel time losses (delays) for each hour of the year, for different road classes, using the chance of a breakdown in traffic flow, as an extension of familiar flow-speed curves.

To summarize the current US situation, no systematic numerical assessment of accuracy in highway traffic forecasts has yet been conducted in the US. The Federal Highway Administration's Travel Model Reasonableness Checking Manual (Travel Model Improvement Program 2010) concentrates not on accuracy in forecasting but on model validation, that is testing to see if model results fit existing traffic count and VMT in the base year. According to the Manual, these tests should indicate that calibrated traffic estimates for observed routes are within 20 % of actual volumes for road volumes over 50,000 AADT, and within 30 % of actual volumes for road volumes between 10,000 AADT and 50,000 AADT. The discussion of sensitivity is about what parameters to use for congestion delay curves. In forecasting, the Manual indicates that the objective is *"not to achieve a close match between the forecast and base year results, but rather to ensure that the differences and trends are reasonable."* But there is no discussion of the required or

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known accuracy of travel demand forecasts, and no guidance similar to the requirements for sensitivity testing such at that in the UK—if that is actually followed.

Technical sources of inaccuracies in travel demand forecasts have been variously attributed to inaccurate demographic forecasts, particularly population, households and employment trends at the zone level, but also to major changes in pricing such as gasoline prices, rising vehicle availability to more households, changing lifestyles such as women in the workforce and immigration, and to unverified assumptions regarding the stability of household travel relationships. As such, they can be investigated by a variety of methods such as better data collection, use of scenarios, probability of occurrence and interaction among sources. Although time-consuming, this approach is relatively straightforward, analytically.

Ethical issues in forecasting

However, there are also broader pressures influencing the forecasting process itself. In early papers on this topic Wachs (1989, 1990) focused on the ethics of forecasting in transportation planning, and particularly the institutional environment that encourages, perhaps even demands, that forecasts be thinly veiled "*highly subjective exercises in advocacy*" for project justification rather than "*utilitarian*" objective assessments. In essence, forecasts are often "*deliberately designed to put certain projects in a favorable light and others at a disadvantage*". To combat this issue Wachs called for public education on advocacy versus objectivity, protection of those exposing abuses, strengthening ethics codes and stronger education programs for professionals. Altshuler and Luberoff (2003) also note the pervasive influence of federal funding in moving megaprojects forward.

In controversial work Flyvbjerg et al. (2003, 2006, 2009, 2013; Naess 2006; Cantarelli et al. 2010) reviewed the forecasting accuracy for 258 highway and transit megaprojects worldwide, built between 1927 and 1998. They found that for transit projects, actual costs were on average 45 % higher than estimated, but the actual ridership averaged just 61 % of predicted ridership. For highway projects, the cost forecasting error averaged about 20 % high, and traffic estimates averaged about ±20 %. They attributed these inaccuracies to methodological errors, input errors, personal behavior that was different than predicted, unexpected external changes, political actions, consultant bias, and appraisal bias of the promoter. Toll-road forecasts were found to have larger error than non-toll forecasts. Cost overruns for large projects were attributed primarily to "*political explanations*" rather than technical, economic or psychological reasons. This bias was attributed largely to implicit cooperation between government officials, contractors, consultants and politicians, rather than to errors in input or modeling. Using very strong language, they suggested that cost overruns seemed to be "*best explained by strategic misrepresentation, namely lying, with a view to getting projects started.*" The main cause was found to be "*[neglect of] risk and lack of accountability in the decision-making process.*" Flyvbjerg (2009) argued that "*a rapid increase in stimulus spending, combined with more investments in emerging economies, combined with more spending on information technology, is catapulting infrastructure investment from the frying pan into the fire*". To combat megaproject uncertainty, the authors call for greater transparency, model performance specifications, due diligence in forecast reviews, tighter regulation of construction and financing, use of private financing for risk capital, and improved management based on state-owned-enterprise and build-operate-transfer business models. More recently Flyvbjerg has called for penalizing forecasters for producing "*significantly inaccurate and misleading forecasts*" (Forster

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2012), but others have noted that inaccurate client data are more to blame for forecasting errors (Forster 2013).

Using a data set from Standard and Poor's on vetting proposed toll road projects, Bain(2009a, b, 2011) reviewed the traffic forecast accuracy of 104 highway projects from numerous countries. He found that after correcting for optimism bias about 90 % of actual traffic volumes were within ±43 % of their respective forecasts, but charts in the study show that the average estimated 20-year error was about +20 % that is, the average 20-year forecast traffic was 20 % higher than actual. Bain also cautioned against inflating forecasts as an "*act of deception*", and warned of sensitivity tests that are "*insensitive to project traffic or revenue*", and using *"pseudoscience to infer precision…..not supported by empirical evidence*". He also recommended the use of a traffic risk index to score the major technical and institutional risks for a specific project (Bain 2009a, b). Lemp and Kockelman (2009) provide a comprehensive summary of these studies.

Wachs, Bain and Flyvbjerg generally infer the existence of deception, lying or collusion from the cumulative evidence of groups of projects (for instance, a high proportion of projects with over-forecast of traffic or revenue), and from comparisons of project forecasts with those of peer projects. But of course this does not mean that a specific project forecast is necessarily biased. And Wachs also points out that it is usually not illegal to amend the assumptions of a forecast for political reasons. Legal disclaimers in consultant documents, liability insurance, and disclaimers in financial documents generally protect forecasters from *ex post facto* legal action.

The extent of this form of manipulation is not fully known. Some observers believe it to be quite common, perhaps even widespread, in toll road forecasting. Others suggest it is essentially an amoral 'victimless crime': the public gets the road and the contractors get a profit. Others suggest it is quite rare, perhaps even non-existent, in non-toll forecasting activities. Clearly, however, the recent rapid increase in toll-based financing of major projects along with concomitant risks for private investors has increased the visibility of the issue. Considerably more research would be needed to identify its current magnitude. The Australian court cases now moving forward, which are centrally concerned with ethics, may clarify this issue.

All of the above studies concentrate exclusively on large projects within urban areas that use the conventional 4-step modeling process and on large inter-regional projects using similar methods. There are no comparable studies of smaller actions such as transit service increments or pedestrian-bike studies, or a wide range of other policies, although periodic reviews of *ex post facto* travel response to such policies have been made and codified (e.g., Pratt 2013). Essentially, we know very little about the accuracy of such tools, but it is seems unlikely that they are any more accurate in forecasting than the 4-step process.

Increasing complexity and inadequate policy response

Another serious issue is that the range and content of policies that these models are expected to address is increasing, especially increasingly complex road pricing schemes. As noted above, these methods were initially developed to evaluate alternative major transportation actions such as new roads, major widenings and major new fixed-guideway transit proposals. But in addition to these issues, numerous other policy options are now under scrutiny. They include demand-management policies such as VMT-reduction policies, employer parking restrictions and carpool mandates, vehicle user pricing, congestion

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pricing flexible work schedules, carpooling and vehicle sharing; technological changes such as vehicle fuel efficiency, energy constraints and costs; transportation system actions such as capacity reductions ('road diets'), pedestrian-bike systems, transit improvements and transit-oriented development; transportation funding mechanisms such as tolling, and impact issues such as air quality, climate change, noise, induced travel, socioeconomic impacts, land use, urban form and equity issues. In the US federal requirements for modeling include "*estimating motor vehicle emissions (which depends on estimating speeds and traffic volumes by time of day), estimating new travel generated by adding new capacity, evaluating alternative land use policies, and estimating freight movement and non-motorized trips*" (Spielberg 2007), to name just a few. Many of these issues are handled post-model and thus incorporate whatever errors the models contain. Looming just ahead are topics like internet communication, social networks and media, self-driving cars, automated vehicle routing and immigration.

The primary methodological advancements that deal with some (but not all) of these issues include disaggregate (disutility) and revealed preference methods, stated preference methods, activity-tour models, multi-modal networks, advanced statistical methods, dynamic assignment, micro-simulation, integrated land use-transportation models, geographic information systems, internet-related applications, and social media data monitoring. These improvements are increasingly complex but have less verification and calibration, little or no external validation, and (so far) virtually no *ex post facto* testing of model accuracy. They have also become operable by only a limited number of specialists. Some observers go further, suggesting that travel demand modeling has split into largely isolated sub-disciplines that only a few individuals can successfully integrate (Chow et al. 2012) and sometimes fail to communicate with other specialists. Most standard texts do not discuss issues such as model complexity, accuracy, or practical modeling problems.

Further, some of these methodological advancements may not be real advancements at all, since they are primarily modifications of existing tools. While some models contain genuinely new elements, most are operated as bolted-on additions to the existing 4-step process. Although some observers might disagree, I think it is safe to say that the basic 4-step paradigm we use for travel demand forecasting has not changed substantially since its development in the 1950's. The box looks different, but the contents are remarkably similar. In short, we are asking the 4-step model to do far more than what it was initially designed for, a form of mission creep.

In summary, the complexity of current models means that few modelers are proficient enough to understand the uncertainties, and many users have no way to assess model validity and have to basically trust the outputs. This leads to an impression of unwarranted accuracy in forecasting and false precision in estimates.

Widening gap between theory and practice

Many observers have also noted the widening gap between model theory and practice, which seemed to accelerate in the early 1970s with the advent of federal research money and advanced statistical tools and model structures. Many model advancements are not even used in practice, instead getting bogged down in the minutia of model results and trivial findings. And when the newer methods, for instance activity models and dynamic assignment, are placed in practice, it is alongside or as add-ons to existing 4-step processes (Jones 2012). Few regional planning offices have the expertise to operate these tools, leading by default to applications by consultants and academics if they occur at all—and of

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course the results might not be more accurate. Ironically the US's continuing investment in model improvement efforts (Travel Model Improvement Program 2010), particularly its investment in TRANSIMS, may have accelerated modeling advancements but resulted in lagging implementation, particularly in smaller regions that find the advancements cost-ineffective. As Jones notes (2012) the time lag gap and complexity gap between research and practice seems to be widening, and in fact is not new: as early as 1990 Pas noted the widening gap, and the various reports of the International Association for Travel Behavior Research (IATBR 2013) going back to its first conference in 1973 (TRB 1973) each also note the theory–practice gap.

In the background

Travel demand forecasting does not exist in a vacuum, either in theory or in practice. In the background are a host of additional political, regulatory, fiscal, geographic and institutional circumstances that affect model accuracy and forecast errors.

Regional planning

The history of travel demand models is well documented in a variety of papers, including Boyce and Williams (2005); Boyce and Williams (forthcoming, 2013); Ran (2012), Shuldiner and Shuldiner (2013) in this issue of *Transportation,* Pas (1990) and Jones (2012). These reviews trace the development of modeling methodology and modeler views of travel but generally place less attention on institutional considerations. In the US, requirements for long-range travel demand forecasting are actually *mandated* in the 1962 Federal Aid Highway Act, which required 'comprehensive, continuing, and coordinated' (3-C) transportation planning in metropolitan regions with populations above 50,000 as a condition for federal financial assistance. The rules accompanying the Act laid out criteria for planning, including 20-year demographic forecasts by zone, multi-modal forecasts (quite a new exercise), economic analysis of alternative investment plans, and many other requirements. These requirements initially came from the apparent successes of early transportation studies in Chicago, Detroit, San Juan, Pittsburgh and other regions, which relied heavily on the capabilities of (then) 'modern high speed computers'. During the 1960s and 1970's consultants and academics exported this technology to virtually every major city in the world. The 4-step process has gone through several stages of refinement since then. Ran et al. (2012) classify these periods largely by the availability of communication technology, and Boyce and Williams (2005) classify them by mathematical complexity and consistency, rather than by topical focus. Recent regulations (for instance, requirements for conformity with state air quality plans, noise and water quality impacts, encouraging time extensions to 40 years rather than the original 20, congestion management and environmental justice) have substantially increased the 4-step model's complexity and stretched its credibility, some say to the breaking point. Some of these exercises, particularly EIS requirements for US projects, require or encourage project-specific point-based estimates of future travel demand by time of day and speed, a clearly unrealistic goal.

Some observers have recently criticized the present long-range planning process as fundamentally flawed, with too many unachievable goals, feel-good scoring to evaluate projects, failure to challenge critical underlying assumptions, and general lack of critical thought. In a review of 75 long range plans for US metropolitan regions, O'Toole (2008)

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found that *"nearly all [long range transportation plans] included population and growth and traffic, but few describe[d] how reliable the travel forecasts might be, [and] no plan reported that planners did any sensitivity analyses to deal with questionable assumptions and forecasts."* In reviewing the long range plans for 23 large US regions this author (Hartgen et al. 2008) found that very few plans were realistic about the impact of projected growth on congestion, often forecasting much lower road speeds as congestion increased, even with large plan expenditures. Virtually all plans used the 4-step process for traffic forecasting, but none made forecasts for pedestrian or bike use, or of car-sharing, regional pricing scenarios, work-schedule policies, or other options. Only one region (Los Angeles) had estimated the impact of CO_2 control policies. The review also noted remarkably similar content and format across plans that rigidly parroted federal guidelines, suggesting that they had become standardized 'process' documents driven by federally-directed formats and contents, intended to ensure self-certification for continued federal funding, but then put on the shelf until the next 'five year plan' update.

Many non-capital policies reviewed in the long range plans are typically not easily amenable to analysis with the 4-step process, but also are not analyzed using other methods. These include regional policies for pedestrian-bike networks, and some bus-based transit networks. Policies that are geographically limited, such as transit-oriented development, are also typically not studied with these tools. On the other hand, some topics such as air quality conformity are over-modeled relative to impact. The author's study (Hartgen et al. 2008) found that the typical US region predicted 50–80 % reduction in emissions just from vehicle turnover, but the emissions impact of new projects was typically just 0.1–0.25 % of regional emissions, way below the modeling accuracy threshold. Another topic, environmental justice, is typically treated by analyzing where disadvantaged populations live along proposed highway projects, ignoring the increases in regional access to jobs or housing that such projects might bring. On the other side of the ledger are topics that are under-modeled, such as regional accessibility, induced travel, productivity and jobs, and economic development which are of great interest to localities (e.g., Worsley 2013) but rarely studied in long range plans.

Project planning

At the project level, there is also considerable regulatory and technical complexity. For project level forecasts, the relative magnitude of uncertainly of zonal population and employment projections increases exponentially with declining zone size and increasing forecast horizon (even for historically stable or filled zones that may be re-built to higher density). It is one thing to forecast, with some confidence, the likely population of an entire urban region, but it is much more difficult to forecast the traffic in and out of a small zone, let alone one influenced by a proposed new route (the so-called induced travel issue).

In the US, the analysis of projects has become substantially institutionalized. The Environmental Impact Statements required for major new highway projects by the National Environmental Policy Act of 1970 was initially intended to evaluate alternatives against a "no build" option, and develop a "preferred alternative" for later design. A brief review of Environment Impact Statements for major road projects reveals remarkable similarity in the structure and content of documents, each following the exact same format, even using similar words and density of material for traffic forecasts and induced travel. Technical supporting documents are also remarkably similar. Sensitivity analysis of forecasts for projects is unheard of. For transit projects, early ridership forecasts commonly used 'adjustments'(sometimes called 'bias coefficients') to account for un-measured

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transit features in modeling estimates, or included otherwise optimistic assumptions about operation and cost, but some sensitivity analysis is now undertaken, particularly in more recent documents. The underlying goal of both processes seems to be to ensure that the required steps are followed to comply with law and regulation, but also to justify the project and lock in federal dollars before other projects get them. There is virtually no attention to the experience of similar projects, either locally or in other regions (sometimes termed 'reference class' reviews) that might shed light on project worthiness.

Another serious problem is the overshadowing presence of large non-local (federal, state and private) matching funds for major projects. In the US, the federal share for Interstate projects is generally 90 %, and 80 % for other federal-aid projects, with the states (sometimes the private sector) picking up the bulk of the remainder. For major transit projects, the federal share is typically 50 %, and localities (sometimes states) fund the remainder. In both cases the process is intensely competitive, with sponsors vying for funding within each state (for roads) or between cities (for transit). Since these projects are generally financially infeasible without funding help from higher levels of government or the private sector, localities rely on federal, state or private sector funding to progress them. This biases the local benefit-cost ratio in favor of the project since the localities generally receive all or most of the benefits but contribute at most 20–50 % of the cost. (Sometimes, additional items are monetized to increase the benefit-cost ratio). Localities may have less interest in the forecast traffic but instead just want the project built. In essence, the non-local funding pushes forward projects that might not be built if localities had to pay for them entirely. This is particularly the case for projects with private-sector involvement, in which amorphous distant investors are seen as taking the risk, but it also applies to projects funded by formula allocations. Although there were certainly expressions of such concerns in the past (for instance, the Dulles Greenway), one might also argue that the whole issue of modeling uncertainty did not move to the fore until private-sector-financed megaprojects failed expectations of cost or demand.

Major weaknesses in travel demand modeling

The fundamental weaknesses of currently used in travel demand modeling have been extensively enumerated by many observers. In summary, they are:

- Unrealistic model paradigm: It is well recognized that the 4-step modeling paradigm developed 50–60 years ago is only a computational convenience that is not behavioral and does not reflect how traveler decisions are actually made. In spite of widespread agreement concerning this weakness, comparatively little basic research has been conducted into how households actually make activity and travel decisions (Pas 1990; Talvitie 1997; Jones 2012; Strategic Highway Research Program II 2013a, b). Even though the potential use of new different paradigms is significant, most activity models begin with largely unverified assumptions regarding household decision-making, for instance synthesizing activity patterns for demographic classifications, role and resource allocation within and between households, social networks and assumptions regarding trip chaining. And since many theories can often fit a data set, mere calibration is not validation of theory, let alone forecasting capability.
- Questionable methodological advances. The major improvements to the 4-step process (for instance, attitudinal inputs, choice models, activity-tour methods, dynamic assignment, micro-simulation, and land use integration) have significantly increased

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model complexity and cost, but (with the exception of choice models) have not produced significant advances in performance or understanding. Further, (again, with the exception of mode choice models) these improvements have been applied to only a few limited cases for larger regions, leaving smaller regions stuck with the old paradigm (An exception is the SHRP II effort 2013a, b, for Jacksonville FL and Burlington VT). They are also expensive and time-consuming to implement, with unknown incremental forecasting value, which make them probably not cost-effective for smaller regions and possibly not cost-effective for large regions either.

- Questionable accuracy. As noted above, the few rigorous tests of 4-step model accuracy have not been comforting, showing instead wide variations between predicted and actual future traffic. Although no formal research has been conducted, it is likely that most 20-year traffic forecast accuracies for toll-free road widenings are no closer than within +–30 %, but probably a much higher uncertainty range.
- Cross-sectional data: Data used to build and then validate 4-step models is invariably cross-sectional in time and therefore by definition contains a frozen view of travel behavior at the time of the travel survey. There are only a very few long-term longitudinal panel surveys of travel, notably in Seattle (now defunct) and the Netherlands (beginning again in 2013 after earlier waves in the 1980's), and just a few before-after surveys, for example tolling projects in Atlanta, Seattle, and Minneapolis. But even if one could forecast the life-stages of a future population, the stability of travel behavior must also be assumed going forward. To use a cross-sectional model in forecasting requires the assumption that the underlying behavioral relationships captured in the data are unchanged from the base year going forward, implying that whatever changes led up to the current behavior will then be suspended going forward, a logically untenable position.
- Coarse zone structure: Most 4-step models have a zone structure that is too coarse for project planning or for numerous non-infrastructure policies. This is particularly true for projects at the edges of regions, where zones are larger and growth rates tend to be faster. But even within urban areas the zone structure is too coarse for modeling choice behavior for many policies, and is a particularly serious problem for transit forecasting where walk-access to and from proposed transit stops is typically shorter than zone-to-zone centroid distances. Of course, zone size could be reduced to deal with this issue, but then socioeconomic forecasts are even more uncertain. New GPS methods and internet-based data tracking, such as cell-phone data, may reduce this problem, but the resulting data are less accessible and have less attached socioeconomic data.
- Inadequate sampling. Small sample sizes, for instance for choice-based models, are too small for generalization and do not gather information on specific O-D movements. Even large area-wide surveys rarely interview more than 2 % of regional households, so most O-D flow cells are empty. GPS-based data and cell-phone tracking data are more extensive but lack demographic and socioeconomic characteristics.
- Over-sampling. Occasionally models are built with so many observations that all model statistics are found to be highly significant, even though the model itself is miss-specified and is useless in forecasting. This is likely to become a more serious issue as big data sets from cell phones, for instance, are used to estimate corridor traffic characteristics.
- Misspecification. The presence of low goodness-of-fit measures, for instance low R-squares, is often a tip-off that the model is miss-specified. Many observers note that poorly specified variables and missing variables are a common problem in travel demand modeling, and that reliance on just time and cost for modeling is a significant

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mistake. For instance, heavy reliance on travel time, cost and income variables in mode choice modeling reduces attention to such factors as household location and work-school travel needs, habit, modal bias, prior investment in vehicle ownership, socioeconomic contexts reliability, convenience, safety and other factors that are likely more important, but difficult to collect and model.

- Weak calibration and verification. Even when calibrated on existing data or 'verified' using hold-out samples, goodness-of-fit statistics often show weak model explanatory power. And of course tests of base-year fit are not indications of external validity, and are no guide of predictive performance.
- Trivial or nonsensical findings. Often, tests for policies show very little or no difference between the policy impacts and the no-build option, such differences generally being much smaller than the intrinsic uncertainty in input parameters. But as Alonso (1968) pointed out many years ago, error propagation mathematics indicates that the largest relative errors come from subtraction and division. And arithmetic's significant-figure rules tell us that the precision of a mathematical formula cannot be more than its least precise term. It is therefore illogical to assert that the difference between the results of two tests is more accurate than the accuracy of the tests themselves. Basically, the smaller the difference being observed, the stronger, not weaker, the underlying model has to be.
- Limited before-after testing. Very few modeling exercises are designed to conduct before-after studies to determine how well the model predicted traffic. As noted above, in the US only major transit investments have been subjected to such tests, and even those studies have not identified the specific causes of the variation.
- Limited use of similar experiences. Modeling efforts have generally used locally-driven data such as trip rates and trip lengths, and locally developed forecasts for such items as population and land use, with only limited comparisons of forecasts to the experiences of similar regions. So-called 'reference class forecasting' has rarely been used as a backdrop to locally-driven forecasts, although the Federal Transit Administration is increasing its use (2013).
- Limited policy relevance. Models often contain variables that are irrelevant or trivial with respect to the alternatives being studied. The typical variables at hand (generally time or cost) are poor descriptors of the features of many policies.

What to do?

In the US the single greatest knowledge gap in travel demand modeling is not the unknown elements of travel decision-making, great as that is, but the uncertainty of toll-free road traffic forecasts based on conventional 4-step travel forecasts. A sponsored effort to research, consolidate and report on the demonstrable accuracy of historical travel demand forecasts (similar to the EU study), and the likely sources of error, would be of immense help in quantifying the magnitude of this problem. This should also be undertaken for other forecasts that do not use the 4-step method.

In the meantime we can of course continue on as we have been, funding modeling improvements incrementally as with TMIP and other research funding streams, addressing specific shortcomings, and encouraging adoption as regions update their models. But this approach would leave large gaps in knowledge regarding the accuracy of our models, no formal mechanisms for quantifying or reducing the uncertainly of our methods or in

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addressing the increasingly visible biases in them, and no structured mechanism for improving our understanding of travel decisions. This approach would likely accelerate the continued shotgun funding of research with no overarching sense of needed knowledge and a continued widening gap between theory and practice. As the weaknesses in travel demand forecasting methods become more apparent, driven likely by investor demands, doubts about their use will increase and questions about their usefulness will likely proliferate. This would lead, in my view, to the slow but steady erosion of relevance.

Hubris

On the other hand, the generally positive experience of the US Federal Transit Administration to improve transit modeling accuracy, and the efforts in the UK to improve road traffic modeling accuracy, suggest that modest progress in the accuracy of travel demand models is possible with a targeted and directed effort. (It should be noted that neither effort has yet actually demonstrably improved forecasting accuracy.) More likely, recent reviews of model accuracy highlight weaknesses that probably cannot be fixed without new basic modeling paradigms. Other disciplines (biology, astrophysics, even highway research—the Strategic Highway Research Program) have developed broad long-term agendas to improve understanding, but travel demand forecasting targets short term research reflecting researchers' interests, not users' long-term goals.

If such a moon-shot effort were undertaken, it would have to be based on the conviction that we need to get a lot more serious about understanding travel. In this approach, a concerted effort would be made to improve the accuracy of travel demand modeling over the next 20–30 years, and account for emerging opportunities such as cloud computing and social media. Ran et al. (Ran 2012) provide a broad overview of how these emerging communication technologies might ultimately provide the underpinnings of integrated system models that could 'optimize' future individual travel choices. And Shuldiner and Shuldiner (2013 in this issue of *Transportation*) outline how social media may transform travel behavior.

However, to be successful, this approach cannot rest just on Big Data or more computing power. We also need an honest assessment of what we know, what we don't know, and what we need to know to address emerging policy issues. These gaps have been characterized as consumer responses to collaborative consumption options such as car clubs, the impact of information services, internet-driven substitution for travel, and transport-land use interactions (Polak 2013), but one might also add the economic impact of transport proposals (Worsley 2013), energy pricing, automated cars, and emerging lifestyles. Once we know what we need, we then need to formulate long-term research plans spanning perhaps 20–30 years to get what we need and implement it. This will not be easy and will require coordination among a wide range of stakeholders.

Recently the US's Strategic Highway Research Program II (2013a, b) has initiated a large ($4 m) project to improve modeling by integrating activity models with network and capacity information. The goal of the project is to build *a "dynamic integrated model [emphasizing] behavioral changes in use of highways in response to highway conditions. Methods proposed should address changes in demand such as micro-time of day choice (i.e. peak spreading) and route choice in response to adding lanes and in response to operational improvements such as ramp metering, signal coordination, freeway management, ITS, reversible lanes, HOV/HOT lanes, variable tolls, variable speed limits, and bottleneck improvements. Detailed, time-sensitive highway networks will be expected to*

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include detailed and accurate highway operating characteristics to ensure that such policies can be adequately addressed". Rather than being a new paradigm, this effort essentially grafts activity modeling methods onto traffic assignment. And it might lead to failure, or (more likely) to limited use in practice. Extensions to incorporate social networks (e.g., Auld and Zhang 2013; Deutsch and Goulias 2013) substantially increase modeling complexity. The US effort to implement TRANSIMS (a individual-level microsimulation network-based modeling system), spending very large sums over 20 years but (at this point) having no operational application and few regional tests, is a cautionary experience to be taken very seriously. Big Data and Big Research have a significant risk of Big Failure.

The following is my admittedly biased professional view of what might be needed in such an effort:

- Professional standards for the use of models and treatment of uncertainty.
  First, terms need to be better defined. This review found a variety of definitions for such terms as *base ridership/volume* (current year, year of original data, etc.), *forecast traffic* (e.g., traffic estimate used to make the construction decisions, post-decision estimates), *forecast year* (future year, years from opening, years from forecast, etc.), and *actual traffic* (e.g., traffic at one year after opening, 5 years, 10 years, 20 years, or by date, etc.). The definitions should also include methods for adjusting short day-long, week-long, or monthly counts to ADT using seasonality and axles. Although such variation is to be expected in emerging topics of study, if travel demand model forecasts are to be compared and evaluated, these basic rules for metrics need to be established.
  We need arrangements for monitoring and periodically reporting model accuracy. Perhaps an (international?) effort to consolidate and archive modeling forecasts, along the lines of the University of Minnesota's archive of travel surveys, or an extension of FHWA's archiving of long range transportation plans, could be developed cooperatively by professional organizations, universities and governments.
  Standards for expectations for model accuracy (not just validation), setting acceptable error ranges are also needed. How accurate should forecasts be, for various circumstances (context, mode, functional class, forecast year, etc.)? Perhaps 20–20 accuracy (±20 %, 20 years out) is close enough for a decision regarding total traffic for a proposed new road. But greater accuracy might be needed for designing pavement strength, or for decisions regarding toll financing. On the other hand, decisions regarding the number of lanes might be needed only to within ±50 % (Polzin 2013). Flyvbjerg (2013) calls for various professional associations to set such standards and the ethics for forecasting.
  Standards for the procedures for estimating forecasting uncertainty, in both ranges and scenarios, and their probability of occurrence, should also be developed, and reports should include uncertainty alongside every forecast (e.g., US National Association of Municipal Analysts 2005). Bain suggests the use of fan charts, a technique used in monetary policy (Britton et al. 1999), as a means for developing and describing the uncertainty of forecasts to non-experts. For Instance, Fig. 1 shows the 10-percentile (likelihood) ranges (high and low) of predicted transactions for a toll road forecast, by year. Since much of the discussion of this issue is based on toll-road development by large international corporations, international and private-sector organizational cooperation would seem to be essential in developing quantitative standards for model accuracy.

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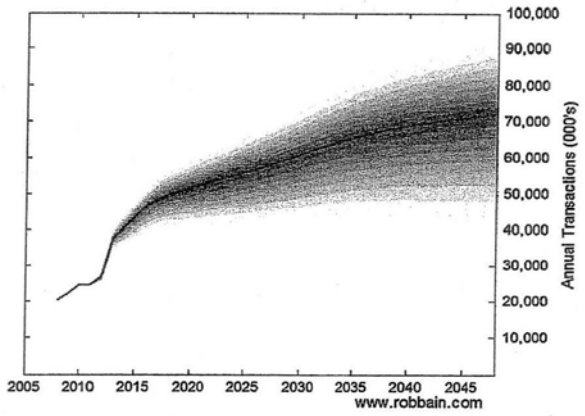

Fig. 1 An example of a traffic transactions fan chart

Additionally, we need more comprehensive and more direct education for both students and professionals regarding the ethics of forecasting. This is a topic that dates from at least 1989 (Wachs 1989) but is treated lightly in most curricula.

- Better modeling.
  The above steps set the stage for improved travel demand forecasting, but they do ensure it. We also need to substantially improve, in a coordinated fashion, our understanding and modeling of travel demand.
  A critical missing element in our current research is the lack of coordination among research agencies and institutions, both within and across nations. We need better organizational structures, not just to monitor and report on modeling 'successes' and 'failures' as noted above, but also to prioritize and develop improvements in a wide range of technical modeling issues. These should be international in scope.
  And we need better data. Virtually all of the information we have on travel behavior is cross-sectional, and does not track changes in behavior over time. We need to gather more real-time data to get at variations in travel, and use panel data as the rule, not the exception, in model development and validation. It will be a challenge to establish and fund such efforts, but the experience of long-term panels in other disciplines such as health, time use, and consumer surveys suggests that it can be done.
  Most important, we need better understanding, which is not likely to be achieved without coordinated research to understand travel behavior and household travel decision-making. This means developing a unified international research agenda, thorough conferences, meetings, and associations, to identify and recommend needed key research. The longer-term goal is to develop a holistic theory of household decision-making (attitudes, roles, activities, location and social networks, allocation of resources, travel, feedback to development, etc.) to guide model development. This means clarifying what is unknown that is needed, and establishing research programs to get it.

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But knowledge is not enough. We need to get the results to practice. The focus should be on developing new paradigms for handling issues not adequately covered with current methods, particularly non-capital policies. Perhaps most controversial, the process should be user-driven to ensure relevance to policy. Buy-ins by major schools interested in participation will also be essential to reduce the remoteness of academic research from practice. Academic papers in journals and presentations at major practice-oriented organizations such as the Transportation Research Board should include a specific application-to-practice section outlining how to use the results in practice. Perhaps we also need to unhook tenure decisions from papers published, so that academic research will be better concentrated on coordinated goal-oriented research rather than on the incremental advancements now being reported.

This may require more money or at least more targeted funding. Potential sources include pooled funds (e.g., Spielberg 2007), private-sector funding of modeling research (e.g., Johnston 2012), or simply coordinated governmental research programs. There are numerous examples of this in various research communities, including the Transportation Research Board's Strategic Highway Research Programs. When there's a will, a way will be found.

- Better forecasting.

  As difficult as is better modeling, it is even more difficult to develop better travel demand forecasts, which rely not just on understanding behavior but also predicting it into uncertain circumstances.

  To do this, we need to develop better ways to quantify the uncertainty in land use, employment and demographic forecasts, particularly for sub-regional zones near proposed projects. We can conduct more research on model transferability, so that the circumstances under which modeling findings can be compared are more clearly understood. We can expand the link to practice through the use of elasticities and other devices. We can use Monte Carlo, stress tests (Lemp and Kockelman 2009) and reference class forecasting to develop realistic ranges and probabilities of outcomes, rather than single absolute numbers. We can develop ways to handle external events such as recessions and booms, political changes, or energy crises or breakthroughs. We can widely publicize caveats regarding model accuracy in project promotion and review material.

- Institutional improvements.

  As the above review suggests, a significant element of the malaise now being experienced in travel demand modeling is the institutional structure that drives it. Some of this is dependent on the increasingly complex tasks we are asking models to perform, but other elements are relatively simple to resolve. For instance, reserving a portion of modeling funds for evaluating subsequent model accuracy would quite rapidly establish information on short-term modeling accuracy. We can also take steps to lower optimism bias, for instance by increasing local stake in project funding and by evaluating proposal worthiness independently of the source of funds. A more extreme action might be to establish independent forecasting capability, separate from agencies, sponsors, or financers. Even further, we might include incentives and disincentives, or perhaps even penalties suggested by Flyvbjerg (Forster 2012), for forecast errors. However, the use of punishments might lead to firms exiting the business, and may have already worsened the case for better forecasts (Johnston 2012).

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Humility

The above approach is predicated on the belief that with a concerted coordinated effort the understanding of travel behavior and the accuracy of travel demand forecasts can be improved sufficiently for confident use in public and private transportation decision-making. Essentially it builds on the optimism of humans to better their environments through study, planning, and implementation of needed investments. But there are limits to such knowledge, and some things are not knowable with certainty. Given the uncertainties of its inputs, travel demand forecasts may be one of these. Travel, activities, demographics, land use and transportation investment are so complex that it may be simply not possible to usefully forecast future travel demand. As van Vuren (2013) cautions, *"We need to move away from the idea that models can solve problems and give the right answers. Models should be used to sharpen the questions and test different assumptions"*.

Accepting this uncertainty does not seem to have been a serious problem in the past. Travel demand forecasting as a craft is only 50–60 years old, yet thousands of projects were built in the three millennia before that. This is not to suggest that we should return to the King's Edict of project advancement or to complete reliance on the private sector to initiate major projects, but it does suggest that historically other mechanisms for decision-making that are not so data-driven have also produced major projects.

Other considerations might actually reduce the need for more accurate travel demand forecasts. Many projects are built to meet today's problems, not future demand, so the need for a long range forecast may not be so great. Slowing population growth and wide geographic variations in growth also suggest cautionary forecasts. Other justifications for projects (environmental, economic and social) are often as important as traditional user-based justifications (time savings, reliability, safety, and operating costs). And as noted above, traditional 4-step methods don't handle many current policies very well anyhow, so de-coupling the 4-step method from some policies might be sensible (Polzin 2013).

Rather the struggle to know what can't be known, it may be wiser and more fruitful to openly acknowledge the uncertainties of this business, and to build that uncertainty into our decision-making. This approach would contain the following elements:

- Highlight model limitations. Led by professionals, establish an international travel demand modeling organization with a clear mission to monitor and report modeling performance, highlight the limitations of forecasts, and improve modeling performance where that can be done. Several potential organizations already exist that could serve this mission.
- Through this organization, set and promote ethical standards for the conduct of travel demand modeling, which specifically identify modeling uncertainties and limitations, and ensure that all major forecasts adhere to these standards. This might follow the examples of other professions (accounting, engineering, etc.) that have successfully established standards of practice.
- Use due diligence methods to evaluate project forecasts, using statistically reliable benchmarks from similar projects to estimate the average of previous projects, compared with the proposed project (Flyvbjerg 2013).
- Evaluate the accuracy of travel demand models in a variety of settings, and publicize the findings. This could take the form of mutual fund ratings, government reviews, a private rate- my-forecast initiative, university-based assessments, or trade group evaluations.

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- Admit we don't and can't know many elements needed for accurate travel demand forecasting, and recognize the limitations of our knowledge. Set realistic expectations.
- Substantially increase the recognition of forecast uncertainty by modelers, citizens and decision-makers. This can be accomplished though clear caveats for forecasts, use of ranges and probabilities, and such devices as fan charts.
- Substantially increase the transparency of travel demand forecasting, using clearer and simpler methods to describe the major techniques, automated game-like scenarios and the like.
- Convert forecasts from single point-based estimates to range-based with probability of outcome.
- Expand the use of scenario analysis that challenges baseline assumptions, particularly for scenarios that initially seem unlikely but are extreme.
- Significantly reduce the role of travel demand modeling in project decision-making. Repeal laws and regulations that contain model-driven estimates.
- Eliminate regulations that require point-forecast modeling or tie funding or compliance to modeling capability. Examples of these in the US are requirements to 'demonstrate' air quality conformity, congestion management regulations, long-range planning requirements, project-based noise modeling, and project-based environmental damage modeling.
- Weight model forecasts less with regard to other factors in project decision-making. Deliberately make less use of model results in cost-benefit assessment.
- Increase the local share of project funding to strengthen locality involvement in project decisions and get the hard questions asked when one's own money is on the line.
- Reduce or eliminate competitive grant funding which may contribute to optimistic forecasts that justify sponsor proposals.
- Improve education regarding uncertainty and the ethics of forecasting.

Various blends of these approaches could also be suggested. For instance, one might focus on several common elements that will be needed regardless of direction, such as better monitoring of modeling results, standards for modeling and forecasting, educational initiatives, and increased local share of funding, possibly a modest ramp-up of coordinated research, and stronger treatment of ethics.

Either of these approaches is quite different from what we are doing now, and frankly I am not too optimistic about either being adopted. To succeed, either would need the support of professionals, trade organizations, institutions and governments, politicians, academics, consultants, project developers and promoters, localities, and the public. Within all of these groups, there are strong vested interests for the status quo. Champions and advocates for each approach, or a blend of the two, should come forward.

Why is this important? The purpose of travel demand modeling and forecasting is to improve investment and policy decisions and the value of public dollars in an age of public austerity, by improving the accuracy and relevance of forecasting and analysis tools. These investments generally use taxpayer or client dollars, so professionals owe them the best estimates possible, along with recognition of uncertainty.

The essence of the scientific method is to observe, theorize, test to find discrepancies, and then modify the theory. The travel demand modeling community does a fair job of observing and theorizing, but we do a poor job of finding discrepancies and modifying our theories. Our fundamental modeling paradigm, the 4-step process, has not changed substantially in 60 years, and its accuracy is highly suspect. Some of us who have participated in this discipline are therefore concerned that the future of travel demand forecasting (if

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that itself can be predicted) is threatened by increasing skepticism. Will the discipline survive the next 50 years? What will it look like? Will travel demand forecasts be more accurate and more revered than today? Or will they increasingly be viewed as "*highly subjective exercises in advocacy*" (Wachs 1989), discredited by project reviewers?

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Response to Comment EO-2

Comment Code	Response
EO-2-1	The commenter posed several questions regarding the project. For readability, the pertinent comments are summarized and *identified in italics* and highlighted in grey while the responses are provided in regular plain text. The following comment refers to the Ming Avenue, California Avenue, and Chester Avenue/H Street Interchanges that are within two miles of the State Route 99/58 freeway-to-freeway connection. *Please explain how 3 clear violations of this design requirement will affect the flow of traffic, affect the interweaving of traffic and why this rule exists.* The current interchange spacing criteria became a mandatory design feature in February 1995. State Route 99 was built in the 1960's and State Route 58 was built in 1976. The existing interchange spacing on State Route 58 was standard for that time with respect to highway guidelines. Therefore, the three nonstandard interchange spacing design features are pre-existing conditions with respect to the State Route 99/State Route 58 interchange. Although a pre-existing condition, any improvements to existing interchanges after February 1995 that do not meet current interchange spacing standards would require documentation and approval to maintain existing nonstandard features. Documentation to maintain pre-existing nonstandard features or incorporate nonstandard features requires the preparation of Mandatory Design Exception fact sheets, which requires approval from Caltrans Headquarters Division of Design. Although the project is not providing a southbound State Route 99 to westbound State Route 58 direct connector because of the low traffic demand for this direction of travel, the Centennial Corridor Project meets the purpose and need by providing route continuity and associated traffic congestion relief along State Route 58 within metropolitan Bakersfield and Kern County from the existing State Route 58 (East) (at Cottonwood Road) to Interstate 5. An eastbound State Route 58 to northbound State Route 99 connector is also not included as a project feature due to the low traffic volumes for the eastbound to northbound movement. It is anticipated that vehicles traveling east on State Route 58 would take the Mohawk Street exit and travel via Rosedale Highway to the Rosedale Highway/State Route 99 interchange for northbound travel. If traffic demand necessitates construction of this connector, Caltrans will initiate a future stand alone project. The project would be designed to allow for the eastbound-to-northbound connector to be added in the future. It is important to note that the Rosedale Highway widening would occur with or without the Centennial Corridor Project. Caltrans' Highway Design Manual outlines policies and procedures to carry out highway design functions. It is not intended as a legal standard for these functions, rather, used as a guide with general rules for highway design. During the design process, there are often circumstances when deviation to the general highway design rules is necessary. The analysis to deviate from these rules is referred to a "design exception." The design exception process is not a "violation" to the highway design rules, rather a process to implement feasible design and make sound engineering decisions based on the actual physical landscape of a real project. The effect on traffic is generally isolated to the direction of traffic between two adjacent interchanges. Traffic operations are evaluated between interchanges and, if necessary, are mitigated. In the case of this project, nonstandard interchange spacing has been mitigated by proposed auxiliary lanes to provide additional lanes for weaving maneuvers, braided ramp movements that separate movements so weaving does not take place, and by constructing a collector-distributor system, which proposes additional lanes separated from the mainline freeway lanes to provide on-ramp traffic and exiting traffic room for weaving and decision making without affecting the through traffic on the mainline of the freeway. *After the reasons have been delineated, please explain what the effect of one exception means to the interchange, two exceptions means to the interchange, and three exceptions means to the interchange.* The effect of one, two, three, or more exceptions to the interchange have been analyzed together in the traffic study. Traffic operations are evaluated between interchanges and, if necessary, are mitigated, as stated above.

Comment Code	Response
	Please discuss how the increase of exceptions increases the complexity of proper function. There is not a direct correlation between an increase in the number of exceptions and complexity or proper function. Nonstandard features associated with interchange spacing are regularly evaluated with respect highway traffic operations, right of way impacts, and freeway agreements with local jurisdiction (city of Bakersfield). The freeway agreement dictates local access points as agreed to by Caltrans and the city of Bakersfield. Removal of the access points at Ming Avenue, California Avenue, and Chester Avenue/ H Street would negatively impact local street circulation. The design exception process associated with interchange spacing ensures proper freeway operations, while maintaining local access as agreed to in the freeway agreement. Closely spaced interchanges interrupt traffic flow; vehicles seeking to exit/enter the freeway need to cross travel lanes within a short distance, which could result in weaving movements that negatively impact freeway mainline operations and safety. Proper interchange spacing would enhance safety by providing vehicles adequate distance to accelerate and safely merge into the freeway, while also providing mainline vehicles adequate distance to merge and decelerate at the next exit off-ramp interchange. *Please give examples from the past 5 years where this number of exceptions was granted?* The State Route 58 Gap Closure Project, within the same project limits, is one project that has documented and approved design exceptions for nonstandard interchange spacing for the same interchanges. There are nonstandard interchange spacing fact sheets for projects throughout the state on the State Highway System, as well as the Interstate System. *Please explain why this rule exists and the traffic flow will be inhibited by this exception?* Highway Design Manual Section 502.3 indicates that it is desirable to provide for the eight basic traffic movements to avoid undesirable operational characteristics. Interchanges that do not have an on- and off-ramp for each direction of travel are considered partial interchanges. This rule exists because partial interchanges lead to the potential for wrong way movements. As discussed in Section 2.1.1, Build Alternatives, the build alternatives will not include direct connectors from southbound State Route 99 to westbound State Route 58 and from eastbound State Route 58 to northbound State Route 99 because of low traffic demand in these locations. If traffic demand necessitates construction of this connector, Caltrans will initiate a future stand alone project. The project would be designed to allow for the eastbound-to-northbound connector to be added in the future. It is anticipated that in Alternatives A and B, traffic traveling on southbound State Route 99 to westbound State Route 58 and eastbound State Route 58 to northbound State Route 99 would opt for the shorter 2-mile alternate route on Rosedale Highway and Mohawk Street versus traveling 4.5 miles on State Route 58 and State Route 99. For example, southbound traffic on State Route 99 would exit at Rosedale Highway, travel west to Mohawk Street, and then south on Mohawk Street to join the Westside Parkway. Traffic traveling east on the Westside Parkway would use the same route in the reverse direction. The project proposes to rebuild the southbound State Route 99 Rosedale Highway off-ramp from an existing one-lane off-ramp with two lanes at the ramp end to a two-lane off-ramp with four lanes at the end, including an auxiliary lane, which begins south of Gilmore Avenue on State Route 99. A separate project (the Rosedale Highway Widening Project) would widen Rosedale Highway from four lanes to six lanes and provide two left-turn lanes from westbound Rosedale Highway to southbound Mohawk Street and two right-turn lanes from northbound Mohawk Street to eastbound Rosedale Highway. As discussed in Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, the results of the traffic study showed the build alternatives would provide better traffic flow for all vehicles due to direct route continuity compared to both the existing condition and the No Build Alternative in the future years. Improvements between Cottonwood Road and State Route 99 would provide auxiliary lanes and a collector-distributor lane, which would improve traffic flow by separating traffic exiting the freeway from through traffic.

Comment Code	Response
	Please explain how an exception was obtained, what argument was used, and examples from the last 5 years where two exceptions were granted? The applicable standard, prior to the signing of the Mandatory Design Exception Fact Sheets, was for the State Route 99/State Route 58 interchange to go through an interchange review with Caltrans Headquarters Design. It was determined through traffic forecasting and cost analysis that the branch connector movements from southbound State Route 99 to westbound State Route 58 and from eastbound State Route 58 to northbound State Route 99 would be underutilized for the 20-year design life. Examples were previously given in the above responses. As discussed in Chapter 21 of the Project Development Procedures Manual, a single fact sheet may contain multiple design exceptions for a single project. Potential design exceptions are discussed with the Design Coordinator, who is a professional engineer at Caltrans Headquarters, as soon as the need for an exception is identified. Once it is determined there is sufficient justification for an exception, a draft fact sheet is prepared and submitted to the Design Coordinator. As outlined in Appendix BB of the Project Development Procedures Manual, the fact sheets contain discussions of the standards for which an exception is requested, the reason for requesting the exception, if the design exception was created by the proposed project or an existing condition that is being maintained or improved, the added cost to make standard, traffic data, and a collision analysis. All comments from the Design Coordinator must be addressed and resolved to their satisfaction before the fact sheets are signed and approved. Even though one fact sheet may contain multiple exceptions, none of the exceptions will be approved until they are all adequately documented and designed to the satisfaction of the Design Coordinator. At the end of this process all mandatory/advisory fact sheets are signed as one document. As to the reasons for the design exception, all attempts were made to keep design exemptions to a minimum, however, some exceptions are required in order to avoid replacement of existing highway structures and to avoid even greater right-of-way acquisitions. *There appears to be 5 distinct exceptions for the proposed interchange that is subject of this EIR. Please explain what effect one exception traditionally creates for the interchanges between two freeways and how the addition of 4 more exceptions complicates the equations? Does the addition of each exception add to the complexity linearly or exponentially? Please explain through the use of at least 3 traffic modeling formulas?* Exceptions that the commenter refers to in this project are dependent on traffic volumes and operational analysis between the interchanges themselves, and are discussed above. There is not a direct correlation between an increase in the number of exceptions and complexity or proper function. Nonstandard features associated with interchange spacing are regularly evaluated with respect to traffic operations, right-of-way impacts, and cost to make standard. A total of four traffic models (No Build, Alternatives A, B and C) were used to evaluate traffic operations that includes interchange configurations that may require design exceptions. As indicated in Table 3.13, traffic conditions at the freeway segment level are worse under the No Build scenario for opening year (2018) and horizon year (2038) conditions compared to any of the three build alternatives.
EO-2-2	*This Corridor is expected to have an unusually high number of trailer trucks and semi-trucks. Is there an increase in likely accidents due to the tight space in which cars and semi-trucks will be merging?* An increase in vehicle collisions is not anticipated with this project. Traffic operations are evaluated between interchanges and, if necessary, are mitigated. In the case of this project, nonstandard interchange spacing has been mitigated by proposed auxiliary lanes to provide additional lanes for weaving maneuvers, braided ramps that separate movements so weaving does not take place, and by constructing a collector-distributor system, which provides additional lanes separated from the mainline freeway lanes to allow on-ramp traffic and exiting traffic room for weaving and decision making without

Comment Code	Response
	affecting the through traffic on the mainline of the freeway. The traffic study accounted for all vehicle types, including commercial trucks, in the weaving analysis. *If this large number of exceptions which have been designed into this project results in injury or death, who will be the responsible for the party?* The design meets standards, with design exceptions as necessary, to ensure the safety of the traveling public, for which Caltrans is the responsible party for State highway facilities. Approving any design exception is a Federal Action, which requires reviewing and documenting potential safety issues. Design exceptions must be approved by the Federal Highway Administration or on behalf of the Federal Highway Administration by a State Department of Transportation or local agency. Design exceptions are related to engineering standards that are not generally subject to state and federal environmental regulations unless the design poses a significant risk to the public. *Where in the EIR is this environmental impact addressed?* The adverse impact that you described in your comment does not exist—the project would not create interchange spacing problems, it would provide a solution by reducing congestion, which would improve safety for motorists. The current interchange spacing that contributes to traffic operation problems and congestion is featured as a transportation need that the project alternatives must address. Section 1.2, Purpose and Need, in Volume 1, states in part that State Route 99's close spacing for its two connections with State Route 58 (East and West), as well as an interchange at California Avenue, has resulted in conflicting merging conditions (cars coming onto the freeway are trying to move to the left and the cars on the freeway are trying to move to the right to use the off-ramp) that add to traffic congestion. The Caltrans standard for spacing between freeway-to-freeway connections is 2 miles, and the standard for spacing between interchanges is 1 mile. In this location, the two connectors from State Route 58 to State Route 99 and the California Avenue interchange are all located in slightly over 2 miles. Analysis of how well each alternative (including the No Build Alternative) would improve traffic flow and reduces congestion was presented in the draft environmental document and in the Traffic Report prepared for this project. *If it was not addressed, why and under what reasoning would significant, and what is termed "mandatory", design exceptions not be considered to have an environmental impact?* Mandatory and advisory design exceptions are identified in Caltrans' Highway Design Manual to ensure that roadway designers are aware of this guidance and to highlight areas for design consideration and review. Mandatory design standards are those considered most essential to the achievement of overall design objectives. Many pertain to requirements of law or regulations as embodied in the Federal Highway Administration's 13 controlling criteria. For more information regarding mandatory design standards, please refer to Table 82.1 of the Highway Design Manual. Caltrans holds responsibility for approval of all exceptions to mandatory design standards on the State Highway System and local facilities within State right-of-way, after which formal Federal Highway Administration's approval is requested. An environmental impact is defined by the California Environmental Quality Act per the environmental impact checklist provided in Appendix A. Mandatory design exceptions are engineering decisions implemented for a project and are not considered in the environmental evaluation unless the mandatory design exceptions would result in environmental impacts listed in the California Environmental Quality Act Checklist. Based on the results of the traffic study on the operations of closely-spaced intersections, significant impacts to transportation and traffic is not anticipated as a result of Preferred Alternative B. The National Environmental Policy Act requires Federal agencies to assess the environmental effects of their proposed actions prior to making decisions. In the case for the Centennial Corridor Project, the Caltrans as delegated by the Federal Highway Administration evaluates the environmental and related social and economic effects of the proposed action to implement the project. Similar to California Environmental Quality Act in determining environmental effects of mandatory design exceptions, the actual mandatory design exception is not subject to Federal environmental laws unless the engineering decision produces effects to the environment. In this case, design exceptions

Comment Code	Response
	relating to the traffic operations of closely-spaced interchanges would not result in adverse environmental effects per the National Environmental Policy Act.
EO-2-3	*Chapter 9 refers to Public Representation not associated with CALTRANS or any elected official. Who was contracted from the public? Please describe how you have complied with all of the requirements of Chapter 9? How often are exceptions denied? Have the exceptions in this EIR requested ever been either approved or denied in the past 5 years? If so, please explain. In this EIR there are 5 exceptions requested. Are those exceptions considered separately or as a whole? Please explain.* In accordance with Chapter 9 of the Project Development Procedures Manual, a Project Study Report was signed and approved on January 4, 2012, by the Caltrans District 6 Director. Additionally, coordination with the public and other agencies is included in the Summary at the beginning of the environmental document. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including project development team meetings, interagency coordination meetings, and an extensive public outreach program. For more information regarding coordination with the public, please refer to Chapter 5 in Volume 1 of the final environmental document. Design exceptions are approved, rejected or modified on a regular basis. These exceptions were considered as a whole and are based on sound engineering judgment. Design exception requests for this project were not previously denied. Please see below for more information on these exceptions. *Have 5 exceptions to mandatory design standards from the Highway Design Manual been approved for a project that covers such a short distance been approved in the last 5 years? If so, please explain the purpose of the mandatory design requirements if they can be ignored by an established procedure?* Project 06-OG850, the State Route 58 Gap Closure Project, completed in 2013 within the same project limits, is one project that has documented and approved design exceptions for nonstandard interchange spacing. In addition, there are nonstandard interchange spacing fact sheets for projects throughout the state on the State highway System, as well as the Interstate System. Supplemental guidance toward the development and conceptual approval of projects are provided with *Design Information Bulletins*, and then are implemented in the Highway Design Manual and Project Development Procedures Manual as design requirements. Three of the five mandatory design exceptions that are being referenced are nonstandard interchange spacing. The current interchange spacing criteria became a mandatory requirement per *Design Information Bulletin, Number 77*, dated January 31, 1995 and became effective in February 13, 1995. State Route 99 was built in the 1960's and State Route 58 was built in 1976. The three nonstandard interchange spacing design features are being documented in fact sheets as pre-existing conditions, in relation to when the interchange spacing became a requirement. Although a pre-existing condition, any improvements to existing interchanges after February 1995 that do not meet current interchange spacing standards would require documentation and approval to maintain existing nonstandard features. Most of the State's interchanges were built before 1995, so there is a potential for many nonstandard interchange spacing design exceptions to be documented throughout the State's highway inventory. While mandatory design requirements are those considered most essential to achievement of overall design objectives as pertinent to requirements of law or Federal Highway Administration's regulations, the Highway Design Manual Standards allow for flexibility in design exceptions that take the context of the project into consideration. This enables the designer to tailor the design, as appropriate, for the specific environment and circumstances while maintaining safety. *Is there a requirement that any and all persons that have an interest or object to this request for exceptions are to be informed of the meetings by the state and federal agencies reviewing such requests? If not, please explain why. Are the minutes of these meetings available?*

Comment Code	Response
	The mandatory design exception review is an internal Department of Transportation process. The process is a technical engineering review of proposed/draft nonstandard design features. Upon completion of the fact sheet approval for nonstandard design features, the document is signed by the Headquarters Design Coordinator. Minutes are not available for these meetings. *Was there any effort to inform the public in this case about the application of exceptions?* No. The mandatory design exception review is an internal Department of Transportation process. *At these meetings are both the pros and cons to the proposal presented?* Yes, the project engineer/designer must show the restrictions and/or disadvantages of making the design standard. For example, to make the State Route 58/State Route 99 interchange standard would require closing the State Route 99/Ming Avenue interchange, the State Route 99/California Avenue interchange, and the State Route 58/ H Street/Chester Avenue interchange, which would significantly impact traffic operations and circulation in Bakersfield. Additionally, the State Route 178/State Route 99/State Route 58 (West) interchange, the State Route 99/White Lane interchange, and the State Route 58/Union Avenue interchange would require extensive improvements to support increased traffic volumes diverted by closing the nonstandard spaced interchanges. The cost of improvements to make design features standard versus benefit obtained is regularly discussed.
EO-2-4	*Was this design which is outlined above and is not very complicated, since it is prevalent in this state, ever considered?* The Bakersfield System Study, completed in 2002, considered most of the elements outlined in the commenter's highway design plan. Constructing a freeway running parallel to 7th Standard Road as the primary element for connecting State Route 99 with Interstate 5 was included as an element of Alternatives 14 through 16 and 20. Using the Westside Parkway as the connector was included as an element of Alternatives 1 through 13. Constructing a freeway connecting State Route 58 (East) with a State Route 99 to Interstate 5 facility was included with Alternatives 5 and 6 as a freeway running parallel to State Route 99 on both sides or along the east side. The general alternative alignment outlined by the commenter was withdrawn during the Project Study Report phase because it did not meet the screening criterion. Specifically, it was deemed cost prohibitive by virtue of constructing a 28.3-mile connection from State Route 58 to Interstate 5 via a freeway alignment following State Route 204 (Union Avenue) and continuing west along the 7th Standard Road alignment. One element of the commenter's design assumes that 7th Standard Road could be converted to interstate design standards to serve as "Interstate 450" at a relatively low cost, with modifications to freeway-to-freeway interchanges at Interstate 5 and State Route 99 (Interstate 995). These modifications would not be acceptable to Caltrans or the Federal Highway Administration. Detailed cost estimates for Alternative 15, the most similar alternative screened to the one suggested by the commenter, identified that the cost to construct this alternative would be approximately $2.23 billion which exceeds the maximum threshold established for the Centennial Corridor Project. Therefore, construction of Alternative 15 would be cost prohibitive and would not meet the requirements of Criterion 4. See Appendix N in Volume 2 for more information on why this alternative did not move forward onto further study and analysis. It is prudent to mention that many of the areas the commenter discusses as places of similarity to Bakersfield are not actually valid comparisons. San Diego, San Francisco and Los Angeles have a range of populations from 0.8 to 3.9 million people and have larger metro areas of roughly 1.3-13 million people. Additionally, these are part of larger regional areas with dense urban populations, such as the Bay Area. Bakersfield, in contrast, has less than 400,000 residents and the county has less than 900,000 persons. In addition, the commenter claims that growth in Bakersfield has been stalled over the past few years. However, the population in Bakersfield grew by 41% from 1990 to 2000 (adding just over 72,000 people), and by another 41% from 2000 to 2010 (adding over 10,000 residents). According to the Department of Finance, the population has grown by another 5,000 people in the past five years. Bakersfield has grown more quickly than other major cities in California in the past 10 years. Between 2000 and 2010, growth in

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	Bakersfield (40.74%) surpassed cities such as Sacramento (14.61%), Anaheim (2.52%) or even nearby Fresno (15.67%). *Would this design have a smaller Environmental Impact than the current Project?* In your comment letter, you described a proposal of a new freeway being constructed along 7th Standard Road between I-5 and SR-99 instead of the current alternatives being considered. If your proposal was implemented there is the potential for various environmental resources to be affected due to the existing conditions in the area. From a review of existing aerial photography, there is farmland located along much of the existing alignment. Partial acquisitions would be required to widen the existing roadway to accommodate the new freeway, and there would be a potential for significant impacts to these parcels as they are designated under the Williamson Act and/or Farmland Mapping and Monitoring Program-designated Important Farmland categories. Replacement of these lands may not be achievable within the immediate vicinity, resulting in adverse impacts. In addition, acquisition of this farmland could also affect overall exports and economic vitality for Central Valley farmers. In addition to farmland impacts, adjacent residential parcels would require acquisition resulting in displacement of homes and residents. Based on the review of this proposal, an existing residential neighborhood at 7th Standard Road and Central Valley Highway would require displacement of residential homes and a church that services the neighborhood. In addition, several commercial and industrial properties located along 7th Standard Road would be affected by a new freeway and need to be displaced. The displacements associated with this proposal may result in significant community and economic impacts to this area of the city. Other environmental impacts that would occur as a result of this proposal include cultural, water quality, and biological resources. Farmland/Residential structures located along the proposal corridor may be older than 50 years or have other defining characteristics to make them eligible as historic resources. The proposed corridor crosses several waterways which may result in additional impacts to water quality, wetland, vegetation or wildlife habitat. All of the impacts described above would require additional environmental analysis and mitigation measures. *What would be the cost differential between what I have proposed to attain the same goals as the present project? Please evaluate this calculation based on 1) starting from scratch, as if this was the preferred proposal and what the cost would be to abandon the present Project and substitute this proposal.* The cost of the commenter's highway design plan would be on the order of $4 billion in current year dollars) for the ultimate connection to Interstate 5. This estimate is based on the cost of dual loading State Route 99 from State Route 58 (East) to north of 7th Standard Road; constructing two new system interchanges with State Route 99 and Interstate 5; reconstructing the system interchange at State Route 58 (East); reconstructing the service interchanges at California Avenue, Rosedale Highway, Golden State Avenue, Olive Drive, State Route 65, and 7th Standard Road; and constructing no less than four new service interchanges and one railroad grade separation (Burlington Northern Santa Fe) along a new 21-mile-long east-west freeway, running parallel to 7th Standard Road. By comparison, extending the Westside Parkway to Interstate 5 would involve approximately 9 miles of new roadway construction from Heath Road to Interstate 5 and construction of three service interchanges, one railroad overcrossing, and one system interchange with Interstate 5. This work would be in addition to the Centennial Corridor Project. *Why weren't similar alternative addressed?* An alignment along the existing 7th Standard Road was considered as an alternative during the earlier project development phase, but it was eliminated from further evaluation, see Section 2.1.5, Alternatives Considered but Eliminated from Further Discussion (Volume 1), for further discussion. This alternative is identified in Table 2.3 of the final environmental document as Alternative 15. Project Development Team meetings consisting of Caltrans, city of Bakersfield and its consultants, and County of Kern were held in August and September 2008 to discuss and screen 18 alternatives to carry forward for further analysis. A total of eight criteria were established to evaluate which alternatives to carry forward in the environmental phase of the project. Alternative 15 was

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	eliminated from further consideration because the preliminary cost estimate exceeded the maximum reasonable threshold and availability of reasonable funding for construction of the project established for the Centennial Corridor Project.
EO-2-5	*What is the environmental impact of the current Project versus this proposal in that the Project in this EIR does not create a freeway between I-5 and the 99 freeway and the proposal does complete this important goal?* While the proposal was not studied in depth because it was eliminated earlier in the process, as explained here, it is possible that it could have as many or more impacts to the environment as the Centennial Corridor project, just in a different way. While homes and businesses may be avoided, the proposal would have a tremendous impact on farmland, including those under Williamson Act contract. These farms are businesses as well. Farmland is often considered habitat for many special status species and a greater number of species may be impacted by using farmland. While the proposal would avoid parks and known historic properties, it may have a greater potential to impact buried archaeological and Native American sites. There may be unknown hazardous waste sites due to farmland operations. There may be more jurisdictional waters and wetlands in this area. There could be more water quality impacts as well. The visual impact is high when a large freeway is placed in a rural area. By placing this type of facility in a rural area, the potential for induced growth can increase greatly. Avoiding a more populated area does not mean fewer impacts, just different impacts. Right-of-way requirements and environmental consequences would be significant with all of the build alternatives. This final environmental document analyzes the environmental impacts of the preferred Alternative B and compares No Build conditions. The Centennial Corridor Project is part of the ultimate freeway alignment that will eventually connect State Route 99 to Interstate 5. The project has been evaluated as an individual project, and future extension of State Route 58 toward Interstate 5 will be evaluated separately at the time funds are available and the traffic data justifies the expense and effort required to move forward with the extension. *The Centennial Corridor Project Report* discusses the planned Route Adoption for a future phase to connect to I-5. This final environmental document does not compare the alternative of converting 7th Standard Road to a freeway (identified as Alternative 15 in Section 2.1.5) because it was eliminated during the project alternative screening process and is not subject to further environmental analysis. Hence, a comparison of impacts between the build alternatives (Alternatives A, B and C) and Alternative 15 could not be conducted. Given the location of 7th Standard Road, the magnitude of the construction and reconstruction required for the existing roadway will require substantial resources in terms of construction cost and obtaining required environmental clearances. In addition, the proposed conversion of 7th Standard Road to a freeway would require conversion of prime farmland and compliance with the Williamson Act. As mentioned previously, specific environmental analyses were not conducted for the conversion of 7th Standard Road as an Alternative because this alternative was rejected at the project alternative screening stage. *Please evaluate the impact on the Air Quality, which is an important environmental impact and consideration, between these two designs.* Because Alternative 15 was eliminated from further consideration, environmental impact analyses for this alternative, including an air quality analysis, are not required to be evaluated and compared with other feasible alternatives (Alternatives A, B, and C).
EO-2-6	*What process must Caltrans go though to rename the 99 Freeway and construct and name 7th Standard Rd. as an auxiliary Interstate highway? How long does this process take?* State Route 99 is part of the State Highway System. To rename State Route 99 to Interstate 99 would require transferring a State Highway to a Federal Highway, which requires Federal action and approval by the Federal Highway Administration. Renaming 7th Standard Road as an Interstate highway would require a more extensive process because this proposal would not meet the *Guidance Criteria for Evaluating Requests for Interstate System Designations* under 23 United States Code 103(c)(4)(A) and (B). In

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	order for 7th Standard Road to be converted to an Interstate Highway, a connection at each end of the proposed route to an existing Interstate System is required. There is no Interstate Highway within the project area for an Interstate Highway connection to the east. The nearest Interstate highway to the east is Interstate 15, which would require roadway improvements along State Route 58 to bring this route to Interstate Highway standards. Roadway improvements would be required from Bakersfield to Barstow for a total of at least 130 miles; this process would take considerable time and involve considerable reconstruction of State Route 58 in areas that do not currently meet interstate system standards.
EO-2-7	*Please evaluate the traffic patterns for State Route 46, Lerdo Hwy, 7th Standard Rd and State Route 58 to the traffic on Stockdale Hwy. Show how the current traffic warrants the construction of the Project in this EIR? If you chose to use projections, then project the traffic patterns that would apply to what I have proposed and its impact on environmental impacts (air quality and economic impact)?* The traffic patterns for State Route 46, Lerdo Highway, and 7th Standard Road were previously evaluated to the extent data was available as part of the Traffic Study technical report (November 2012). The traffic patterns for State Route 46, Lerdo Highway, and 7th Standard Road have little impact on Stockdale Highway. These roadways are all currently available for motorist choice and are used for regional travel, along with Rosedale Highway, Truxtun Avenue Extension, Westside Parkway, and Stockdale Highway. No additional traffic analysis is warranted for the named facilities, as the potential impact of the project has been considered in Chapter 3 of the Traffic Study technical report. Please see Response to Comment EO-2-5 for information about air quality projections for the commenter's proposed alternative. Additionally, economic impacts for the commenter's proposed project are not required to be evaluated due to the project being infeasible.
EO-2-8	*What are the comparative right-of-way expenses and number of businesses and homes affected by the Project in this EIR and this proposal?* The cost estimate for a proposed 7th Standard Road/new Interstate would cost $4 billion to construct compared to the cost estimate for the Centennial Corridor Project (Preferred Alternative B), which is estimated at $570 million. Farms are considered businesses as well and would be greatly impacted by this proposal. Per the 2015 Federal Transportation Improvement Program the Alternative B alignment right-of-way cost is anticipated to be $165 million. The number or businesses and homes affected by the Preferred Alternative B alignment through property acquisition would be 121 businesses and 310 residential units. Because the proposed 7th Standard Road/new interstate was not carried forward for further evaluation due to the cost to construct the project, a detailed right-of-way cost estimate was not developed.
EO-2-9	*There are two designs for a regional transportation plan and does not require any exceptions and the other requires 5 exceptions and deviations from mandatory standards in the Highway Design Manual. How is a decision made under those conditions?* As discussed in Section 2.1.4, Preliminary Identification of a Preferred Alternative, determining the Preferred Alternative involves a comparison focusing on those areas where the impacts are different or one alternative has greater impacts than the other alternatives. For the Centennial Corridor Project, the distinguishing areas are the number of displacements and parcel acquisitions; impacts to community cohesion, parks, cultural resources, and Section 4(f) property; and cost. Initial Design Exceptions are identified for each alternative and documented in the Project Report. Any design exception that cannot be justified is removed from the design. Additionally, efforts continue through final design to eliminate or reduce nonstandard design features.

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EO-2-10	*If there is a lower Environmental Impact with this proposal when compared to the Project, does it become impossible to claim that this EIR had NO environmental impact?* The draft and this final environmental document do not claim that there are no environmental impacts, but does report what impacts are anticipated to be for each alternative, how great impacts may potentially be, and also includes avoidance, minimization and mitigation measures to reduce or eliminate potential impacts from the project. Because the alternative similar to yours (Alternative 15) was withdrawn from consideration (see Response to Comment EO-2-4), environmental impact analysis for Alternative 15 was not required because it was deemed infeasible.
EO-2-11	*I would like to know how the calculation was made to determine this population number of 848,487. Has there ever been a 26 year period where population growth in the City of Bakersfield has been 3.5% annually or a period of 22 years where the growth has been 4.0%? In what industries will we see growth to drive and sustain 848,487 citizens and what will the median income be for this population?* The population number 848,487 was derived from the Kern Council of Government's 2011 Final Regional Transportation Plan as cited in Table 3.1, Kern County and City of Bakersfield Growth Trends in both the draft environmental document and this final environmental document, which was based on estimates provided by the California Department of Finance. The estimate of 848,487 for Year 2035 relates to Metropolitan Bakersfield which includes unincorporated areas surrounding Bakersfield. The population estimate for Bakersfield itself in 2035 is 609,600 (California Department of Finance). The use of historic trend analysis to forecast future population levels is a widely accepted method. Information regarding population in the Community Impact Assessment, draft environmental document, and final environmental document was also from the California Department of Finance and was updated in the Final Community Impact Assessment and the final environmental document. Population growth can vary quite a bit from year to year. Using Department of Finance historical data for the decade of 1990 to 2000 and the decade of 2000 to 2010, growth has ranged from 1.09 percent up to 5.42 percent. These are the two decades in which population grew by 40 to 41 percent as discussed in Response EO-2-4. The average annual growth rate for these twenty years is 3.4 percent. While the seven years (2007 to 2013) included in the comment letter show much slower growth, future years may be higher. A discussion of future job growth and median income level is highly speculative. While a discussion of future job growth and projected median income level is outside the scope of the Centennial Project, according to the U.S. Department of Housing and Urban Development (April 2013), the construction and energy production sectors, especially associated with the oil and natural gas extraction industries, have been the fastest growing job areas in the local regional economy since the year 2000. In Chapter 3 of Volume 1, Section 3.1.2, Growth, of the final environmental document, growth is forecast to primarily occur in the service sector.
EO-2-12	*In a study from 1986 the population growth for Bakersfield was forecasted for geographic areas of the city. The accuracy of the total growth seems to be accurate, although I have not researched the numbers to certify they are correct. The geographic forecasts were very inaccurate. Forecasts for growth in the northwest were substantially low, in the northeast too high, and in all sectors projections were off by a large enough amount that the standard deviation would in the double digits. From the journal called Transportation (Appendix I) there was a recent article on the inaccuracy of traffic modeling in general. If the population estimates have been inflated as it appears they have, the modeling was based on those numbers, and the modeling is at best only 40% accurate, isn't the conclusions you have based this EIR on completely unreliable? The article I have referenced focuses on the underestimation of costs and the overzealous projections on traffic. Please comment as to how this EIR is not subject to those errors. Please include the accuracy of population estimates from this EIR in that analysis.* The Kern Council of Governments population and employment forecasts are regularly updated approximately every 4 years. Population information used in the project also

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	used data from the most current U.S. Census and the California Department of Finance population estimates. This data was updated for the Final Community Impact Assessment and this final environmental document. As a result, the conclusions reflected in the final environmental document are as accurate as possible based on the current data available. The geographic distribution of growth assumed for the project is displayed in Figures 3-2 and 3-3 of the Traffic Study technical report and in Volume 1 of the final environmental document. The Kern Council of Governments is the federally-designated Metropolitan Planning Organization for Kern County, responsible for developing and updating a variety of transportation plans for the County. Predicting modeling assumptions long range are subject to factors outside the control of a Metropolitan Planning Organization. Trend bifurcation and other unforeseen events make assumptions and forecasts beyond 5 years imprecise. Factors such as cost of living, interregional travel, and overall uncertainty of the future are problematic and could be described as uncertainty error. Robert Bain (international expert on forecast uncertainty) has researched uncertainty from multiple perspectives and sources and determined that the uncertainty for a 2035 regional forecast can be up to +/- 25 percent. To control for this, it is important to revisit long range forecasts and assumptions on a regular basis. Using the best available information, the Kern Council of Governments Regional Transportation Plan and associated model inputs/assumptions are revised every 4 years. *Was the addition of GPS self-drive cars taken into account for this EIR? Please keep in mind that the generation life cycle for 95% of all cars is 8 years. This generation life cycle would imply that 16 years from today 95% of all cars will "drive themselves", reducing the number of accidents and increasing road capacity (these cars will drive closer to each other due to the communication capability of one car to the other and because the reason we drive so far apart from each other and have so much gridlock is because people have much slower response time compared to a computer and we tend to brake when it isn't necessary).* The replacement of human drivers with global positioning system computer-guided mechanical drivers was not taken into account because this technology is not currently available and is too speculative to suggest that it would be available 20 years from now.
EO-2-13	*Has the EIR looked at the sustainability and environmental impacts this population would have on the water supply? Can this area with its limited availability of water sustain this large of a population? How often does the State of California experience severe droughts?* The results of the growth analysis indicate that the project would not induce population growth within Bakersfield. Most of the projected growth is a result of factors such as future development. Please refer to Chapter 3 of the Community Impact Assessment Study (May 2015). *If this Project is completed and it drives the increase of population to 848,487 will it have a negative effect on the environment when it comes to water resources? If water is diverted to the population away from farming will this have a negative effect on the economic environment locally and worldwide? Kern County is essential to the food supply and helps to feed the world.* Cities and counties determine local development and would need to determine sustainability and impacts to a given area based in their population. Water supply for a growing population is not within the authority of Caltrans. This project would not induce growth, but is to accommodate growth that has already occurred over 25 years or more and to accommodate future growth the city and/or county may approve. For further information on growth, please refer to Chapter 3 of the Community Impact Assessment (May 2015).

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EO-2-14	*The greatest amount of growth for Bakersfield is and will remain to the south. Please comment whether the growth to the south was included in the EIR.* The set of development projects identified in Section 3.1.1, Land Use, were deemed reasonably foreseeable to be considered as part of the baseline for analysis. On a macro-scale, a Growth Inducement Analysis prepared for the Thomas Roads Improvement Program considered the influence of the entire program of proposed transportation projects, including the Centennial Corridor. The analysis concluded that the Thomas Roads Improvement Program projects as a group (including the Centennial Corridor) would have the effect of moderately influencing growth pressures in the northwest and west Bakersfield metropolitan areas, and marginally influencing growth pressures in the west central and northeast areas. The geographical distribution of growth is graphically displayed in Figures 3-2 and 3-3 of the Traffic Study technical report. Growth to the south was reflected in the travel demand forecasts prepared for the project, the overall Thomas Roads Improvement Program collection of projects, and the Kern Council of Governments Regional Transportation Plan.
EO-2-15	*What were the reasons for abandoning the Masterplan of 2000/2002? It was endorsed and approved by all effected parties. Up until the federal government directing what the project has to look like and how the federal money has to be spent, the beltway system delineated in the 2000/2002 Masterplan supported many growth possibilities as well as solve the existing shortcomings with the local transportation system. How does this Project help to form the Beltway system in the Bakersfield area? Wouldn't a beltway system similar to the 2000/2002 Masterplan have a much more positive environmental impact all the way around? If I am not mistaken, it seems like the Project is taking one of the minor, future and almost last components, of the earlier plan and making it the foundation of the transportation needs of this area. Doesn't this Project delay and fracture the true needs in Bakersfield for a Beltway system? The northern portion, which would have turned 7th Standard Rd into a freeway, can't be completed and so the endpoints for the crosstown and western sections for the beltway will have an endpoint instead of a circular pattern.* The Master Plan of 2000/2002 referenced in the comment is presumed to be the recommendation of the 2002 "Bakersfield System Study." The plan included six major improvement elements: • The Westside Parkway from Heath Road to State Route 99. This project is nearly completed, extending from Heath Road to Truxtun Avenue. Construction of the proposed Centennial Corridor will complete the project to State Route 99. • Centennial Corridor. New freeway connecting State Route 99 with State Route 58 east of downtown Bakersfield. • Hageman Road Flyover. This project is in final design. • 24th Street Widening. This project is in the final design phase, right-of-way acquisition phase, nearing construction. • 24th Street/Oak Street Intersection Improvements. This project is in the final design phase, right-of-way acquisition phase, and nearing construction. • State Route 58 Realignment. This project was intended to connect State Route 58 (East) to Interstate 5 on a new alignment to avoid double loading of State Route 99 between the current connections of State Route 58 (East) and State Route (West). It included an east-west element and a north-south element. The east-west element was constructed as the 7th Standard Road four-lane expressway in lieu of a parallel freeway on a new alignment. Insofar as the north-south element, proposed as a freeway running parallel to Golden State Highway, it was not needed by virtue of the Centennial Corridor project. Connection from State Route 99 to the Westside Parkway is in the Project Approval/Environmental Document phase. Alignment selection was subject to further study by Caltrans, which selected Alternative B of the Centennial Corridor, combined with Elements 1 and 2. Several of the transportation projects in the 2002 Bakersfield System Study (as noted above) are included in the overall Thomas Roads Improvement Program of projects that

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	are currently in construction or nearing completion. Caltrans is the lead agency under both the National Environmental Policy Act and the California Environmental Quality Act for the Centennial Corridor, Hageman Road Flyover and State Route 58 Realignment projects. The city of Bakersfield is the lead agency under the California Environmental Quality Act for the 24th Street Widening and the 24th Street/Oak Street Intersection Improvements projects, while Caltrans was the lead agency under the National Environmental Policy Act. On the Westside Parkway, the Federal Highway Administration was the lead agency for the National Environmental Policy Act and the city of Bakersfield was the lead agency for the California Environmental Quality Act. Caltrans provided technical support and oversight of the environmental document. The currently proposed Bakersfield Beltway system (including the Centennial Corridor Project) has undergone extensive operational analysis, local/state agency coordination and public review since 2002. Several of the beltway transportation projects have been refined to address the circulation needs of the city of Bakersfield through the public participation process. The resulting Beltway system in Bakersfield is a result of numerous iterations from all stakeholders in the city of Bakersfield, including residents, businesses, local/state agencies, and elected officials. *Knowing the elements of the 2000/2002 Masterplan, why was the new overpass on Golden State Highway over Garces Circle not made into six lanes? This mistake will be more obvious with the approval and the building of the Hageman Flyover.* The newly constructed overcrossing of Golden State Highway with Chester Avenue has been designed to accommodate the addition of two lanes in the future, to provide six lanes in total, via lane restriping and conversion of the median and shoulders to mainline travel lanes.
EO-2-16	*What is the current level of service on I-5 between the junction of 99 and the junction of I-580? How will the ultimate goal of the extension of I-40 to I-5 affect the level of service of I-5? Does it fit within the criterion where an improvement to any part of the highway system must be sustainable for a minimum of 20 years, especially when federal, money is being used?* As explained above (Response to Comment EO-2-6), it is not possible to create Interstate 40 from Bakersfield to Interstate 5 as described in the suggested alternative. As noted above, the reconstruction of highways to Interstate standards would have to be accomplished from Barstow to Interstate 5 to qualify for Interstate consideration. The current level of service on Interstate 5 between the junction of State Route 99 and Interstate 580 is generally level of service A, indicating that motorists are traveling at or above the speed limit. Traffic slows in the vicinity of both named routes, thereby reducing the level of service at these junctions. Neither Caltrans system planning nor Kern Council of Governments regional planning anticipates construction of a freeway to Interstate 5 within the planning horizon of the Regional Transportation Plan (2038) because it is not needed to accommodate projected traffic. The design year performance of the interim connection to Interstate 5 via the service interchange with Stockdale Highway meets the 20-year design life criteria. Questions regarding traffic use of State Route 99 and east-west roadways are addressed in the Traffic Study technical report. Section 2.6, for example, specifically reports truck movement patterns based on origin-destination studies conducted for the Kern Council of Governments and Caltrans on State Route 99, State Route 58, State Route 223, State Route 166, State Route 119, State Route 46, and State Route 65.
EO-2-17	*On page it is stated that the close spacing of the interchanges at Ming Ave and California Ave in relation to the connection of 99 Freeway and State Route 58 causes congestion. Part of the Project that has been approved and is moving forward is the improvements to Ming Ave separated from this EIR. Not considered are the improvements to the 58 interchange and 7th Standard Rd which is the route that a significant amount of the future traffic, especially truck traffic, will use due to the large industrial area in Shafter that is expanding tremendously is not considered in this EIR. Why? Why is the EIR not advocating the closure of either the Ming Ave or California Ave off ramps? The California*

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	Ave exit in either direction would have to be considered very dangerous. What is the environmental impact to not close this exit since the opportunity has been presented? Please refer to Response to Comment EO-2-1 regarding the interchange spacing. The proposed designs do not advocate closure of the Ming Avenue or California Avenue interchanges because it would disrupt local circulation, including access to the Valley Plaza Mall and to the Kern County Fairgrounds. Closure would also require extensive upgrades to the adjacent interchanges. The proposed designs will close the Wible Road ramps, which would reroute traffic to the California Avenue or Ming Avenue interchanges. The *Traffic Study Report* for the Centennial Corridor Project assumes the implementation of street improvements that are funded by the Regional Transportation Improvement Program and the Metropolitan Bakersfield Transportation Impact Fee Program that are expected to be built between 2013 and 2038. These programs include a wide range of transportation improvements, including the Rosedale Widening Project, 24th Street Widening, and the North Beltway project. Even with these projects, given the projected population and employment growth trends, traffic congestion would occur along Rosedale Highway, 24th Street, the Truxtun Avenue extension west of Oak Street, portions of Stockdale Highway, State Route 99, portions of State Route 178, Coffee Road, Mohawk Street, and Union Avenue. *Where will the liability lay if there is a significant increase in traffic accidents for these exits as more people sue (as is forecasted) this corridor?* Please refer to Response to Comment EO-2-2 regarding liability.
EO-2-18	*On page 5 there s a discussion of the Tier 1 and Tier 2 environmental Impact statements. It is stated that KERNCOG evaluated previous transportation studies. Where is the 2000/2002 County of Kern Masterplan which was adopted and endorsed by the County of Kern, the City of Bakersfield and KERNCOG? The 2001 Route 58 Adoption Project Tier 1 Environmental Impact Statement/Environmental Impact Report is not part of the Masterplan that was certifies in 2002. When was the public given notice and an opportunity to comment on the obvious difference between the two plans?* While the Thomas Roads Improvement Program collection of projects is very similar to the recommended transportation elements reflected in the Bakersfield Systems Study, there are differences. These include widening of the 23rd and 24th Street couplet through downtown Bakersfield from three lanes each to four lanes; removal of the interchange at 24th Street and Oak Street and the bridge extending Oak Street over the Kern River; replacement of the 7th Standard Road corridor freeway with widening to a four-lane expressway along the existing alignment; and selection of the Alternative B alignment for the Centennial Corridor connection of State Route 58 East with the Westside Parkway, to be rebadged as State Route 58 (West). These changes are reflected in a series of Kern Council of Governments Regional Transportation Plan updates and addendums, all of which included programmatic environmental documents and opportunities for public comment before certification. These include public circulation of the: 2007 Regional Transportation Plan Draft environmental document (March 1, 2007); 2007 Regional Transportation Plan Amendment No. 1 Addendum environmental document (January 15, 2009): 2007 Regional Transportation Plan Amendment No. 2 Addendum EIR (September 17, 2009); 2011 Regional Transportation Plan Draft Subsequent environmental document (April 30, 2010); and Final Subsequent EIR Addendum (May 2011). Though the Bakersfield Systems Study did not require a formal environmental impact document, community involvement played a key role in its development. Early in the study, the Project Development Team decided to create an extensive community involvement program that enabled local residents, property owners, business representatives, transportation-related organizations, and other special interest groups to actively participate in the Bakersfield Systems Study. During the course of the study, extensive outreach to the broader community was achieved through a series of successful public workshops and focus group meetings, as detailed in the Study's *Summary Report* (December 2002) available online at: http://www.bakersfieldfreeways.us/documents/Report_Bakersfield_System_Study_Summary_2002_12.pdf. Three public workshops were held as forums for the Bakersfield community to provide their input and voice their support or concerns. The workshops were designed as open house forums. In total, approximately 450 local residents, elected

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	officials, public agency staff, and other interested parties attended the 3 workshops, and more than 400 community members provided comments. Also, 15 focus group meetings were held with a variety of special interest groups, including homeowners, business groups, environmental groups, and transportation-related organizations. In addition to these workshops and focus group meetings, bilingual newsletters, newspaper articles, and radio and television interviews all helped to disseminate project information throughout the broader community. The city of Bakersfield also maintained a web page posting the latest Bakersfield System Study information.
EO-2-19	*On page 6 in the purpose section there is no mention about the congestion on 99 Freeway and that the Project is a regional transportation project. Why? The purpose also documents a desire to consider continuity and traffic relief along State Route 58 in Metropolitan Bakersfield. The studies for the traffic that continues through Metropolitan Bakersfield on State Route 58 (Rosedale Highway) to I-5 indicate that this through traffic is minimal. Most of the traffic is either local, moves up and down the 99 Freeway, and continuing traffic currently uses 7th Standard Rd, Lerdo Highway, and State Route 46.* In Volume 1, Section 1.2.2, Need, there is a subsection *Traffic Congestion on the Shared Portion of State Routes 58 and* 99, which discusses congestion on State Route 99 and other highway projects that affect this shared roadway. Providing continuity for regional traffic traveling through Bakersfield on State Route 58 is an important purpose of the project. By providing continuity, and thereby reducing traffic demand loading of State Route 99 from State Route 58 (East) to Rosedale Highway (currently State Route 58 West), traffic congestion along State Route 99 will be reduced. *Bakersfield has as its major industries oil and agriculture. Both of these industries require many trucks. The EIR states several times about the high number of trucks in the area. Most of the trucks using and needing access to Rosedale Highway are destination bound. Just one of the Pipe companies on Rosedale highway had 200 trucks going in and out of it daily. The connection on Rosedale Highway to the 99 freeway will remain the primary route for this company. Part of the reason for Rosedale continuing to be their primary route for many companies is due to the absence of a northbound connection between the eastbound 58 and northbound 99.* Origins and destinations of local truck travel are not expected to change significantly as a result of the project. Some travel route choices, particularly between industries located along State Route 58 (East) and both industries and end users located along the Rosedale Highway corridor west of Coffee Road, are expected to shift as a result of the project. *Please explain if Air quality improvements for this Projects EIR were based on improvement in the ability for trucks to connect to I-5 through the bypassing of Bakersfield? Would those assumptions be incorrect if the local truck traffic does not change significantly? If the local truck traffic does not improve but more regional trucks travel through Bakersfield would that have a negative environmental impact on Air Quality?* Truck volumes and shifting travel route choices, as detailed in Sections 2.6 and 3.7 of the Traffic Study technical report, have been reflected in the air quality analysis. For more information on air quality, see Section 3.2.6 in Volume 1 of this final environmental document.
EO-2-20	*Pages 8-14 discuss the level of service (level of service) for the project area. The area truck traffic is referred to but not expanded upon. Where is the current truck traffic headed if in this area "Truck traffic accounts for 27 percent of the total traffic in Kern County? This is three times the state average of 9 percent." (Page 8). It further states that "At a regional scale, the project would promote economic growth and interregional/intraregional trade by improving linkages between existing segments of the State Highway system through Bakersfield." Do you have any proof of this statement? The greatest growth for truck traffic will be on 7th Standard Rd because of the vision of Shafter. This project only improves State Route 58's continuity. It has nothing that states it will improve linkages, If improving linkages to the Highway system to promote interregional/intraregional economic growth were the purpose and goal, wouldn't you have to know where the truck traffic is, where its destination is and how the project will or will not change it? This would*

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	traffic is, where its destination is and how the project will or will not change it? This would be an important environmental consideration for its impact. The technical studies that were summarized in the draft environmental document were available to the public upon request. These available studies include the Traffic Study technical report. Truck traffic patterns are addressed in the Traffic Study technical report, in Section 2.6 for existing conditions and Section 3.7 for future conditions. Eighteen (18) pages of text, tables, and graphics describe truck travel patterns and volumes in Section 2.6 of the Traffic Study technical report under existing conditions. This section quantifies truck origins and destinations based on surveys conducted for the Kern Council of Governments and Caltrans on state routes leading to Kern County. A portion of the trucks pass through Kern County without stopping, while another portion has origins or destinations within the county. Truck travel occurring solely within Kern County is not specifically reported other than findings obtained from the San Joaquin Valley Regional Goods Movement Action Plan (2007). According to this document, 27 percent of total traffic in Kern County is comprised of medium- and heavy-duty trucks (defined as vehicles with four or more axles). Truck use of 7th Standard Road and the potential increase in truck volumes resulting from buildout of the Paramount Logistics Park have been taken into account as part of the overall Kern Council of Governments travel demand modeling effort. Thomas Roads Improvement Program projects, which directly benefit the logistics park, include widening 7th Standard Road to four lanes and upgrading the facility to expressway design standards; constructing a grade separation over the BNSF tracks; and reconstructing and improving the interchange at State Route 99, which includes a grade separation with the adjacent Union Pacific Railroad rail line. Regarding linkage between the promotion of economic growth and improved transportation, this question is referred to the Federal Highway Administration's website "Freight Transportation – Improvements and the Economy: Understanding the Links Between Transportation and the Economy." See: http://ops.fhwa.dot.gov/freight/freight_analysis/improve_econ/#under.
EO-2-21	*I do not understand how in Table 1.1 the Coffee Rd/Rosedale Highway continues to deteriorate while all other intersections along Rosedale Highway improve. What effect will widening of Rosedale Highway have on traffic? By the year 2038 the "No-Build Alternative" it is stated that the number of Intersections with a worse than D level of service in the Project Area increases to 22. This section is also where the population increase is discussed. The population is to grow 250% from baseline in 2009, but the number of intersections with a worse than D level of service increases to only 142% of baseline. That seems very consistent. I have discussed the possibility inaccuracy of the population forecast and I would like to know what effect a lower population forecast does to these numbers.* Between 2008 and 2018, several roadway improvements are expected to be in place, including widening of 24th Street, widening of Rosedale Highway, construction of Mohawk Street between Truxtun Avenue and Rosedale Highway, and construction of the Westside Parkway from Truxtun Avenue to Heath Road. These improvements cause traffic to shift from one facility to another. The improved level of service results are forecast to occur along Rosedale Highway, Coffee Road, 24th Street, Oak Street, and Ming Avenue. The effect of the Rosedale Highway Widening Project was assumed as a baseline condition for both the No Build and build alternatives. No forecasts or analysis were conducted for a lower forecast of population other than the 2018 opening year and the 2038 design year. The population forecasts developed by the Kern Council of Governments and used for the Thomas Roads Improvement Program project traffic forecasts are lower than the county-level forecasts prepared for Caltrans by Dr. Mark Schniepp, California Economic Forecasts, Inc., or the California Department of Finance Demographic Research Unit. With respect to the intersection of Coffee Road with Rosedale Highway, while the traffic volumes are generally lower along Rosedale Highway as a result of the build project, traffic volumes on Coffee Road between the Westside Parkway and Rosedale Highway are higher. Comparing year 2018 and 2038 No Build versus build conditions, the net

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	result is an improvement in traffic level of service and delay during the AM peak hour, but a worsening of delay during the PM peak hour at this individual intersection. Please refer to the Centennial Corridor Traffic Study, Table 4-14 and Table 4-28.
EO-2-22	*Due to the documented inaccuracies seen in traffic modeling and forecasting of traffic moving northbound on 99 Freeway from westbound 58 is a concern seems by this report to be unfounded.* The commenter asserts that inaccuracies in traffic modeling and forecasting are documented, with such documentation presumed to be provided by the commenter via the comment letter. The response to comments provided herein indicates that the presumed "facts" provided by the commenter are incorrect. *The level of service for this off/on ramp is never worse than D level of service. Most of the "Critically Poor" level of service existing at Ming Ave. The interchange at Ming Ave and the 99 Freeway are in violation for the Mandatory interchange buffer zones in California Highway Design Manual if the Centennial Corridor id built. Please explain how such a "problem intersection already" was not an impediment in the approval of the Design for this Project?* The "project" proposes to rectify the interchange spacing proximity design exception by braiding the on-/off-ramps to and from Ming Avenue with the on-/off-ramps to and from State Route 58; therefore, the weaving/merging/diverging condition will be improved as a result of the project, effectively extending the operational interchange spacing to acceptable distances. *Is this creating an unnecessary safety hazard? The EIR states that the Ming Ave and the California Ave off ramps are less that 1 mile from the 99 freeway and State Route 58 interchange.* Safety will be improved as a result of the ramp braiding. *Could you also explain why for the westbound 58 off ramp to the southbound 99 is a "B" or "C" level of service in 2008, 20018, and in the AM for the 2038 but is at "E" for the PM in 2038? This is also true to the section between the "H St" on-ramp and the northbound Freeway 99 when traveling west on State Route 58. How would widening the 99 Freeway to six lanes from the State Route 58 northbound to past 7th Standard Rd improve the level of service? This table states that the level of service for the Eastbound State Route 58 from the 99 freeway is presently a "C" and will remain a "C" through 2038. How does this justify the expense and environmental impact for the Centennial Corridor Project? Some of the level of service worse than D exists due to the Real Rd juncture, is it possible to eliminate that part of the State Route 58?* These projected traffic volumes that the commenter mentions are based on recorded traffic counts from the base year, 2008, and anticipated growth rates for future years. The Level of Service was worse in the recorded counts in the afternoons than in the mornings. Thus, the anticipated Level of Service at these locations would also be worse in the PM than in the AM. The deterioration of traffic conditions for westbound State Route 58 to southbound State Route 99 is due to heavy on-ramp volume from Ming Avenue, heavy off-ramp volume to White Lane, and Ming Avenue on-ramp to White Lane off-ramp weave conflicts. These conflicts slow traffic traveling in the right-hand lanes of the freeway, and this congestion spills back toward State Route 58. The points of congestion noted by the commenter would not be affected by widening State Route 99 between State Route 58 East and 7th Standard Road. This widening would, however, diminish congestion forecast to occur in the southbound direction between Rosedale Highway and California Avenue. The build project assumes that widening of State Route 58 east of State Route 99 will occur, thereby allowing for level of service C or better conditions. The Centennial Corridor Project primarily affects traffic conditions to the west of State Route 99 and along State Route 99 north and south of the freeway-to-freeway system interchange. Improvements to State Route 58 to the east of State Route 99 are included to address changes to interchange ramp connections.

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EO-2-23	*The stated purpose of this Project is to provide route continuity for State Route 58. It is now well known that State Route 58 is going to be changed to I-40. I-40 is a major interstate and it implies that the purpose for this Project would change to specifically a regional interstate system and not a local community problem to be solved. If the purpose has changed, doesn't that imply that this EIR is not point and because it did not study the true impacts of the Project, by law, must be redone?* Since the current lack of route continuity contributes to traffic congestion and reduced levels of service on adjoining highways and streets, it follows that improving route continuity, and thereby reducing congestion on these roadways and highways, would also improve interregional travel as well as local by reducing congestion in the region and allowing for interregional travelers to continue through at a higher Level of Service. The commenter states, "It is well known that State Route 58 is going to be changed to I-40", as the basis of this comment. However, as explained above (Response to Comment EO-2-6), it is not possible to create Interstate 40 from Bakersfield to Interstate 5 as described in the suggested alternative. As noted above, the reconstruction of highways to Interstate standards would have to be accomplished from Barstow to Interstate 5 to qualify for Interstate consideration.
EO-2-24	*The projected expense to the Federal Government and the City of Bakersfield is in the Hundreds of Millions of dollars. Bakersfield will need to borrow over $250,000,000 if the estimates are accurate. The payback amount over 30 years will total close to $600,000,000 based on current favorable lending rates. Those figures are a "best scenario" and may be much higher in the long run. How can that be "reasonable"? With at least one other alternative which is less expensive and had a potentially smaller impact environmentally, Independent Utility cannot be asserted.* The purpose of the Centennial Corridor Project is to provide route continuity and associated traffic congestion relief along State Route 58 within metropolitan Bakersfield and Kern County from the existing State Route 58/ State Route 99 freeway interchange to Interstate 5. The Centennial Corridor Project proposes to construct a new alignment for State Route 58 from Interstate 5 via the Westside Parkway to the Cottonwood Road interchange (on existing State Route 58), east of State Route 99. The proposed Centennial Corridor Project is part of a larger Thomas Roads Improvement Project that has been divided into three segments. The Centennial Corridor Project is the easternmost segment and is segment 1 of the overall larger project. Segment 1, with the Preferred Alternative, Alternative B, proposes to construct a freeway to connect State Route 58 from its current "T" interchange at State Route 99 to the Westside Parkway, an existing local freeway. Segment 2 is identified as the Westside Parkway, and Segment 3 is the westernmost segment that would connect the Westside Parkway to Interstate 5, with an east-west alignment parallel to the Cross Valley Canal. The timing for construction of Segment 3 is unknown, but it would not occur until there is sufficient funding and greater traffic demand. Until Segment 3 improvements are made, traffic would use Stockdale Highway as the interim connection to Interstate 5. There are improvements proposed at the Stockdale Highway and State Route 43 (Enos Lane) intersection, to coincide with the Segment 1 build alternative. With the proposed improvements, Segment 1 of the Centennial Corridor Project is considered to have independent utility and logical termini. Since the inception of the Centennial Corridor Project, there has been consistent and ongoing financial reporting to the Federal Highway Administration. Construction of a new freeway is a costly endeavor; however, the proposed alternative (Alternative B) is the least costly of all the alternatives studied in this environmental document. Based on escalated 2016/17 fiscal year costs, Alternative A and Alternative C would be $221 million and $95.5 million more expensive than Alternative B, respectively. If the commenter is alluding to a proposed freeway connection along 7th Standard Corridor as a less expensive alternative, the preliminary cost estimate for such a project, as discussed in Table 2.3 (Volume 1) of the final environmental document, is $2.23 billion. This is substantially more expensive than the Preferred Alternative B. In addition, Preferred Alternative B would result in $794 million in travel time savings over the 20-year (2018-2038) study period, surpassing current favorable lending rates payback cost in 10 less

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	years. In this sense, the net benefit of Alternative B outweighs the estimated payback amount. The commenter asserts that $250 million will need to be borrowed to construct the Centennial Corridor Project. Based on preliminary engineering plans, the estimated loan amount through the Transportation Infrastructure Finance and Innovation Act (TIFIA) to construct the project is $200 million. This estimate for the loan is subject to change because of limited engineering plans. Payback terms and interest are not available at this time until Centennial Corridor Project moves to the final design phase of the project development process. As mentioned previously, the cost of implementing Alternatives A, C and/or the widening of the 7th Standard Corridor (Alternative 15) cost significantly more than Preferred Alternative B ($571 million). Therefore, Preferred Alternative B is the most financially reasonable alternative compared to the aforementioned alternatives.
EO-2-25	*In conclusion, it does not appear that this Draft EIR has adequately addressed impacts to the community or relevant and reasonable alternatives. I ask for it to be redone with many of the recommendations provided it this communication.* Caltrans is confident in the adequacy of the final environmental document. A range of alternatives were examined over the years (see Section 2.1.5, Alternatives Considered but Eliminated from Further Discussion, and Response to Comment EO-2-4). For the three build alternatives carried forward in this environmental document, all required technical studies were compiled according to state and Federal standards, including community impacts, growth, air quality, noise impacts, and water quality. Community impacts were extensively presented in Section 3.1.4; the document also discussed local fiscal and economic impacts (Section 3.1.4.2), visual/aesthetics and noise impacts (Sections 3.17 and 3.2.7), and future growth (Section 3.1.2). The character of Bakersfield was addressed under Section 3.1.1.2 in the discussion of the project's consistency with local and regional plans and policies. There has also been a reasonable opportunity for public involvement during the planning and development of this project, as detailed in Section 5.4, including extensive refinement of the project design as a result of listening to community members concerns. Our coordination with local partners is continuing and will remain an important component of the project through construction, mitigation, monitoring, and maintenance of the facility.

CALIFORNIA DEPARTMENT OF TRANSPORTATION FINDINGS FOR

CENTENNIAL CORRIDOR PROJECT

BAKERSFIELD, CALIFORNIA

DISTRICT 6 - KER - 58 - PM T31.7 to PM R55.6

DISTRICT 6 - KER - 99 - PM 21.2 to PM 26.2

The following information is presented to comply with State California Environmental Quality Act (CEQA) Guidelines (Title 14 California Code of Regulations, Chapter 3, Section 15901) and the Department of Transportation and California Transportation Commission Environmental Regulations (Title 21, California Code of Regulations, Chapter 11, Section 1501). Reference is made to the Final Environmental Impact Report (FEIR) for the project, which is the basic source for the information.

The following effects have been identified in the FEIR as resulting from the project. Effects found not to be significant have not been included.

Visual/Aesthetics

Adverse Environmental Effects

The project will add a major new transportation corridor in the Westpark community of Bakersfield. Removal of existing residential, commercial, and industrial structures and construction of elevated structures such as sound walls, retaining walls and an above-grade freeway will create a significant permanent change to the visual character and quality of the community and its surroundings. Long-term visual impacts on key viewpoints range from moderately low to moderately high after project implementation.

Findings:

Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

Statement of Facts:

Mitigation measures V-1 through V-5 have been made conditions of approval and included in the Environmental Commitments Record. Landscaping and aesthetic treatment of freeway elements (such as bridges) will be implemented to soften the addition of new transportation corridor infrastructure, reduce visual impacts, and improve visual appeal to the residential, open space, and commercial areas

along the proposed corridor and its vicinity. These measures are also intended to reduce the visual impacts of the proposed project for community residents, commercial employees, recreational users, and motorists traveling along commercial corridors near the proposed project. These measures include preserving as many mature trees as possible, implementing a tree replacement plan and designing infiltration basins to include buffer areas and/or plant screens to shield the public views where possible. Even with these mitigation measures, visual impacts would remain significant and unavoidable.

Community Impacts

Adverse Environmental Effects

Construction of the project will result in land use conversion and division of the existing Westpark neighborhood. The new corridor will segment and isolate portions of the neighborhood and will alter circulation patterns due to the changes to the internal roadway network, such as the permanent closure of 11 local streets. In addition to the displacement of 310 residential units, construction of the proposed corridor will result in increased noise impacts within the Westpark neighborhood, and will cause disruptions in local neighborhood access. In addition, these substantial residential and commercial property acquisitions will cause significant community cohesiveness impacts to the Westpark community.

Findings:

Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

Statement of Facts:

Mitigation measures C-1 through C-3 would be implemented to reduce impacts to the Westpark community. The measure include providing an aesthetic design theme that is compatible with the surrounding neighborhood; preparation of a relocation analysis as part of the Final Relocation Impact Report by Caltrans, in coordination with the city of Bakersfield; and, close coordination with the Kern County Department of Human Services to prepare a special publication for the residents of the Centennial Corridor project area that will identify the variety of social service providers available from metropolitan Bakersfield and Kern County public and private community-based organizations, including local religious institutions.

Standard Conditions SC-CI-1 through SC-CI-4, SC-R-1, and mitigation measures R-1 and C-1 through C-3 have been made conditions of approval and are included in the Environmental Commitments Record. Standard Conditions SC-

CI-1 through SC-CI-4 would minimize construction impacts on community impacts by scheduling street closures during nighttime hours; maintaining business access during business hours; enabling close coordination with emergency service providers; and implementing access plans for highly sensitive land uses such as police and fire stations, public facilities, transit stations, hospitals, and schools.

Standard Condition SC-R-1 would require Caltrans, in coordination with the city of Bakersfield, to implement all property acquisition and relocation activities in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act) of 1970 (Public Law 91-646, 84 Stat. 1894). If, however, displaced residents are required to relocate outside of their immediate neighborhood or sub-community, existing supportive family and community relationships may be severed for those leaving, as well as for those remaining behind. Neighbors, friends, and family, often provide emotional support that cannot be easily replicated. These characteristics of a cohesive community cannot be completely mitigated and are unavoidable. Mitigation measure R-1 would help to reduce impacts to businesses and residents by implementing programs and policies to minimize the relocation effects on children, minorities, people with special needs, and businesses.

Design refinements have been incorporated into the proposed project to enhance non-motorized circulation and community cohesion within the general area of the Preferred Alternative B alignment. Excess right-of-way would be used to construct a sidewalk/bikeway to connect La Mirada Drive to portions of the Westpark neighborhood between Joseph Drive, McDonald Way, Stockdale Highway, and Stine Road. This proposed feature would upgrade bicyclist and pedestrian access to Centennial Park and other places of interest via La Mirada Drive.

To address concerns made during the public review of the draft environmental document regarding bicycle and pedestrian connectivity, preliminary design plans for Alternative B now include a two-way bicycle and pedestrian pathway to run parallel to the project alignment connecting California Avenue to Commerce Drive. As part of this change, an approximately 100-foot-long bridge over the Carrier Canal would be constructed to accommodate bicycles and pedestrians. This multi-use pathway and bridge structure enhancement will provide a direct link to the Kern River Parkway Bike Trail for its users. Incorporation of this connection into the project design would enhance local non-motorized circulation because the proposed modification would provide an additional connection between California Avenue and Commerce Drive.

Despite measures required by the Uniform Relocation Act to mitigate for residential and business displacements and incorporation of design refinements to enhance community cohesion, no available reasonable mitigation measures

would reduce all community impacts in their entirety. Impacts would remain significant and unavoidable.

Land Use and Planning

Adverse Environmental Effects

Implementation of the project will not be able to fully meet all the goals outlined in the *Metropolitan Bakersfield 2010 General Plan (2002, update 2007)*. The remaining inconsistencies pertain to issues such as minimizing impacts from truck traffic on noise-sensitive use areas, such as the Westpark neighborhood, which would also be divided as a result of the project. The project would also allow in-fill development that is incompatible with the character of the existing surrounding neighborhood.

Findings:

Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

Statement of Facts:

Alternative B, the selected alternative, has been designed to minimize inconsistencies with state, regional, and local plans and programs to the greatest extent feasible. Design refinements to avoid or minimize impacts to existing land uses related both to temporary construction use and/or permanent acquisition of properties would be incorporated in the final engineering design of the project, to the extent practical. If the project would result in noise impacts on adjacent land uses, the impacts would be abated through sound walls, when feasible and reasonable. Property acquisitions would be provided fair and just compensation under the Uniform Relocation Act of 1987, as amended. Remaining land parcels would be reconfigured to restore functional areas and neighborhoods in accordance with the planning standards set forth by the city of Bakersfield Planning Department. During final design, efforts would be made to further minimize construction and permanent impacts to existing and planned land uses. However, these impacts cannot be fully mitigated; they would remain significant and unavoidable

Noise

Adverse Environmental Effects

With construction of Alternative B, 484 outdoor use areas, such as schools, and recreational areas, would be impacted by traffic noise. There are 49 frequent outdoor use areas west of State Route 99 that would have more than a 12-

decibel noise increase and 21 frequent outdoor use areas along State Route 58 and State Route 99 that would have more than a 5-decibel noise increase.

Findings:

Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

Statement of Facts:

A total of 25 sound walls will be constructed to abate traffic noise covering the entire project corridor as described in Mitigation Measure N-1 of the FEIR. A total of 10 sound walls would be constructed west of State Route 99: S509, S518, S530, S519, S529, S536, S544, S552, S537, and S555. Sound wall S676 would be constructed to provide noise abatement along State Route 99. A total of 14 sound walls would be constructed east of State Route 99, along State Route 58: S194, S106, S45, S68, S71A, S93, S107, S119, S108, S147, S144, S165, S164 and S184. Sound walls will range in height from 8 to 16 feet at these 25 locations for the project, for a total length of 30,696 feet, and would reduce noise levels by at least 5 decibels.

Future predicted traffic noise levels with the recommended abatement measures for the Preferred Alternative B would range from 54 to 75 decibels. There would be 11 affected frequent outdoor use areas for which noise abatement is not recommended, and 58 frequent outdoor use areas would still be affected even with the recommended sound walls. Therefore, even with mitigation measures implemented, traffic noise impacts would remain significant and unavoidable.

STATEMENT OF OVERRIDING CONSIDERATIONS

CALIFORNIA DEPARTMENT OF TRANSPORTATION STATEMENT OF OVERRIDING CONSIDERATIONS FOR THE CENTENNIAL CORRIDOR PROJECT IN THE CITY OF BAKERSFIELD AND KERN COUNTY

DISTRICT 6-KER-58-PM T31.7 to PM R55.6

DISTRICT 6-KER-99-PM 21.2 to PM 26.2

(PROJECT ID#: 0600000484)

SCH# 2008091102

The following information is presented to comply with State California Environmental Quality Act (CEQA) Guidelines (Title 14 California Code of Regulations, Chapter 3, Section 15903), and the Department of Transportation and California Transportation Commission Environmental Regulations (Title 21 California Code of Regulations, Chapter 11, Section 1501). Reference is made to the Final Environmental Impact Report (FEIR) for the project, which is the basic source for the information.

The following impacts have been identified as significant and not fully mitigable:

- Visual/Aesthetics - Construction of the project will add a major new transportation corridor in the Westpark neighborhood. Removal of existing residential, commercial, and industrial structures and construction of elevated structures such as sound walls, retaining walls and an above-grade freeway will create a significant, permanent change to the visual character and quality of the neighborhood and its surroundings.

- Land Use and Planning - Implementation of the project will not be able to fully meet all the goals outlined in the *Metropolitan Bakersfield 2010 General Plan (2002, update 2007)*. The remaining inconsistencies pertain to minimizing impacts from truck traffic on noise-sensitive uses, retaining existing residential neighborhoods, and allowing in-fill development that is compatible with the character of the surrounding neighborhood.

- Noise - Construction of the project will introduce traffic noise impacts to 49 frequent outdoor use areas west of State Route 99 that would have more than a 12-decibel noise increase and 21 frequent outdoor use areas along State Route 58 and State Route 99 that would have more than a 5-decibel

noise increase. A total of 25 sound walls would be constructed to provide noise abatement for Alternative B. Future predicted traffic noise levels with the recommended abatement measures would range from 54 to 75 decibels. There will be 11 affected frequent outdoor use areas for which noise abatement is not recommended, and 58 frequent outdoor use areas will still be affected even with the recommended sound walls.

- Community Impacts - Construction of the project will result in land use conversions and divide the existing Westpark neighborhood. The new corridor will segment and isolate portions of the neighborhood and alter circulation patterns due to changes to the internal roadway network. In addition to the displacement of 310 residential units, construction of the proposed transportation corridor will result in disruptions in access, causing significant community cohesiveness impacts to the Westpark neighborhood.

Given the significance of impacts to visual/aesthetic resources, land use and planning, noise, and community impacts, mitigation, avoidance, and minimization measures have been incorporated to reduce significant unavoidable effects to the maximum extent practicable.

Overriding considerations that support approval of this recommended project are as follows:

Alternative B is considered a viable alternative because it would achieve the project's purpose and need. The project purpose is a set of objectives the project is intended to meet. The project need is the range of transportation deficiencies that the project was initiated to address.

Purpose

The purpose of the Centennial Corridor Project is to provide route continuity and associated traffic congestion relief along State Route 58 within metropolitan Bakersfield and Kern County from State Route 58 (at Cottonwood Road) to Interstate 5.

Need

State Route 58 is a critical link in the state transportation network and is used by interstate travelers, commuters, and a large number of trucks. State Route 58 lacks continuity in central Bakersfield, resulting in severe traffic congestion and reduced levels of service on adjoining highways and local streets. These transportation deficiencies are described below.

Route Continuity

State Route 58 lacks route continuity; it lacks route continuity from the State Route 58 (East)/State Route 99 interchange west to Interstate 5. From the State Route 58 (East)/99 interchange, State Route 58 is offset by about 2 miles where State Routes 58 and 99 merge and share a common north-south alignment. Along this shared portion, State Route 58/99 is an eight-lane, access-controlled (access is limited to interchanges) freeway. This section of State Route 99 between State Route 58 (East) and Airport Drive is the third most congested segment of the highway in California. Regional and inter-regional traffic, including heavy trucks, merge with local traffic using this segment to access metropolitan Bakersfield. The lack of route continuity contributes to traffic congestion and reduced levels of service on adjoining highways and local streets.

Existing East-West Traffic Congestion and Projected Demand

Based on the traffic study prepared for this project, during the year 2008 (baseline year), 15 key intersections with signals operated at worse than level of service (LOS) D (25 to 35 seconds of delay) during one or both peak hours periods and one intersection without a signal operated at an unacceptable LOS (worse than LOS D). In 2018, the opening year, without the project, 12 intersections (11 with signals and 1 without a signal) in the project area are projected to operate at worse than LOS D during one or both peak hour periods. In 2038, the horizon year, without the project, 22 intersections (18 with signals and 4 without signals) in the project area are projected to operate at worse than LOS D during one or both peak hours.

Construction of the Centennial Corridor Project will relieve traffic congestion along State Route 99, which is the major Central Valley north-south highway in California. State Route 99 provides a connection between the two legs of State Route 58 (Rosedale Highway and State Route 58 East) for drivers traveling in the east-west direction. The merging of two major State Routes (58 and 99) into one alignment between the eastern and western legs of State Route 58 (a distance of about two miles) has made the traffic level of service deteriorate on this segment of freeway. Conditions are projected to worsen in the coming years.

Traffic Congestion on the Shared Portion of State Routes 58 and 99

State Route 99, which is the major Central Valley north-south highway in California, provides a connection between the two legs of State Route 58 (Rosedale Highway and State Route 58 East) for drivers traveling in the east-west direction. The merging of two major State Routes (58 and 99) into one alignment between the eastern and western legs of State Route 58 (a distance of about two miles) has made the traffic level of service deteriorate on this segment of freeway. Conditions are projected to worsen in the coming years.

Also, State Route 99's close spacing for its two connections with State Route 58 (East and West), as well as an interchange at California Avenue, has resulted in conflicting merging conditions (cars entering the freeway are trying to move to the left and the cars exiting the freeway are trying to move to the right to use the off-ramp) that add to traffic congestion. Caltrans' standard for spacing between freeway-to-freeway connections is 2 miles, and the standard for spacing between interchanges is 1 mile. In this location, the two connectors from State Route 58 to State Route 99 and the California Avenue interchange are located within slightly over 2 miles of each other.

Benefits of the Selected Alternative B

The Centennial Corridor Project would result in the following traffic circulation and operational benefits:

- Improvements between Cottonwood Road and State Route 99 would include auxiliary lanes and collector-distributor lanes (lanes separated from the freeway to accommodate the lane-changing associated with traffic getting on and off the freeway). These roadway improvements would enhance traffic flow by separating traffic entering and exiting the freeway from through traffic.

- State Route 58 would no longer be required to share an alignment with State Route 99. It would continue westerly and connect to the Westside Parkway. This would eliminate the 2-mile overlap where State Routes 58 and 99 merge and share a common north-south alignment, thereby removing traffic from State Route 99.

- By moving traffic onto the Westside Parkway, which is a freeway, the project would enable drivers to continue their trips without having to use a local roadway. This would also eliminate the need to stop at multiple signals and the San Joaquin Valley railroad crossing at Landco Drive. Decreased travel times in high congestion travel corridors will lead to an overall reduction in harmful emissions by reducing idling. Increased idling times on the local streets would occur under the No Build conditions. It is important to note that idling times would dramatically raise the particulate matter quantities for the No-Build with most concentrations added along Rosedale and Stockdale Highways.

- The Westside Parkway would connect to Stockdale Highway to provide a direct link to Interstate 5, eliminating the offset route that exists at State Route 43. Thus, the project will reduce out of direction travel.

- The additional capacity provided by the build alternatives compared to the No Build Alternative would also help reduce congestion on adjacent local roadways because traffic is expected to shift to the freeway.

- By 2018, the No-Build Alternative is anticipated to result in four deficient freeway segment operations compared to Alternative B, which is not anticipated to result in deficient freeway segment operations.

- By 2038, the No-Build Alternative is anticipated to result in 16 deficient freeway segment operations compared to Alternative B, which is anticipated to result in four deficient freeway segment operations.

Among the three build alternatives (A, B, and C) evaluated in the Final Environmental Impact Report prepared for this project, Caltrans has determined that Alternative B is a feasible and prudent alternative that avoids parkland and other Section 4(f) properties, such as historic properties. It would also achieve the project's purpose and need of providing route continuity and associated traffic congestion relief along State Route 58 (East) between Interstate 5 and Cottonwood Road. In addition, Alternative B has the least impact on jurisdictional waters and would not have disproportionate impacts on environmental justice communities. It is also the least expensive alternative, costing almost $100 million less than the other alternatives. Additionally, residential displacements for Alternative C are concentrated in two environmental justice communities, specifically the environmental justice community south of Saunders Park, while Alternative A would have the greatest number of overall displacements. Therefore, after comparing and weighing the benefits and impacts of Alternatives A, B, and C, Caltrans has identified Alternative B as the selected alternative.

Conclusion

Pursuant to §15093 of the State *CEQA Guidelines*, decision-makers are required to balance the benefits of a project against its unavoidable environmental risks in determining whether to approve a project. In the event the benefits of a project outweigh the unavoidable adverse effects, the adverse environmental effects may be considered "acceptable". The State *CEQA Guidelines* require that, when a public agency allows for the occurrence of significant effects which are identified in the FEIR but are not at least substantially mitigated, the agency shall state in writing the specific reasons the action was supported. Any statement of overriding considerations should be included in the record of project approval and should be mentioned in the Notice of Determination.

To the extent the significant effects of the project are not avoided or substantially lessened to a level of insignificance, Caltrans, having reviewed and considered the information contained in the FEIR for the Centennial Corridor Project, and having reviewed and considered the information contained in the public record, and having balanced the benefits of the project against the unavoidable effects which remain, finds that such unmitigated effects to be acceptable in consideration of the overriding considerations discussed herein.

Caltrans finds that all feasible mitigation measures have been imposed to lessen unavoidable project impacts to the extent possible. As such, Caltrans, as the Lead Agency for the Project, has reviewed and considered the information contained in the Draft and the Final Environmental Impact Reports prepared for the Centennial Corridor Project and the public record. Accordingly, the Lead Agency makes the following finding, pursuant to §15093 of the State *CEQA Guidelines*, with regard to the Statement of Overriding Considerations for the Centennial Corridor Project:

California Administrative Code, Title 14, Section 15093(a) states: "If the specific economic, legal, social, technological, or other benefits of a proposed project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered 'acceptable'." Based on the above discussion and on the evidence presented, Caltrans therefore finds that the benefits of the proposed project outweigh the adverse impacts on aesthetic/visual resources, land use and planning, community, and noise impacts related to fair share mitigation from the Centennial Corridor Project, which cannot be eliminated or reduced to a less than significant level.

California Home

Thursday, April 28, 2016

Centennial Corridor

SCH Number: 2008091102

Document Type: NOD - Notice of Determination

Project Lead Agency: Caltrans #6

Project Description

The proposed project entails a new alignment for SR 58 to provide a continuous route along SR 58 from Cottonwood Road (post mile R55.6) on existing SR 58 East, east of SR 99 to I-5 (post mile T31.7). Improvements to State Route 99 from Wilson Road (post mile 21.2) to Gilmore Avenue (post mile 26.2) would also be required for the connection with SR 58. The action also includes: 1) route adoption/transfer for a continuous route from the existing freeway portion of SR 58 east of SR 99 to I-5 with the western portion on existing Stockdale Highway from Health Road to I-5; and 2) approval for construction of Segment 1, improvements within Segment 2, and intersection improvements at the Stockdale Highway and SR 43 intersection. Three build and one no build alternative were studied. Alternative B was chosen as the Selected Alternative.

Contact Information

Primary Contact:
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Fresno, CA 93721

Project Location

County: Kern
City: Bakersfield
Region:
Cross Streets: Various: Cottonwood Rd / SR-58, Coffee/Brimhall Rds, and Stockdale Hwy / I-5
Latitude/Longitude: 35° 21' 9" / 119° 2' 35" Map
Parcel No: Various
Township: 30S
Range: 27E
Section: 2
Base:
Other Location Info:

Determinations

This is to advise that the ☒ Lead Agency ☐ Responsible Agency Caltrans has approved the project described above on 12/9/2015 and has made the following determinations regarding the project described above.

1. The project ☒ will ☐ will not have a significant effect on the environment.

2. ☒ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.

   ☐ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.

3. Mitigation measures ☒ were ☐ were not made a condition of the approval of the project.

4. A Statement of Overriding Considerations ☒ was ☐ was not adopted for this project.

5. Findings ☒ were ☐ were not made pursuant to the provisions of CEQA.

Final EIR Available at: 855 M St, Suite 200, Fresno, CA 93721

Date Received: 12/10/2015

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