

**Meeting of the Central Valley Flood Protection Board
January 25, 2013
Staff Report – Encroachment Permit
San Joaquin County
Jack Tone Road Bridge Pile Repair & Scour Mitigation Project**

1.0 – ITEM

Consider approval of Permit No. 18801 (Attachment B)

2.0 – APPLICANT

San Joaquin County

3.0 – LOCATION

The project is located at the Jack Tone Road crossing of Mormon Slough in San Joaquin County.
(Mormon Slough, San Joaquin County, See Attachment A)

4.0 – DESCRIPTION

To place riprap on the left bank and channel bed of Mormon Slough under Jack Tone Road Bridge (Br. No. 29C-163, E.P. 3173) and enlarge an existing 16 inch reinforced concrete pile to 24 inches.

5.0 – PROJECT ANALYSIS

The Jack Tone Road Bridge over Mormon Slough has experienced a significant amount of scour over the years. The center piles of the bridge have experienced over 2 feet of scour and any further scour could potentially undermine the integrity of the bridge's foundation.

To prevent further erosion and additional damage to the piles, San Joaquin County is proposing to add Rock Slope Protection (RSP) to the center of the channel and gabion

mats to the left bank. This proposed project will remove approximately 670 cubic yards of material from the floodway and replace it with approximately 715 cubic yards of RSP to create a uniform channel section through the bridge area. The proposed protection will be embedded into the bank slope in such a way so as not to adversely affect the water surface elevation upstream of the existing bridge. Additionally, the existing 16-inch reinforced concrete bridge pile will be repaired by enlarging the diameter to 24 inches. This pile will be repaired using a cast in place concrete casing.

The proposed project is located on Mormon Slough and conforms to all standards in California Code of Regulations Title 23.

5.1 – Authority of the Board

- California Code of Regulations, Title 23 - Waters, Division 1, Article 3, §6 - Need for a Permit; Article 8, §112 – Streams Regulated and Nonpermissible Work Periods, §121 - Erosion Control, §128 - Bridges

5.2 –Hydraulic Analysis

A hydraulic analysis was conducted by Domenichelli and Associates Inc. (D&A) to determine the potential hydraulic impact of the proposed project. A one-dimensional HEC-RAS hydraulic model was used to simulate the existing and project condition. A recent survey provided the existing channel topography approximately 400 feet downstream and 100 feet downstream of the bridge. The model was evaluated for the calculated 100-year flow that was determined to be 14,035 cubic feet per second (cfs). The calculated 100-year flow is more than the project design flow of 12,500 cfs.

The model resulted in water surface elevations that showed either no change or a slight decrease at all cross sections. The channel velocities increased in and around the bridge but returned to pre-project conditions just downstream of the project. This was achieved by altering the channel below Jack Tone Road Bridge to conform to the upstream and downstream cross sections thus producing a more uniform flow through the bridge.

5.3 – Additional Information

A Scour Analysis was conducted by D&A to determine the scour potential at the bridge under existing conditions and to recommend scour countermeasures. This analysis utilized the hydraulic results from the Hec-Ras Model to obtain values for channel flow, velocity and depth. With no downstream restrictions in conveyance, the maximum calculated flow of 14,035 cfs results in the highest scour potential.

The scour potential at the bridged consists of degradation, contraction scour and local pier scour. The total scour expected at the pier is 6.51 feet with no RSP in place. From the various hydraulic variables obtained from the hydraulic modeling, the appropriate RSP sizing was calculated. The necessary RSP to protect the channel bottom was determined to have a median stone size of 1.77 ft and be placed at a minimum thickness of 3.75 feet. The project design incorporates the calculated values for the rock revetment size and thickness.

6.0 – AGENCY COMMENTS AND ENDORSEMENTS

The comments and endorsements associated with this project from all pertinent agencies are shown below:

- The U.S. Army Corps of Engineers 208.10 comment letter has not been received for this application. Staff anticipates receipt of a letter indicating that the District Engineer has no objection to the project, subject to conditions. Upon receipt of the letter, staff will review to ensure conformity with the permit language and incorporate it into the permit as Exhibit A.
- The San Joaquin County Flood Control and Water Conservation District endorsed the project on August 23, 2012, with conditions. The conditions will be incorporated into the permit as Exhibit B.

7.0 – CEQA ANALYSIS

The Board, as a responsible agency under CEQA, has reviewed Initial Study/Mitigated Negative Declaration (IS/MND) (SCH Number: 2012052057, May 2012) and Mitigation Measures for the Jack Tone Road Bridge and Scour Mitigation Project prepared by the lead agency, San Joaquin County. These documents, including project design, may be viewed or downloaded from the Central Valley Flood Protection Board website at <http://www.cvpfb.ca.gov/meetings/2013/1-25-2013.cfm> under a link for this agenda item. These documents are also available for review in hard copy at the Board and County offices.

San Joaquin County determined that the project would not have a significant effect on the environment at on August 7, 2012 and adopted Resolution B-12-568. A Notice of Determination was filed with the State Clearinghouse on August 9, 2012. Board staff

finds that although the proposed project could have a potentially significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. The project proponent has incorporated mandatory mitigation measures into the project plans to avoid identified impacts or to mitigate such impacts to a point where no significant impacts will occur. These mitigation measures are included in the project proponent's IS/MND and address impacts to biological resources, hydrology and water quality. The description of the mitigation measures are further described in the adopted IS/MND.

8.0 – SECTION 8610.5 CONSIDERATIONS

1. 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 will make its decision based on the evidence in the permit application and attachments, this staff report, and any other evidence presented by any individual or group.

2. 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.

The accepted industry standards for the work proposed under this permit as regulated by Title 23 have been applied to the review of this permit.

3. 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 2012-52 on June 29, 2012:

The proposed project will have an insignificant effect on the State Plan of Flood Control and the project is consistent with the Central Valley Flood Protection Plan

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

There will be no effects to the proposed project from reasonable projected future events.

9.0 – STAFF RECOMMENDATION

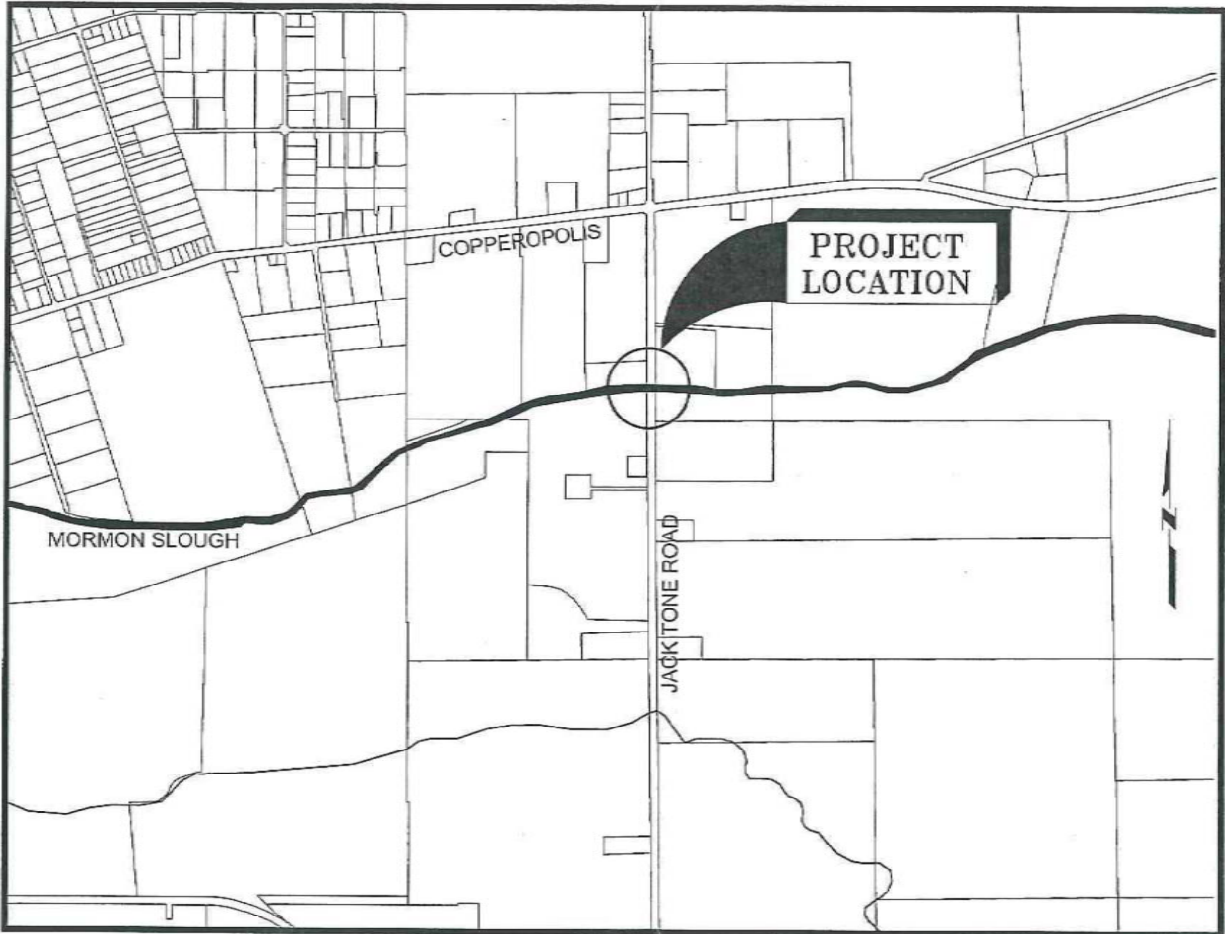
Staff recommends that the Board adopt the CEQA findings and approve the permit, conditioned upon receipt of a U.S. Army Corps of Engineers comment letter indicating that the District Engineer has no objection to the project, subject to conditions, and direct staff to file a Notice of Determination with the State Clearinghouse.

10.0 – LIST OF ATTACHMENTS

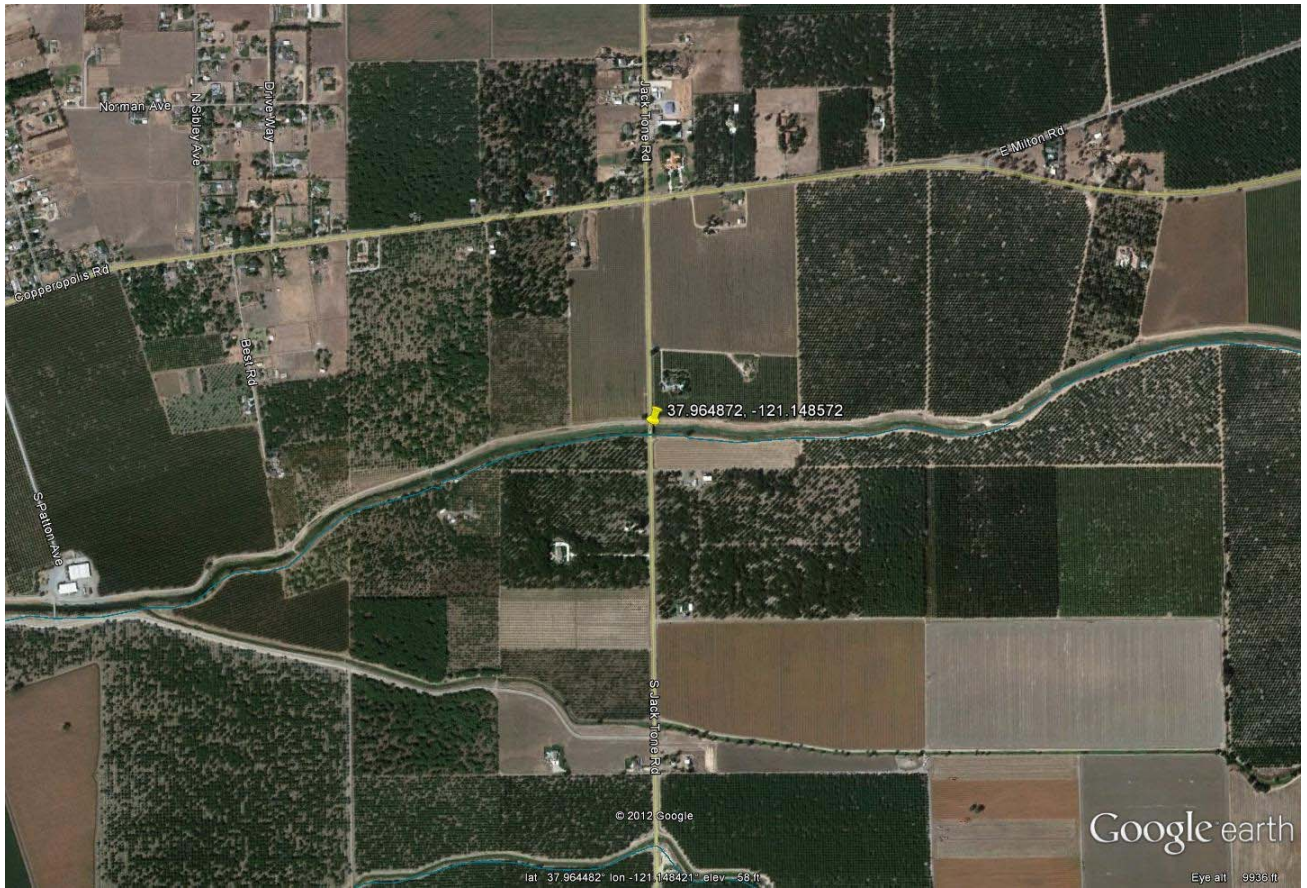
- A. Location Maps and Photos
- B. Draft Permit No. 18801
- C. Design Drawings

Design Review:	Ashley Cousin
Environmental Review:	James Herota / Andrea Mauro
Document Review:	Gary Lemon P.E., Mitra Emami P.E., Len Marino P.E.

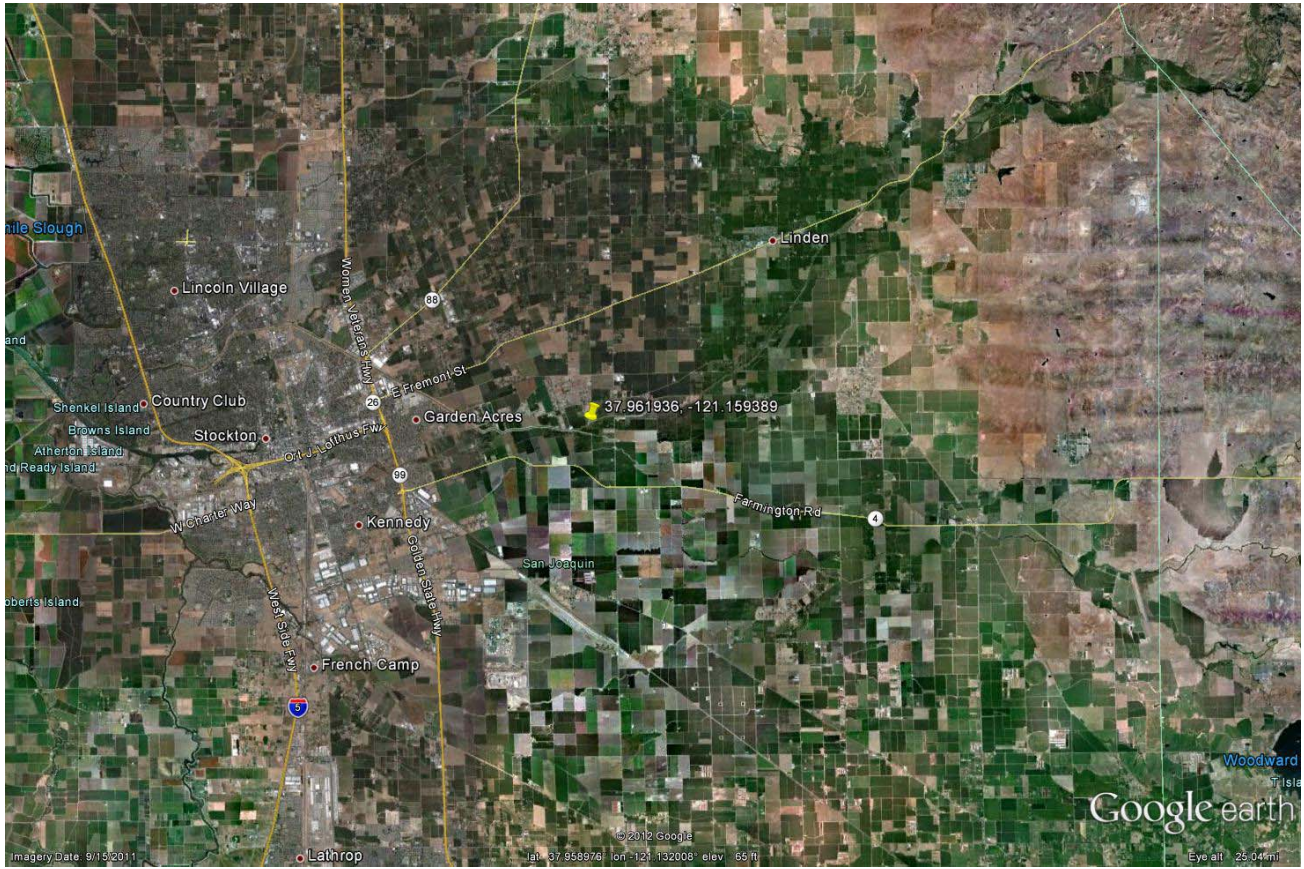
Project Location Map



Project Vicinity



Project Location



**JACK TONE ROAD BRIDGE NO. 29C-163
ACROSS MORMON SLOUGH**



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ACROSS MORMON SLOUGH**



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**JACK TONE ROAD BRIDGE NO. 29C-163
ACROSS MORMON SLOUGH**



STATE OF CALIFORNIA
THE RESOURCES AGENCY
THE CENTRAL VALLEY FLOOD PROTECTION BOARD

PERMIT NO. 18801 BD

This Permit is issued to:

San Joaquin County
1810 E. Hazelton Avenue
Stockton, California 95205

To place riprap on the left bank and channel bed of Mormon Slough under Jack Tone Road Bridge (Br. No. 29C-163, E.P. 3173) and enlarge an existing 16 inch reinforced concrete pile to 24 inches. The project is located at the Jack Tone Road crossing of the Mormon Slough in San Joaquin County (Section 1, 6, T1N, R7E 8E, MDB&M, San Joaquin County Flood Control and Water Conservation District, Mormon 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.

Attachment B

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. 18801 BD

THIRTEEN: 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 further work, other than that approved by this permit, shall be done in the area without prior approval of the Central Valley Flood Protection Board.

FOURTEEN: The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend, indemnify, and hold the Central Valley Flood Protection 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.

FIFTEEN: The permittee shall defend, indemnify, and hold the Central Valley Flood Protection 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 Central Valley Flood Protection 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.

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

SEVENTEEN: No construction work of any kind shall be done during the flood season from

November 1 to April 15 without prior approval of the Central Valley Flood Protection Board.

EIGHTEEN: Upon receipt of a signed copy of the issued (not approved only) permit the permittee shall contact the Department of Water Resources by telephone, (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. Failure to do so at least 10 working days prior to start of work may result in delay of the project.

NINETEEN: The permittee shall maintain the permitted encroachment(s) and the project works within the utilized area in the manner required and as requested by the authorized representative of the Department of Water Resources or any other agency responsible for maintenance.

TWENTY: The permitted encroachment(s) shall not interfere with operation and maintenance of the flood control project. If the permitted encroachment(s) are determined by any agency responsible for operation or maintenance of the flood control project to interfere, the permittee shall be required, at permittee's cost and expense, to modify or remove the permitted encroachment(s) under direction of the Central Valley Flood Protection Board or Department of Water Resources. If the permittee does not comply, the Central Valley Flood Protection Board may modify or remove the encroachment(s) at the permittee's expense.

TWENTY-ONE: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted encroachment(s) if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control plan or project or if damaged by any cause. If the permittee does not comply, the Central Valley Flood Protection Board may remove the encroachment(s) at the permittee's expense.

TWENTY-TWO: If the project, or any portion thereof, is to be abandoned in the future, the permittee or successor shall abandon the project under direction of the Central Valley Flood Protection Board and Department of Water Resources, at the permittee's or successor's cost and expense.

TWENTY-THREE: The permittee shall comply with all conditions set forth in the letter from San Joaquin County Flood Control and Water Conservation District dated August 23, 2012, which is attached to this permit as Exhibit B and is incorporated by reference.

TWENTY-FOUR: The permittee shall comply with all conditions set forth in the letter from the Department of the Army (U.S. Army Corps of Engineers, Sacramento District) dated January XX, 2013, which is attached to this permit as Exhibit A and is incorporated by reference.

TWENTY-FIVE: Upon completion of the project, the permittee shall submit As-Built Drawings to: Department of Water Resources, Flood Project Inspection Section, 3310 El Camino Avenue, Suite 256, Sacramento, California 95821.

TWENTY-SIX: All 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.

TWENTY-SEVEN: Revetment shall be uniformly placed and properly transitioned into the bank, levee slope, or adjacent revetment and in a manner which avoids segregation.

Attachment B

TWENTY-EIGHT: 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.

TWENTY-NINE: If the permitted encroachment results in an adverse hydraulic impact, the permittee shall provide appropriate mitigation measures, to be approved by the Central Valley Flood Protection Board, prior to implementation of mitigation measures.

THIRTY: If erosion occurs adjacent to the permitted encroachments, the permittee shall repair the eroded areas and place adequate revetment on the affected areas to prevent further erosion.

THIRTY-ONE: The work area shall be restored to the condition that existed prior to start of work.



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

Exhibit B

THOMAS M. GAU
DIRECTOR OF PUBLIC WORKS
FLOOD CONTROL ENGINEER

August 23, 2012

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
SAN JOAQUIN COUNTY TO PROVIDE SCOUR MITIGATION AND PILE REPAIR
FOR JACK TONE ROAD BRIDGE OVER MORMON SLOUGH**

Gentlemen:

Reference is made to the Central Valley Flood Protection Board (Board) Permit Application of San Joaquin County to modify the Mormon Slough channel under Jack Tone Road Bridge (No. 29C-163) by placing rock slope protection in the channel bed and on the left bank; also, repair a 16-inch reinforced concrete pile by enlarging its diameter to 24 inches. The project is located at the Jack Tone Road Bridge across Mormon Slough, in San Joaquin County, Sections 1 and 6, Township 1 North, Ranges 7 and 8 East, Mount Diablo Base and Meridian.

The San Joaquin County Flood Control and Water Conservation District (District) has reviewed the Board's Permit Application of San Joaquin County (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's sole cost and expense.
4. The Permittee shall be liable for any damage to Mormon Slough that may occur as a result of this project.
5. The project shall be constructed in accordance with the plans submitted with the application dated August 9, 2012. Any revisions to the project will require submittal of the revised plans to the District for review and approval.

Central Valley Flood Protection Board
JACK TONE ROAD BRIDGE
OVER MORMON SLOUGH

-2-

6. No work shall be allowed in the Mormon Slough's channel between November 1st and April 15th without prior approval of the Central Valley Flood Protection Board and the San Joaquin County Flood Control and Water Conservation 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. Rock Slope Protection shall be placed in a manner such that no reduction in channel cross-section or increase in base flood elevation will result.
9. Excess excavated material shall be transported from the project site and disposed of at an approved location.
10. Access roads shall be kept open for maintenance at all times.
11. Stockpiled materials, coffer dams, and construction equipment shall be removed from the floodway prior to November 1st.
12. The Permittee shall restore the Mormon Slough's invert and levees/banks to the condition that existed prior to commencement of work.

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

Sincerely,



JOHN I. MAGUIRE
Engineering Services Manager

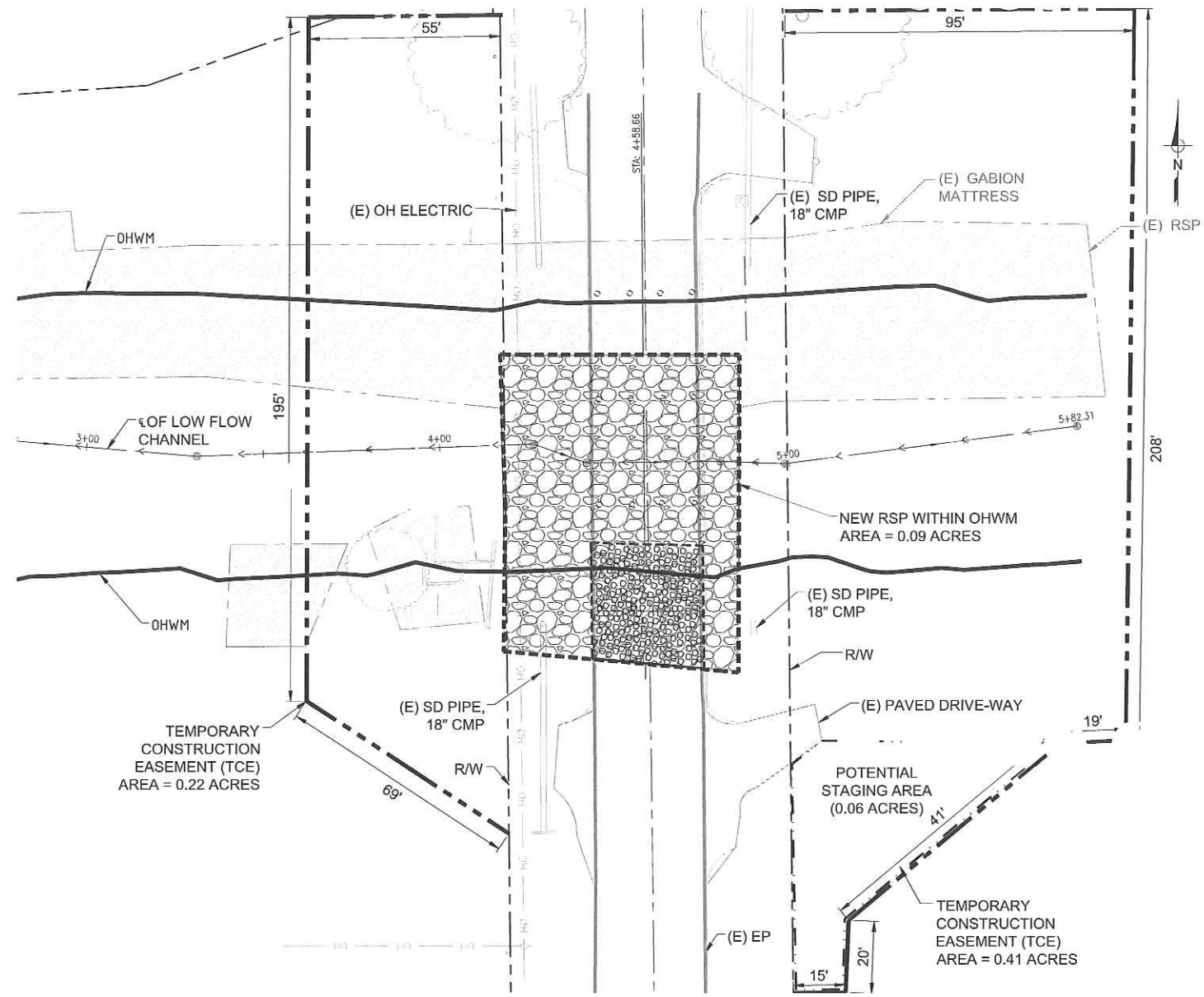
JIM:SS:to
FM-12H040-T1

PROJECT NOTES:

1. PROJECT DESIGN SURVEY WAS COMPLETED IN NAD 83 AND NAVD 88.
2. THE CONTRACTOR IS RESPONSIBLE TO PROTECT ROAD SURFACES TO THE FULLEST EXTENT POSSIBLE. IF IT IS DETERMINED BY THE COUNTY THAT THE CONTRACTOR IS USING EXCESSIVE EQUIPMENT OR NOT TAKING REASONABLE MEASURES TO PROTECT THE ROADWAY SURFACE, THE CONTRACTOR WILL BE RESPONSIBLE FOR REPAVING OF THE ROADWAY AND ALL COSTS ASSOCIATED WITH REPAVING OF THE ROADWAY. THE CONTRACTOR IS RESPONSIBLE FOR DEMONSTRATING COMPETENCY IN PROTECTING THE ROADWAY.
3. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING HEALTH AND SAFETY OF ALL PERSONS (INCLUDING EMPLOYEES, SUBCONTRACTORS, SERVICE PERSONNEL AND SITE VISITORS) AND PROPERTY DURING PERFORMANCE OF THE WORK.

LEGEND:

- CENTERLINE
- < FLOWLINE
- EP EDGE OF PAVEMENT (EP)
- OH OVERHEAD (OH)
- OHWM ORDINARY HIGH WATER MARK
- TCE TEMPORARY CONSTRUCTION EASEMENT (TCE)
- PSA POTENTIAL STAGING AREA BOUNDARY
- EXISTING RSP
- PROPOSED RSP
- EXISTING GABION MATTRESS
- PROPOSED GABION MATTRESS
- EXISTING CONCRETE
- X
Y
Z X = CROSS SECTION IDENTIFICATION
Y = SHEET ON WHICH CROSS SECTION IS TAKEN
Z = SHEET ON WHICH CROSS SECTION IS SHOWN



MORMON SLOUGH EXHIBIT

SCALE: 1"=20'

DRAWN BY	DATE	PROJECT ENGINEER	DATE	CHECKED	DATE
DRAWER	SHEET NO.	SHEET NAME		SCALE	
		JACK TONE EXHIBIT		1"=20'	

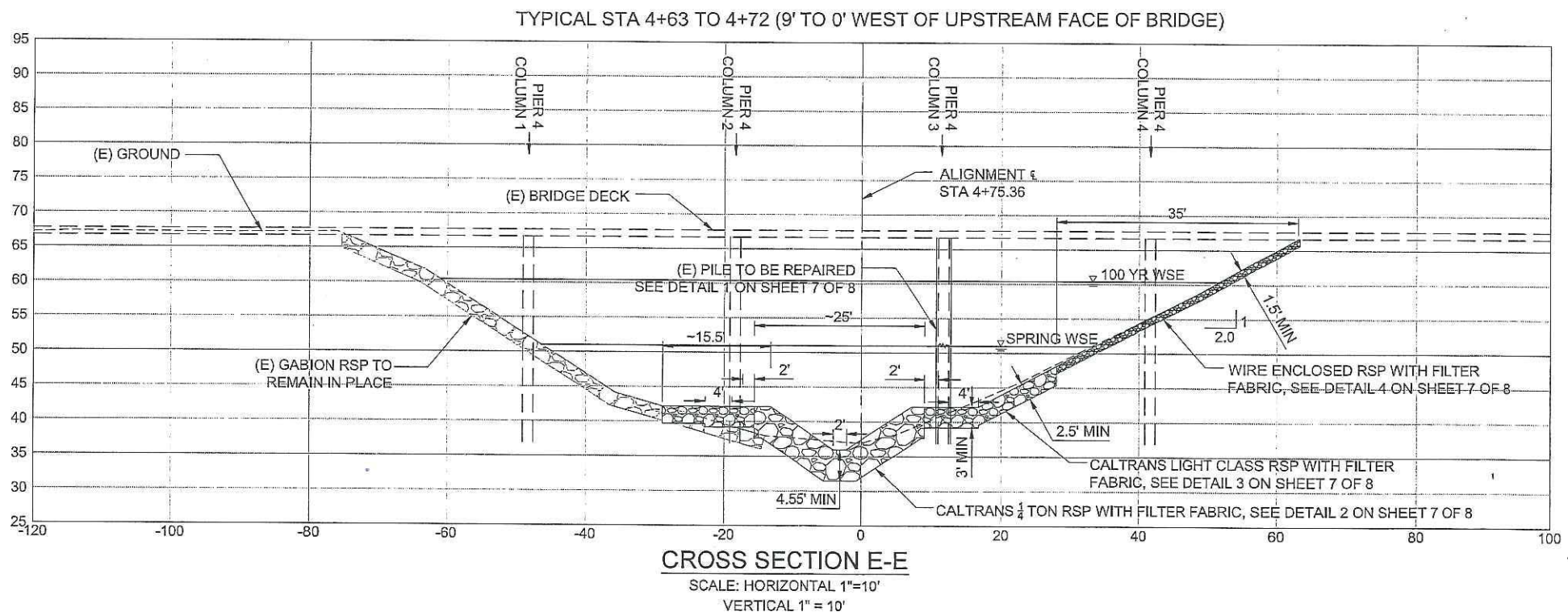
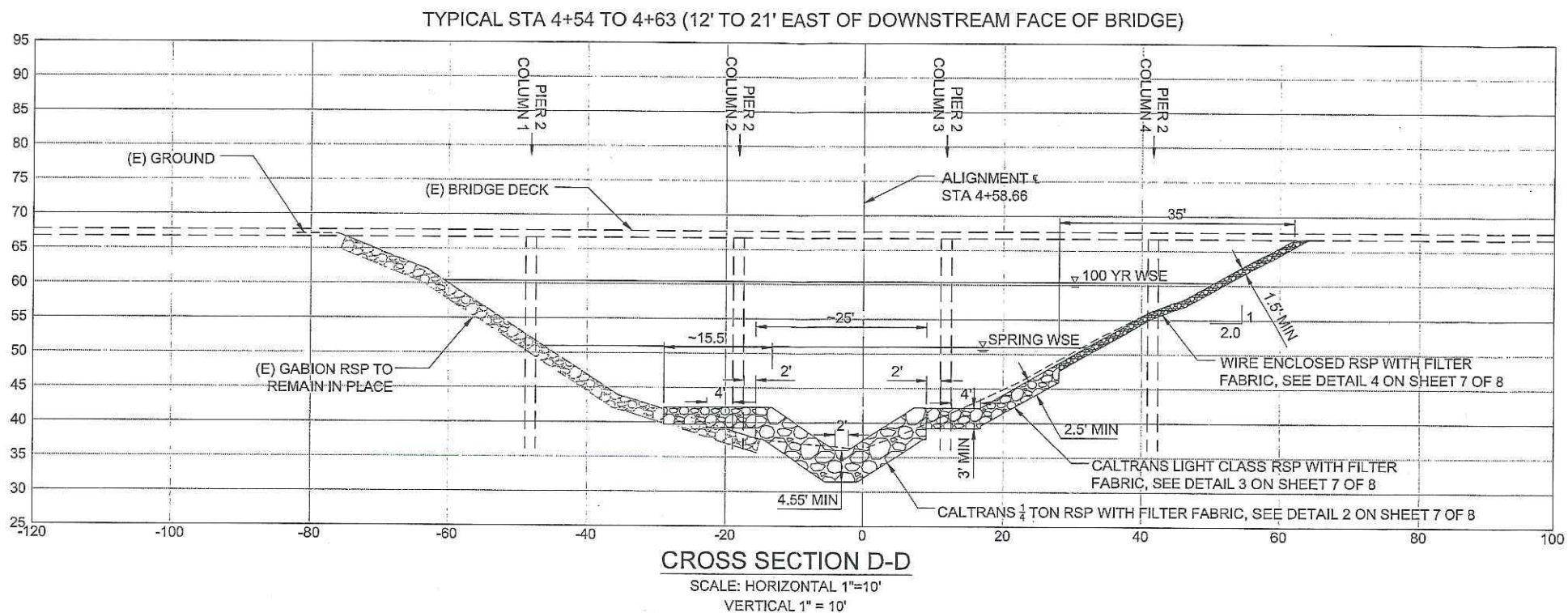
JACK TONE ROAD BRIDGE NO. 29C-163
SCOUR MITIGATION AND PILE REPAIR
(JACK TONE ROAD BRIDGE ACROSS MORMON SLOUGH)

COUNTY OF SAN JOAQUIN
DEPARTMENT OF PUBLIC WORKS BRIDGE DIVISION
1810 EAST HAZELTON AVENUE
STOCKTON, CALIFORNIA 95205
PHONE: (209) 468 - 3000
FAX: (209) 468 - 2999

DOMENICHELLI & ASSOCIATES
1101 Investment Blvd, Suite 115
El Dorado Hills, CA 95762
Ph: (916) 933-1997
Fax: (916) 933-4778

PROJECT NAME:

SHEET NO.	DRAWER
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DRAWN BY	DATE	PROJECT ENGINEER	DATE	CHECKED	DATE
DRAWER	SHEET NO.	SHEET NAME		SCALE	
		CROSS SECTIONS		1"=10'	

JACK TONE ROAD BRIDGE NO. 29C-163
SCOUR MITIGATION AND PILE REPAIR
(JACK TONE ROAD BRIDGE ACROSS MORMON SLOUGH)



COUNTY OF SAN JOAQUIN
DEPARTMENT OF PUBLIC
WORKS BRIDGE DIVISION
1818 EAST HAZELTON AVENUE
STOCKTON, CALIFORNIA 95205
PHONE: (209) 468-3000
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**DOMENICHELLI
& ASSOCIATES**

1101 Investment Blvd, Suite 115
El Dorado Hills, CA 95762
Ph: (916) 933-1997
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SHEET NO.
5 of 8

PROJECT NAME: