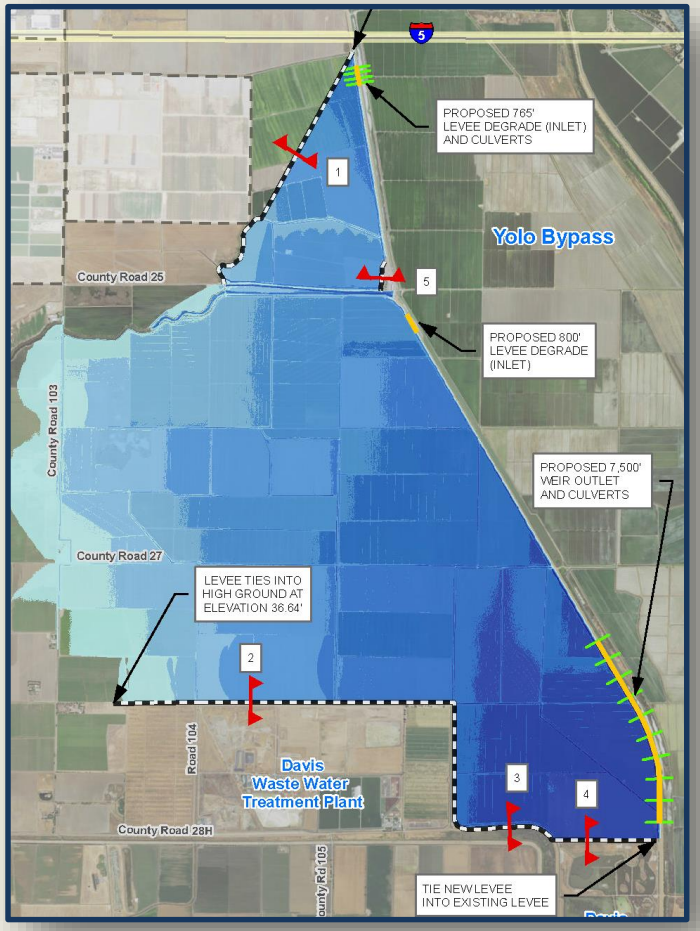
Conaway Ranch Setback Levee

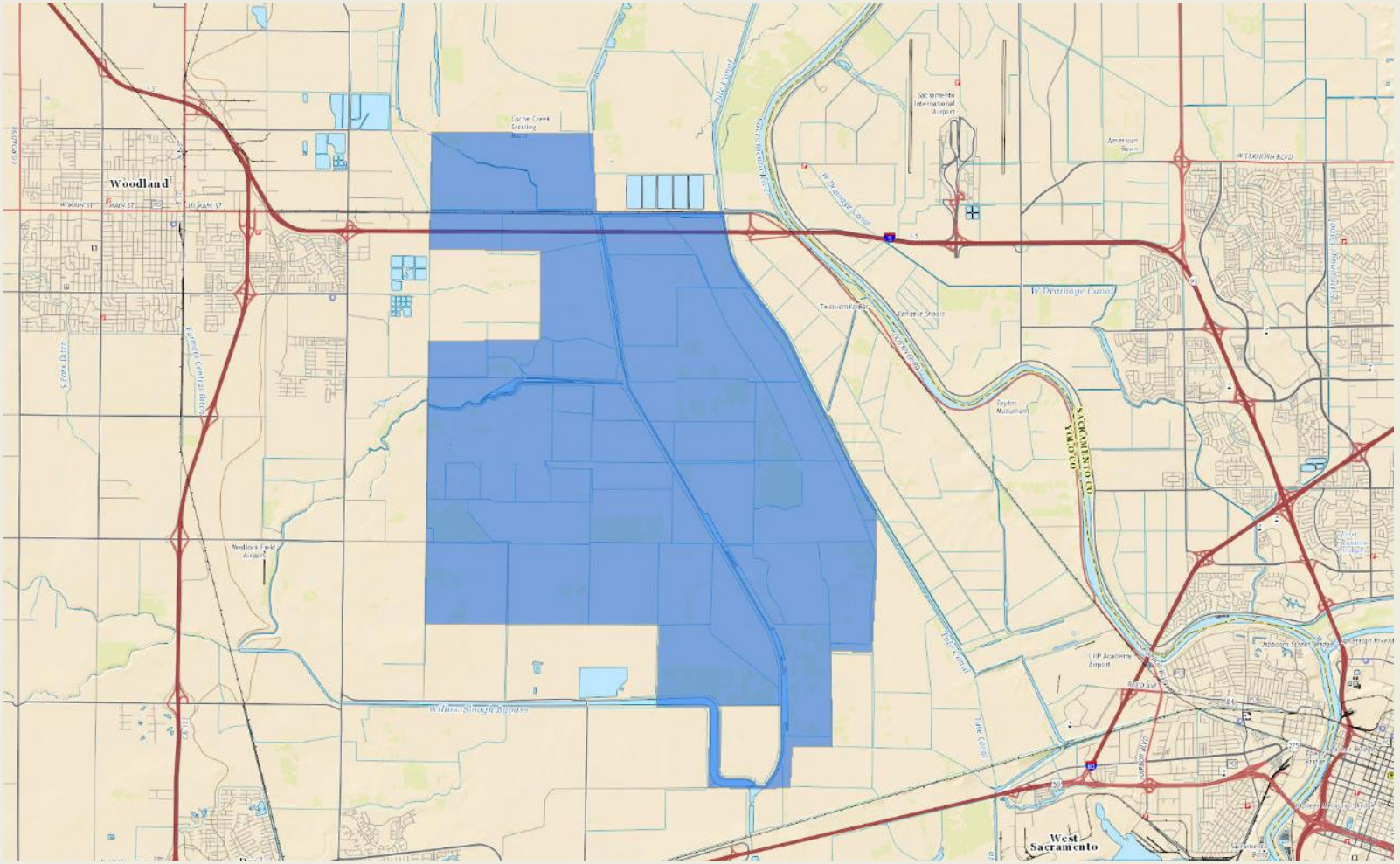
Presentation to the Central Valley Flood Protection Board NOVEMBER 18, 2016

Brent Meyer, City of Woodland
Elisa Sabatini, Yolo County
Jay Punia, Conaway Preservation Group and RD 2035

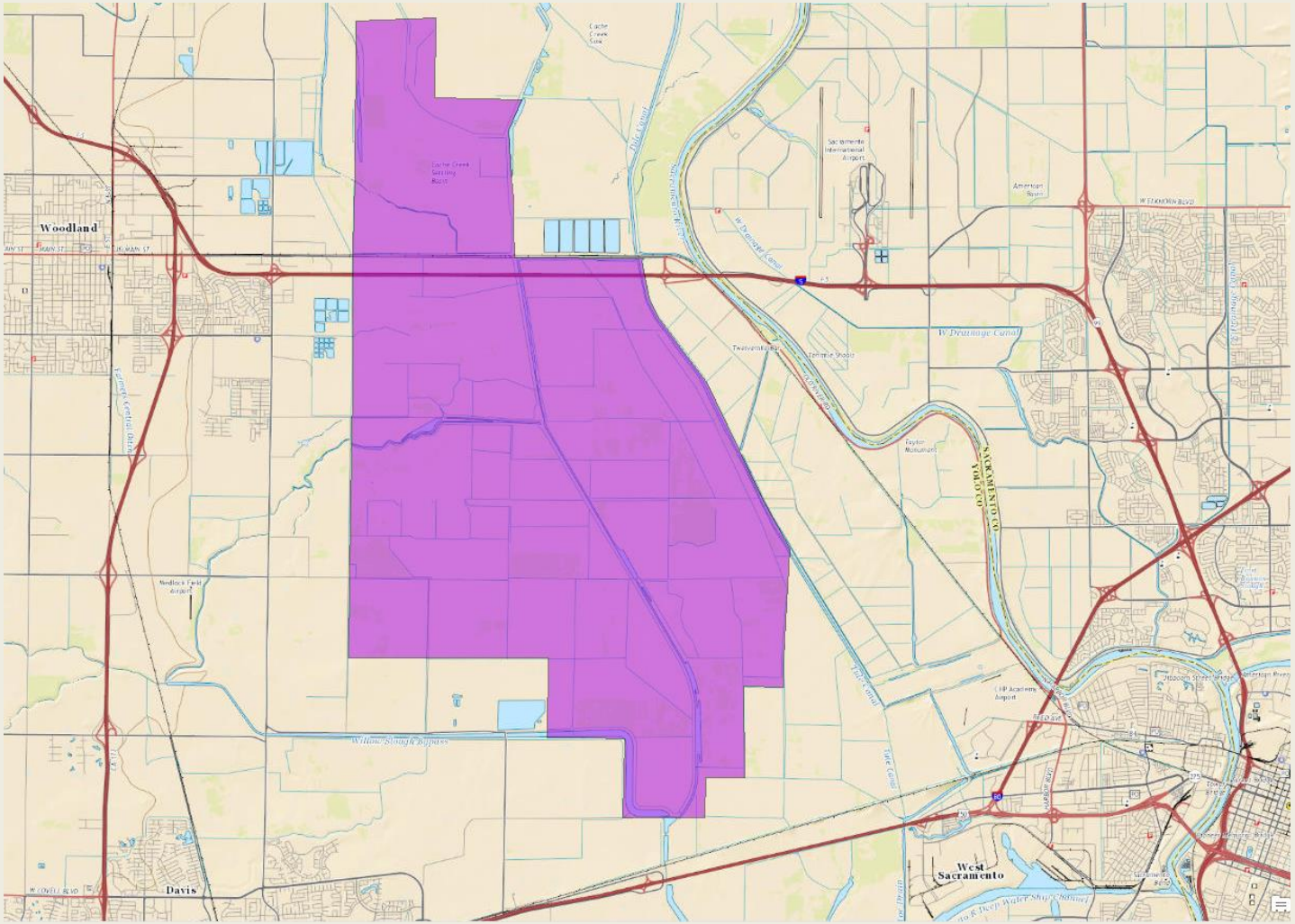


WOOD RODGERS

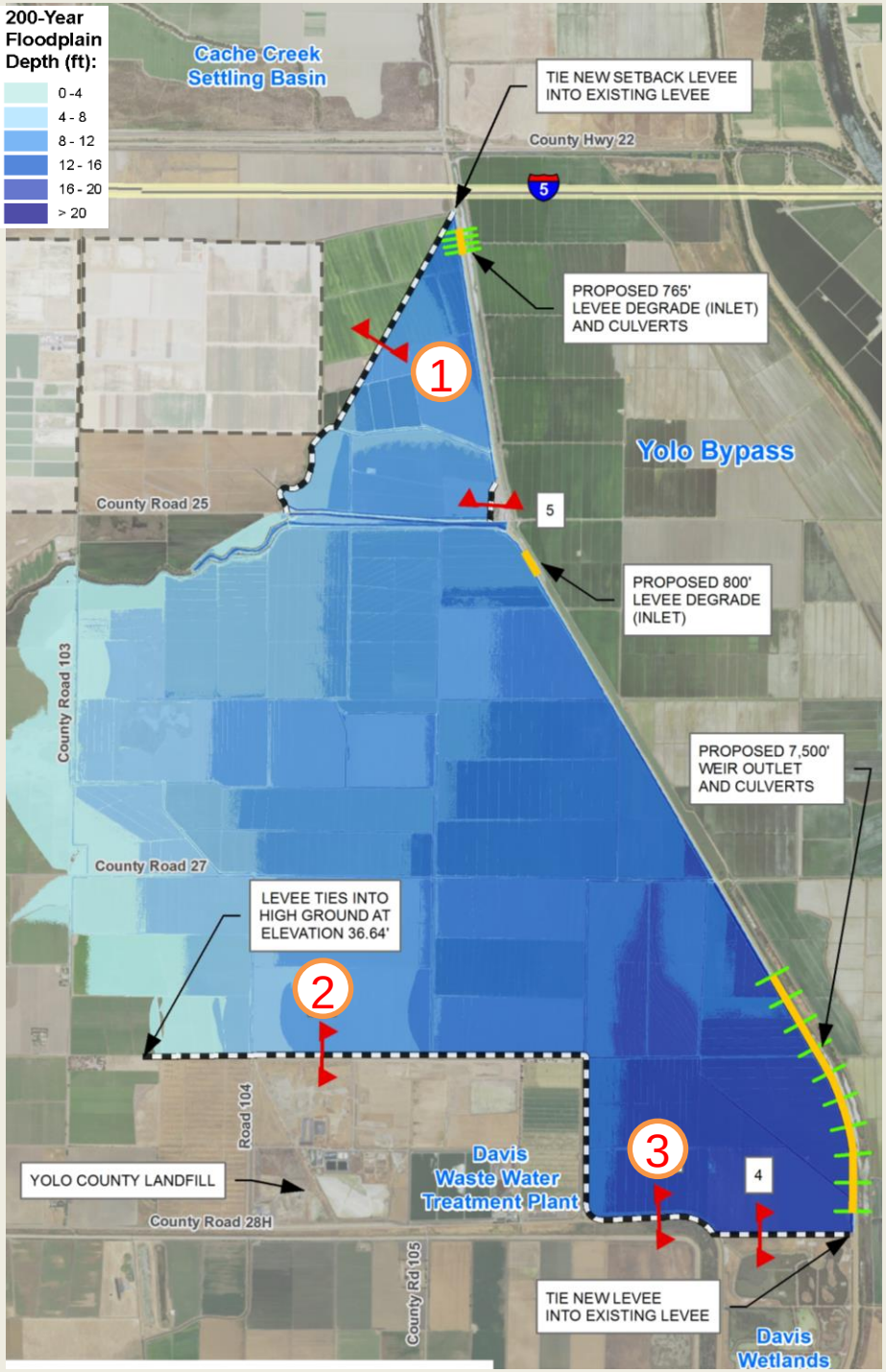
Location of Conaway Ranch

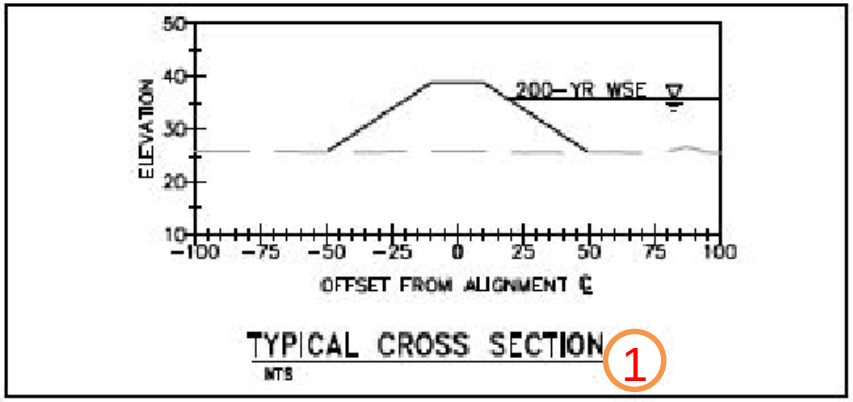


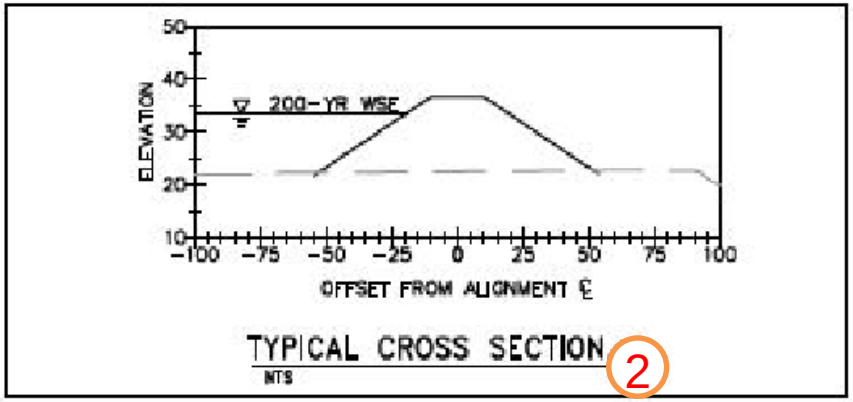
Location of Reclamation District 2035



Setback Levee / Transitory Storage Concept Plan


200-Year Floodplain Depth (ft):
0 - 4
4 - 8
8 - 12
12 - 16
16 - 20
> 20
Cache Creek Settling Basin
TIE NEW SETBACK LEVEE INTO EXISTING LEVEE
County Hwy 22
5
PROPOSED 765' LEVEE DEGRADE (INLET) AND CULVERTS
1
Yolo Bypass
County Road 25
5
PROPOSED 800' LEVEE DEGRADE (INLET)
County Road 103
PROPOSED 7,500' WEIR OUTLET AND CULVERTS
County Road 27
LEVEE TIES INTO HIGH GROUND AT ELEVATION 36.64'
2
Road 104
3
4
YOLO COUNTY LANDFILL
Davis Waste Water Treatment Plant
County Road 28H
County Rd 105
TIE NEW LEVEE INTO EXISTING LEVEE
Davis Wetlands


ELEVATION
50
40
30
20
10
200-YR WSE
-100 -75 -50 -25 0 25 50 75 100
OFFSET FROM ALIGNMENT ℄
TYPICAL CROSS SECTION
NTS
1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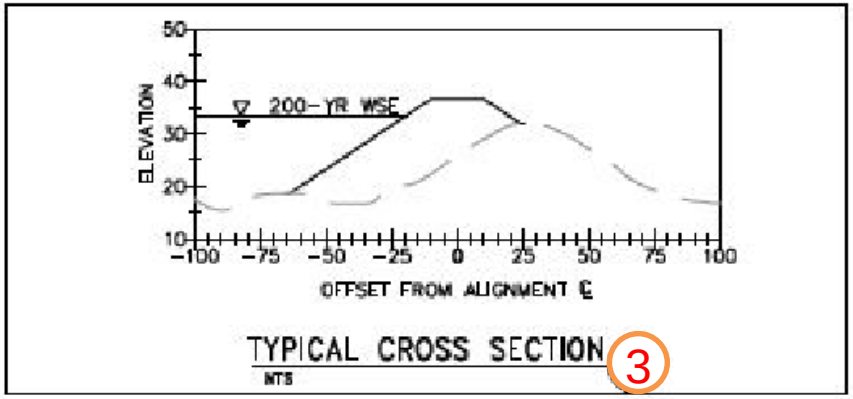
TYPICAL CROSS SECTION
NTS
2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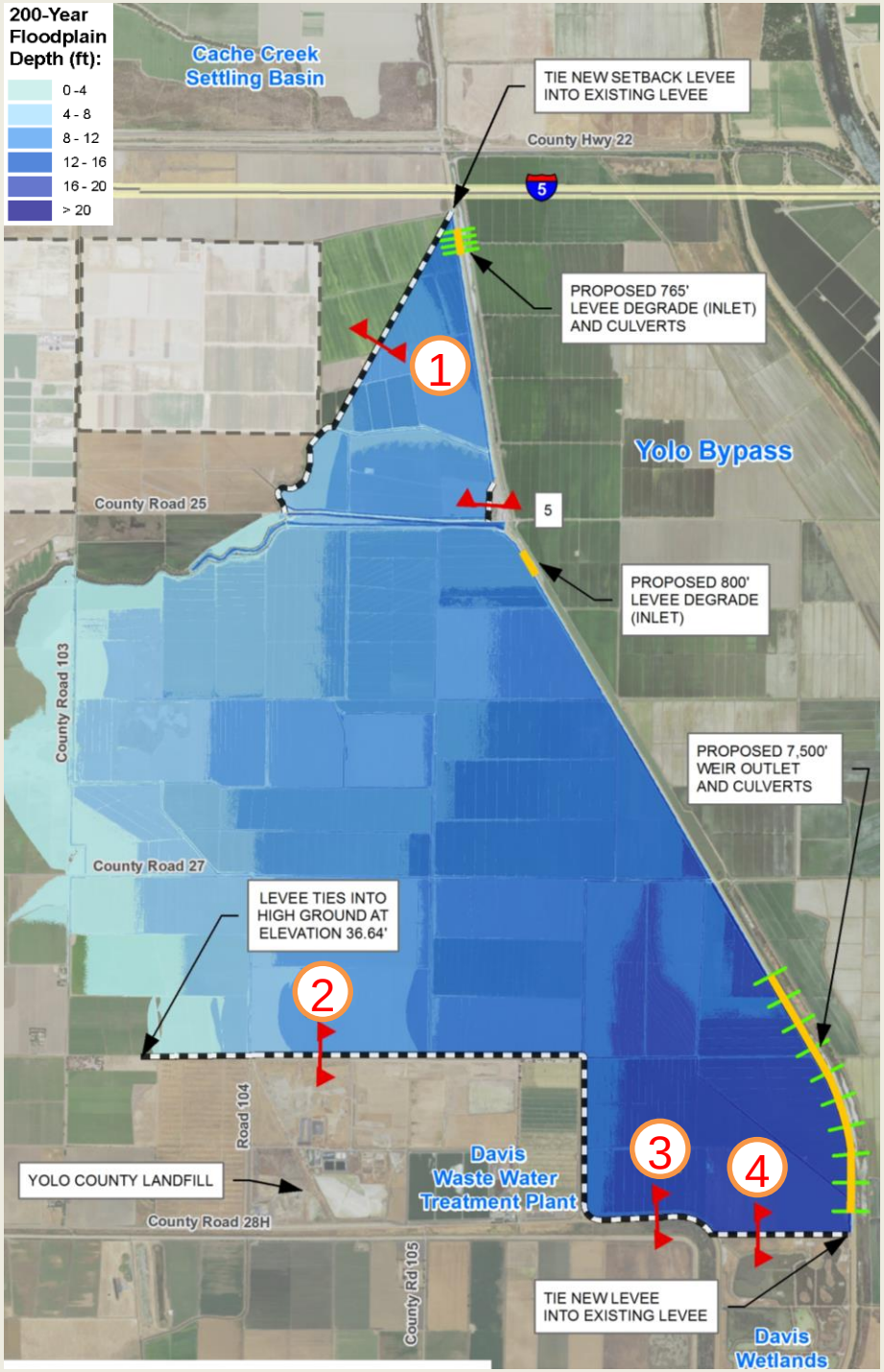
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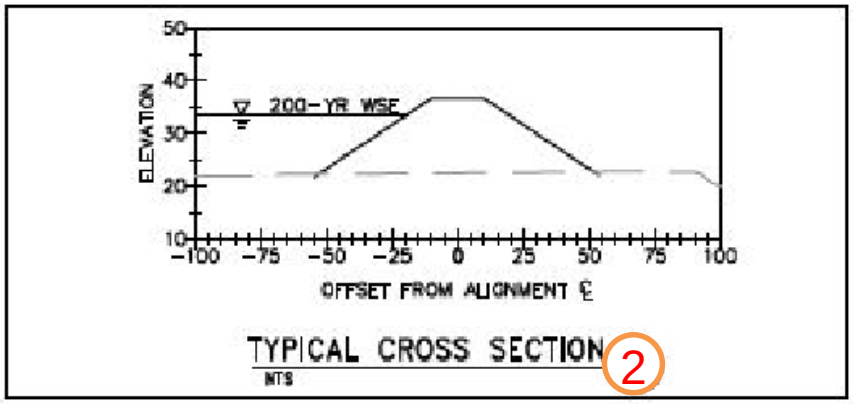
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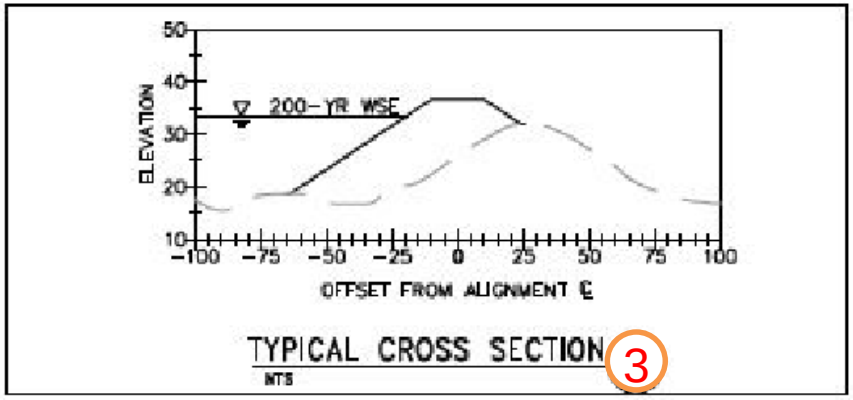
NTS
2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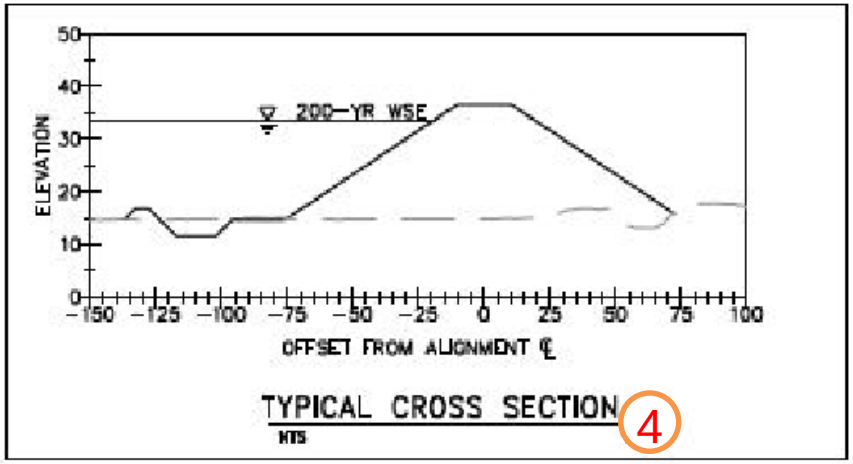
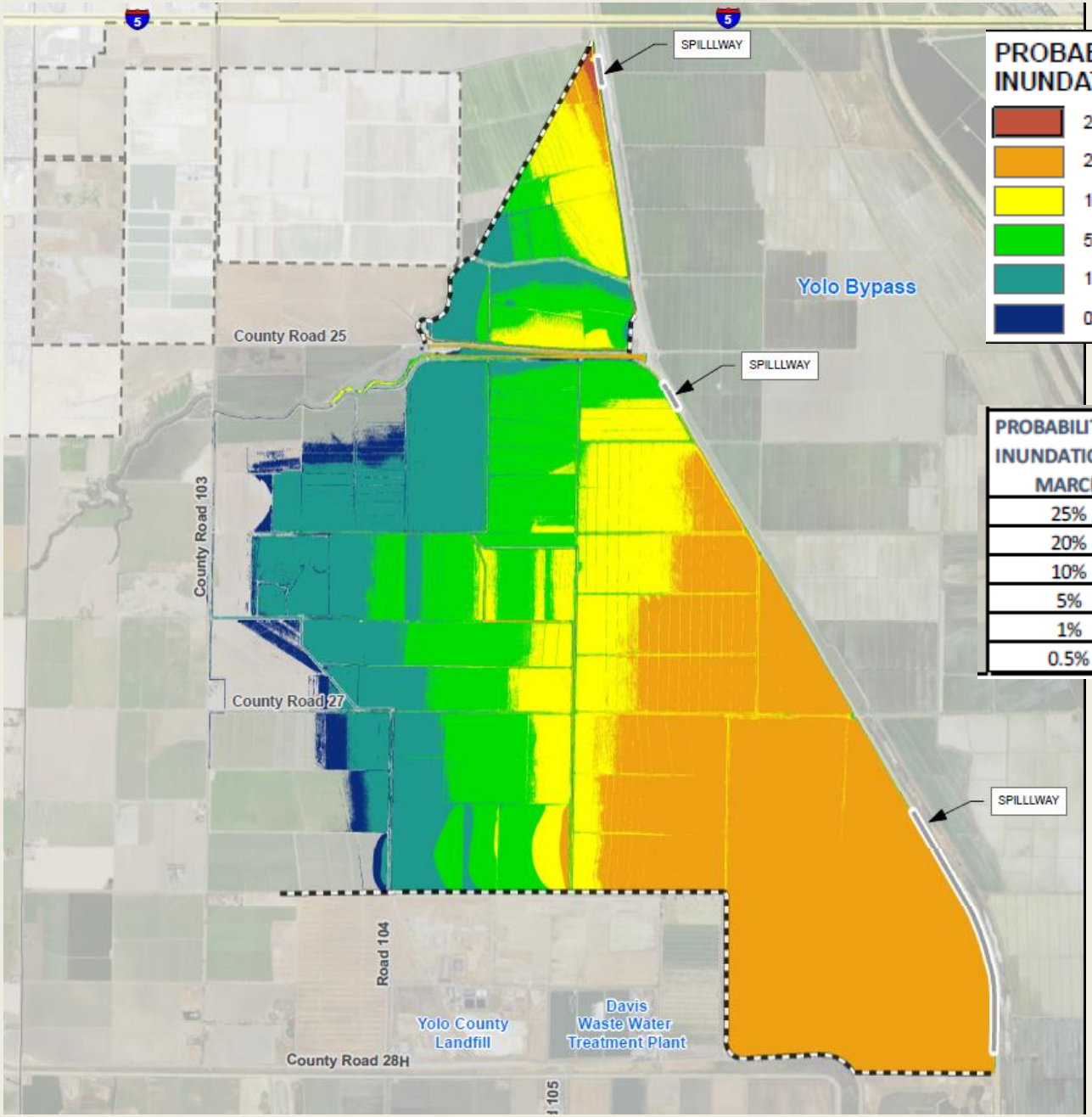
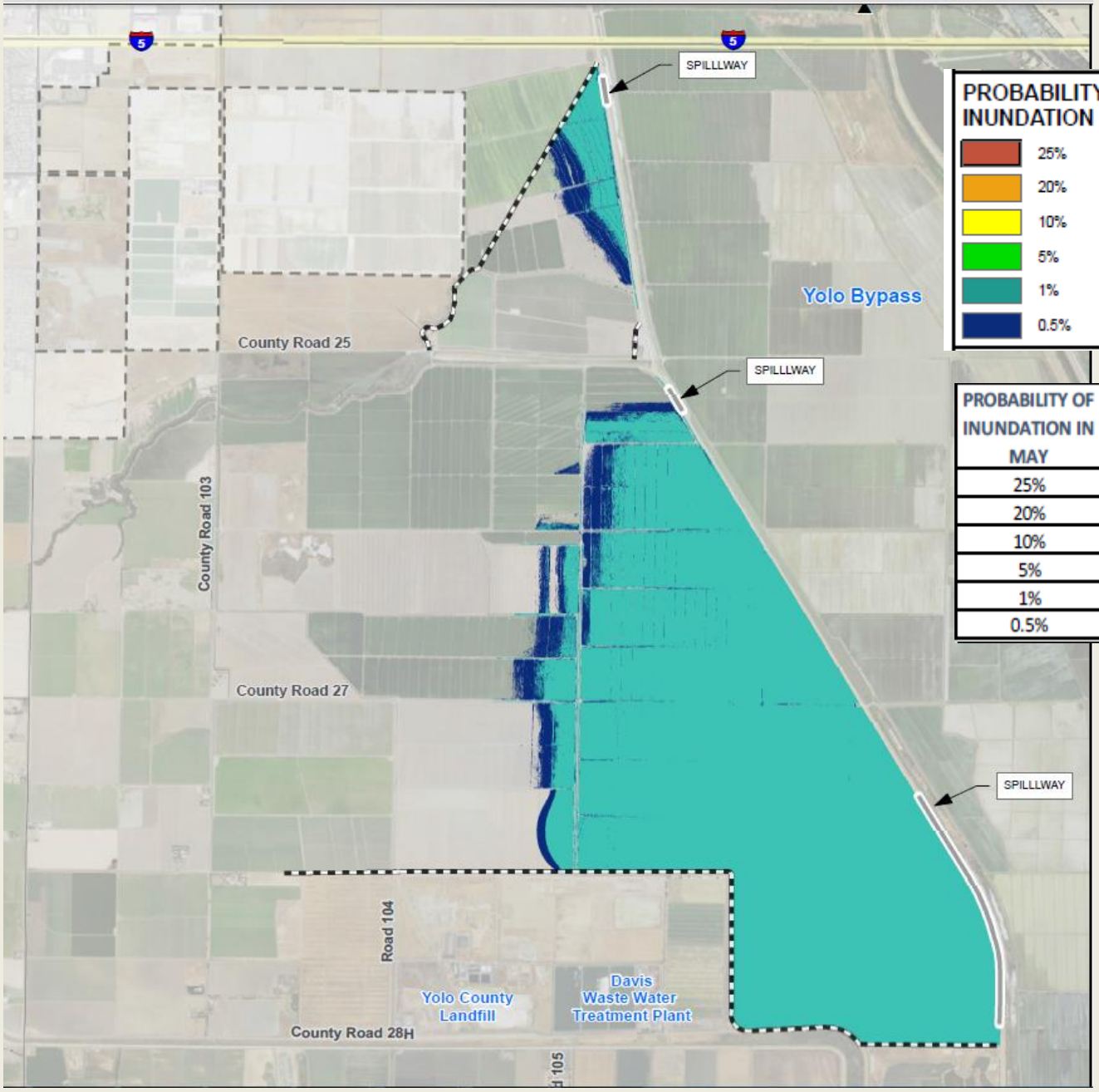

ELEVATION
50
40
30
20
10
0
200-YR WSE
−150 −125 −100 −75 −50 −25 0 25 50 75 100
OFFSET FROM ALIGNMENT ℄
TYPICAL CROSS SECTION
NTS
4

Probability of Inundation – March



PROBABILITY OF INUNDATION IN MARCH	ESTIMATED ACREAGE IMPACT
25%	11
20%	2,576
10%	3,603
5%	4,898
1%	6,293
0.5%	6,501

Probability of Inundation - May



PROBABILITY OF INUNDATION IN MAY	ESTIMATED ACREAGE IMPACT
25%	0
20%	0
10%	0
5%	0
1%	3,270
0.5%	3,587

Existing Yolo Bypass West Levee

Yolo Bypass West Levee Unit 2

1. Provides direct protection to agricultural lands within RD 2035

2. Protects public infrastructure including Interstate 5, Sierra Northern RR and the Yolo County Landfill

3. Design Capacity: 377,000 cfs from Interstate 5 to the Sacramento Bypass and 480,000 cfs from the Sacramento Bypass to the Willow Slough Bypass Outlet

4. Design Freeboard: Six feet above the grade of the adopted floodplain

5. Adopted Floodplain Profile (from the O&M Manual):
   - 34.3 feet at Interstate 5
   - 28.8 feet at Willow Slough Bypass

Yolo Bypass West Levee Deficiencies

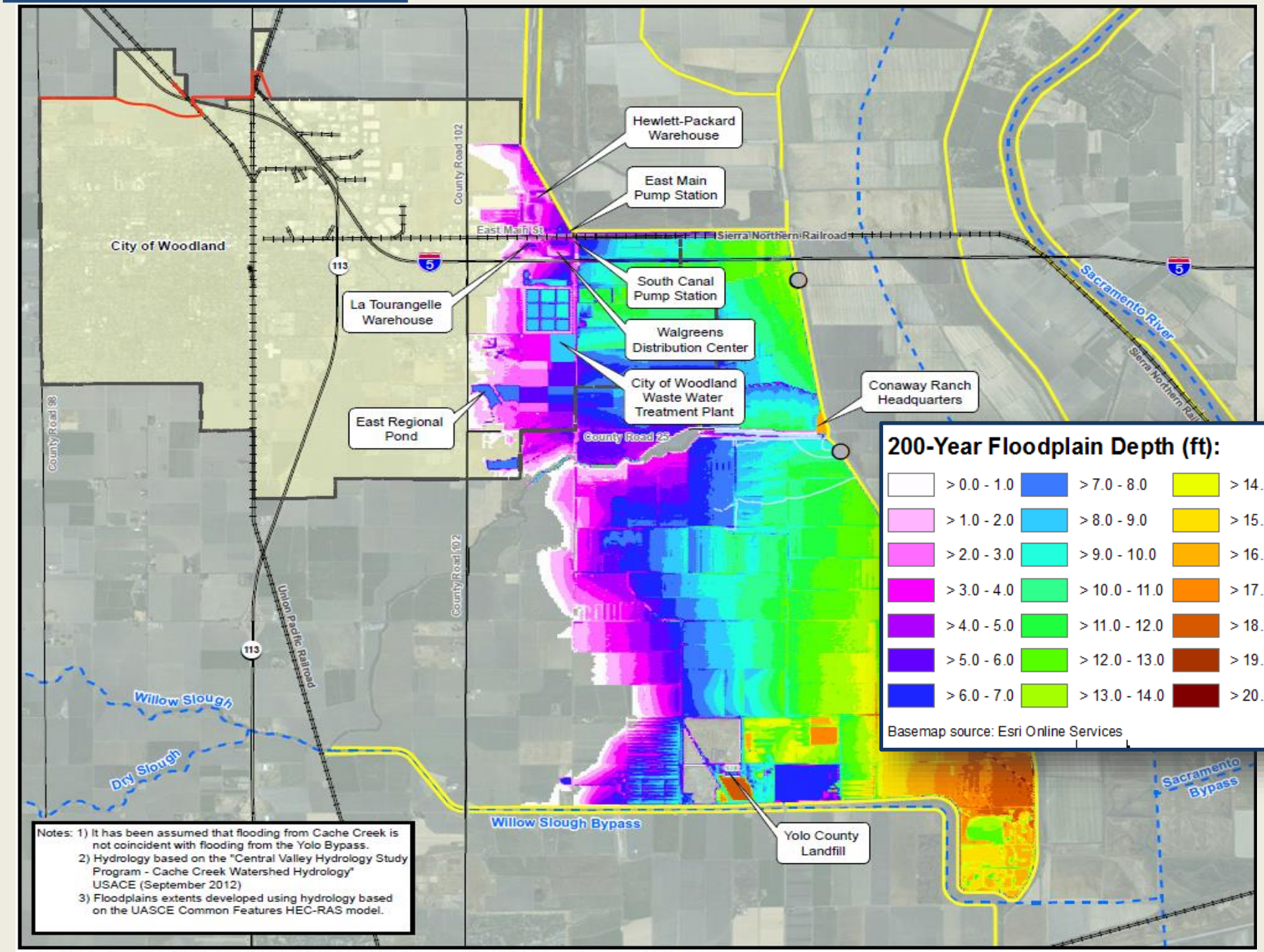
1. DWR Urban and Non Urban Levee Evaluations Programs:

   - Levee Does Not Meet Freeboard Criteria
   - Levee Does Not Meet the Underseepage Criteria for the 200-Year Water Surface Elevation
   - Levee Does Not Meet the Stability Criteria for the 200-Year Water Surface Elevation

2. Based on the USACE's May 2013 Periodic Inspection Report:

   - Contains Operations and Maintenance Deficiencies Including Erosion, Slope Instabilities, and Encroachments

200-Year Flood Depths



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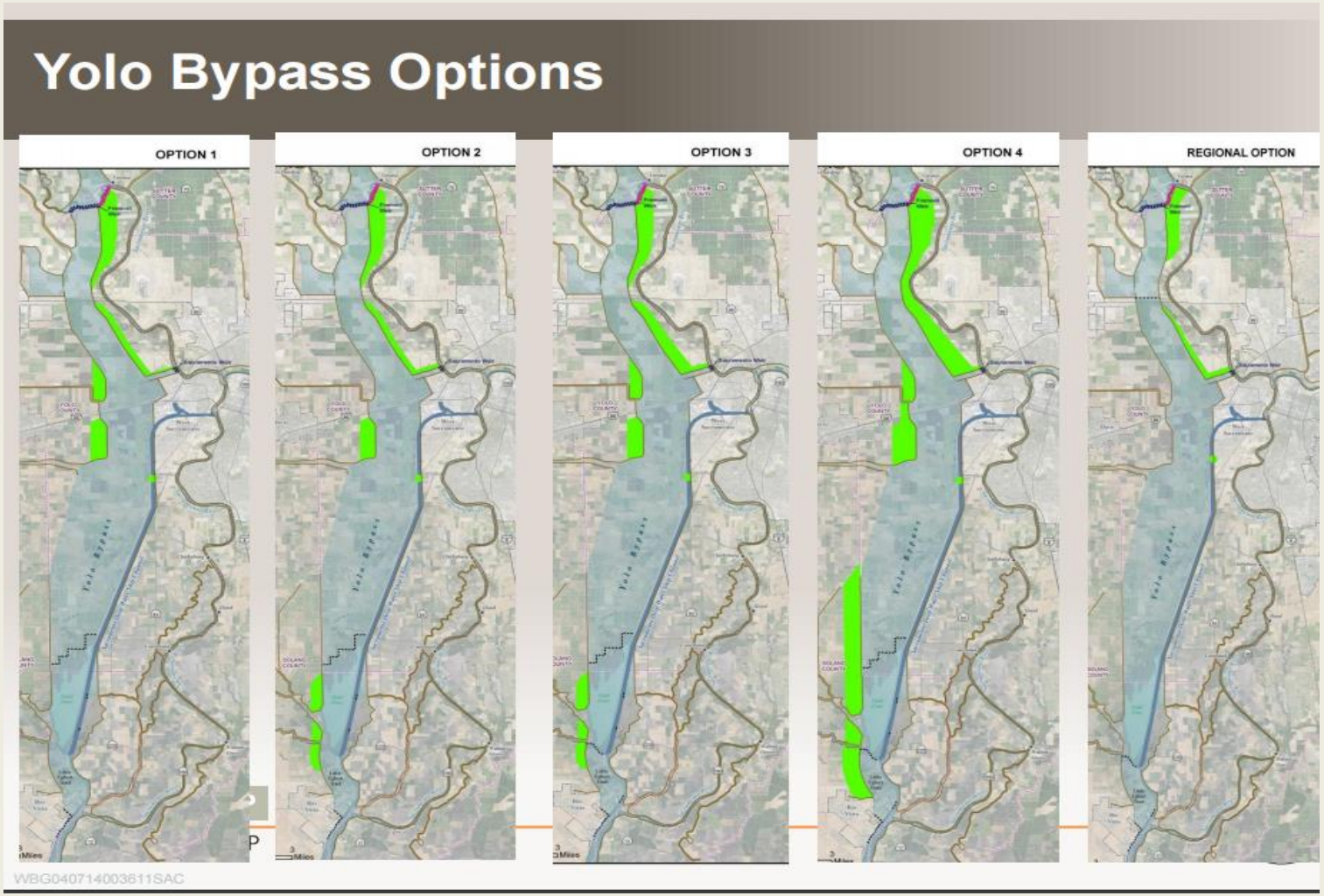
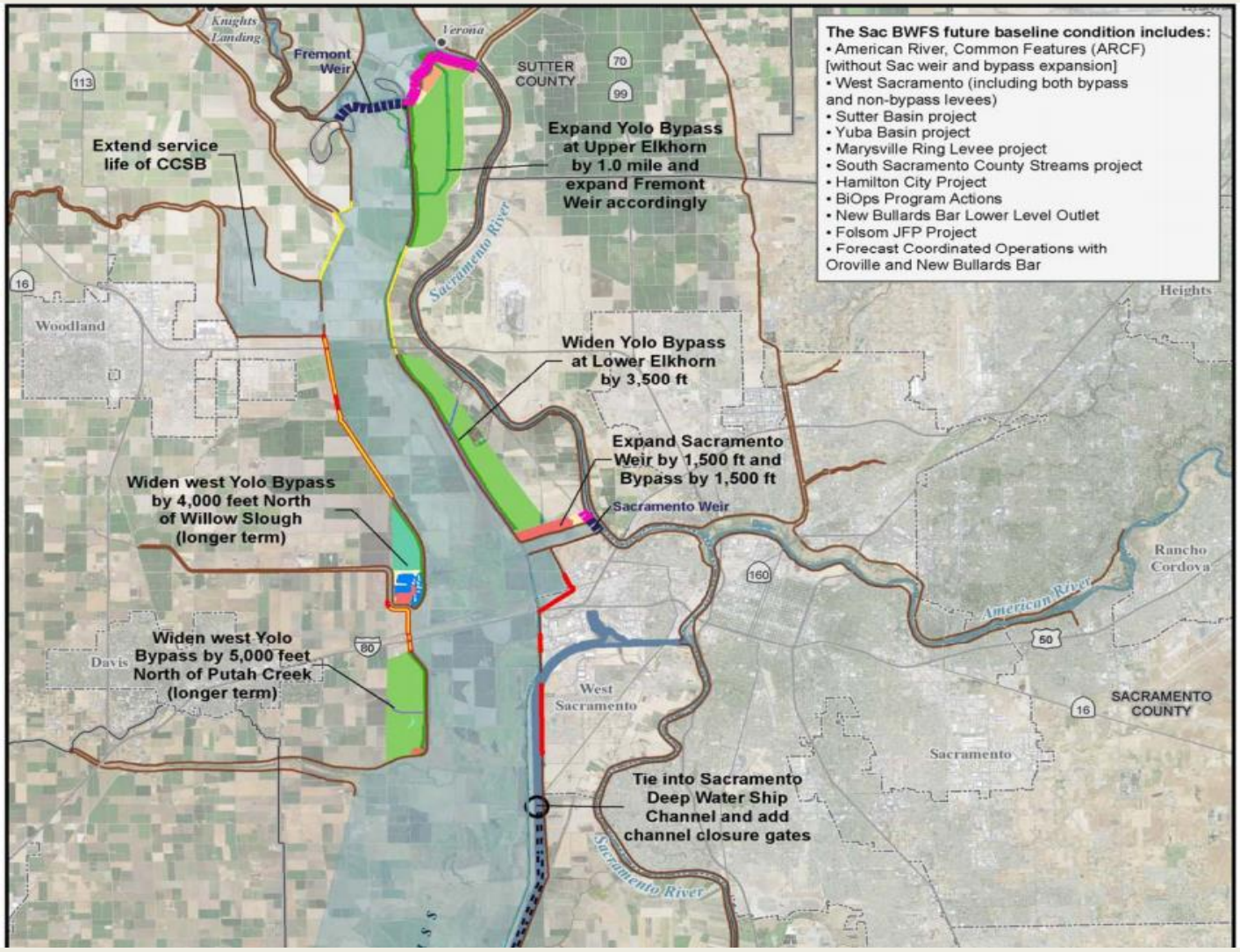
Proposals for Modification of the West Levee of the Yolo Bypass

BWFS: Yolo Bypass Expansion Options



BWFS: North of Willow Slough Setback



Cost Comparison

Fix In-Place Existing RD 2035 Levees	$140 to 160 million
Conaway Levee Setback and Transitory Storage	$55 to 80 million
North of Willow Slough Setback	$125 - $130 million

Cost of Conaway Levee Setback and Transitory Storage Project

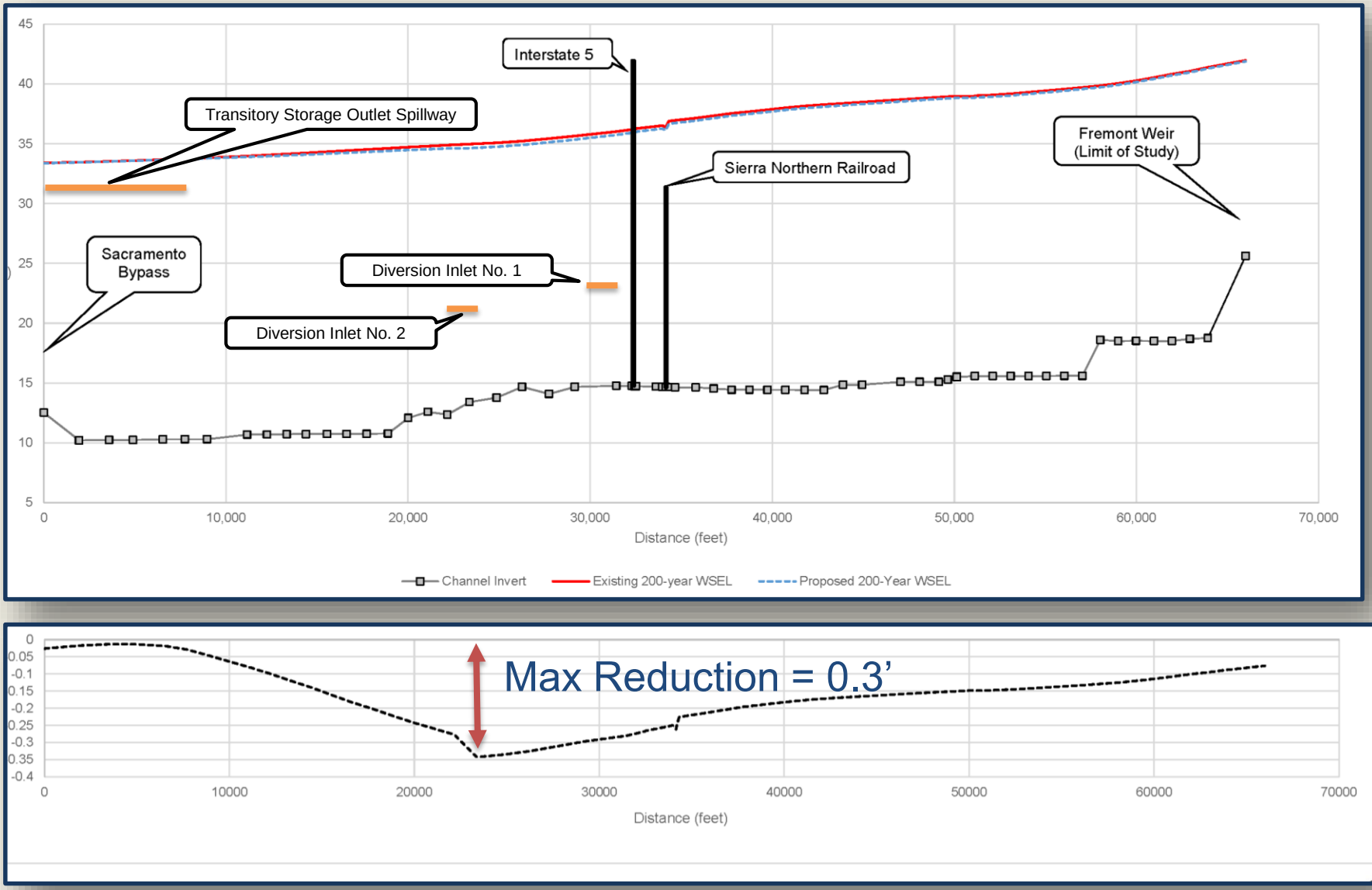
- Cost of Transitory Project $47 million

- Indirect Costs $7.5 million
  (Infrastructure protection,
  Agriculture Losses,
  Increased O&M)

  Total $55 million

Potential Benefits of Proposed Project

Flood Benefits of Transitory Storage Alternative



Reduction in 200-Year Stage

Excerpts from the 2012 CVFPP Regarding Transitory Storage

- *"…includes approximately 200,000 acre-feet of transitory storage in the floodplains of the Sacramento River Basin … Floodplain storage effectively works with bypass and floodway expansion to attenuate flood peaks and provide opportunities for conservation of agricultural lands and native floodplain habitats..."* Pages 2-12

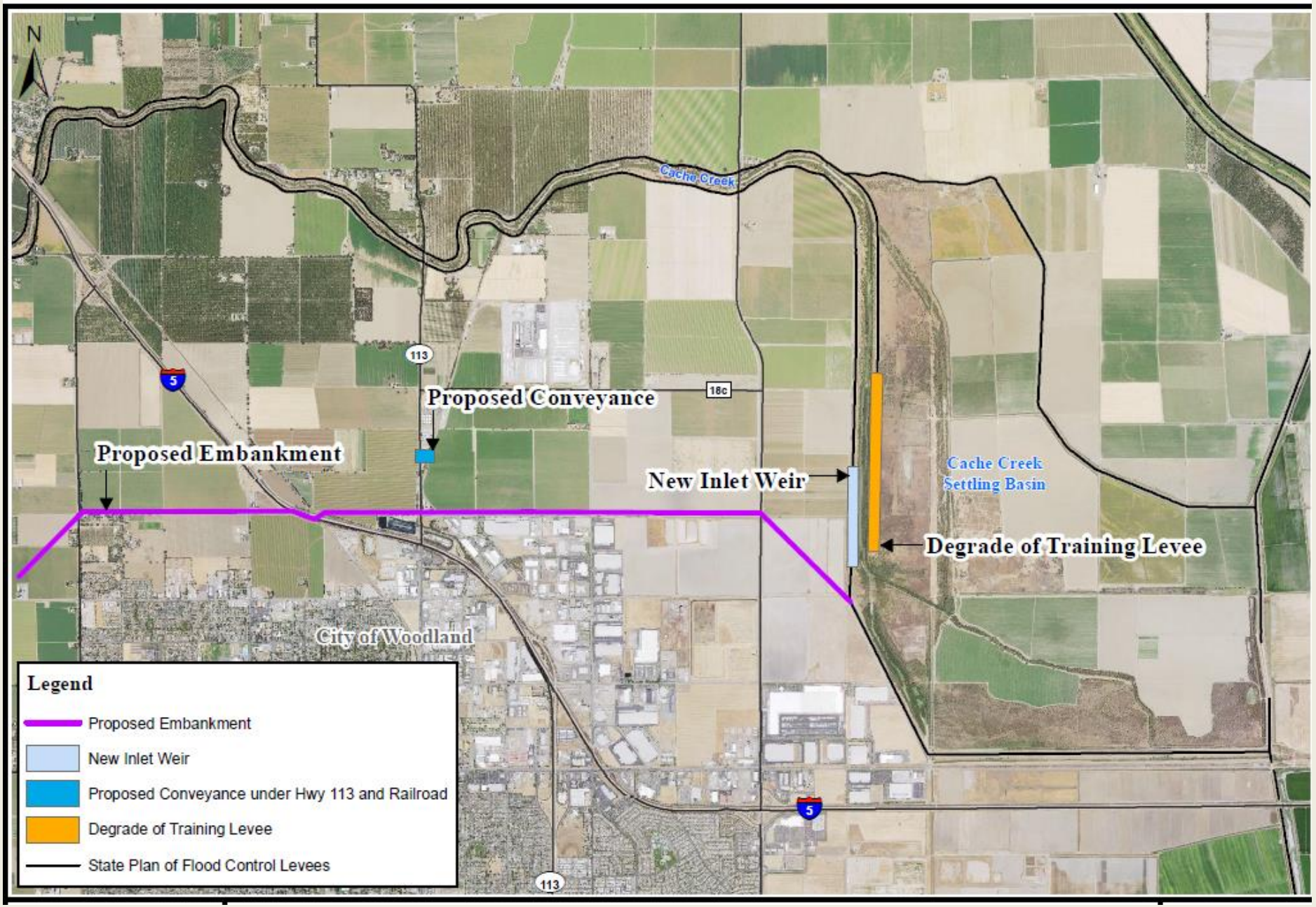
- *"… consider such storage on a willing-seller basis where consistent with local land use plans, all affected land owners support such storage, and the new flood storage area can be safely isolated from adjacent areas (easements or fee title)."* Pages 3-16

- *"…the State to participate with others … for floodplain transitory storage from willing landowners. These and other strategies to address the effects of climate change will be further evaluated for the 2017 update of the CVFPP…"* Pages 3-23

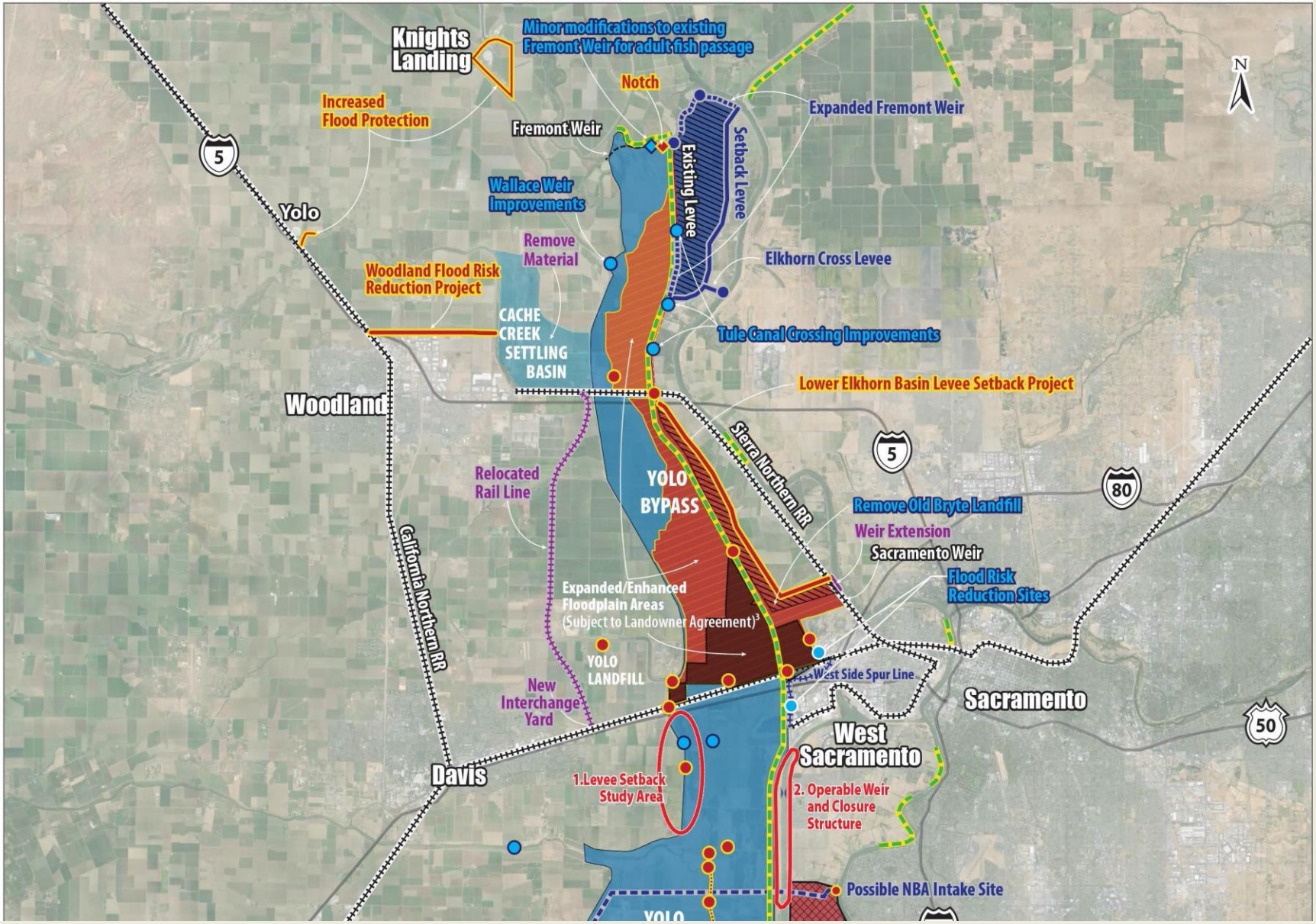
Summary of Benefits

- Reduction in Yolo Bypass flood Stages
- Potential to Introduce Groundwater Recharge
- Eliminate the need to Address Deficiencies at the Yolo Bypass West Levee
- Protects I-5 from Flooding
- Flood Protection for the Yolo County Landfill
- Flood Protection for the Area East of CR 102
- Potential to Enhance Existing Habitat Easements
- Compatible with Agricultural Operations
- Compatible with Regional Rail Relocation

Lower Cache Creek Feasibility Study Modified Alternative 2A



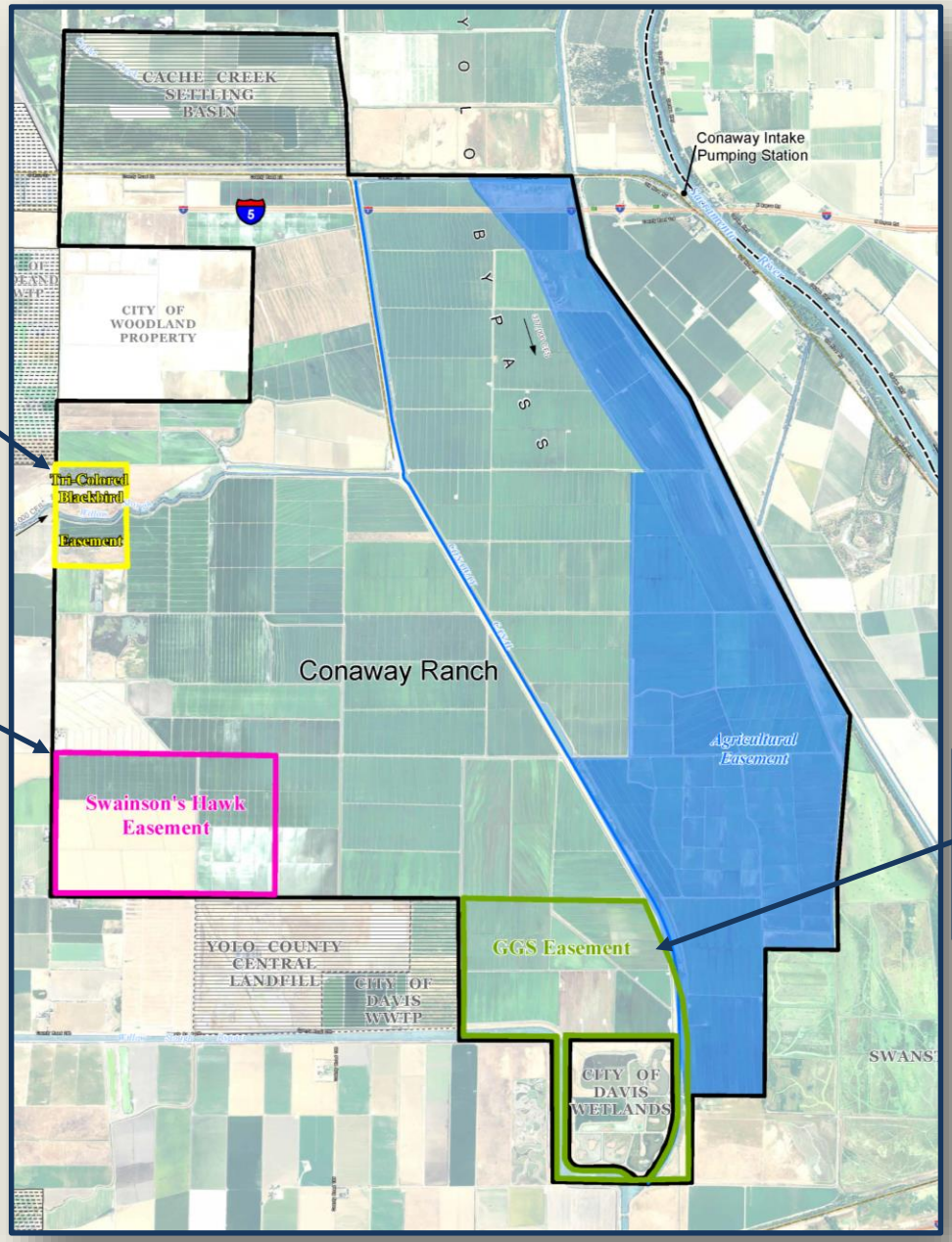
Regional Rail Relocation



Conaway Ranch Habitat Preserve Easements

Tri-Colored Blackbird Easement

Swainson's Hawk Easement



Giant Garter Snake Easement

Coordination Timeline

1. Comments on the NOP for the CVFPP Supplemental PEIR – April 2016
2. Comments on the Basin-Wide Feasibility Study – May 5, 2016
3. Meeting with City of Woodland – June 3, 2016
4. Meeting with LS/DN RFMP Team – July 18, 2016
5. Meeting with Yolo County – August 3, 2016
6. Meeting with DWR – August 16, 2016

Lower Sacramento River/Delta North RFMP –

Endorsed and recommended to DWR that the project should be studied in more detail

Recommended Action

- Request that the DWR and the CVFPB include the study of the Conaway Levee Setback and Transitory Storage as an option for the west side expansion of the Yolo Bypass in the 2017 update of the Central Valley Flood Protection Plan