Meeting of the Central Valley Flood Protection Board
June 26, 2015

Staff Report

Union Pacific Railroad
French Camp Slough Bridge Replacement, San Joaquin County

1.0 – REQUESTED ITEM

Consider Central Valley Flood Protection Board (Board) approval to replace the existing western approach of the mainline track (ML 1) of Union Pacific Railroad's bridge over French Camp Slough (Attachment A) by Draft Permit No. 19008 (Attachment B).

2.0 – APPLICANT

Union Pacific Railroad (UPRR)

3.0 – PROJECT LOCATION

The project is located east of Interstate 5, north of the I-5 / French Camp Road interchange, and west of Stockton Metropolitan Airport. The bridge crosses French Camp Slough at UPRR Milepost 88.32 of its Fresno Subdivision near French Camp in San Joaquin County. The project is located in urban and urbanizing areas. There are no project levees adjacent to the bridge, but there are project levees located 0.52 miles upstream and 1.67 miles downstream of the bridge.

4.0 – PROJECT DESCRIPTION

The proposed project would replace the existing ten (10)-span, 151-foot long timber bridge built in 1948 with a four (4)-span, 120-foot long concrete bridge supported by two (2) abutments and three (3) piers with H-pile bents.

5.0 – AUTHORITY OF THE BOARD

California Water Code § 8534, 8590 – 8610.5, and 8700 – 8710

California Code of Regulations, Title 23 (Title 23)

- § 6, Need for a Permit

- § 108, Existing Encroachments
- § 112, Streams Regulated and Nonpermissible Work Periods
- § 116, Borrow and Excavation Activities – Land and Channel
- § 121, Erosion Control
- § 128, Bridges

6.0 – AGENCY COMMENTS AND ENDORSEMENTS

The comments and endorsements associated with the project are as follows:

- The U.S. Army Corps of Engineers (USACE) Sacramento District decision letter has not been received for this application. Staff anticipates that the USACE letter will state that the USACE District Engineer has no objection to the project, subject to conditions. Upon receipt of the letter, staff will review it to ensure conformity with the draft permit language, and will incorporate it into the permit as Exhibit A.

  Staff also anticipates that the letter will state that while the proposed work does not affect a federally constructed project, there are federal projects upstream and downstream from the proposed work which require a channel design flow of 2,000 cfs. The Board must ensure that the proposed bridge replacement does not affect the ability of the channel to pass 2,000 cfs.
- San Joaquin County Flood Control and Water Conservation District (SJCFCWCD) endorsed the project with conditions on January 27, 2015 (Attachment C). Board staff has incorporated the intent of SJCFCWCD's conditions into the draft permit.

7.0 – PROJECT ANALYSIS

7.1 – Project Summary

The existing western bridge approach consists of a 10-span, 151-foot long timber bridge supporting ML 1 which is in need of replacement. A four-span, 120-foot long, concrete bridge is located adjacent to mainline track 2 (ML 2) and will remain in place. The soffit of the existing bridge will be matched.

UPRR proposes to replace the western mainline track with four 30-foot spans of girders, for a total bridge length of 120 feet. The existing bridge and abutments would be demolished and removed from the French Camp Slough floodway, and

rock slope protection (RSP) will be placed on both banks near the new bridge (Attachment D).

7.2 – Hydraulic Summary

According to the Littlejohn Creek Channels Operation and Maintenance manual (upstream of the project location) and the Lower San Joaquin River and Tributaries Project, California Unit No. 1 Operation and Maintenance manual (downstream of the project location) the channel is designed for 2,000 cubic feet per second (cfs). The Board is responsible to ensure that the proposed work does not affect the ability of the channel to pass 2,000 cfs.

The following table shows the HEC-RAS computed freeboard for the UPRR project design flood of 2,000 cfs, as well as the 100-year, and the 200-year discharges. The freeboard above the UPRR project design flood and the 100-year are two (2) feet or greater, but the analysis shows that consideration of the 200-year discharge results in a 0.10-feet submergence of the proposed bridge deck. This submergence at the 200-yr discharge has been determined by Board staff to be negligible.

Table 1- Computed Freeboard at Design Flows

Design Level	Design Flow (cfs)	Freeboard (feet)
UPRR Project Design Flood	2,000	6.5
100-year	3,970	2.0
200-year	5,150	-0.1

The HEC-RAS analysis predicted that the proposed bridge would slightly decrease the water surface elevation at the UPRR Project Design Flood by approximately 0.02 feet (from 11.87 to 11.85 feet) at the upstream cross-section. Computed channel velocities at the upstream cross-section of the bridge at the Project Design Flood discharge were predicted to increase by 0.01 feet per second (fps) from 2.21 to 2.22 fps. (Attachment E).

Title 23, § 128(a)(16) states that *"Replacement railroad bridges must have the soffit members no lower than those of the replaced bridge, but are not required to have a specified amount of clearance above the design flood plane."* UPRR has designed this project to comply with this standard.

Based on the hydraulic analysis provided, Board staff has determined that the proposed project is expected to result in no adverse hydraulic impacts to the French Camp Slough floodway.

7.3 – Geotechnical Summary

The proposed bridge is supported by two (2) abutments and three (3) piers. The proposed H pile bents shall be driven to refusal or to a minimum of 112 ton capacity. The estimated H pile depth is 80 feet. The RSP for the new bridge opening for ML 1 will be placed to match the existing ground profile along ML 2.

Board staff has reviewed geotechnical information provided by the UPRR and has determined that the proposed project is expected to result in no adverse geotechnical impacts to the French Camp Slough or floodway. All fill, excavation, RSP, and temporary structures will be completed in compliance with Draft Permit No. 19008 and all Title 23 technical standards.

8.0 – CEQA ANALYSIS

Board staff has prepared the following California Environmental Quality Act (CEQA) findings:

The Board determined that the project is exempt from CEQA under a Statutory Exemption (CEQA Guidelines Section 15275) covering the institution and modernization of existing rail lines in use.

9.0 – CALIFORNIA WATER CODE § 8610.5 CONSIDERATIONS

- Evidence that the Board admits into its record from any party, State or local public agency, or nongovernmental organization with expertise in flood or flood plain management:

  The Board has considered all the evidence presented in this matter, including the applications for Permit No. 19008, all supporting hydraulic, geotechnical, and other technical documentation provided by UPRR.

- The best available science that related to the scientific issues presented by the executive officer, legal counsel, the Department or other parties that raise credible scientific issues.

  In making its findings, the Board has used the best available science relating to the issues presented by all parties. On the important issue of hydraulic

impacts UPRR used the HEC-RAS one-dimensional flow model. This model is considered by many experts as one of the best available and applicable scientific tools for the purpose of modeling river hydraulics in this region.

- Effects of the decision on the facilities of the State Plan of Flood Control, and consistency of the proposed project with the Central Valley Flood Protection Plan as adopted by Board Resolution 2012-25 on June 29, 2012:

  This project is expected to result in no adverse impacts on facilities of the State Plan of Flood Control, and is consistent with the adopted 2012 Central Valley Flood Protection Plan and current Title 23 standards because the proposed project is predicted to result in no adverse increase in design water surface elevations, substantial increase in channel velocities, or adverse geotechnical impacts to the system.

- Effects of reasonable projected future events, including, but not limited to, changes in hydrology, climate, and development within the applicable watershed:

  UPRR has determined that the proposed bridge replacement does not conflict with any future foreseeable projects, nor are there any calculated and known foreseeable impacts anticipated to affect the proposed project.

10.0 – STAFF RECOMMENDATION

Board staff recommends that the Board:

- find the project statutorily exempt from CEQA;
- approve Draft Encroachment Permit No. 19008 in substantially the form provided, and on condition of receipt of a favorable USACE 408 decision letter; and
- direct the Executive Officer to take the necessary actions to execute the permit and file a Notice of Exemption pursuant to CEQA with the State Clearinghouse.

11.0 – LIST OF ATTACHMENTS

A – Project Vicinity and Location Maps

B – Draft Permit No. 19008

Exhibit A – USACE Decision Letter

C – San Joaquin County Flood Control and Water Conservation District

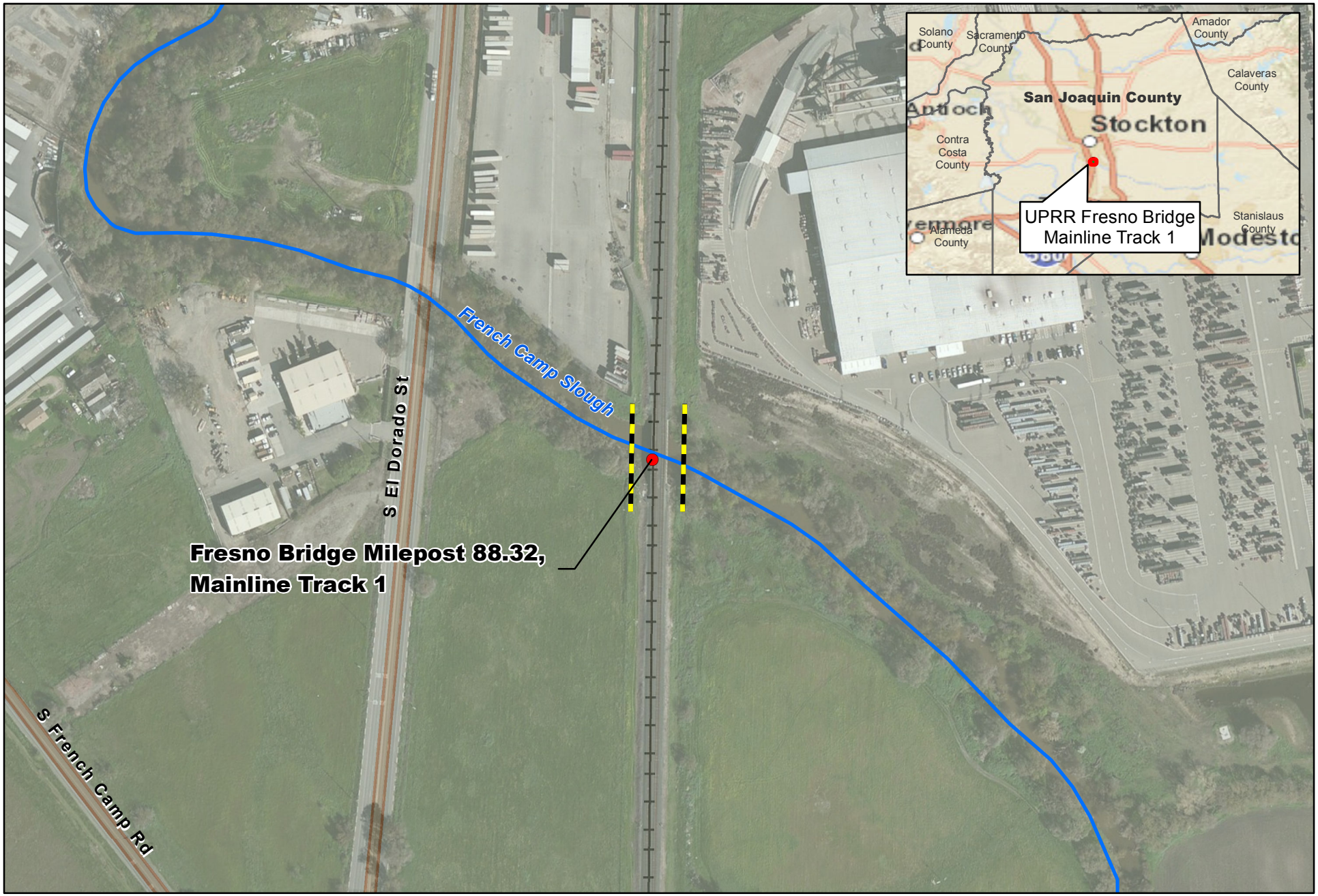
Endorsement

D – Project Drawings

E – Hydraulic Profile Information

Prepared by:	Sungho Lee, Engineer, Water Resources, Projects Section
Document Review:	Nancy C. Moricz, PE, Senior Engineer, Projects and Environmental Branch
	Andrea Buckley, Senior Environmental Scientist (Specialist)
	Eric Butler, PE, Projects and Environmental Branch Chief
	Len Marino, PE, Chief Engineer
	Nicole Rinke, Deputy Attorney General
	Leslie Gallagher, Acting Executive Officer


Vulcan Island
Shenkel Island
Country Club
Browns Island
Atherton Island
Rough and Ready Island
Stockton
Gillis
W Charter Way
Kennedy
Garden Acres
Farmington Rd
Taft Mosswood
Roberts Island
West Side Fwy
Golden State Hwy
San Joaquin
19008 - UPRR (French Camp Slg, SJ County)
French Camp
26
4
5
© 2015 Google
Google earth



LEGEND

50ft ROW from Centerline, 100' total

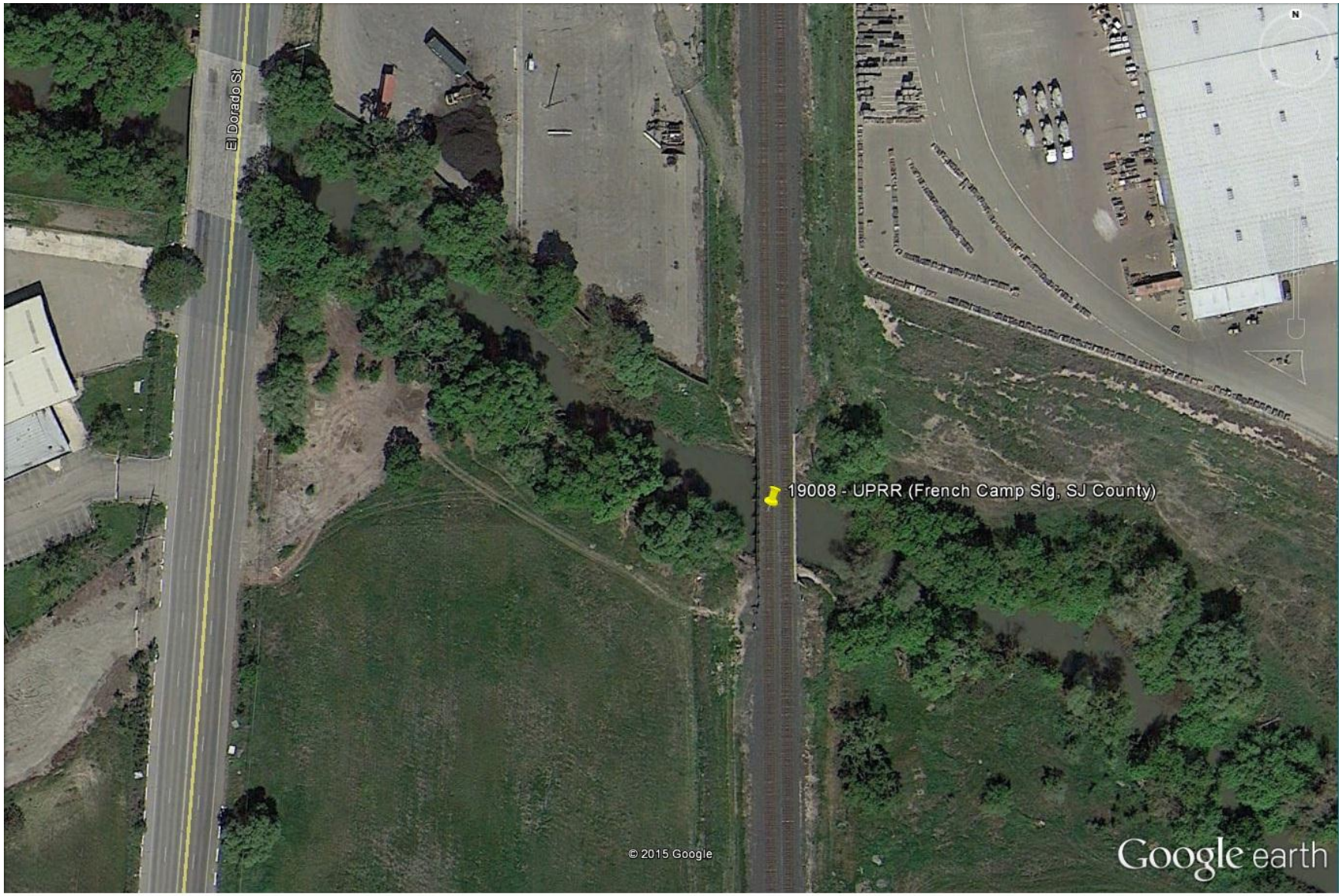
Mainline Track 1

N

0 100 200 400 Feet

Existing Conditions
UPRR Fresno Sub 88.32
Mainline Track 1
San Joaquin County, CA

CH2MHILL


El Dorado St
19008 - UPRR (French Camp Slg, SJ County)
© 2015 Google
Google earth

DRAFT

STATE OF CALIFORNIA
THE RESOURCES AGENCY

THE CENTRAL VALLEY FLOOD PROTECTION BOARD

PERMIT NO. 19008 BD

This Permit is issued to:

Union Pacific Railroad
1400 Douglas Street, Stop 0910
Omaha, Nebraska 68179-0910

To replace the existing ten (10)-span, 151-foot long timber bridge built in 1948 with a four (4)-span, 120-foot long concrete bridge supported by two (2) abutments and three (3) piers with H-pile bents.

The project is located east of Interstate 5, north of the I-5 / French Camp Road interchange, and west of Stockton Metropolitan Airport. The bridge crosses French Camp Slough at UPRR Milepost 88.32 of its Fresno Subdivision near French Camp in San Joaquin County. (Section 13, T1N, R6E, MDB&M, San Joaquin County Flood Control and Water Conservation District, French Camp Slough, San Joaquin County).

NOTE: Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

(SEAL)

Dated: _____

_____
Executive Officer

GENERAL CONDITIONS:

ONE: This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

TWO: Only work described in the subject application is authorized hereby.

THREE: This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

FOUR: The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the

permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

FIVE: Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

SIX: This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 days' notice.

SEVEN: It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

EIGHT: This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

NINE: The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

TEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

ELEVEN: The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

TWELVE: Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

SPECIAL CONDITIONS FOR PERMIT NO. 19008 BD

LIABILITY AND INDEMNIFICATION

THIRTEEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the Central Valley Flood Protection Board (Board), the Department of Water Resources, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, arising out of failure on the permittee's part to perform the obligations under this permit, the permittee shall defend and shall hold each of them harmless from each claim. This condition shall supersede condition TEN.

FOURTEEN: The permittee shall defend, indemnify, and hold the Board and the State of California, including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages related to the Board's approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

FIFTEEN: The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend, indemnify, and hold the Board and the State of California; including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent

allowed by law. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

SIXTEEN: The Board, the Department of Water Resources, and the San Joaquin County Flood Control and Water Conservation District shall not be held liable for damages to the permitted encroachment(s) resulting from releases of water from reservoirs, flood fight, operation, maintenance, inspection, or emergency repair.

SEVENTEEN: If the permittee does not comply with the conditions of the permit and enforcement by the Board is required, the permittee shall be responsible for bearing all costs associated with the enforcement action, including reasonable attorney's fees. Permittee acknowledges that State law allows the imposition of fines in enforcement matters.

AGENCY CONDITIONS

EIGHTEEN: The permittee shall comply with all conditions set forth in the letter from the U.S. Army Corps of Engineers District Engineer dated June xx, 2015, which is attached to this permit as Exhibit A and is incorporated by reference.

NINETEEN: The permittee agrees to incur all costs for compliance with local, State, and Federal permitting. If any conditions issued by other agencies conflict with any of the conditions of this permit, then the permittee shall resolve conflicts between any of the terms and conditions that agencies might impose under the laws and regulations it administers and enforces.

PRE-CONSTRUCTION

TWENTY: The permittee shall contact the Board by telephone at (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. Failure to do so at least 20 working days prior to start of work may result in delay of the project.

TWENTY-ONE: The permittee shall provide construction supervision and inspection services acceptable to the Board.

TWENTY-TWO: Prior to commencement of work, the permittee shall create a photo record, including associated descriptions of project conditions. The photo record shall be submitted to the Board within thirty (30) calendar days of beginning the project.

TWENTY-THREE: Thirty (30) calendar days prior to the start of any demolition and / or construction activities within the floodway or within the existing levee prism, the permittee shall submit two sets of detailed plans and specifications and supporting geotechnical and / or hydraulic impact analyses to the Board's Chief Engineer, for any and all temporary, in channel, or levee prism work that may have an impact during the flood season from November 1 through April 15. The Board may request additional information as needed and will seek comment from the U.S. Army Corps of Engineers and / or the local maintaining agency when necessary. The Board will provide written notification to the permittee if the review period is likely to exceed thirty (30) working days.

CONSTRUCTION

TWENTY-FOUR: All work approved by this permit shall be in accordance with the submitted drawings and specifications except as modified by special permit conditions herein. No work, other than that approved by this permit, shall be done in the project area without prior approval of the Board.

TWENTY-FIVE: All addenda and contract change orders made to the approved plans and / or specifications by the permittee after the Board approval of this permit shall be submitted to the Board's Chief Engineer for review and approval prior to incorporation into the permitted project. The submittal shall include all supplemental plans, specifications, and necessary supporting geotechnical, hydrology and hydraulics, or other technical analyses. The Board shall acknowledge receipt of the addendum or change submittal in writing within ten (10) working days of receipt, and shall work with the permittee to review and respond to the request as quickly as possible. Time is of the essence. The Board may request additional information as needed and will seek comment from the U.S. Army Corps of Engineers and / or local maintaining agencies when necessary. The Board will provide written notification to the permittee if the review period is likely to exceed forty five (45) calendar days. Upon approval of submitted documents the permit shall be revised, if needed, prior to construction related to the proposed changes.

TWENTY-SIX: No construction work of any kind shall be done during the flood season from November 1st to April 15th without prior approval of the Board.

TWENTY-SEVEN: All debris generated by this project shall be disposed outside of the French Camp Slough floodway.

TWENTY-EIGHT: No material stockpiles, temporary buildings, or equipment shall remain in the floodway during the flood season from November 1 to April 15.

TWENTY-NINE: The piles shall be constructed parallel to the direction of flow.

THIRTY: The soffit of the bridge shall be no lower than that of the replaced bridge.

THIRTY-ONE: The existing bridge to be replaced shall be completely removed and disposed of outside the limits of the levee section and floodway.

THIRTY-TWO: Piers, bents, and abutments being dismantled shall be removed to at least one (1) foot below the natural ground line and at least three (3) feet below the bottom of the low-water channel.

THIRTY-THREE: Rock slope revetment shall be uniformly placed and properly transitioned into the bank, levee slope, or adjacent original ground and in a manner which avoids segregation.

THIRTY-FOUR: The recommended minimum thickness of revetment, measured perpendicular to the bank or levee slope is 18 inches below the usual water surface and 12 inches above the usual water surface.

THIRTY-FIVE: The revetment shall not contain any reinforcing steel, floatable, or objectionable

material. Asphalt or other petroleum-based products may not be used as fill or erosion protection on the levee section or within the floodway.

THIRTY-SIX: Density tests by a certified materials laboratory will be required to verify compaction of backfill within the French Camp Slough floodway.

THIRTY-SEVEN: Backfill material for excavations within the bank section and within 10 feet of bridge supports within the floodway shall be placed in 4- to 6-inch layers and compacted to a minimum of 90 percent relative compaction per ASTM Method D1557-91, or 97 percent per ASTM D 698-91, and above optimum moisture content.

THIRTY-EIGHT: Except with respect to the activities expressly allowed under this permit, the work area shall be restored to the condition that existed prior to start of work.

THIRTY-NINE: The permittee shall be responsible for all damages due to settlement, consolidation, or heave from any construction-induced activities.

VEGETATION / ENVIRONMENTAL MITIGATION

FORTY: Cleared trees and brush shall be completely burned or removed from the floodway, and downed trees or brush shall not remain in the floodway during the flood season from November 1 to April 15.

FORTY-ONE: In the event that scour of channel bed injurious to the French Camp Slough floodway occurs as a result of the project, the permittee shall repair the eroded area and propose measures, to be approved by the Board, to prevent further erosion.

POST-CONSTRUCTION

FORTY-TWO: The permittee shall be responsible for repair of any damages to the French Camp Slough floodway due to construction, operation, or maintenance of the proposed project.

FORTY-THREE: Within 120 days of completion of the project, the permittee shall submit to the Board as-built drawings and a certification report, stamped and signed by a professional engineer registered in the State of California, certifying the work was performed and inspected in accordance with Board permit conditions and submitted drawings and specifications.

OPERATIONS AND MAINTENANCE

FORTY-FOUR: The permittee shall be responsible for repair of any damages to the levee, channel, banks, floodway, or any other flood control facilities due to construction, operation, or maintenance of the proposed project.

FORTY-FIVE: The permittee shall maintain the permitted encroachment(s) within the utilized area in the manner required and as requested by the authorized representative of the Board, the Department

of Water Resources, or any other agency responsible for maintenance.

FORTY-SIX: If the bridge is damaged to the extent that it may impair the channel or floodway capacity, it shall be repaired or removed prior to the next flood season.

FORTY-SEVEN: Drainage from the bridge or highway shall not be discharged directly into French Camp Slough without proper erosion control measures in-place.

FORTY-EIGHT: If the permitted structure results in any adverse hydraulic impact or scouring the permittee shall provide appropriate mitigation measures subject to review and approval of the Board.

FORTY-NINE: All debris that may accumulate around the bridge piers and abutments within French Camp Slough shall be completely removed from the floodway following each flood season.

FIFTY: The permitted encroachment(s) shall not interfere with the flood conveyance capability of the French Camp Slough floodway. If the permitted encroachment(s) are determined by any agency responsible for operation or maintenance of the French Camp Slough floodway and upstream or downstream facilities of the State Plan of Flood Control to interfere, the permittee shall be required, at the permittee's cost and expense, to modify or remove the permitted encroachment(s) under direction of the Board. If the permittee does not comply, the Board may modify or remove the encroachment(s) at the permittee's expense.

FIFTY-ONE: At the request of either the permittee or the Board the permittee and the Board shall conduct joint inspections of the project and the French Camp Slough floodway after significant flood events or flood seasons to assess the integrity and operation of the project, and to assess and respond to any adverse impacts on the floodway or adjacent properties.

PROJECT ABANDONMENT, CHANGE IN PLAN OF FLOOD CONTROL

FIFTY-TWO: If the project works, or any portion thereof, is to be abandoned in the future, the permittee shall abandon the project under direction of the Board at the permittee's cost and expense.

FIFTY-THREE: The permittee may be required, at the permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted project works if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with implementation of the Central Valley Flood Protection Plan or other future flood control plan or project, or if damaged by any cause. If the permittee does not comply, the Board may perform this work at the permittee's expense.

END OF CONDITIONS

ATTACHMENT B – Exhibit A: USACE Decision Letter

This letter has not yet been received by Board staff; however, it is expected to arrive prior to the Board Meeting on June 26, 2014

State of California | DEPARTMENT OF WATER RESOURCES
CENTRAL VALLEY FLOOD PROTECTION BOARD | California Natural Resources Agency

APPLICATION FOR A CENTRAL VALLEY FLOOD PROTECTION BOARD ENCROACHMENT PERMIT

Application No. 19008
(For Office Use Only)

1. Description of proposed work being specific to include all items that will be covered under the issued permit.

UPRR is proposing to replace and stabilize the bridge located at MP 88.32 on the Fresno Subdivision of UPRR near French Camp in San Joaquin County, California (latitude 37°53'38.14" and longitude -121°16'27.80"). This land has been in private ownership since before California became part of the United States, therefore it is not part of the Township and Range system.

2. Project Location: San Joaquin County, in Section _____
Township: _____ (N) (S), Range: _____ (E) (W), M. D. B. & M.
Latitude: 37°53'38.14" Longitude: -121°16'27.80"
Stream: French Camp Slough , Levee: _____ Designated Floodway: _____
APN: _____

3. Mike Bruckner, PE (Name of Applicant / Land *Owner*) of UPRR (Address)
Omaha (City) Nebraska (State) 68179 (Zip Code) 402-544-7164 (Telephone Number)
mabruckn@up.com (E-mail)

4. Kate Murphy (Name of Applicant's Representative) of CH2M HILL (Company)
Englewood (City) Colorado (State) 80112 (Zip Code) 720-286-0767 (Telephone Number)
kate.murphy@ch2m.com (E-mail)

5. Endorsement of the proposed project from the Local Maintaining Agency (LMA):

We, the Trustees of SAN JOAQUIN COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT (Name of LMA) approve this plan, subject to the following conditions:

☐ Conditions listed on back of this form ☑ Conditions Attached ☑ No Conditions

Trustee 1/27/15 Date | Trustee Date

Trustee Date | Trustee Date

SAN JOAQUIN COUNTY
FLOOD CONTROL & WATER CONSERVATION DISTRICT
P.O. BOX 1810
1810 EAST HAZELTON AVENUE
STOCKTON, CALIFORNIA 95201
TELEPHONE (209) 468-3000
FAX NO. (209) 468-2999

MICHAEL SELLING
ACTING FLOOD CONTROL ENGINEER

January 27, 2015

The Central Valley Flood Protection Board
3310 El Camino Avenue
Sacramento, California 95821

Attention: Floodway Protection Section

SUBJECT: CENTRAL VALLEY FLOOD PROTECTION BOARD PERMIT APPLICATION FOR UNION PACIFIC RAILROAD TO REPLACE AND STABILIZE THE BRIDGE OVER FRENCH CAMP SLOUGH, ASSESSOR'S PARCEL NOS. 193-020-28 AND 193-020-29 PW-1400015

Gentlemen:

Reference is made to the Central Valley Flood Protection Board (Board) Permit Application of the Union Pacific Railroad to replace the mainline track one bridge at Mile Post 88.32, Fresno Subdivision over French Camp Slough with a new four span, 120-foot long Prestressed Concrete Box Girder Bridge.

The Project is located at French Camp Slough approximately 700 feet south of Sperry Road and about 500 feet upstream of El Dorado Street, in San Joaquin County, Section 13 of the C. M. Weber Grant, San Joaquin County Assessor's Parcel Nos. 193-020-28 and 193-020-29.

The San Joaquin County Flood Control and Water Conservation District (District) has reviewed the Board's Permit Application of Union Pacific Railroad (Permittee), and endorses the Project subject to the following conditions:

1. The District shall not be responsible for the maintenance of the facilities specified in this Permit.

2. The District shall not be held liable for damage(s) to the permitted encroachment(s) due to the District's operation, maintenance, flood fight, inspection, or emergency repairs.

3. The Permittee or the Successors-in-Interest shall be responsible for the modification or possible removal of the facilities, as requested by the District, if required for any future flood control plans at the Permittee or the Successors-in-Interest sole cost and expense.

4. The Permittee shall be liable for any damage to French Camp Slough that may occur as a result of this Project.

5. The Project shall be constructed in accordance with the plans dated November 7, 2014, submitted with the application dated November 12, 2014. Any revisions to the Project will require the submittal of the revised plans to the District for review and approval.

6. No work shall be allowed in the French Camp Slough's channel between November 1st and April 15th without prior approval of the Central Valley Flood Protection Board and the District.

7. The Permittee or Successors-in-Interest shall keep the encroachments properly maintained in accordance with applicable current or future local, State, and Federal standards.

8. The piles shall be constructed parallel to the direction of flow.

9. The new bridge soffit members shall not be lower than those of the existing bridge.

Should there be any questions regarding these comments, please contact me at (209) 953-7617.

Sincerely,

JOHN I. MAGUIRE, P.E.
Engineering Services Manager

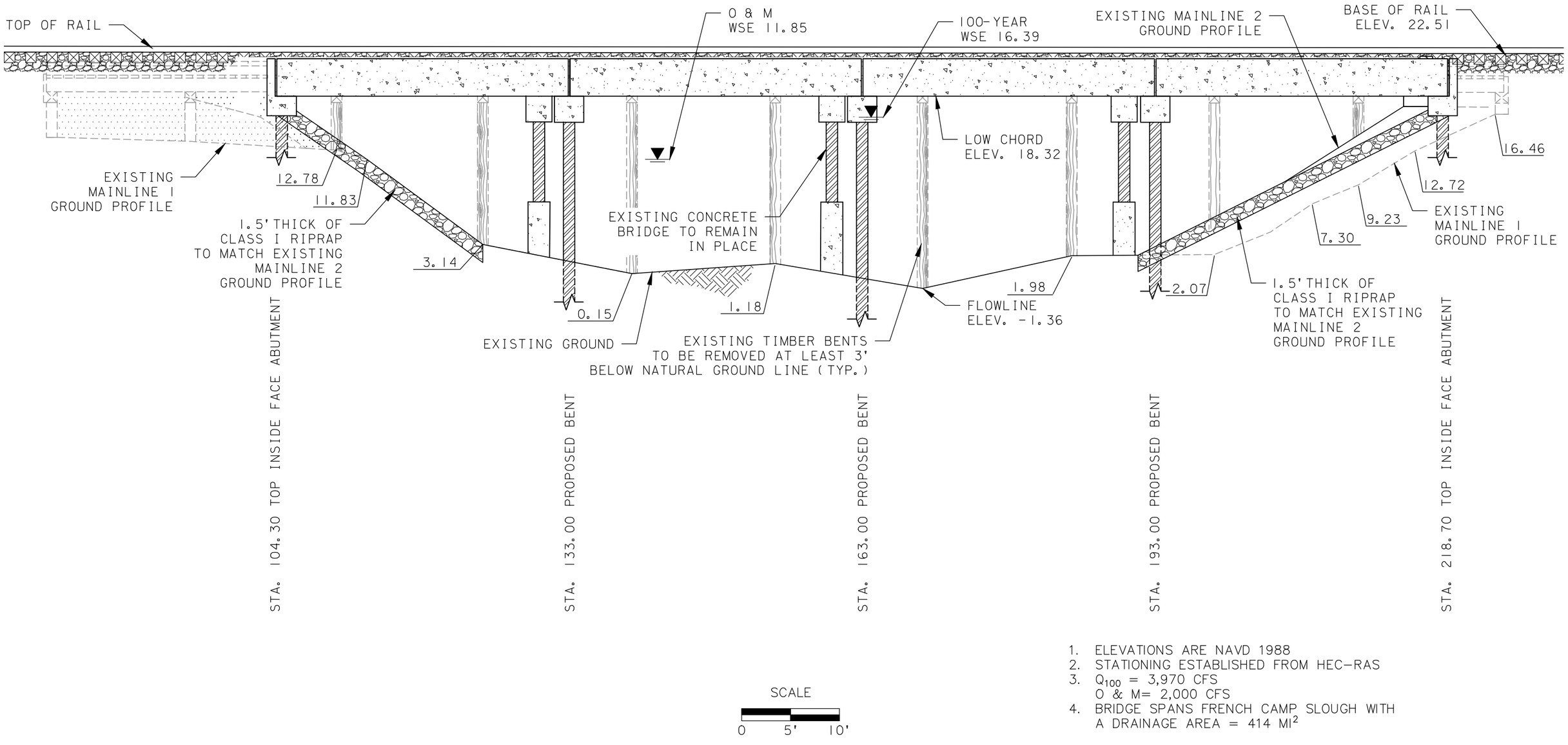
JIM:SS:mk
FM-15A037-M1

TO NORTH LATHROP & NORTH BAKERSFIELD (TIMETABLE SOUTH)

TO FRENCH CAMP & ELVAS (TIMETABLE NORTH)

BRIDGE 88.32 - FRESNO SUBDIVISION

PROPOSED: MAINLINE 1 4-SPAN, 120' LONG, PRESTRESSED CONCRETE BOX GIRDER
MAINLINE 2 4-SPAN, 120' LONG CONCRETE BRIDGE WILL REMAIN IN PLACE



SCALE
0 5' 10'

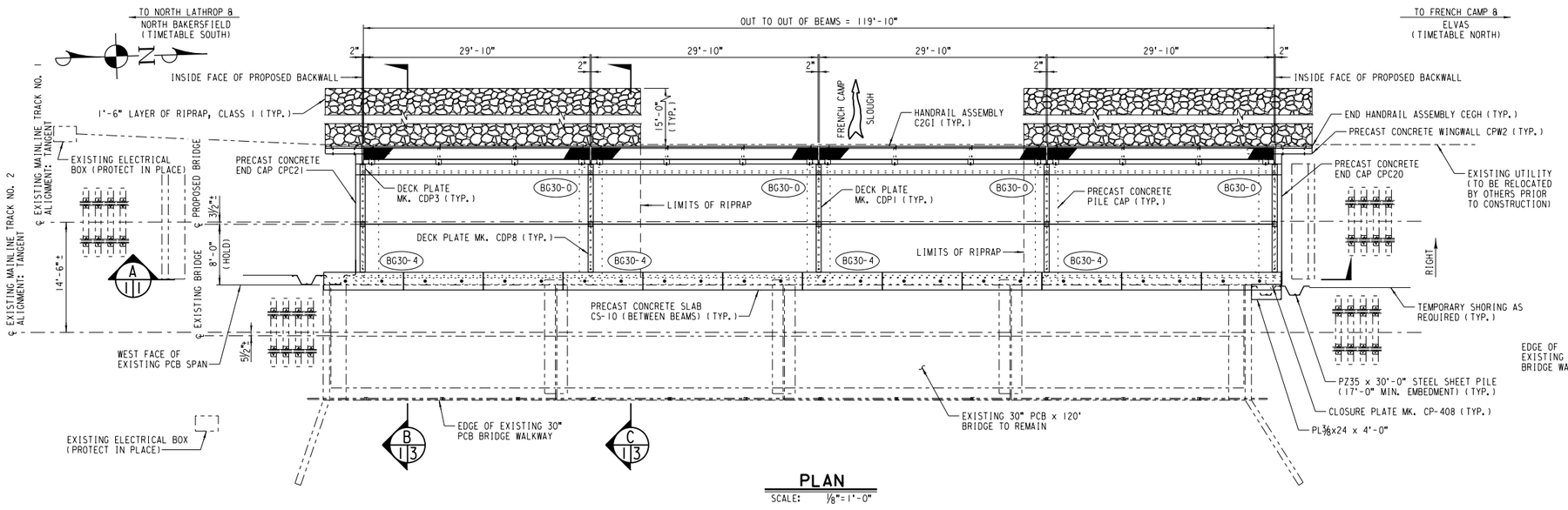
1. ELEVATIONS ARE NAVD 1988
2. STATIONING ESTABLISHED FROM HEC-RAS
3. Q_{100} = 3,970 CFS
   O & M= 2,000 CFS
4. BRIDGE SPANS FRENCH CAMP SLOUGH WITH A DRAINAGE AREA = 414 MI^2

PROJECT:	012-1898
DRAWN BY:	GVP/ZDS
DATE:	2/26/15

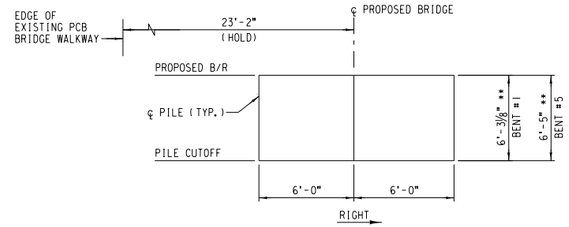
PROPOSED MAINLINE 1 BRIDGE - UPSTREAM FACE PROFILE

OLSSON ASSOCIATES
601 P Street, Suite 200
P.O. Box 84608
Lincoln, NE 68508
TEL 402.474.6311
FAX 402.474.5160
www.olssonassociates.com

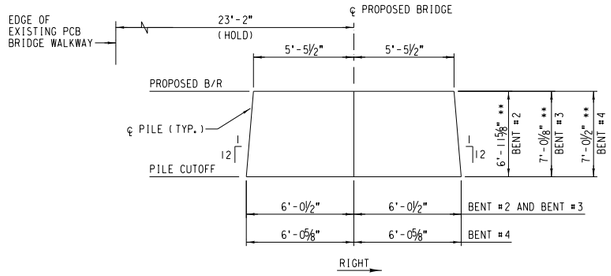
FIGURE
F-4A



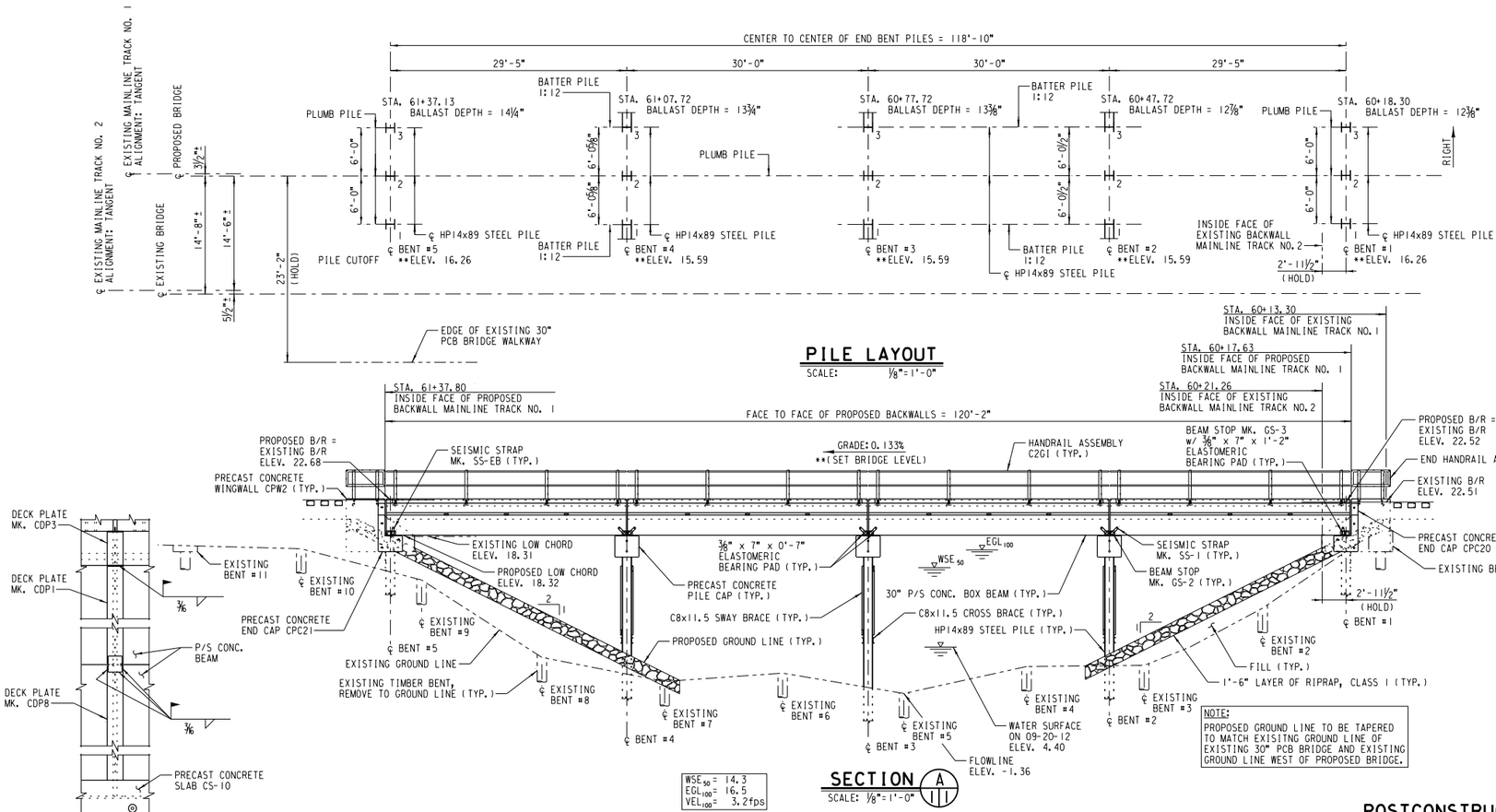
PLAN
SCALE: 1/8"=1'-0"



PILE DRIVING DIAGRAM
SCALE: NONE
BENTS #1 AND #5



PILE DRIVING DIAGRAM
SCALE: NONE
BENTS #2 THRU #4



PILE LAYOUT
SCALE: 1/8"=1'-0"

NOTE:
PROPOSED GROUND LINE TO BE TAPERED TO MATCH EXISTING GROUND LINE OF EXISTING 30" PCB BRIDGE AND EXISTING GROUND LINE WEST OF PROPOSED BRIDGE.

WSE50 = 14.3
EGL100 = 16.5
VEL100 = 3.2fps

SECTION (A)
SCALE: 1/8"=1'-0"

DECK PLATE WELDING DETAIL
SCALE: 3/8"=1'-0"

EST. WT. OF PRECAST CONCRETE

BOX BEAM BG30-0 = 52,300 LB. (26.2 TON)
BOX BEAM BG30-4 = 45,200 LB. (22.6 TON)
END CAP CPC20 = 21,620 LB. (10.8 TON)
END CAP CPC21 = 21,620 LB. (10.8 TON)
PILE CAP 3'-0" x 2'-8" x 15'-0" = 19,700 LB. (9.9 TON)
WINGWALL CPW2 = 4,900 LB. (2.5 TON)
SLAB CS-10 = 3,910 LB. (2.0 TON)

NOTES:
1. THE PROPOSED BRIDGE DECK ELEVATION SHALL EQUAL THE EXISTING BRIDGE DECK ELEVATION.
2. THE CONTRACTOR SHALL VERIFY ELEVATION OF EXISTING PCB BRIDGE GIRDERS PRIOR TO DRIVING PILES. THE CONTRACTOR SHALL ADJUST PILE CUTOFFS AS NECESSARY TO ENSURE A CONTINUOUS DECK BETWEEN EXISTING AND PROPOSED PCB BRIDGES.
3. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL THE SURVEY MEASUREMENTS AND PROPOSED PILE CUTOFF ELEVATIONS. THE ENGINEER SHALL APPROVE THE PILE CUT-OFF ELEVATIONS PRIOR TO THE START OF PILE DRIVING.

POSTCONSTRUCTION COMPLIANCE

Contractor or UPRR Manager in charge of construction to provide to the office of the Director Structures Design as-built drawings confirming that the project was constructed in compliance with the plans and indicating any construction variances.

IN CHARGE OF CONSTRUCTION _____ DATE _____

M K Brudnar 6/20/14

APPROVED FOR
UNION PACIFIC RAILROAD CO.
BY
HDR ENGINEERING, INC
(OMAHA, NE)

BY: (ORIGINAL SIGNED BY)
NATHAN P. DICKERSON
DATE: 05-09-14

DRAWING SCHEDULE

THIS SET

SHEET NO.	DESCRIPTION
1	GENERAL ARRANGEMENT
2	GENERAL NOTES AND BILL OF MATERIAL
3	TYPICAL SECTIONS
4	CONSTRUCTION DETAILS
5	PRECAST CONCRETE END CAP CPC20 DETAILS
6	PRECAST CONCRETE END CAP CPC21 DETAILS
7	PRECAST CONCRETE SLAB CS-10 AND MISCELLANEOUS STEEL DETAILS

REF.

NO.	DWG. NO.	SHEET NO.	REV. NO.	DESCRIPTION
1	530000	A1-A5	A	BOX AND SLAB BEAM SPAN, CONSTRUCTION PLANS
2	530000	B1-B4	A	30" BOX BEAM SPAN, CONSTRUCTION DETAILS
3	500000	BG1-BG3	F	30" x 7'-0" DOUBLE BOX BEAM, FABRICATION PLANS
4	501000	A1	-	PRECAST END CAP FOR 30" BOX BEAMS
5	501000	C1-C2	-	PRECAST CONCRETE PILE CAP DETAILS
6	531010	1	A	BEARING PAD PLACEMENT ON CAPS
7	502000	1-4	A	CONCRETE BOX AND SLAB BEAM HARDWARE
8	531800	8	-	CAPMASTER PRECAST CONCRETE 15' PILE CAP WITH COIL INSERT DETAILS

SECTION DESIGNATION

LETTER SERIES
SHEET NO. CUT ON
SHEET NO. SHOWN ON

NO.	DATE	REVISIONS
	/ /	
	/ /	
	/ /	
	/ /	

SP ROUTE SYMBOL D

HDR Engineering, Inc.

UNION PACIFIC RAILROAD
Office of AVP Engineering Design/Construction

LOCATION: BRIDGE 88.32 FRESNO SUB.
FRENCH CAMP, CA

FACILITY: 4 SPAN 30" PCB x 120' (TRACK NO. 1)
REPLACING 10 SPAN TST-BD x 151' NEXT TO
EXISTING 4 SPAN 30" PCB x 120' (TRACK NO. 2)

DWG. TITLE: GENERAL ARRANGEMENT

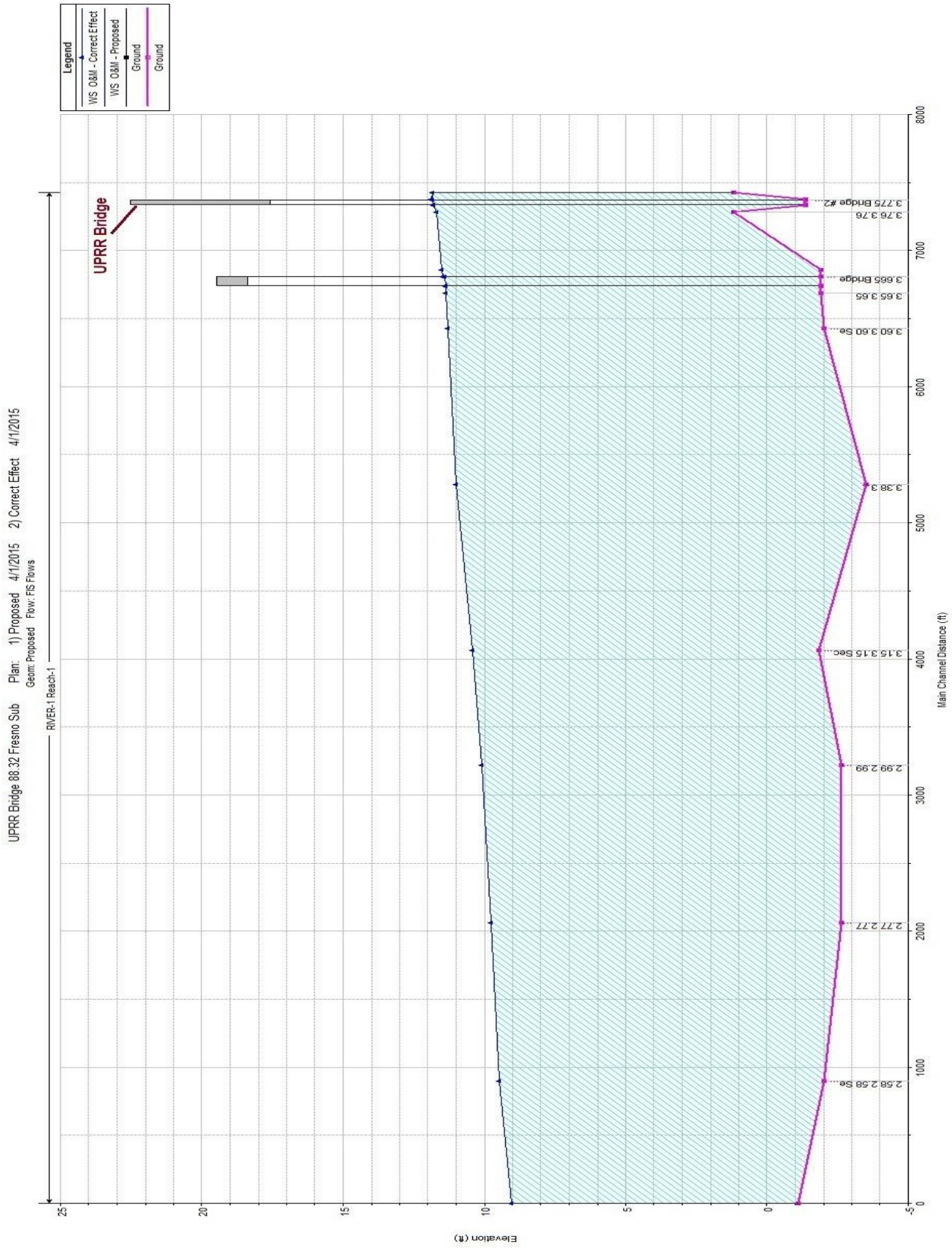
PROJECT ID:	65136	ENGINEER:	LATITUDE:
WORK ORDER:	16873	UP-SLC HDR-NPD	37°53'37" N
DESIGN BY:	MCH		LONGITUDE:
CHECKED BY:	SNP		121°16'28" W
DRAWN BY:	RGD	SHEET NO.	C E NUMBER
CHECKED BY:	MCH	1 of 7	119426
SCALE: AS NOTED			

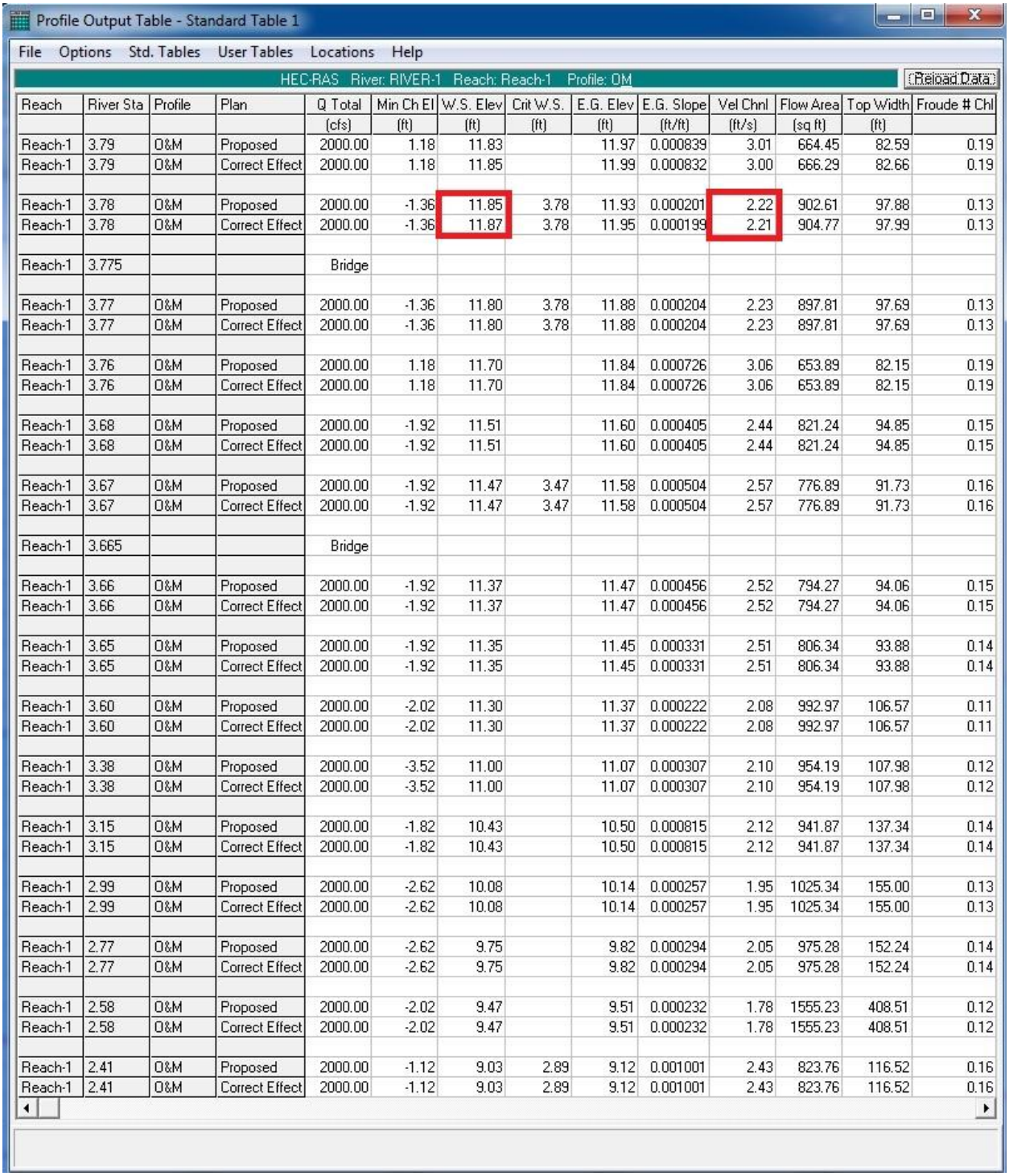
FILE NAME: P:\edgmkr\d0832_bccd.dgn

INCHES 1 2 3 4 5 6 7 8 9 10 11 12

REDUCED PRINT - DO NOT SCALE - REDUCED PRINT

PLOTTED: 6/20/2014 10:08:38 AM


Legend
WS O&M - Correct Effect
WS O&M - Proposed
Ground
Ground
UPRR Bridge
UPRR Bridge 88.32 Fresno Sub
Plan: 1) Proposed 4/1/2015 2) Correct Effect 4/1/2015
Geom: Proposed Flow: FIS Flows
RIVER-1 Reach-1
3.775 Bridge #2
3.76 3.76
3.665 Bridge
3.65 3.65
3.60 3.60 Se
3.38 3
3.15 3.15 Sec
2.99 2.99
2.77 2.77
2.58 2.58 Se
Elevation (ft)
Main Channel Distance (ft)
25
20
15
10
5
0
-5
8000
7000
6000
5000
4000
3000
2000
1000
0



Profile Output Table - Standard Table 1

File Options Std. Tables User Tables Locations Help

HEC-RAS River: RIVER-1 Reach: Reach-1 Profile: OM Reload Data

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach-1	3.79	O&M	Proposed	2000.00	1.18	11.83		11.97	0.000839	3.01	664.45	82.59	0.19
Reach-1	3.79	O&M	Correct Effect	2000.00	1.18	11.85		11.99	0.000832	3.00	666.29	82.66	0.19
Reach-1	3.78	O&M	Proposed	2000.00	-1.36	11.85	3.78	11.93	0.000201	2.22	902.61	97.88	0.13
Reach-1	3.78	O&M	Correct Effect	2000.00	-1.36	11.87	3.78	11.95	0.000199	2.21	904.77	97.99	0.13
Reach-1	3.775			Bridge									
Reach-1	3.77	O&M	Proposed	2000.00	-1.36	11.80	3.78	11.88	0.000204	2.23	897.81	97.69	0.13
Reach-1	3.77	O&M	Correct Effect	2000.00	-1.36	11.80	3.78	11.88	0.000204	2.23	897.81	97.69	0.13
Reach-1	3.76	O&M	Proposed	2000.00	1.18	11.70		11.84	0.000726	3.06	653.89	82.15	0.19
Reach-1	3.76	O&M	Correct Effect	2000.00	1.18	11.70		11.84	0.000726	3.06	653.89	82.15	0.19
Reach-1	3.68	O&M	Proposed	2000.00	-1.92	11.51		11.60	0.000405	2.44	821.24	94.85	0.15
Reach-1	3.68	O&M	Correct Effect	2000.00	-1.92	11.51		11.60	0.000405	2.44	821.24	94.85	0.15
Reach-1	3.67	O&M	Proposed	2000.00	-1.92	11.47	3.47	11.58	0.000504	2.57	776.89	91.73	0.16
Reach-1	3.67	O&M	Correct Effect	2000.00	-1.92	11.47	3.47	11.58	0.000504	2.57	776.89	91.73	0.16
Reach-1	3.665			Bridge									
Reach-1	3.66	O&M	Proposed	2000.00	-1.92	11.37		11.47	0.000456	2.52	794.27	94.06	0.15
Reach-1	3.66	O&M	Correct Effect	2000.00	-1.92	11.37		11.47	0.000456	2.52	794.27	94.06	0.15
Reach-1	3.65	O&M	Proposed	2000.00	-1.92	11.35		11.45	0.000331	2.51	806.34	93.88	0.14
Reach-1	3.65	O&M	Correct Effect	2000.00	-1.92	11.35		11.45	0.000331	2.51	806.34	93.88	0.14
Reach-1	3.60	O&M	Proposed	2000.00	-2.02	11.30		11.37	0.000222	2.08	992.97	106.57	0.11
Reach-1	3.60	O&M	Correct Effect	2000.00	-2.02	11.30		11.37	0.000222	2.08	992.97	106.57	0.11
Reach-1	3.38	O&M	Proposed	2000.00	-3.52	11.00		11.07	0.000307	2.10	954.19	107.98	0.12
Reach-1	3.38	O&M	Correct Effect	2000.00	-3.52	11.00		11.07	0.000307	2.10	954.19	107.98	0.12
Reach-1	3.15	O&M	Proposed	2000.00	-1.82	10.43		10.50	0.000815	2.12	941.87	137.34	0.14
Reach-1	3.15	O&M	Correct Effect	2000.00	-1.82	10.43		10.50	0.000815	2.12	941.87	137.34	0.14
Reach-1	2.99	O&M	Proposed	2000.00	-2.62	10.08		10.14	0.000257	1.95	1025.34	155.00	0.13
Reach-1	2.99	O&M	Correct Effect	2000.00	-2.62	10.08		10.14	0.000257	1.95	1025.34	155.00	0.13
Reach-1	2.77	O&M	Proposed	2000.00	-2.62	9.75		9.82	0.000294	2.05	975.28	152.24	0.14
Reach-1	2.77	O&M	Correct Effect	2000.00	-2.62	9.75		9.82	0.000294	2.05	975.28	152.24	0.14
Reach-1	2.58	O&M	Proposed	2000.00	-2.02	9.47		9.51	0.000232	1.78	1555.23	408.51	0.12
Reach-1	2.58	O&M	Correct Effect	2000.00	-2.02	9.47		9.51	0.000232	1.78	1555.23	408.51	0.12
Reach-1	2.41	O&M	Proposed	2000.00	-1.12	9.03	2.89	9.12	0.001001	2.43	823.76	116.52	0.16
Reach-1	2.41	O&M	Correct Effect	2000.00	-1.12	9.03	2.89	9.12	0.001001	2.43	823.76	116.52	0.16