

**Meeting of the Central Valley Flood Protection Board
April 27, 2012**

Staff Report

**California Department of Transportation, District 10
State Highway Route 99 Mariposa Rd. Off-ramp at Duck Creek Bridge Crossing,
San Joaquin County**

1.0 – ITEM

Consider approval of Permit No. 18721 (Attachment B).

2.0 – APPLICANT

California Department of Transportation (Caltrans), District 10.

3.0 – LOCATION

The project is located in San Joaquin County, south of Stockton at the northbound State Highway Route 99 Mariposa Road off-ramp crossing Duck Creek (see Attachment A).

4.0 – DESCRIPTION

The applicant proposes to replace the existing northbound off-ramp bridge from State Highway 99 onto Mariposa Road crossing over Duck Creek (Caltrans bridge number 29-C0194) with a new bridge (Caltrans bridge number 29-C0451). The proposed bridge will be a single-span structure, 67.0 feet long, 102.1 feet wide. This project is part of Caltrans plan to widen Interstate Highway 99 in the area.

5.0 – PROJECT ANALYSIS

The overall design of the proposed project, described in Section 4.0, is found to be in compliance with Title 23 standards as described in Sections 5.1 and 5.2 below. The new structure will allow for increased traffic flow through this reach of Highway 99. See Attachment C for proposed plan and profile.

5.1 – Hydraulic Analysis

The model used for the one-dimensional hydraulic analysis was the Hydrologic Engineering Center's River Analysis System (HEC-RAS). The roughness coefficient of 0.034 was used for both existing and proposed conditions. The analysis included a scenario for a 100-yr event with a design flow of 900-cfs based on the Design Flood flows as per CVFPB guidelines.

According to the modeling results, the water surface elevation (WSE) during a 100-yr flow will be 25.5 ft, with an average velocity of 3.9 fps and 3.3 feet of freeboard (see Attachment D). The channel is concrete lined at this location, and although there is a record that the lining was damaged in November of 2001, it was determined that scouring is not critical.

Replacing the existing structures will not reduce the current level of protection and although it will not provide a hydraulic improvement, the design is compliant with Title 23 standards. Staff has concluded that the project has negligible adverse incremental hydraulic effects on the floodway.

5.2 – Geotechnical Analysis

Staff reviewed the design plans and agreed with the applicant's conclusion that this project does not bear any significant geotechnical impacts on the floodway. All work to be completed will be done in a manner that does not pose a threat to the structural integrity of the channel, structures, or floodway.

6.0 – AGENCY COMMENTS AND ENDORSEMENTS

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

- San Joaquin Flood Control and Water Conservation District endorsed this project on December 20, 2011 with conditions. The conditions will be incorporated into the permit as Exhibit A.
- 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 USACE 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 B.

7.0 – CEQA ANALYSIS

Board staff has prepared the following CEQA findings:

The Board, as a responsible agency under CEQA, has reviewed Draft Environmental Impact Report/Environmental Assessment (DEIR) (SCH Number: 2002022027, March 2008) and the Final Environmental Impact Report/Environmental Assessment with Finding of No Significant Impact (FEIR) (September 2008) and Mitigation Measures for the South Stockton Six-Lane Project prepared by the lead agency, Caltrans. These documents, including project design, may be viewed or downloaded from the Central Valley Flood Protection Board website at <http://www.cvfpb.ca.gov/meetings/2012/04-27-2012.cfm> under a link for this agenda item. These documents are also available for review in hard copy at the Board and the Caltrans District offices.

Caltrans has determined that the project would not have a significant effect on the environment and certified the project on October 28, 2008 and subsequently filed a Notice of Determination on November 3, 2008 with the State Clearinghouse. 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 FEIR and address impacts to aesthetics, biological resources, paleontological resources, hazards and hazardous materials, emergency services, water quality and storm water runoff, traffic and transportation. The description of the mitigation measures are further described in the adopted FEIR.

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 entire State Plan of Flood Control:

This project does not have significant impacts on the State Plan of Flood Control, as the project does not impair the structural or hydraulic functions of the system.

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

There are no foreseeable projected future events that would impact this project.

9.0 – STAFF RECOMMENDATION

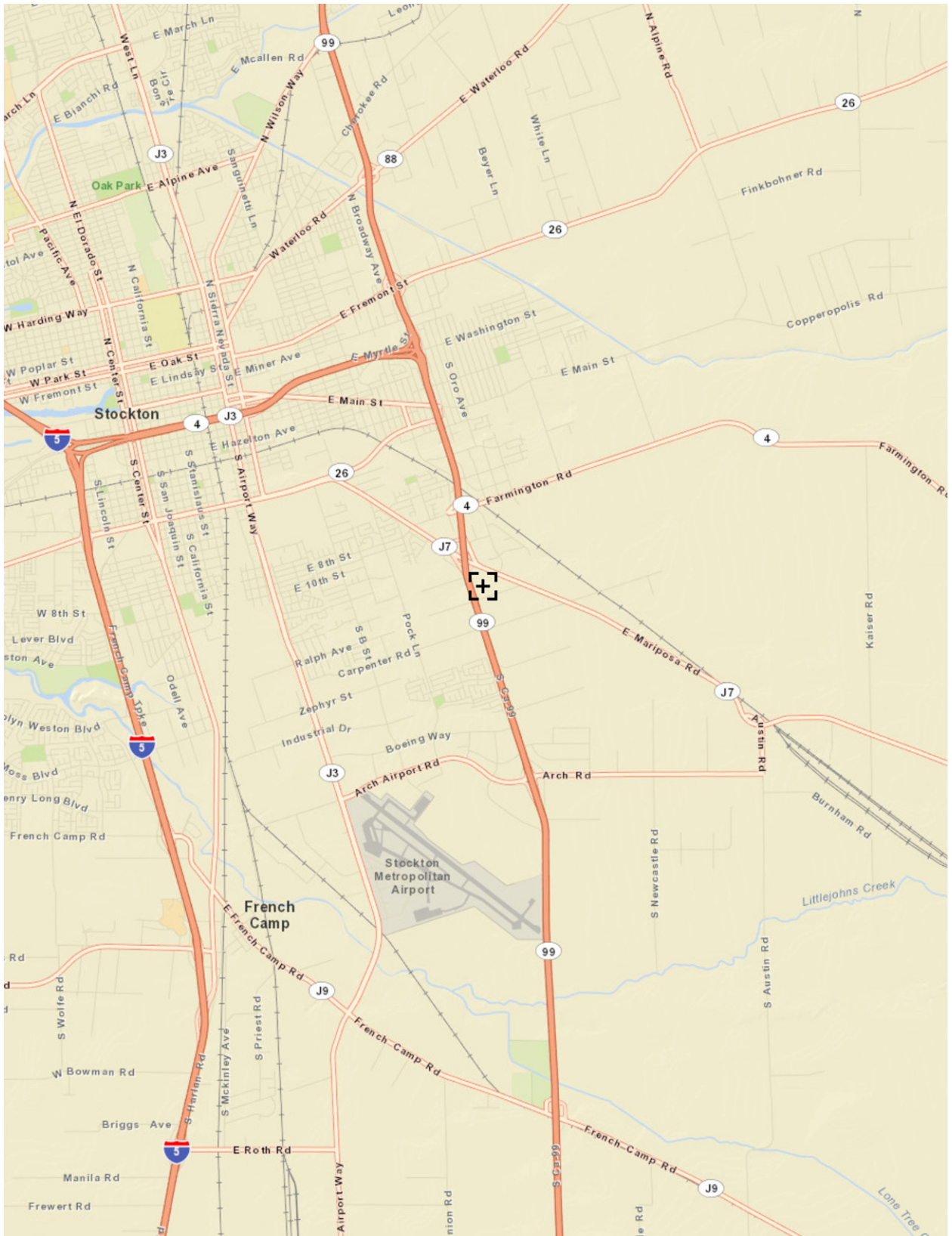
Staff recommends that the Board adopt the CEQA findings and approve the permit, conditioned upon receipt of a U.S. Army Corps of Engineers comment letter indicating that the District Engineer has no objection to the project, subject to conditions, and direct staff to file a Notice of Determination with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

10.0 – LIST OF ATTACHMENTS

- A. Location Map
- B. Draft Permit No. 18721
- C. Structure Plan and Profile
- D. Hydraulic Summary Table and Profile

Technical Review:	Sergio Guillen, P.E., Atkins
Staff Recommendations:	Nancy C. Moricz, P.E.
Environmental Review:	James Herota, E.S.
Document Review:	David R. Williams, P.E. – Senior Engineer, WR Eric Butler, P.E. – Supervising Engineer, WR

Attachment A





DRAFT

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

PERMIT NO. 18721 BD

This Permit is issued to:

Caltrans
2015 E. Shields Avenue, Ste. 100
Fresno, California 93726

Construct a new 51.0 ft wide cast-in-place concrete slab bridge (Br. No.29-0335) at the intersection of Duck Creek and the new Mariposa Road Northbound off-ramp. The project is located at the new Mariposa Road northbound off-ramp crossing Duck Creek, east of State Highway Route 99, Assessors's Parcel No. 179-550-04, in the City of Stockton, in San Joaquin County. (Section , T , R , MDB&M, San Joaquin County Flood Control and Water Conservation District, Duck Creek, 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. 18721 BD

THIRTEEN: This permit is not valid and no construction shall occur until the the Central Valley Flood Protection Board receives written confirmation from the Army Corps of Engineers pursuant to 33 CFR Section 208.10 that the Corps has no objection to the project. The letter shall be incorporated into this permit as Exhibit A and all conditions shall be incorporated into this permit as if fully set forth herein.

FOURTEEN: 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.

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 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.

SIXTEEN: 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.

SEVENTEEN: The mitigation measures approved by the CEQA lead agency and the permittee are found in the Final Initial Study/Mitigated Negative Declaration adopted by the CEQA lead agency. The permittee shall implement all such mitigation measures.

EIGHTEEN: The Central Valley Flood Protection Board and Department of Water Resources 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.

NINETEEN: 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.

TWENTY: 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-ONE: The permittee shall contact the Department of Water Resources, Inspection Branch by telephone at (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. The permittee shall also contact the Central Valley Flood Protection Board's Construction Supervisor by telephone at (916) 574-2646 for quality assurance inspection. Failure to do so at least ten (10) working days prior to start of work may result in delay of the project.

TWENTY-TWO: Temporary staging, formwork, stockpiled material, equipment, and temporary buildings shall not remain in the floodway during the flood season from November 1 to April 15.

TWENTY-THREE: Prior to start of any demolition and/or construction activities within the floodway, the applicant shall provide the Central Valley Flood Protection Board with two sets of layout plans for any and all temporary, in channel cofferdam(s), gravel work pad(s), work trestle(s), scaffolding, piles, and/or other appurtenances that are to remain in the floodway during the flood season from November 1 through April 15.

TWENTY-FOUR: Debris that may accumulate on the permitted encroachment(s) and related facilities shall be cleared off and disposed of outside the floodway after each period of high water.

TWENTY-FIVE: All debris generated by this project shall be disposed of outside the floodway.

TWENTY-SIX: 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: Fill material shall be placed only within the area indicated on the approved plans.

TWENTY-EIGHT: Backfill material for excavations shall be placed in 4- to 6-inch layers and compacted to at least the density of the adjacent, firm, undisturbed material.

TWENTY-NINE: Density tests by a certified materials laboratory will be required to verify compaction of backfill within the regulated channel.

THIRTY: Except with respect to activities expressly allowed under this permit, the work area shall be

restored to the condition that existed prior to start of work.

THIRTY-ONE: The permittee shall provide supervision and inspection services acceptable to the Central Valley Flood Protection Board.

THIRTY-TWO: The permittee shall submit as-built drawings to the Department of Water Resources' Flood Project Inspection Section upon completion of the project.

THIRTY-THREE: In the event that bank erosion injurious to the adopted plan of flood control occurs at or adjacent to the permitted encroachment(s), the permittee shall repair the eroded area and propose measures, to be approved by the Central Valley Flood Protection Board, to prevent further erosion.

THIRTY-FOUR: The permitted encroachment(s) shall not interfere with operation and maintenance of the present or future 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.

THIRTY-FIVE: 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.

THIRTY-SIX: The permittee shall be responsible for securing any necessary permits incidental to habitat manipulation and restoration work completed in the flood control project, and will provide any biological surveying, monitoring, and reporting needed to satisfy those permits.

THIRTY-SEVEN: The permittee should contact the U.S. Army Corps of Engineers, Sacramento District, Regulatory Branch, 1325 J Street, Sacramento, California 95814, telephone (916) 557-5250, as compliance with Section 10 of the Rivers and Harbors Act and/or Section 404 of the Clean Water Act may be required.

THIRTY-EIGHT: The bridge piers and bents shall be constructed parallel to the direction of streamflow.

THIRTY-NINE: Drainage from the bridge shall not be discharged into the streambank.

FORTY: Plans showing all construction facilities such as temporary staging, coffer dams, and falsework which shall remain in a floodway during November 1 to April 15, must be submitted to the board for approval prior to installation of these facilities.

FORTY-ONE: All construction facilities such as temporary staging, coffer dams, and falsework must be designed to prevent bank erosion during normal streamflows and maintain maximum channel capacity during November 1 to April 15.

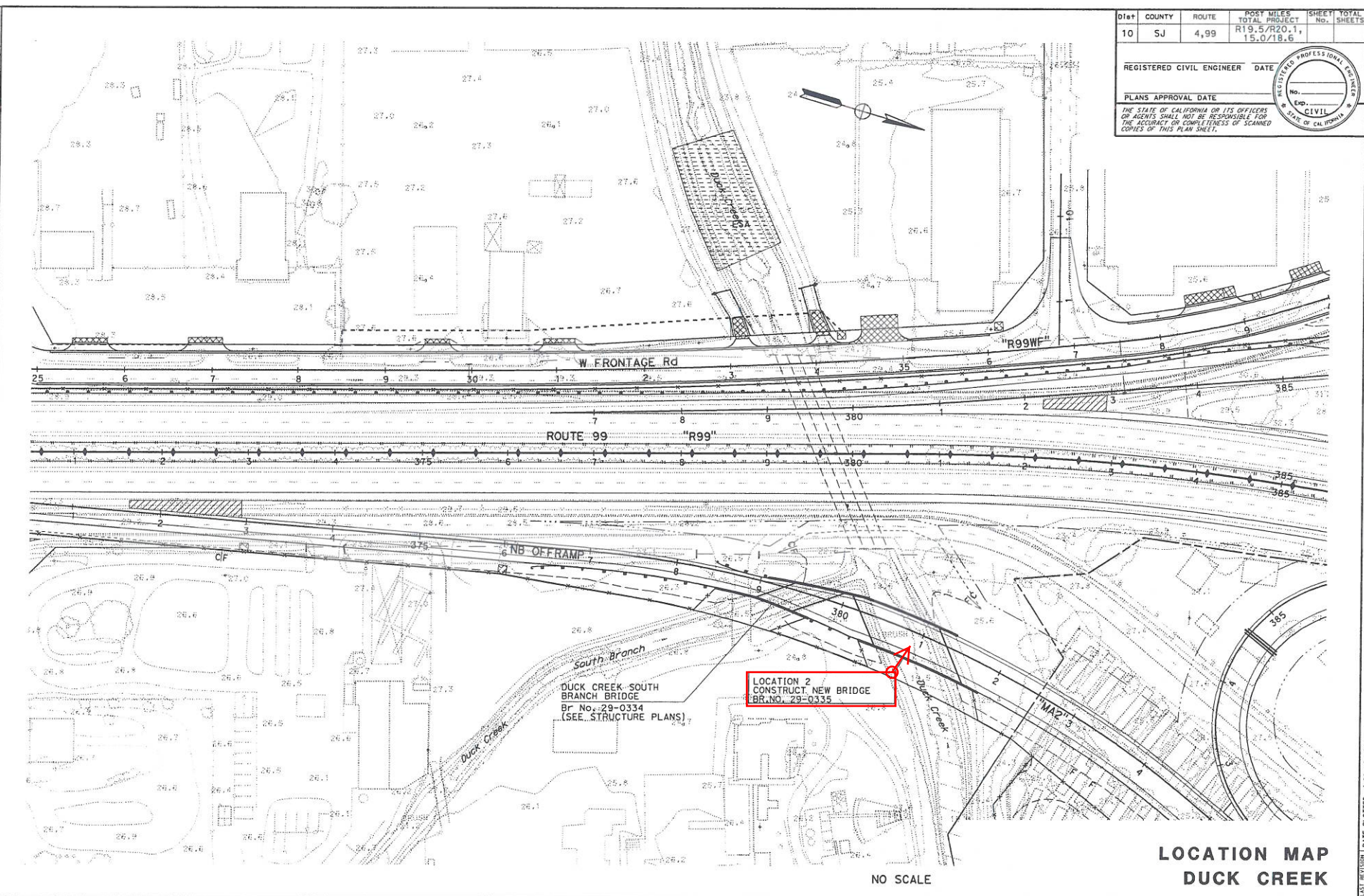
FORTY-TWO: The soffit of the bridge shall be no lower than that of the widened bridge.

FORTY-THREE: Bridge piers and bents placed within the floodway to support a widened portion of the existing bridge shall be constructed in line with the existing bents and piers.

FORTY-FOUR: The permittee shall comply with all conditions set forth in the letter from the San Joaquin County Flood Control & Water Conservation District dated December 20, 2011, which is attached to this permit as Exhibit B and is incorporated by reference.

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Gibson
 FUNCTIONAL SUPERVISOR
 MARTIN NISHIKAWA
 06-DESIGN



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	4,99	R19.5/R20.1 15.0/18.6		

REGISTERED CIVIL ENGINEER DATE

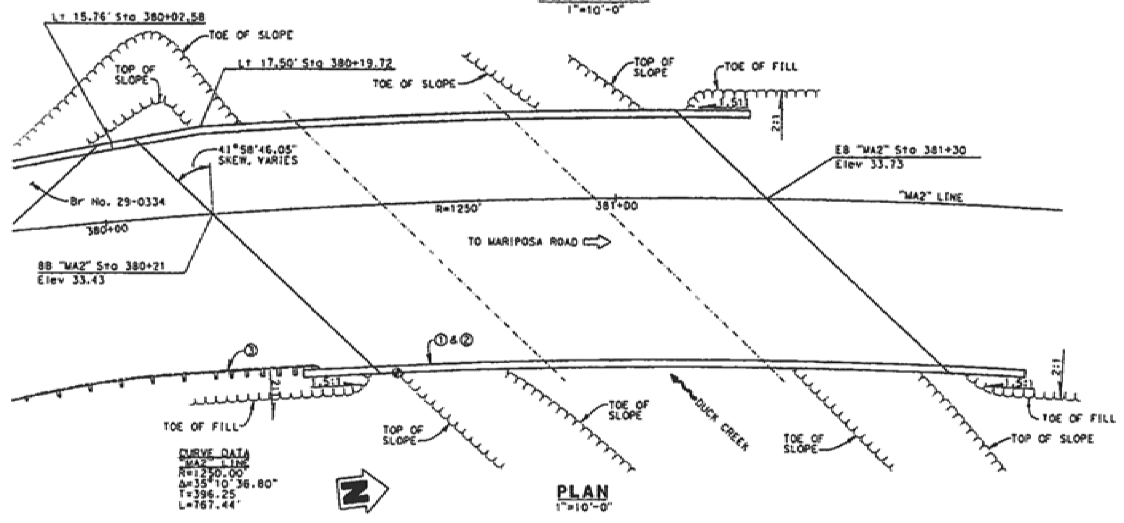
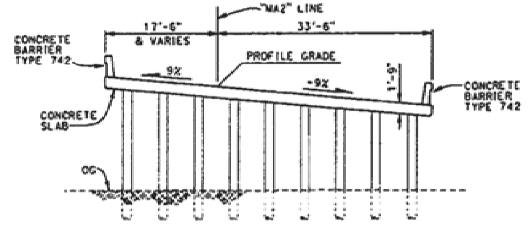
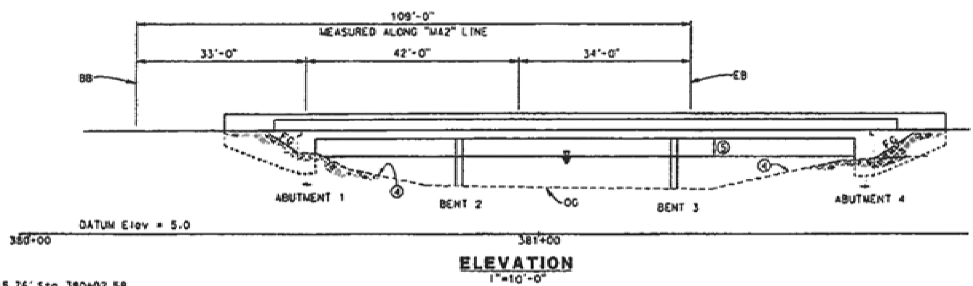
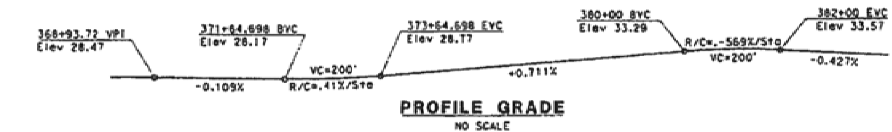
PLANS APPROVAL DATE

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.

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

**LOCATION MAP
 DUCK CREEK**

NO SCALE



- Notes:
- ① Paint "BR. NO. 29-0335"
 - ② Paint "DUCK CREEK BRIDGE"
 - ③ Metal Beam Guardrail
 - ④ Channel Lining, see Road Plans
 - ⑤ Minimum Freeboard = 3'-5"
 - ⑥ 100 Year flood elev = 25.4 ft, for Hydratologic Summary, see "FOUNDATION PLAN" sheet
 - ⑦ Lowest soffits Elev = 28.83

INDEX TO PLANS

SHEET NO.	TITLE
1.	General Plan
2.	Deck Contours
3.	Foundation Plan
4.	Abutment Layout
5.	Abutment Details
6.	Typical Section
7.	Girder Reinforcement
8.	Slab Reinforcement Details
9.	Log of Test Borings 1 of 3
10.	Log of Test Borings 2 of 3
11.	Log of Test Borings 3 of 3

ATTACHMENT C - PROJECT'S PLAN AND PROFILE

Duck Creek (Mariposa Rd) bridge replacement, Br. No. 29-C0451

	WSEL	Average Velocity	Available Freeboard
100-year Design Flood 900 cfs	25.5 ft	3.9 fps	3.3 ft