
Appendix E:

Hydrology Supporting Information

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Water Quality Assessment Report Fournier Road Improvement Project



FOURNIER ROAD IMPROVEMENT PROJECT IN MARIPOSA COUNTY

FOURNIER ROAD IN MARIPOSA COUNTY

WEST OF MARIPOSA CEMETERY

10-MARIPOSA-[route]-[PM]

[EA]/[PN]

February 2026



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Water Quality Assessment Report

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WEST OF MARIPOSA CEMETERY

10-MARIPOSA-[route]-[PM]

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February 2026

STATE OF CALIFORNIA
Department of Transportation

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Executive Summary

This report discusses water quality issues related to the permitting, regulations, design, and construction of the project. The protection of our water environment is an important aspect of every project, affecting people and the conditions in which we live.

The Fournier Road Improvement Project is located in Mariposa County along Fournier Road, beginning from 50 feet south of Antone Road and extending northeast to Joe Howard Street. Fournier Road intersects Joe Howard Street approximately 75 feet south of State Route 49 (SR-49).

The project site is approximately 0.23 miles long and would consist primarily of roadway widening and associated improvements. The project site is 1.46 acres, including 0.47 acres of ground disturbance and 0.99 acres of street improvements. Proposed improvements would span the entire 0.23-mile length of the roadway and would include widening Fournier Road to two 12-foot travel lanes, construction of sidewalk, curb and gutter, and a bridge, as well as on-street parking adjacent to the cemetery. The purpose of the project is to provide a more resilient route for residents to reach SR-49 during climate events, as well as improve evacuation conditions for occupants of several nearby housing developments and the Hyatt Hotel.

The existing water quality conditions are discussed. Fournier Road is rural and generally undeveloped. Mariposa Creek is in the vicinity of the project and is the receiving water body. This water body has 6 beneficial uses identified in the California State Water Resources Control Board's 2026 California Integrated Report, Category 2 Waterbody Segments. The creek has listed pollutants of *Escherichia coli* (*E. coli*), dissolved oxygen, specific conductivity, water temperature, and pH.

The potential impacts to water quality include construction related activities and design. Standardized measures will be implemented to minimize construction impacts to water quality. Construction site best practices (BMPs) control various pollutants such as sediment. Design pollution prevention BMPs address the generation of pollutants by implementing design features such as preservation of existing vegetation, use of swales, and including flared end sections, among other things.

Local and federal agencies provide oversight to the project and regulate water quality. The agencies involved include Caltrans, FHWA, EPA, U.S. Army Corps of Engineers, California Regional Water Quality Control Board, and the California Department of Fish and Game.

Water quality associated permits include an NPDES permit with CGP Stormwater Pollution Prevention Plan (SWPPP), Section 401 permit, Section 404 permit, Section 1602 permit, and compliance with CEQA and NEPA.

The project increases impervious surfaces. A detention basin will be constructed for the addition of impervious surfaces to ensure the WSE of Mariposa Creek does not increase.

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ACRONYMS

Acronym	Definition
ADL	Aerially Deposited Lead
ASBS	Areas of Special Biological Significance
ATA	Additional Treatment Area
BMP	Best Management Practice
Caltrans	California Department of Transportation
CCC	California Coastal Commission
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGP	Construction General Permit
COI	Change of Information
CWA	Clean Water Act
DSA	Disturbed Soil Area
DWP	District Work Plan
FTC	Full Trash Capture
LEDPA	Least Environmentally Damaging Practicable Alternative
MS4	Municipal Separate Storm Sewer System
NAL	Numeric Action Level
NEL	Numeric Effluent Limit
NIS	New Impervious Surface
NNI	Net New Impervious
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Services
Ocean Plan	Water Quality Control Plan for Ocean Waters of California
PA&ED	Project Approval and Environmental Document
PE	Project Engineer
PEAR	Preliminary Environmental Analysis Report
Permit	Caltrans MS4 Permit
PF	Project Feature
pH	Potential of Hydrogen
PID	Project Initiation Document
PM	Post Mile
PPDG	Project Planning and Design Guide
PRD	Permit Registration Document
Project	Fournier Road Improvement Project
PS&E	Plans, Specifications, and Estimates

Acronym	Definition
QPE	Qualifying Precipitation Event
QSD	Qualified Stormwater Developer
QSP	Qualified Stormwater Practitioner
R factor	Rainfall-runoff erosivity factor
RIS	Replaced Impervious Soil Area
RL	Risk Level
RUSLE	Revised Universal Soil Loss Equation
RWQCB	Regional Water Quality Control Board
SER	Standard Environmental Reference
SHS	State Highway System
SMARTS	Stormwater Multiple Application and Report Tracking System
STGA	Significant Trash Generating Areas
SWMP	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TMDL	Total Maximum Daily Load
U.S. EPA	United States Environmental Protection Agency
USACE	United States Army Corps of Engineers
WDID	Waste Discharge Identification Number
WDR	Waste Discharge Requirement
WMI	Watershed Management Initiative
WPCP	Water Pollution Control Plan (or Program)
WQ	Water Quality
WQAR	Water Quality Assessment Report
WQO	Water Quality Objective

1 INTRODUCTION

1.1 Approach to Water Quality Assessment

The purpose of the Water Quality Assessment Report (WQAR) is to fulfill the requirements of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA), and to provide information for National Pollutant Discharge Elimination System (NPDES) permitting. The document includes a discussion of the proposed project, the general environmental setting of the project area, and the regulatory framework with respect to water quality. It also provides data on surface water and groundwater resources within the project area and the water quality of these waters, describes water quality impairments and beneficial uses, identifies potential water quality impacts/benefits associated with the proposed project, and recommends avoidance and/or minimization measures for potentially adverse impacts.

1.2 Project Overview

The County of Mariposa (County) is proposing the Fournier Road Improvement Project (Project). The proposed Project includes the reconstruction of Fournier Road from Antone Road to Joe Howard Street. The Project will add curb and gutter along the stretch of Fournier Road. A portion of the Project will have curbside parking, sidewalk, and a 58-foot bridge.

1.2.1 Project Purpose

The purpose of the Project is to achieve the following objectives:

- Provide accessibility to the Mariposa Cemetery
- Improve residential connectivity to SR-49
- Enhance residential evacuation routes in the event of an emergency
- Fix flooding at low-water crossing

1.2.2 Project Need

The existing Fournier Road conditions are not adequate to be a resilient route for residents in the area. The pavement is beaten and susceptible to potholes and cracking. The Mariposa Cemetery does not have a designated parking lot. The existing low water crossing floods during the rainy season minimizing connectivity to SR-49 through Fournier Road. With the addition of

the low-income housing development at the southern end of Fournier Road, there is a higher volume of traffic that is using Fournier Road. There is also a Hyatt Hotel that will be built adjacent to the Project which will increase the use of Fournier Road. This will cause the pavement of Fournier Road to erode quicker since it is already an old road. The proposed Project will accommodate the existing traffic and provide accessibility for current and future residents as well as provide a solution for the flooding that occurs at the existing low water crossing.



1.2.3 Project Location

The Project is located in the County of Mariposa spanning from Antone Road as the southern limit to Joe Howard Street as the northern limit. Fournier Road intersects Joe Howard Street approximately 75 feet south of where Joe Howard Street tees into SR-49. The proposed bridge location is near Antone Road on the southern end.

1.2.4 Project Elements

1.2.4.1 Roadway Improvements

The primary Project objective is to reconstruct Fournier Road. The roadway will be reconstructed to become a more resilient route for residents to reach SR-49. These improvements include pavement, curb and gutter, curbside parking, and sidewalk.

The pavement of Fournier Road will be reconstructed to improve roadway conditions. The reconstruction will include 12-foot travel lanes in each direction. Curb and gutter will be added to provide proper drainage for the New Impervious Surfaces (NIS). Curbside parking will be added to a portion of the Project to provide accessibility to the Mariposa Cemetery as it does not currently have a delineated parking area. Five feet sidewalk is proposed to provide pedestrian connectivity and safety along the entire length of the east side of the roadway.

1.2.4.2 Bridge Construction

The existing 18-inch culvert is for Mariposa Creek to flow through Fournier Road. This low water crossing overflows during the rainy season as the culvert is not sufficient to allow proper flow of the creek. The proposed curb and gutter would raise the overtopping flow elevation. Because of this, the profile of the road will be raised, and a bridge is proposed to allow passage of the Mariposa Creek under the proposed roadway.

The bridge would be a single span cast-in-place prestressed voided slab supported on spread footing foundation. The bridge will span 58 feet and will accommodate two 12-foot traffic lanes, two 2-foot shoulders, and 5'-8" sidewalk on one side.

1.2.4.3 Detention Basin

The Project will increase the amount of runoff area on Fournier Road. To avoid increasing the amount of runoff that goes into Mariposa Creek from the Project, a detention basin is proposed. The detention basin is to be 3.5 feet deep with bottom of basin length and width dimensions of 54' by 13', respectively, with walls sloping up at a horizontal and vertical side slope ratio 4:1. The detention basin is designed for a volume of 6,500 cubic feet to contain the proposed runoff volume of 6,128 cubic feet. The basin is located on the east side of Fournier Road approximately 350 feet north of Antone Road.

1.3 Surface Drainage Information

Total Disturbed Soil Area (DSA)

The total disturbed soil areas included are all proposed cut and fill areas, and erodible surface areas where there is proposed vegetation removal. DSA is calculated by quantifying these areas. The DSA for the Project was calculated to be 1.46 acres.

Replaced Impervious Surface (RIS)

Replaced Impervious Surface are areas generated when either the underlying soil is exposed during roadway construction or when the entire roadway structural section is replaced. The RIS for the Project was calculated to be 0.56 acres.

Net New Impervious Area (NNI)

The NNI is the total post-project impervious area minus the pre-project impervious area.

$$\text{NNI} = \text{Post-Project Impervious Area} - \text{Pre-Project Impervious Area}$$

The Project will increase the amount of impervious surface. Therefore, the amount of NNI is calculated to be 0.43 acres.

New Impervious Surface (NIS)

New Impervious Surface is equal to the sum of NNI and RIS with the Excluded Impervious Area (EIA) subtracted. The EIA is based on Table 4-1 in the Caltrans Project Planning and Design Guide.

$$\text{NIS} = \text{NNI} + \text{RIS} - \text{EIA}$$

The Project will increase the amount of impervious surface. Therefore, the NIS is calculated to be 0.99 acres.

Post Construction Treatment Area (PCTA)

Post Construction Treatment Area is equal to the NIS. There are no existing BMPs located in the Project area. The existing impervious runoff area into the Mariposa Creek at the Project site is approximately 36,086 square feet. The post-construction runoff area is approximately 45,018 square feet. The proposed detention basin will collect 34,861 square feet of the post-construction runoff area on-site. The leftover 10,157 square feet will flow into Mariposa Creek, but only 5,362 square feet are new impervious surface. Because the new impervious surface runoff area into Mariposa Creek is less than 10,000 square feet, Permanent Treatment BMPs will not be required.

1.4 Best Management Practices

Storm Water Pollution Prevention Plan (SWPPP)

The Project results in an overall soil disturbance greater than one acre; therefore, a SWPPP will be required. The SWPPP will be prepared by the construction contractor as part of compliance with the Construction General Permit. The SWPPP will identify construction activities that can discharge pollutants in stormwater and provide descriptions of measures to control these pollutants.

The SWPPP will include temporary soil stabilization, temporary sediment control, tracking control, wind erosion control, non-stormwater management, and waste management material pollution control for the construction site.

The design of construction BMPs will comply with the design requirements found in the Caltrans Storm Water Quality Handbooks, Project Planning and Design Guide (PPDG), and Construction Site Best Management Practices.

2 REGULATORY SETTING

2.1 Federal Laws and Requirements

2.1.1 Clean Water Act

In 1972 Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source unlawful unless the discharge is in compliance with a NPDES permit. Known today as the Clean Water Act (CWA), Congress has amended it several times. In the 1987 amendments, Congress directed dischargers of stormwater from municipal and industrial/construction point sources to comply with the NPDES permit program. Important CWA sections are:

- Sections 303 and 304 require states to promulgate water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity, which may result in a discharge to waters of the U.S., to obtain certification from the State that the discharge will comply with other provisions of the act. (Most frequently required in tandem with a Section 404 permit request, see below).

- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. The Federal Environmental Protection Agency delegated to the California State Water Resources Control Board (SWRCB) the implementation and administration of the NPDES program in California. The SWRCB established nine Regional Water Quality Control Boards (RWQCBs). The SWRCB enacts and enforces the Federal NPDES program and all water quality programs and regulations that cross Regional boundaries. The nine RWQCBs enact, administer and enforce all programs, including NPDES permitting, within their jurisdictional boundaries. Section 402(p) requires permits for discharges of stormwater from industrial, construction, and Municipal Separate Storm Sewer Systems (MS4s).
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S, including wetlands. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

The objective of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide permits. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to authorize a variety of minor project activities with no more than minimal effects.

There are also two types of Individual permits: Standard Individual permit and Letter of Permission. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of USACE’s Individual permits. For Standard Individual permit, the USACE decision to approve is based on compliance with U.S. Environmental Protection Agency’s (U.S. EPA) Section 404 (b)(1) Guidelines (U.S. EPA Code of Federal Regulations (CFR) 40 Part 230) and whether permit approval is in the public interest. The 404(b)(1) Guidelines were developed by the U.S. EPA in conjunction with USACE and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only when there is no practicable alternative which would have less adverse effects. The Guidelines state that USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA), to the proposed discharge that would have less effects on waters of the U.S., and not have any other significant adverse environmental consequences. Per Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures have been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause “significant degradation” to waters of the U.S. In addition,

every permit from the USACE, even if not subject to the 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4.

2.2 State Laws and Requirements

2.2.1 Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This Act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the State. It predates the CWA and regulates discharges to waters of the State. Waters of the State include more than just waters of the U.S., like groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of "waste" as defined and this definition is broader than the CWA definition of "pollutant". Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

The State Water Resources Control Board (SWRCB) and Regional Water Quality Control Board's (RWQCB) are responsible for establishing the water quality standards as required by the CWA and regulating discharges to protect beneficial uses of water bodies. Details regarding water quality standards in a project area are contained in the applicable RWQCB Basin Plan. In California, Regional Boards designate beneficial uses for all water body segments in their jurisdictions, and then set standards necessary to protect these uses. Consequently, the water quality standards developed for particular water body segments are based on the designated use and vary depending on such use. Water body segments that fail to meet standards for specific pollutants are included in a Statewide List in accordance with CWA Section 303(d). If a Regional Board determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-source point controls (NPDES permits or Waste Discharge Requirements), the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed. The SWRCB implemented the requirements of CWA Section 303(d) through Attachment D of the Caltrans Statewide MS4 (Order No. 2022-XXXX-DWQ NPDES No. CAS000003), as it includes specific TMDLs for which Caltrans is named a responsible party.

2.2.2 California Fish and Game Code

2.2.2.1 Lake and Streambed Alteration Program

California Fish and Game Code (CFGF) Section 1602 requires notification before beginning activities that obstruct or divert the natural flow of a river, stream, or lake; change or use any material from the bed, channel, or bank of a river, stream, or lake; or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake. CFGF Section 1602 applies to perennial, intermittent, and ephemeral bodies of water in California.

2.2.2.2 Fully Protected Species

CFGF Sections 3511, 4700, 5050, and 5515 outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. CDFW cannot issue permits or licenses that authorize the “take” of any fully protected species, except under certain circumstances including scientific research, live capture and relocation of such species pursuant to a permit for the protection of livestock, through authorizations provided as part of a Natural Community Conservation Plan, certain projects associated with the State Water Project and critical water agency or transportation projects, and certain renewable energy-associated projects.

2.2.2.3 Nesting Bird Protections

CFGF Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 protects all birds of prey (raptors) and their eggs and nests. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA, except as provided by rules and regulations adopted by the United States Secretary of the Interior under the MBTA. Typically, a nest is considered “active” if a bird is building, modifying, or using it.

2.2.2.4 Protection of Non-game Mammals

CFGF Section 4150 states that a mammal occurring naturally in California that is not a game mammal, fully protected mammal, or fur-bearing mammal is a non-game mammal. A non-game mammal may not be taken or possessed at any time. All bat species occurring naturally in California are considered non-game mammals and are therefore prohibited from take as stated in California Fish and Game Code Section 4150.

2.2.3 State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB adjudicates water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWCQBs are responsible for

protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

2.2.4 National Pollutant Discharge Elimination System (NPDES) Program

Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of stormwater dischargers, including MS4s. The U.S. EPA defines an MS4 as “any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over stormwater, that are designed or used for collecting or conveying stormwater.” The SWRCB has identified the California Department of Transportation (Caltrans) as an owner/operator of an MS4 pursuant to federal regulations. Caltrans’ MS4 permit covers all Caltrans rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

2.2.4.1 Municipal Separate Storm Sewer System (MS4)

Caltrans’ MS4 Permit, NPDES No. CAS000003, SWRCB Order No. 2022-0033-DWQ (adopted on June 22, 2022, and effective on January 1, 2023) (Permit) regulates stormwater and non-stormwater discharges from Caltrans properties and facilities associated with operation and maintenance of the State highway system. It contains four basic requirements:

1. Caltrans must comply with the requirements of the CGP (see below);
2. Caltrans must implement a year-round program in all parts of the State to effectively control stormwater and non-stormwater discharges; and
3. Caltrans stormwater discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs) and other measures deemed necessary by the SWRCB and/or other agency having authority reviewing the stormwater component of the project.
4. Caltrans shall comply with the prohibition of discharge of trash to surface waters of the State or deposition of trash where it may be discharged into surface waters of the State through compliance with the requirements of Attachment E of the Permit. With a demonstration of full compliance by December 2, 2030.

Caltrans’ 2022 MS4 Permit incorporated the requirements of the State Water Board Resolution 2015-0019, which amended the Water Quality Control Plan for Ocean Waters of California and

the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California to include trash-related requirements, referred to in the Order as the “Trash Provisions.” Implementation of the Trash Provisions includes the following:

- Caltrans shall install, operate, and maintain any combination of full capture systems, other treatment controls, and/or institutional controls for all storm drains that capture runoff from Significant Trash Generating Areas (where trash accumulates in substantial amounts as defined in section E4). Caltrans shall develop and implement monitoring plans that demonstrate that such combinations achieve full capture system equivalency.
- Caltrans shall coordinate efforts with municipal separate storm sewer system permittees subject to NPDES permits that implement the Trash Provisions, to install, operate, and maintain full capture systems, other treatment controls, and/or institutional controls in Significant Trash Generating Areas and/or Priority Land Uses.

To comply with the permit, Caltrans developed the Statewide Stormwater Management Plan (SWMP) to address stormwater pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within Caltrans for implementing stormwater management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes Caltrans’ stormwater management program and the minimum procedures and practices Caltrans uses to reduce pollutants in stormwater and non-stormwater discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. At the time of the preparation of this WQAR, the SWMP is being updated to meet the requirements of the adopted 2022 Caltrans MS4 and CGP permits. The project will follow the guidelines in 2016 SWMP except where the 2022 permit requirements differ from the 2016 SWMP.

2.2.4.2 Construction General Permit

The Construction General Permit (NPDES No. CAS000002, SWRCB Order No. 2022-0057-DWQ, was adopted on September 8, 2022) and effective on September 1, 2023. The permit regulates stormwater discharges from construction sites which result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development.

- For all projects subject to the CGP, the applicant is required to hire a Qualified Stormwater Pollution Prevention Plan (SWPPP) Developer (QSD) to develop and implement an effective SWPPP. A Qualified SWPP Practitioner (QSP) may be hired as well to assist in field work. All Project Registration Documents (PRDs), including the SWPPP, Risk Level (RL)

Determinations, Site map and post-construction treatment documents are required to be uploaded into the SWRCB's on-line Stormwater Multiple Application and Report Tracking System (SMARTS). A Waste discharge Identification (WDID) number will be issued within 10 business days after the State Waterboard receives a complete Notice of Intent (NOI) package.

- The 2022 CGP requires post-construction treatment permit registration documents to be submitted in SMARTS with the NOI to include: (1) An attachment or web-source containing the NPDES MS4 post-construction requirements and (2) the post-construction plans and calculations (Preliminary post-construction plans and calculations may be submitted as a Permit Registration Document, as long as the approved plans and calculations are submitted within 14 days of approval by the municipal stormwater permittee, through a Change of Information (COI) in SMARTS). Additionally, a COI in SMARTS must be submitted for any revisions to post-construction plans and calculations prior to submitting the Notice of Termination (NOT).

2.2.4.2.1 Waiver From Construction General Permit

Projects that disturb over 1.0 acre but less than 5 acres of soil, may qualify for waiver of CGP coverage. This occurs whenever the Rainfall Erosivity, (R) in the Revised Universal Soil Loss Equation (RUSLE) is less than 5. When the R factor is below the numeric value of 5, projects can be waived from coverage under the CGP, and are instead covered by the Caltrans Statewide MS4 permit. Refer to the CGP, Attachment D1, Risk Determination Worksheet of the CGP, link provided in Section 6.

In accordance with the SWMP, a Water Pollution Control Plan (WPCP) is necessary for construction of a Caltrans project not covered by the CGP.

Construction activity that results in soil disturbances of less than one acre is subject to this CGP if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop a SWPPP, to implement soil erosion and pollution prevention control measures, and to obtain coverage under the CGP.

2.2.4.2.2 Risk Level Inspection and Sampling Requirements

The CGP contains a risk-based permitting approach by establishing three levels of risk possible for a construction site. Risk levels are determined during the planning, design, and construction phases, and are based on project risk of generating sediments and receiving water risk of becoming impaired. Requirements apply according to the Risk Level (RL) determined, with

additional monitoring and reporting requirements for higher risk projects with detailed requirements listed in Attachment D of the CGP. Requirements include:

- Visual inspections weekly, prior to Qualifying Precipitation Events (QPEs), during QPEs (every 24 hours) and post QPEs. A qualifying Storm Event (QPE) is defined as a forecasted 50% probability of precipitation of 0.5" or more within a 24-hour period and continues on subsequent 24-hour periods when 0.25 inches or more is forecast.
- RL 2 and 3 projects have sampling requirement for pH and Turbidity.
- Additionally, sampling for Numeric Action Levels (NALs) and Numeric Effluent Limits (NELs) is required for all risk level projects for TMDL-related non-visible pollutants listed in Attachment H of the CGP, if there is a discharge due to failure to implement a BMP, a container spill or leak, or a BMP breach or malfunction.

2.2.5 Section 401 Permitting

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the United States must obtain a 401 Certification, which certifies that the project will be in compliance with State water quality standards. The most common federal permit triggering 401 Certification is a CWA Section 404 permit, issued by USACE. The 401 permit certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before USACE issues a 404 permit.

In some cases, the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may prescribe a set of requirements known as Waste Discharge Requirements (WDRs) under the State Water Code (Porter-Cologne Act). WDRs may specify the inclusion of additional project features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

2.3 Regional and Local Requirements

2.3.1 Regional Water Quality Control Board (RWQCB) Basin Plan

The Water Quality Control Plan for the Central Valley lists the various water uses (Beneficial Uses, Chapter Two). Second, it describes the water quality which must be maintained to allow those uses (Water Quality Objectives, Chapter Three). Federal terminology is somewhat different, is that beneficial uses and water quality objectives are combined and the combination is called Water Quality Standards. Chapter Four, the Implementation Plan, then describes the programs, projects, and other actions which are necessary to achieve the standards established

in this plan. Chapter Five, Plans and Policies, summarizes State Water Resources Control Board (State Board) and Regional Water Quality Control Board (Regional Board) plans and policies to protect water quality. Chapter Six describes statewide surveillance and monitoring programs as well as regional surveillance and monitoring programs. The Regional Board implements the Basin Plan by issuing and enforcing waste discharge requirements to individuals, communities, or businesses whose waste discharges can affect water quality. These requirements can be either State Waste Discharge Requirements for discharges to land, or federally delegated National Pollutant Discharge Elimination System (NPDES) permits for discharges to surface water. Methods of treatment are not specified. When such discharges are managed so that: 1) they meet these requirements; 2) water quality objectives are met; and, 3) beneficial uses are protected, water quality is controlled. The Basin Plan is also implemented by encouraging water users to improve the quality of their water supplies, particularly where the wastewater they discharge is likely to be reused. Public works or other projects which can affect water quality are reviewed and their impacts identified. Proposals which implement or help achieve the goals of the Basin Plan are supported; the Regional Board makes water quality control recommendations for other projects.

3 AFFECTED ENVIRONMENT

3.1 General Environmental Setting

3.1.1 Population and Land Use

According to the United States Census Bureau (2020), Mariposa has a population of 1,526. Current land uses in the Project area include commercial to the north and east of the alignment, a cemetery to the east of the alignment, single family residential to the west of the alignment, and multi-family residential to the south of the alignment.

3.1.2 Topography

The Project area approximate elevation ranges from a low of 1986 feet at the southern end of Fournier Road to a high of 2040 feet at the northern end of Fournier Road. The region transitions from rolling terrain in the west to mountainous areas in the east.

3.1.3 Hydrology

3.1.3.1 Regional Hydrology

According to Caltrans Water Quality Planning Tool (2026), the Project is located within an undefined hydrologic sub area (#538.00) of an undefined hydrologic area in the Mariposa

hydrologic unit. The Project site is situated within Duck Slough Watershed (Hydrologic Unit Code [HUC] 180400011502).

The existing hydrologic and hydraulic conditions of the Project site were analyzed using FEMA's 2009 Flood Insurance Study (FIS) for Mariposa County. This study is based on earlier comprehensive hydrologic analysis conducted by FEMA in 1988 using HEC-2 modeling software. The FIS provides base flood water surface elevations (WSEs) for Mariposa Creek but does not include updated discharge rates.

3.1.3.2 Local Hydrology

3.1.3.2.1 Precipitation and Climate

The Project area is in the foothills of the Sierra Nevada Mountains with most of the annual precipitation coming in the Spring months. The mean annual temperature is 55.7 degrees Fahrenheit (°F) with an average high of 68.7 °F and an average low of 42.6 °F. The annual precipitation average is approximately 28.13 inches (NOAA 2025).

3.1.3.2.2 Surface Water

The only water body that is present within the Project area is the Mariposa Creek. Mariposa Creek flows easterly through the Project site. The 100-year peak flow upstream of Fournier Road was taken from the 1988 study which was estimated at 1,960 cubic feet per second (cfs). For the Project, 2,000 cfs flow was used as the design discharge for hydraulic modeling to be more conservative. The FEMA effective FIRM delineates the regulated floodway and establishes the base flood elevations at the Project site. The upstream and downstream WSEs at the proposed bridge location are 1988.0 feet and 1985.0 feet, respectively. These elevations served as calibration benchmarks for modeling and evaluating the bridge design.

3.1.3.2.3 Total Maximum Daily Loads (TMDL)

The CWA Section 303(d) List of Water Quality Limited Segments (hereto known as "303 (d) List") is a list of water bodies that do not meet water quality standards. The State Water Resources Control Board (SWRCB, Central Valley Region) developed this list. The CWA requires that the responsible jurisdictions establish a ranking system, by priority, for water bodies on the list; also, action plans need to be developed, such as Total Maximum Daily Loads (TMDLs), to improve water quality. The 303(d) List is typically revised every two years. The stormwater destination is Mariposa Reservoir. This stretch of Mariposa Creek is listed on the 303(d) List as "Mariposa Creek above Mariposa Reservoir" with the pollutants of concern listed below.

TDMLs and 303(d) Listed Water Bodies (2026 List)

Water Body	Pollutants
Mariposa Creek	<i>Escherichia coli</i> (E. coli), Dissolved Oxygen, pH, Specific Conductivity, Temperature (water)

3.1.3.2.4 Areas of Special Biological Significance (ASBS)

There are historical occurrences of foothill yellow-legged frog (FYLF; *Rana boylei*) and northwestern pond turtle (NPT; *Actinemys marmorata*) in the vicinity of Mariposa from prior to the 1900s. More recently, there are occurrences of FYLF approximately eight miles north of the construction area and NPT approximately 9.5 miles south of the construction area; however, no occurrences have been recorded in proximity to the construction area. These occurrences are all located outside of the potential dispersal distance for FYLF and NPT. While there are no documented occurrences of NPT within 9.5 miles of the construction area, the County has had experience with prior projects within similar habitats that required mitigation for this species through the Section 1602 Lake and Streambed Alteration Agreement process. Therefore, the proposed project has the potential to impact NPT; however, and for the reasons outlined above, it is unlikely that FYLF would occur within or adjacent to the construction area.

The construction area is within the Mariposa, California United States Geological Survey (USGS) 7.5-minute Topographic Quadrangle Map. According to the Information for Planning and Consulting (IPaC) map, there are no critical habitats within the construction area. The IPaC list of endangered and threatened species identifies fisher (*Pekania pennanti*), California condor (*Gymnogyps californianus*), and FYLF as endangered species identified in the areas surrounding the construction area.

Furthermore, IPaC lists California red-legged frog (*Rana draytonii*) and Mariposa pussypaws (*Calyptridium pulchellum*) as threatened species in the area and NPT western spadefoot (*Spea hammondi*), and monarch butterfly (*Danaus plexippus*) as proposed threatened species in the area. The IPaC list also identifies bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) as federally fully protected species with the potential to occur in the project vicinity.

The California Natural Diversity Database (CNDDB) also identifies Mariposa pussypaws, bald eagle, FYLF, and western spadefoot as occurring in the nine-quadrangle region of the Project site (See Attachment 1). Additionally, the CNDDB identifies Sierra Nevada yellow-legged frog (*Rana sierrae*) as an endangered species and California tiger salamander (*Ambystoma californiense*) and valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) as threatened species that occur in the nine-quadrangle region of the construction area. Although

these species are found within the greater vicinity of the construction area, the majority of these species are not specifically recorded within the greater Mariposa area. Because these species are unlikely to occur on the project site, no loss of habitat or removal of these species is expected to occur. Attachment 1 depicts the known occurrences of the listed species within one mile of the Project area.

3.1.3.2.5 Floodplains

As shown in Attachment 2, the southern portion of Fournier Road is in Zone AE along the Mariposa Creek floodway. However, the proposed bridge of the Project would minimize the impacts of a 100-year flood event. The proposed detention basin would improve runoff area and flooding of the roadway as it lessens the area of runoff into Mariposa Creek. The Project will comply with FEMA regulatory requirements and minimize floodway impacts. The design of the Project will ensure water remains within the regulatory floodway boundary, including channel improvements, and add stormwater detention facilities.

3.1.3.2.6 Municipal Supply

There are no drinking water or water recharge facilities in the Project area. Mariposa Reservoir is located approximately 16.5 miles to the southwest of the Project site. This reservoir has existing beneficial uses of municipal and domestic supply (MUN).

3.1.3.3 Groundwater Hydrology

During the recent field investigation performed by Earth Mechanics, Inc. for the Project, groundwater was encountered between elevations +1,973 and +1,984 (about 12 to 1 foot below grade). The California Department of Water Resources Online Water Data Library (2025), the Statewide Groundwater Monitoring Act (SGMA) data viewer (2025) and the United States Geological Survey National Water Dashboard (2025) were reviewed for additional groundwater level readings in the vicinity of the project. No wells within three miles of the project site were identified.

Groundwater elevation and moisture content of in-situ soils can vary due to fluctuations in seasonal rainfall, irrigation, changes in or addition of surface drainage and flood control features, groundwater injection and extraction activities, construction activities, and numerous other man-made or natural conditions. In addition, because of the local geology (foliation, joints, highly fractured geologic materials), perched groundwater could be encountered in excavations.

Groundwater depth affects liquefaction assessment and foundation design. Caltrans Geotechnical Manual on Liquefaction Evaluation (Caltrans, 2020) does not recommend using an abnormally higher groundwater elevation without clear evidence for seasonal or long-term

fluctuations. This is because using abnormally high groundwater level would result in costly and unnecessary overdesign. Therefore, the design groundwater table was placed at an elevation of +1,985 feet (at the creek bottom) for geotechnical analyses and foundation design.

3.1.4 Geology/Soils

3.1.4.1 Geology

Geologic mapping from the CGS2 depicts Mesozoic to Cenozoic deposits in the Project alignment vicinity and is the basis for the Geologic Map. Lithologic units in the Project alignment vicinity include:

- **Jurassic and/or Triassic Metavolcanic Rocks (JTRv)** – aphanitic rhyolite member of Mariposa Formation; massive green metamorphosed metatuff breccia, local andesitic and basaltic lava, and interbedded black slate and phyllite.

The nearest serpentinite (ultramafic) unit (rocks that could contain NOA) is mapped about 1,000 feet south of the Project alignment.

3.1.4.2 Soils

The Web Soil Survey website shows the Project alignment as underlain by the soil types summarized in the table below.

Summary of Soil Characteristics

Soil Name	Typical Profile	Parent Material
Loafercreek-Bonanza complex, 3 to 15 percent slopes	<u>Loafercreek</u> 0 to 5 inches – Silty Sand 5 to 17 inches – Clayey Gravel 17 to 24 inches – Clayey Sand with Gravel 24 to 79 inches – Bedrock <u>Bonanza</u> Surface – Organic Soil 0 to 2 inches – Silt 2 to 7 inches – Lean Clay 7 to 16 inches – Gravelly Lean Clay 16 to 79 inches – Bedrock	Jurassic and/or Triassic Metavolcanic Rocks (JTRv)
Riverwash and tailings	0 to 6 inches – Poorly-graded Sand with Gravel 6 to 60 inches – Well-graded Sand with Gravel	Mixed alluvium

3.1.5 Biological Communities

3.1.5.1 Aquatic Habitat

3.1.5.1.1 Special Status Species

No anticipated impact.

3.1.5.1.2 Stream/Riparian Habitats

Stream habitats will be improved with the removal of the culvert. The bridge will allow for a more natural condition of stream habitat that is unobstructed by the road.

3.1.5.1.3 Wetlands

No wetlands present.

3.1.5.1.4 Fish Passage

Fish passage will be improved. The removal of the culvert and introduction of a bridge will allow for smoother fish passage through Mariposa Creek at the Project site.

3.2 Water Quality Objectives/Standards and Beneficial Uses

3.2.1 Surface Waters

The California State Water Resources Control Board published the 2026 California Integrated Report in February 2026. In Category 2 Waterbody Segments of the 2026 California Integrated Report establishes beneficial uses for waterways and water bodies. They include: Municipal and Domestic Supply (MUN); Agricultural Supply (AGR); Industrial Service Supply (IND); Industrial Process Supply (PRO); Groundwater Recharge (GWR); Freshwater Replenishment (FRSH); Navigation (NAV); Hydropower Generation (POW); Contact/Non-Contact Water Recreation (REC-1/ REC-2); Commercial and Sport Fishing (COMM); Aquaculture (AQUA); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD); Inland Saline Water Habitat (SAL); Estuarine Habitat (EST); Marine Habitat (MAR); Wildlife Habitat (WILD); Preservation of Biological Habitats of Special Significance (BIOL); Rare, Threatened, or Endangered Species (RARE); Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN), Shellfish Harvesting (SHELL). The beneficial uses that pertain to Mariposa Creek are listed below.

Beneficial Uses of Water Bodies within, and in vicinity of project limits

Water Body	Beneficial Uses
Mariposa Creek	COLD, MUN, REC1, REC2, SPWN, WARM

3.2.2 List of Impaired Waters

Mariposa Creek is within the Project limits. Pollutants include dissolved oxygen, Escherichia coli (E. coli), pH, specific conductivity, and water temperature.

3.2.3 Groundwater

Mariposa Creek does not include groundwater recharge (GWR).

4 ENVIRONMENTAL CONSEQUENCES

4.1 Introduction

This section provides an overview of the proposed conceptual stormwater drainage system, including post-construction BMPs, the use of any existing system, and any proposed Low-Impact Development (LID) concepts. Impact to water quality can be temporary and/or long-term effect. Generally, temporary impact applies to the construction phase of a project. The Project involves 1.0 acre or more of Disturbed Soil Area (DSA) soil and is required to obtain coverage under Construction General NPDES Permit Number CAS000002 (CGP). Long-term impact is usually caused by addition of NIS. Caltrans projects are not subject to CGP Post Construction Treatment Requirements. Instead, Caltrans projects that create 10,000 square foot (SF) or more of NIS are subject to 'Post-Construction Treatment control' requirements of Caltrans' Statewide MS4 NPDES Permit Number CAS000003.

4.2 Project Features/Standardized Measures

The Project features/standardized measures implemented by the Project to address permit requirements will minimize temporary or permanent water quality (WQ) impacts created by the project. These measures are taken into consideration prior to determining project impacts:

- PF-WQ-1** The Project will comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for the State of California, Department of Transportation, Order No. 2022-0033-DWQ, NPDES No. CAS000003 and any subsequent permits in effect at the time of construction.

- PF-WQ-2** The Project will comply with the provisions of the NPDES Construction General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) Order No. 2022-0057-DWQ, NPDES No. CAS000002 and any subsequent permits in effect at the time of construction.
- PF-WQ-3** The Project will comply with the Construction General Permit by preparing and implementing a Stormwater Pollution Prevention Plan (SWPPP) or Water Pollution Control Plan (WPCP) to address all construction-related activities, equipment, and materials that have potential impact to water quality for the appropriate Risk Level. The SWPPP or WPCP will identify the sources of pollutants that may affect the quality of stormwater and include BMPs to control the pollutants, such as sediment control, catch basin inlet protection, construction materials management and non-stormwater BMPs. All work must conform to the Construction Site BMP requirements specified in the latest edition of the Stormwater Quality Handbooks: Construction Site Best Management Practices Manual to control and minimize the impacts of construction and construction related activities, material and pollutants on the watershed. These include, but are not limited to temporary sediment control, temporary soil stabilization, scheduling, waste management, materials handling, and other non-stormwater BMPs.
- PF-WQ-4** Design Pollution Prevention Best Management Practices (BMPs) will be implemented such as preservation of existing vegetation, slope/surface protection systems (permanent soil stabilization), concentrated flow conveyance systems such as ditches, berms, dikes, and swales, over side drains, flared end sections, and outlet protection/velocity dissipation devices.

4.3 Potential Impacts to Water Quality

4.3.1 Anticipated changes to the Physical/Chemical Characteristics of the Aquatic Environment

No anticipated changes.

4.3.1.1 Substrate

No anticipated changes.

4.3.1.2 Currents, Circulation or Drainage Patterns

Due to the addition of impervious surface to the Project, a detention basin will be constructed to reduce the area of runoff into the Mariposa Creek. After the construction of the detention basin, the area of runoff into the Mariposa Creek will be less than the existing runoff. The proposed drainage pattern will include the addition of drainage inlets that will lead to the detention basin.

The stream currents will be improved with the removal of the culvert and low water crossing. The bridge will allow for a smoother, continuous flow of Mariposa Creek.

4.3.1.3 Suspended Particulates (Turbidity)

There will be earth disturbing activities during construction. Silt and sediment could be transported through rainfall runoff, leading to suspended particulates. Standardized measures will be implemented to address this potential impact.

4.3.1.4 Oil Grease and Chemical Pollutants

Vehicles and construction equipment have the potential to release oil, grease, and chemical pollutants. Standardized measures will be implemented to address this potential impact.

4.3.1.5 Includes metals and pesticides

No anticipated impact.

4.3.1.6 Temperature, Oxygen Depletion and Other Parameters

No anticipated impact.

4.3.1.7 Litter

Litter may be introduced during construction. Standardized measures, such as good housekeeping, will be implemented to address this potential impact.

4.3.1.8 Flood Control Functions

No anticipated impact.

4.3.1.9 Storm, Wave and Erosion Buffers

No anticipated impact.

4.3.1.10 Erosion and Accretion Patterns

No anticipated impact.

4.3.1.11 Aquifer Recharge/Groundwater

No anticipated impact.

4.3.1.12 Baseflow

No anticipated impact.

4.3.2 Anticipated Changes to the Biological Characteristics of the Aquatic Environment

4.3.2.1 Special Aquatic Sites

None.

4.3.2.2 Habitat for Fish and Other Aquatic Organisms

Fish habitats will be improved with the removal of the culvert. The bridge will allow for a more natural condition of fish habitat that is unobstructed by the road.

4.3.2.2.1 Fish Passage (Beneficial Uses)

Fish passage will be improved. The removal of the culvert and introduction of a bridge will allow for smoother fish passage through Mariposa Creek at the Project site.

4.3.2.3 Wildlife Habitat

4.3.2.3.1 Wildlife Passage (Beneficial Uses)

No anticipated changes.

4.3.2.4 Endangered or Threatened Species

Biological characteristics of endangered or threatened species will be unaffected or improved.

4.3.2.5 Invasive Species

4.3.3 Anticipated Changes to the Human Use Characteristics of the Aquatic Environment

4.3.3.1 Existing and Potential Water Supplies; Water Conservation

No anticipated changes.

4.3.3.2 Recreational or Commercial Fisheries

No anticipated changes.

4.3.3.3 Other Water Related Recreation

No anticipated changes.

4.3.3.4 Aesthetics of the Aquatic Ecosystem

No anticipated changes.

4.3.3.5 Parks, National and Historic Monuments, National Seashores, Wild and Scenic Rivers, Wilderness Areas, etc.

These features do not exist on this Project.

4.3.3.6 Traffic/Transportation Patterns

No anticipated changes.

4.3.3.7 Energy Consumption of Generation

No anticipated changes.

4.3.3.8 Navigation

No anticipated changes.

4.3.3.9 Safety

Road safety will be improved because the road will not flood with the proposed Project.

4.3.4 Temporary Impacts to Water Quality

No anticipated impacts.

4.3.5 Long-term Impacts During Operation and Maintenance

The Project may require maintenance that have long-term impacts to water quality. Potential pollutant sources would likely be from vehicles (oil, grease, fuel).

4.4 Cumulative Impacts

The Project does not promote further development in the watershed. No cumulative impacts are anticipated.

5 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

There are no additional water quality measures being implemented. The standardized measures to avoid, minimize, or mitigate impact are anticipated to be sufficient for the Project.

6 REFERENCES

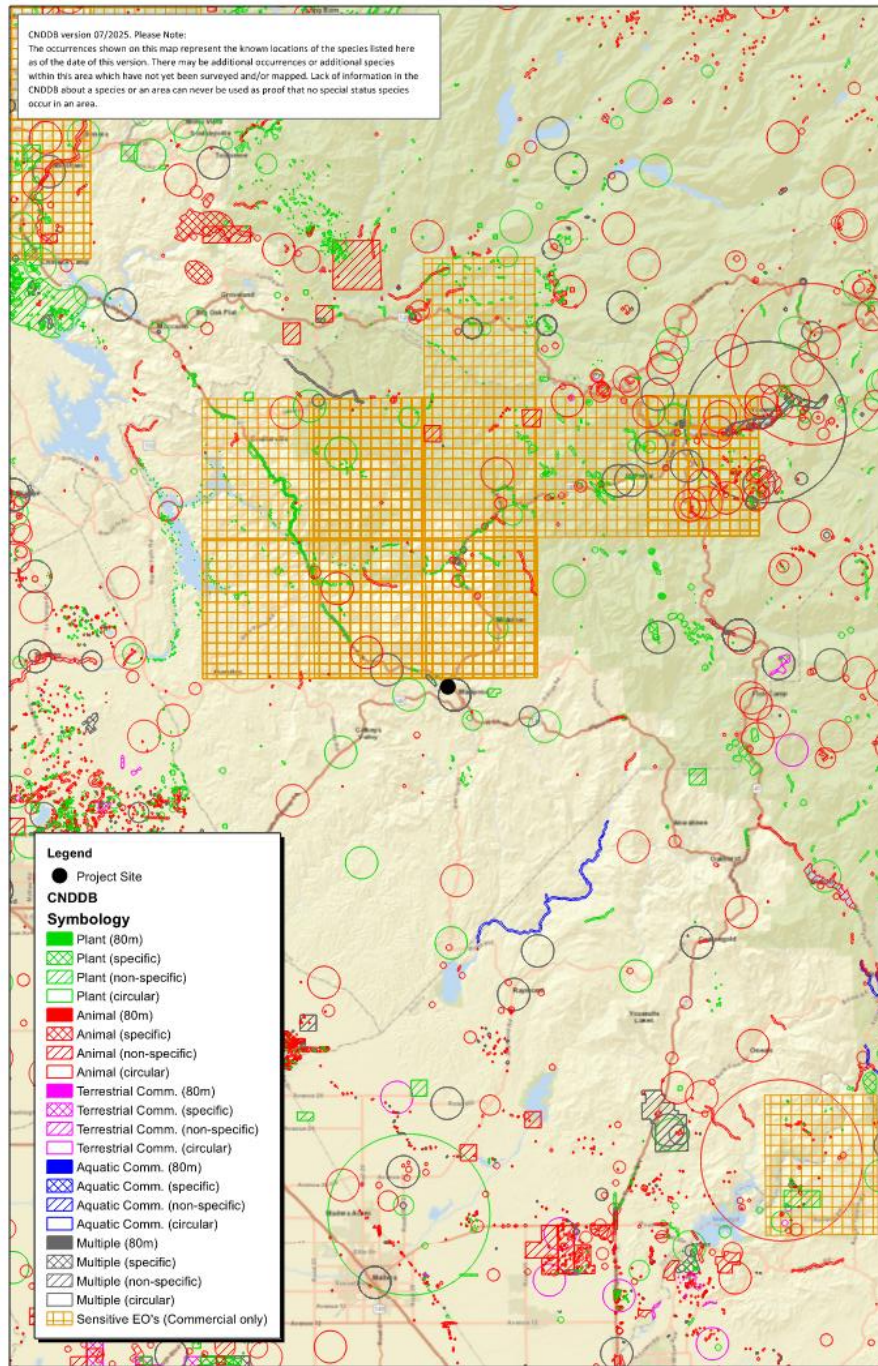
- [Caltrans Division of Design Stormwater homepage](#) for guidance and tools (Project Risk Level, Estimating for CGP, Erosion Prediction software, etc.)
- [Caltrans Division of Environmental Analysis Homepage](#)
- For wetlands, hydromorphic method and water assessment information, see [SER, Volume 1, Chapter 15 - Waters of the U.S. and the State](#)
- For hydraulic studies and floodplain encroachment information, see [SER, Volume 1, Chapter 17 - Floodplains](#)
- For Coastal Zone permits information, see [SER Volume 5 - Coastal Requirements](#)
- For Wild and Scenic Rivers information, see [SER Volume 1, Chapter 19 - Wild and Scenic Rivers](#)
- Groundwater – [California Department of Water Resources Groundwater Data Library](#)
- [Caltrans Stormwater Quality Handbook Project Planning and Design Guide \(PPDG\)](#)
- Caltrans Stormwater Quality Practice Guidelines: [Caltrans Stormwater Management Program](#)
- [Caltrans Water Quality Planning Tool](#)

- [NOAA National Centers for Environmental information](#), Climate at a Glance: County Time Series
- [Regional Water Quality Control Board website and Basin Plans](#)
- CGP - State Water Resources Control Board National Pollutant Discharge Elimination System (NPDES) General Permit For Stormwater Discharges Associated with Construction and Land Disturbance Activities, ORDER WQ 2022-0057-DWQ, NPDES No. CAS000002 (CGP Permit): [Statewide Construction General Permit](#)
- Caltrans Permit - State Water Resources Control Board ORDER 2022-0033-DWQ, NPDES No. CAS000003, Statewide Stormwater Permit and Waste Discharge Requirements for State of California Department of Transportation: [Caltrans \(MS4\) Program](#)
- [State Water Resources Control Board Watershed Management](#)
- [United States \(U.S.\) Environmental Protection Agency Section 404\(b\)\(1\) guidelines](#)
- [U.S. Department of Agriculture, Natural Resources Conservation Service \(NRCS\), Web Soil Survey](#)

6.1 Works Cited

- Preliminary Environmental Study (December 2025)
- Preliminary Foundation Report by Earth Mechanics, Inc. (September 2025)
- Initial Site Assessment by Crawford & Associates, Inc. (January 2026)
- Structure Type Selection Memo (September 2025)
- Hydraulic and Hydrologic Analysis Report by PEC Water (March 2025)

6.2 Attachments



Source: Bing Street Imagery, California Natural Diversity Database (CNDDb), July 2025.

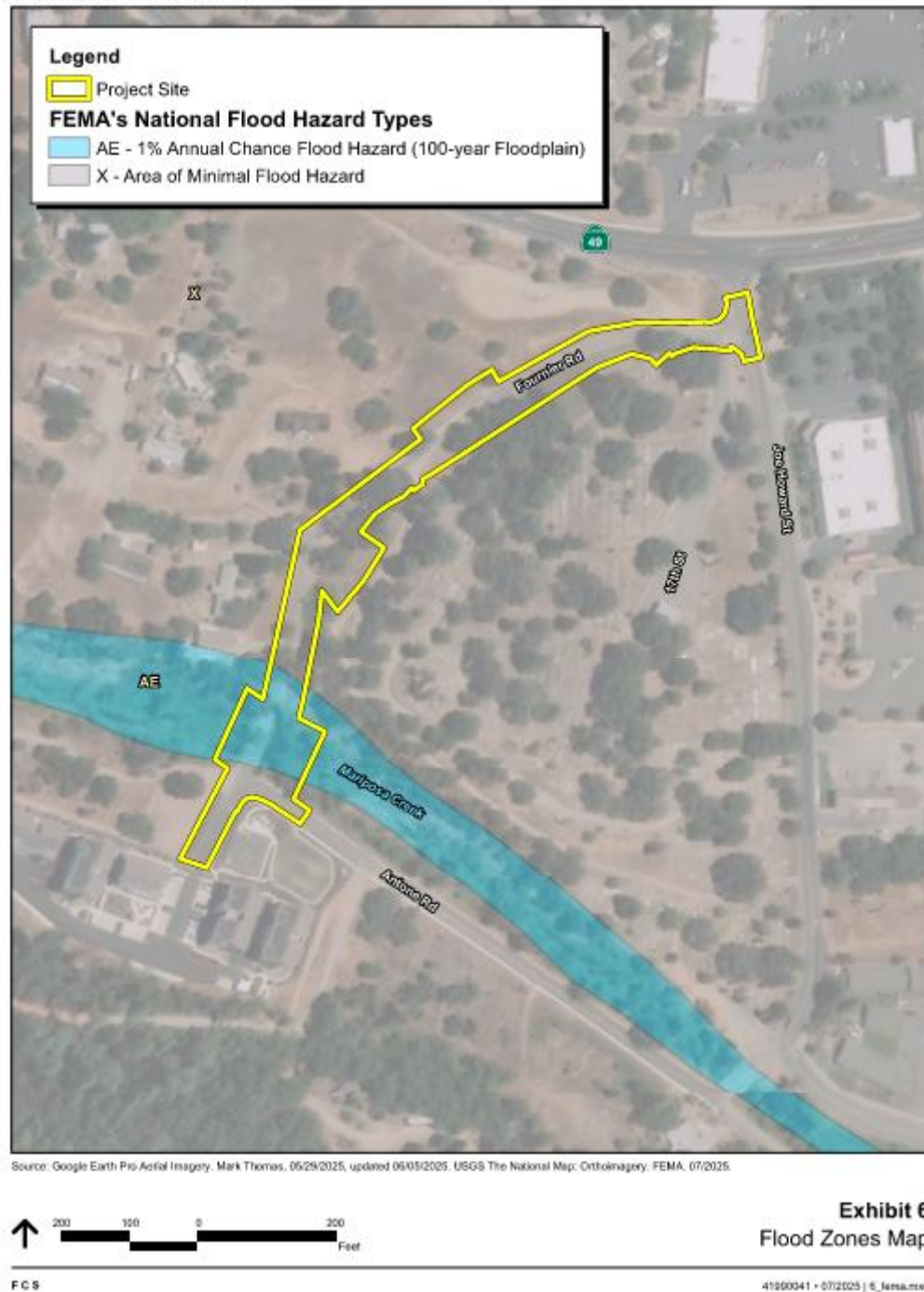


FCS

Exhibit 8
 CNDDb Special-status Species Occurrences

41900541 - 07/2025 | 8_CNDDb.mxd

Attachment 1



Attachment 2

6.3 Preparer(s) Qualifications

This report was prepared by Victor K. Alfors, EIT.

- Licensed Engineer-In-Training, State of California
- B.S. Civil Engineering, California State University, Fresno

This report was reviewed by Erik Chin, PE.

- Licensed professional engineer, State of California, Civil, No. 97040
- B.S. Civil Engineering, University of California, Irvine
- 13 years of professional experience

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PRELIMINARY

Location Hydraulic Study Report

Fournier Road Improvement Project

Mariposa County Public Works

Mariposa, California



**Prepared by:
Evan Rios**

**Reviewed by:
Hamed Hakimelahi, P.E.**

February, 2026

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Project Description

The Fournier Road Improvement Project includes the construction of a new bridge over Mariposa Creek, between Joe Howard Street and Antone Road. According to the Flood Insurance Rate Map (FIRM), Mariposa Creek is considered a regulated floodway. The bridge will support two-way vehicle and pedestrian traffic. This report evaluates the hydraulic performance of various proposed bridge configurations at the Fournier Road crossing.

As no digital model of existing conditions was available, a new HEC-RAS model was developed. Proposed bridge alternatives and channel modifications were incorporated into the model and evaluated based on FEMA flood elevations and Caltrans design criteria.

The goal is to determine the optimal bridge configuration that ensures regulatory compliance, flood resilience, and sediment conveyance.

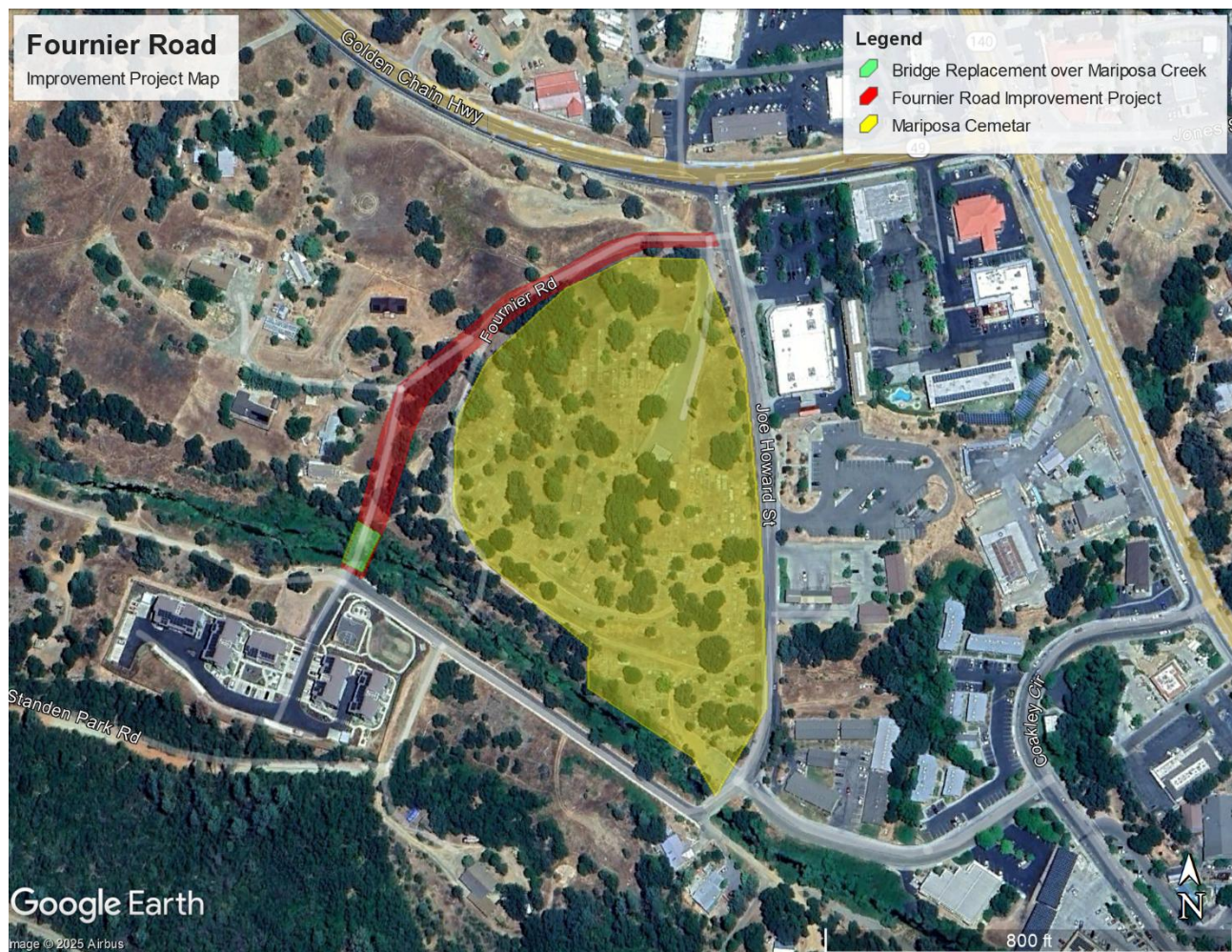


Figure 1: Aerial View of the Project.

Purpose of Location Hydraulic Study

The purpose of this Location Hydraulic Study is to evaluate existing and proposed conditions within the base (100-year) floodplain and to determine whether the proposed project would result in a floodplain encroachment or an increase in base flood elevations, in accordance with 23 CFR 650, Executive Order 11988, and Caltrans Standard Environmental Reference guidance. The study supports identification of a bridge and channel modification strategy that provides adequate hydraulic capacity, ensures structural safety, and complies with FEMA and Caltrans criteria.

The analysis included:

- Development of a HEC-RAS hydraulic model for approximately 500-foot reach upstream and downstream of the proposed bridge.
- Calibration of the model using FEMA Flood Insurance Study (FIS) water surface elevations (WSEs).
- Evaluation of bridge span alternatives of 50 ft, 67 ft, and 90 ft.
- Assessment of channel modifications to improve flow conveyance.
- Regrading of the creek channel at a 1 percent slope over approximately 60 ft upstream and 40 ft downstream of the proposed bridge.

Performance Criteria:

- The 100-year water surface elevation must remain below the lowest bridge deck elevation.
- Upstream and downstream modeled water surface elevations must match or be lower than FEMA reference elevations of 1988.0 ft and 1985.0 ft, respectively.

Floodplain and Regulatory Setting

Fournier Road provides local access, including emergency vehicle access and school bus and mail service routes. The project crossing is located within the FEMA-designated regulatory floodway. Mariposa Creek crosses beneath Fournier Road through an existing 18-inch culvert. This culvert is undersized and contributes to roadway overtopping during storm events. There is a 3-foot drop from the roadway elevation to the invert of the culvert on the downstream side, see Figure 2.

The region transitions from rolling terrain in the west to mountainous areas in the east. Elevations range from 300 ft to nearly 11,000 ft. Annual precipitation increases from 15 inches in the lowlands to over 50 inches at higher elevations. Snowmelt is a significant contributor to seasonal runoff.



Figure 2: Fournier Road at the Crossing of Mariposa Creek

Existing Hydraulic Conditions

The existing hydrologic and hydraulic conditions at the project site were analyzed using FEMA's 2009 Flood Insurance Study (FIS) for Mariposa County. This study is based on an earlier comprehensive hydrologic analysis conducted by FEMA in 1988 using HEC-2 modeling software. The FIS provides base flood water surface elevations (WSEs) for Mariposa Creek but does not include updated discharge rates.

For this project, the 100-year peak flow upstream of Fournier Road was taken from the 1988 study, estimated at 1,960 cubic feet per second (cfs). To be more conservative, 2,000 cfs flow was used as the design discharge for hydraulic modeling. Based on a review of regional development, land use, and topographic data, it was assumed that watershed conditions have remained largely unchanged since the time of the original analysis.

The FEMA effective FIRM delineates the regulated floodway and establishes the base flood elevations at the project location. The upstream and downstream WSEs at the bridge crossing are 1988.0 ft and 1985.0 ft, respectively. These elevations served as calibration benchmarks for the HEC-RAS model and were used as performance criteria in evaluating bridge alternatives.

The FEMA FIRM Map (number: 06043C0751C, Sep 25, 2009) zoomed to the project area can be seen in Figure 3. The map shows the regulated floodway and WSE of Mariposa Creek at the proposed bridge location.

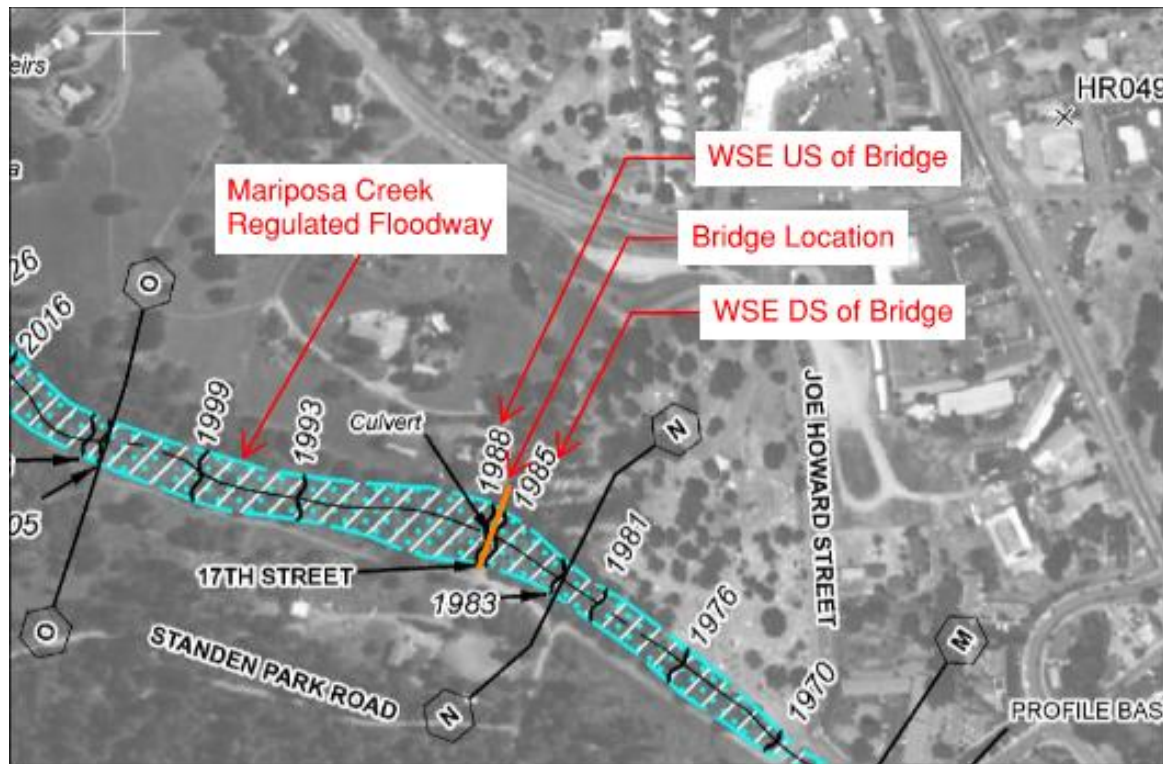


Figure 3: FIRM Map for the Project Area

HYDRAULIC ANALYSIS METHODOLOGY

A new HEC-RAS model was developed to represent the existing creek conditions. The model was calibrated to match FEMA's FIRM WSE values. The 2,000 cfs was used for the 100-year flow.

EXISTING MODEL

Model results confirm that the 18-inch culvert is hydraulically inadequate for the 100-year event, causing the creek to overtop Fournier Road. A 3-foot vertical drop from the roadway to the culvert invert on the downstream side further contributes to inefficient flow and potential erosion.

PERFORMANCE CRITERIA

To meet FEMA and Caltrans requirements:

- The 100-year WSE must remain below the lowest elevation of the proposed bridge deck.
- The upstream and downstream WSEs must be equal to or lower than those shown on the FEMA Flood Insurance Rate Maps (FIRM), which are 1988.0 ft (upstream) and 1985.0 ft (downstream), respectively.

To evaluate hydraulic performance under improved conditions, three bridge span alternatives were modeled: 50 feet, 67 feet, and 90 feet. Initial results showed that none of the bridge spans alone provided sufficient capacity to meet the performance criteria—each resulted in overtopping without additional channel modifications.

- 50-foot Bridge: 4:1 and 3:1 side slopes.
- 67-foot Bridge: 4:1 and 4:1 side slopes.
- 90-foot Bridge: 4:1 and 5:1 side slopes.

50' BRIDGE PROFILE
 SCALE: HORIZONTAL: 1"=20', VERTICAL: 1"=4'

The diagram illustrates a cross-section of a 50-foot bridge structure. The bridge deck is shown in green, with a 3.00' depth indicated. The bridge piers are also shown in green. The creek bed is depicted with a red line and labeled 'CREEK PROFILE'. The water surface elevation (WSE) for a 100-year return period is marked as 1985'. The diagram includes various elevation points and slopes:

- Elevations:**
 - Top of bridge deck: +48.02 (1991.85)
 - Top of bridge pier: +48.02 (1988.74)
 - Top of bridge pier (left): +48.02 (1984.41)
 - Top of bridge pier (right): +48.02 (1983.47)
 - Top of bridge pier (left): +98.02 (1986.25)
 - Top of bridge pier (right): +98.02 (1989.33)
 - Bottom of bridge pier (left): +18.05 (1978.36)
 - Bottom of bridge pier (right): +31.75 (1978.36)
- Slopes:**
 - Left side slope: SIDE SLOPE = 4:1
 - Right side slope: SIDE SLOPE = 3:1
- Other Labels:**
 - PG (Proposed Grade)
 - OG (Original Ground)
 - WSE (100-YR) = 1985'
 - 50.00' (Bridge width)
 - RIP RAP (indicated by a red line)

HYDRAULIC RESULTS AND FLOODPLAIN IMPACTS

With only side slope modifications alone and not modifying the channel slope, the 67-ft and 90-ft bridge alternatives satisfied the required criteria, staying within acceptable WSE limits.

The 50-ft bridge alternative, while improved, resulted in a downstream WSE of **1985.08 ft**, slightly exceeding the FEMA threshold of 1985.0. However, the freeboard between the WSE and the bottom of the bridge deck was approximately 9-inches, meeting the design criteria.

See Attachment A for the cross section and profile of bridges without slope correction.

With Channel Slope Correction:

Survey data indicated that the existing channel has insufficient slope for effective sediment transport. To address this and further increase conveyance capacity, the channel was regraded to a 1% slope extending:

- **60 feet upstream**, and
- **40 feet downstream** of the proposed bridge location.

These changes were incorporated into the 50-ft bridge model. The revised analysis showed that with these adjustments, the 50-ft span satisfies both FEMA and Caltrans hydraulic criteria and base flood elevations, making it a viable and cost-effective alternative.

- Downstream WSE: 1984.69-ft
- Freeboard: 11 inches

The analysis shows that the proposed roadway improvements with the 50-foot bridge span do not increase base flood elevations, flood risk, flood depth, flood duration, or flood velocities for upstream or downstream properties.

The proposed improvements do not result in an increase to FEMA Base Flood Elevations within the regulatory floodway; therefore, a CLOMR is not required.

See Figures 5 and 6 for cross-section and profile of the proposed 50-ft bridge.

See Figures 7 and 8 for cross-section and profile of the existing condition.

RIPRAP SIZING

The riprap is designed and sized to support the abutments in the creek. FHWA HEC 23 Volume 1 was referenced to calculate the correct sizing of riprap. The riprap sizing is as follows.

- **Riprap size (Inch): 15**

See Attachment B for calculations.

Preferred Alternative

The 50-foot bridge, when combined with the proposed channel slope corrections and riprap, satisfies all hydraulic performance requirements. It is therefore recommended as the preferred alternative. The proposed bridge eliminates overtopping during the 100-year event, and no traffic interruption is anticipated during base flood conditions. The project does not involve longitudinal encroachment, significant floodplain encroachment, or support incompatible floodplain development.

Table 1: Summary of Hydraulic Model Results (100-Year Flow)

Upstream Cross Section (WSE in feet)

Scenario	Slope Correction	WSE
Existing	No	1988.89
50-ft Bridge	No	1985.79
50-ft Bridge	Yes	1985.65
67-ft Bridge	No	1985.88
90-ft Bridge	No	1985.47

Downstream Cross Section (WSE in feet)

Scenario	Slope Correction	WSE
Existing	No	1985.01
50-ft Bridge	No	1985.08
50-ft Bridge	Yes	1984.69
67-ft Bridge	No	1985.08
90-ft Bridge	No	1985.20

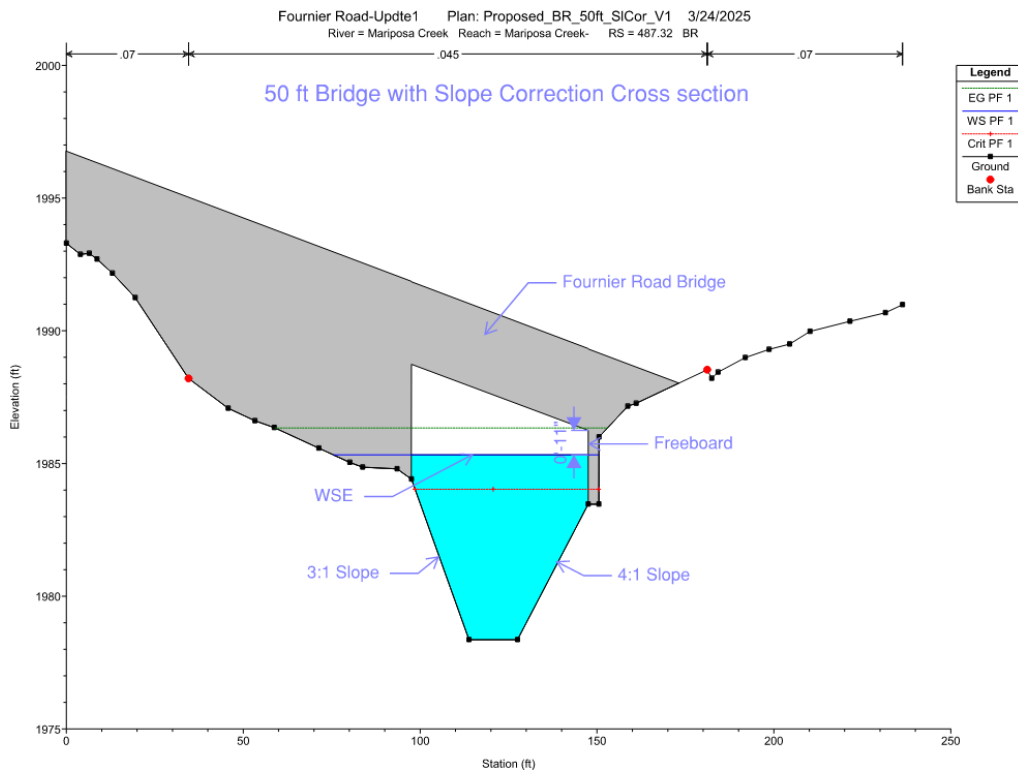


Figure 5: 50-ft Bridge Cross Section with Slope Correction

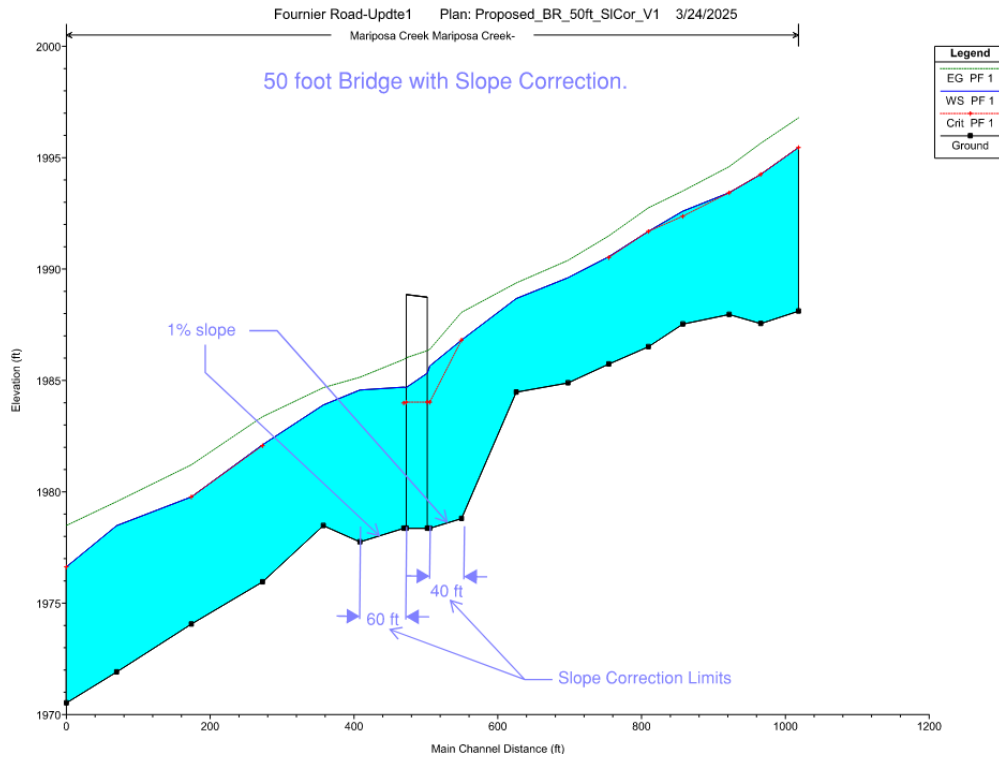


Figure 6: 50-ft Bridge Profile with Slope Correction

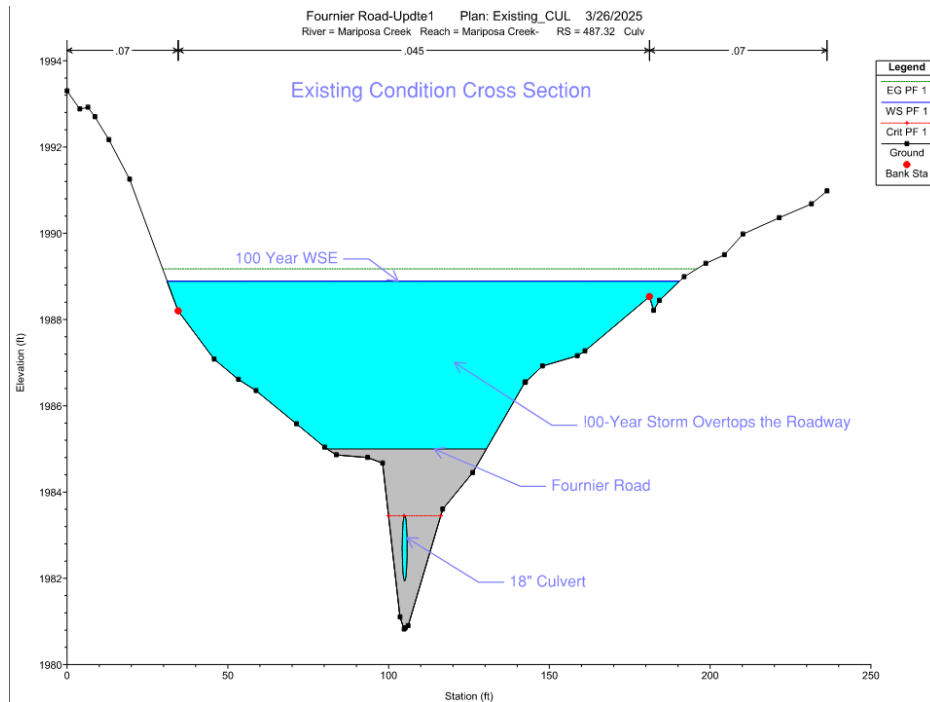


Figure 7: Existing Condition Cross Section

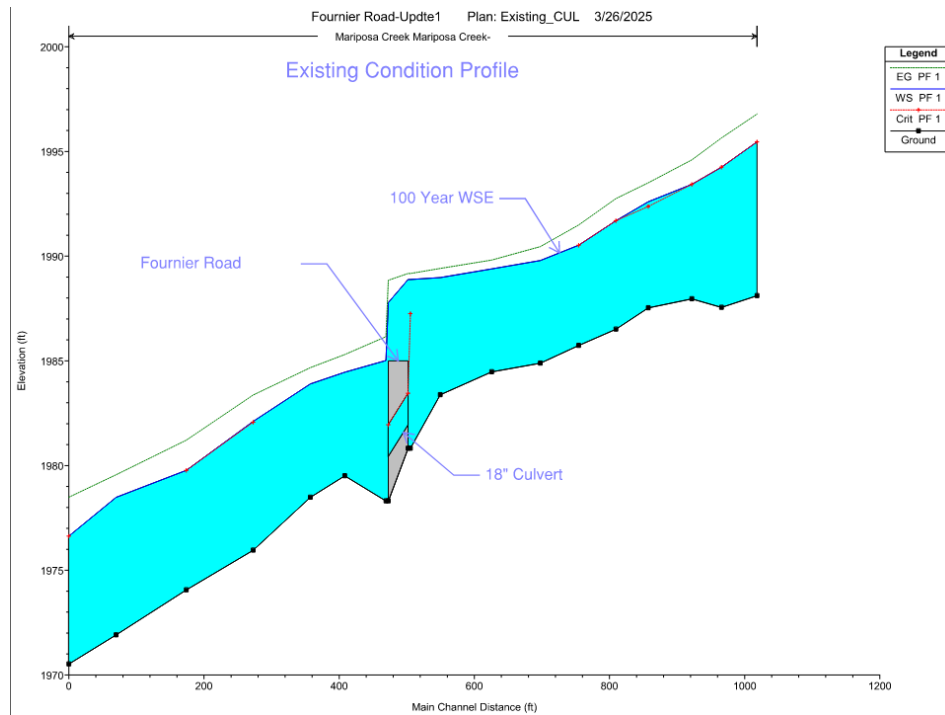
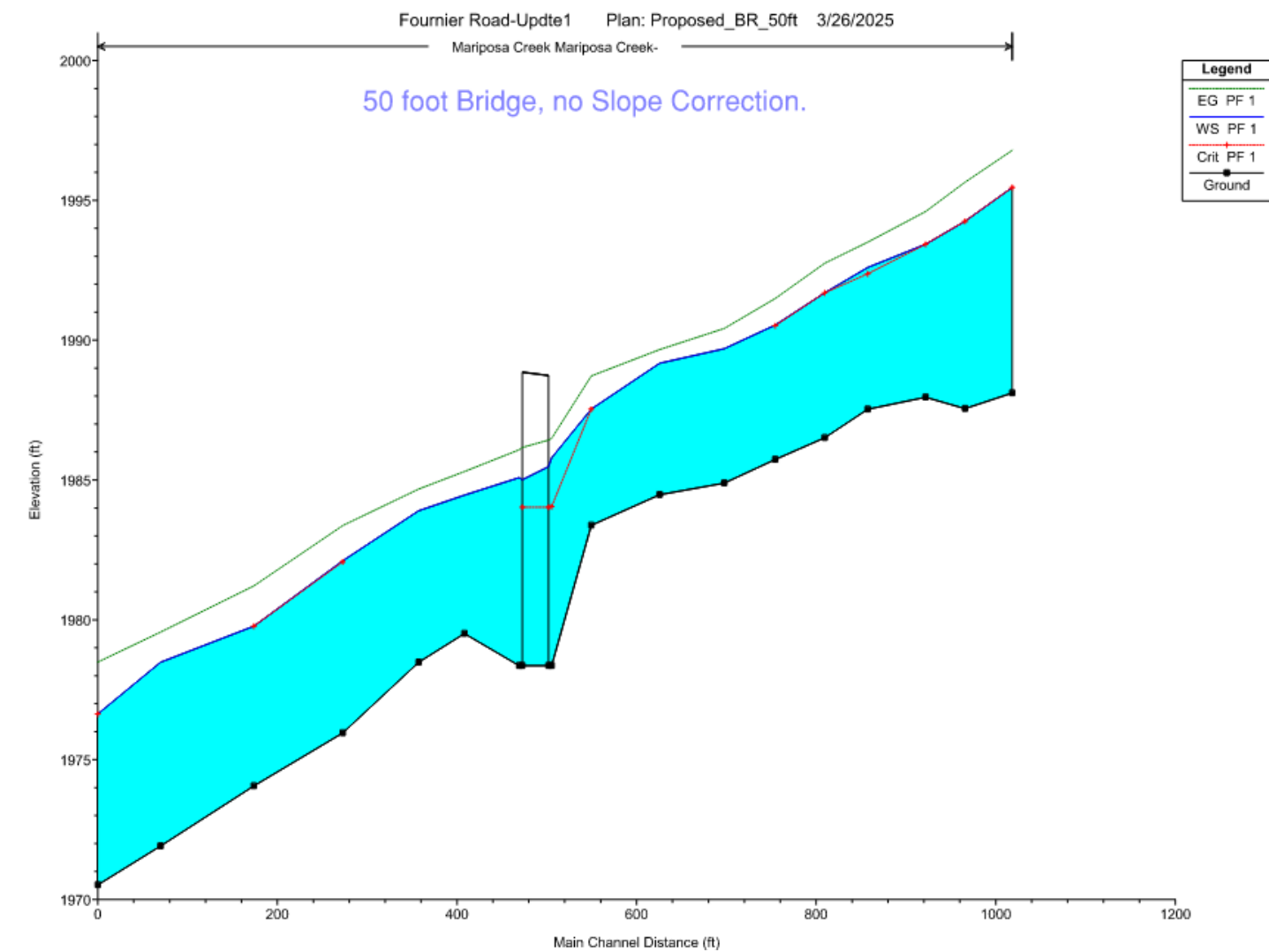
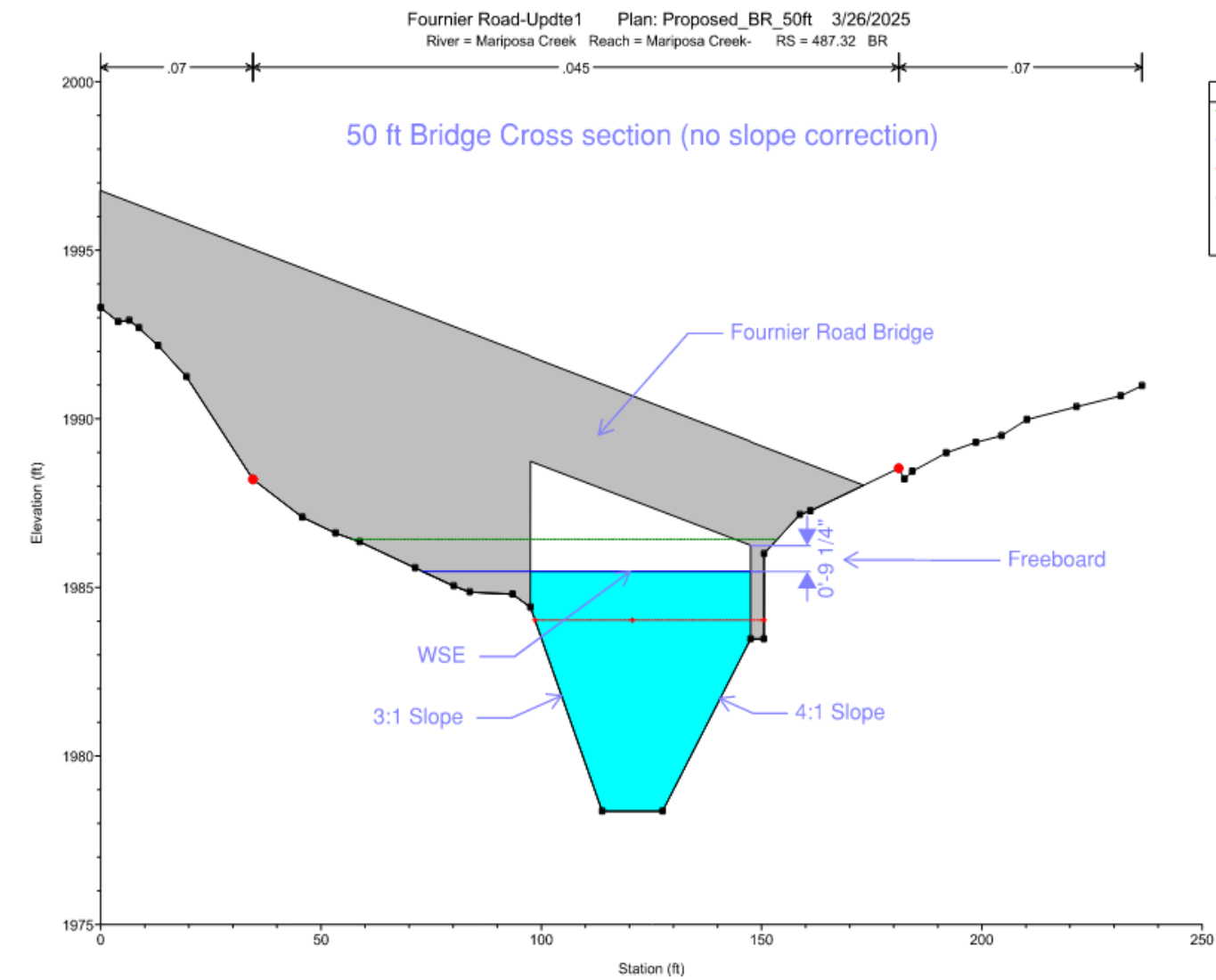
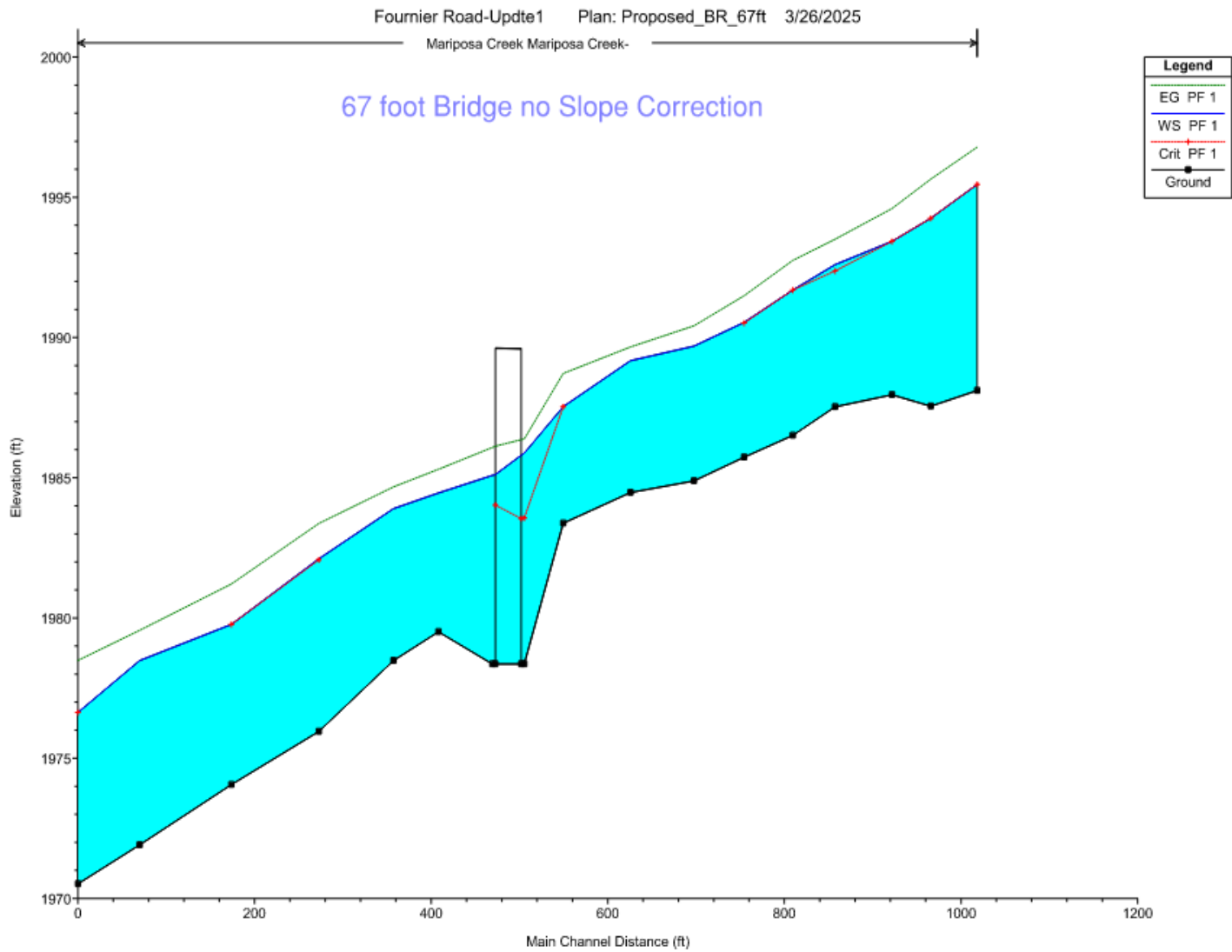
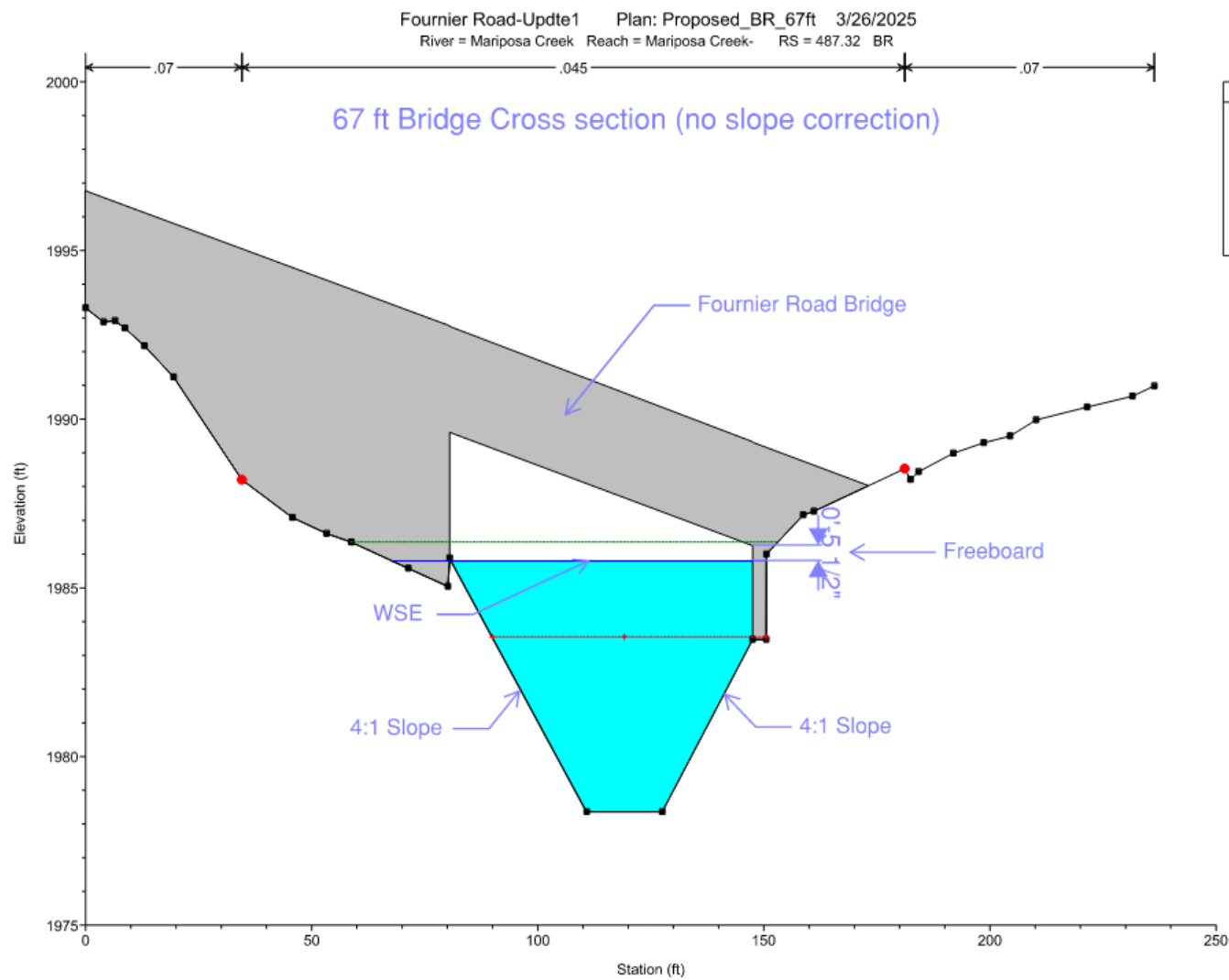
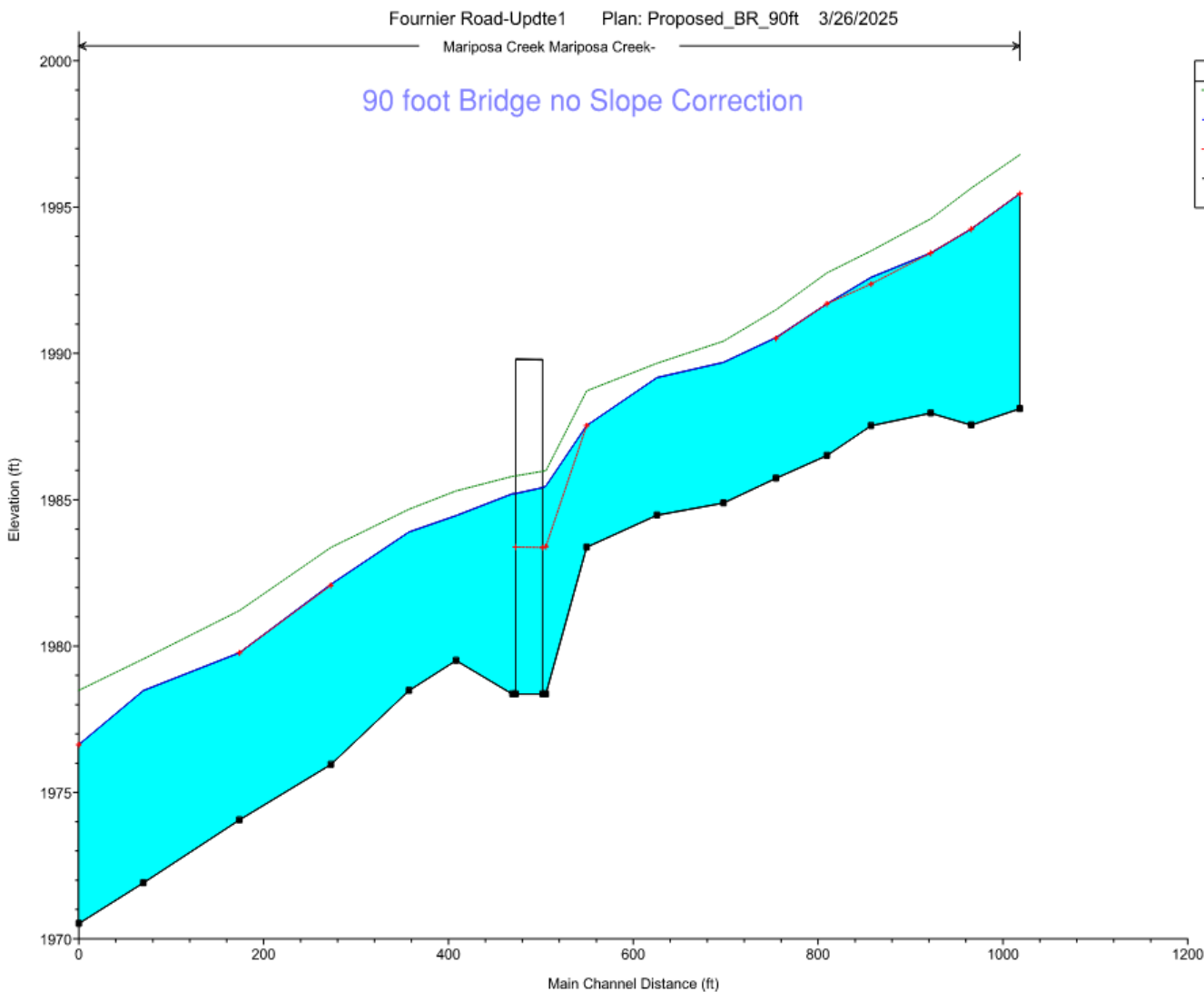
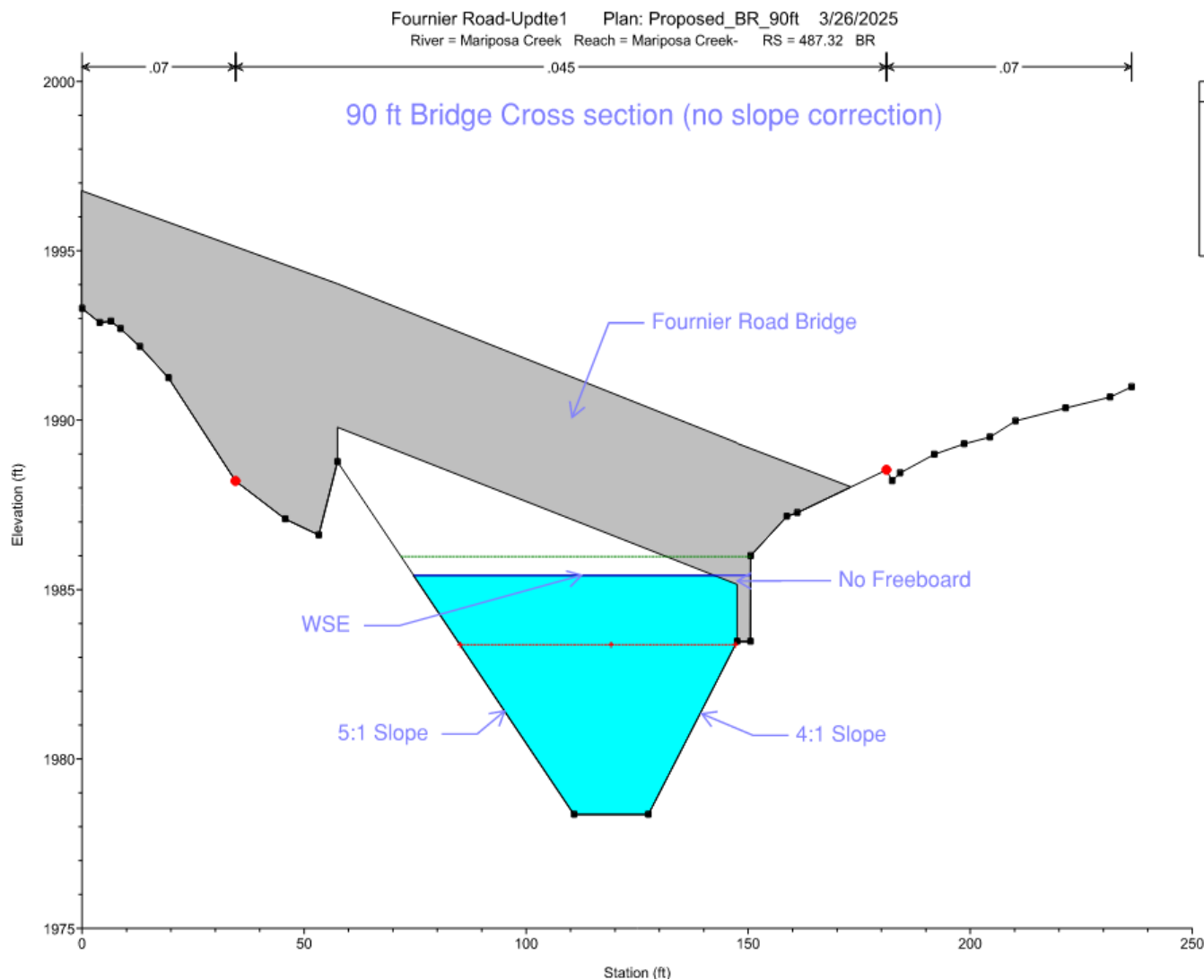


Figure 8: Existing Condition Cross Section Profile

Attachment A – HECRAS Output Graphs for Bridges Without Slope Correction







Attachment B – Riprap Sizing Calculations

Fournier Road Improvement Project Riprap Design

Reference: FHWA: Bridge Scour and Stream Instability Countermeasures: Experience, Selection, and Design Guidance-Third Edition

Chapter 5.2.3: Riprap for Bridge Piers

K 1.5
V (ft/s) 9.260 Velocity ft/s
S 2.65 Specific gravity of the riprap
g 32.2 gravity ft/s²
d₅₀ (ft) **1.256** Riprap Size
d₅₀ (inch) **15.077** Riprap Size
Class: IV Based on Table Below
Size: **15 inches**

From reference:

5.2.3 Riprap for Bridge Piers

According to Hoffmans and Verheij (1997) riprap can be sized using either the Isbash or Shields stability criteria if turbulence intensity is incorporated into the velocity component. The effect of turbulence is to increase instantaneous velocities well above the levels for unobstructed flow. This concept is particularly applicable to the pier riprap equations.

The standard Isbash (1936) formula for sizing riprap on a channel bed is:

$$D_{50} = \frac{0.692(KV)^2}{(2g(S_s - 1))} \quad (5.1)$$

where:

D₅₀ = Riprap size, ft (m)
V = Velocity, ft/s (m/s)
S_s = Specific gravity of the riprap (usually 2.65)
K = 1.0

From reference:

Table 5.1. Minimum and Maximum Allowable Particle Size in Inches.								
Nominal Riprap Class by Median Particle Diameter		d ₁₅		d ₅₀		d ₈₅		d ₁₀₀
Class	Size	Min	Max	Min	Max	Min	Max	Max
I	6 in	3.7	5.2	5.7	6.9	7.8	9.2	12.0
II	9 in	5.5	7.8	8.5	10.5	11.5	14.0	18.0
III	12 in	7.3	10.5	11.5	14.0	15.5	18.5	24.0
IV	15 in	9.2	13.0	14.5	17.5	19.5	23.0	30.0
V	18 in	11.0	15.5	17.0	20.5	23.5	27.5	36.0
VI	21 in	13.0	18.5	20.0	24.0	27.5	32.5	42.0
VII	24 in	14.5	21.0	23.0	27.5	31.0	37.0	48.0
VIII	30 in	18.5	26.0	28.5	34.5	39.0	46.0	60.0
IX	36 in	22.0	31.5	34.0	41.5	47.0	55.5	72.0
X	42 in	25.5	36.5	40.0	48.5	54.5	64.5	84.0

Note: Particle size d corresponds to the intermediate ("B") axis of the particle.

Attachment C – Location Hydraulic Study Form



LOCATION HYDRAULIC STUDY FORM¹

DIST-CO-RTE:

PM/PM:

EA/Project No.:

Bridge No.:

Floodplain Description: The project is located within the FEMA-mapped 100-year floodplain and regulatory floodway of Mariposa Creek at the Fournier Road crossing in Mariposa County, California

1. Description of Proposal: The proposed action consists of replacing the existing undersized 18-inch culvert at the Fournier Road crossing of Mariposa Creek with a new bridge structure designed to convey the 100-year flood event in compliance with FEMA and Caltrans criteria. The bridge will support two-way vehicular and pedestrian traffic and eliminate roadway overtopping that occurs under existing conditions. To minimize floodplain impacts, the bridge span and profile were selected to maintain floodway conveyance without increasing base flood elevations, and only localized channel modifications are proposed immediately upstream and downstream of the crossing to improve hydraulic efficiency and sediment transport. Bank protection in the form of riprap will be installed at the bridge abutments to prevent erosion and scour. No longitudinal encroachment, floodplain fill, soundwalls, concrete barriers, or other physical obstructions are proposed, and the project is designed to preserve existing floodplain function while improving public safety.
2. Current ADT: N/A Projected ADT: N/A
3. Hydraulic Data: Base Flood Q_{100} = 2,000 CFS
WSE₁₀₀ = 1984.69 ft The flood of record, if greater than Q_{100} : N/A
Q = CFS WSE =
Overtopping flood Q = CFS WSE =
Are NFIP maps available? ☒ YES ☐ NO
Are NFIP studies available? ☒ YES ☐ NO
4. Is the highway location alternative within a regulatory floodway? ☒ YES ☐ NO
5. Attach map with flood limits outlined showing all buildings or other improvements within the base floodplain.

Potential Q_{100} backwater damages:

- | | | |
|--|------------------------------|--|
| A. Residences? | ☐ YES | ☒ NO |
| B. Other Bldgs? | ☐ YES | ☒ NO |
| C. Crops? | ☐ YES | ☒ NO |
| D. Natural and beneficial floodplain values? | ☐ YES | ☒ NO |

6. Type of Traffic:

- A. Emergency supply or evacuation route? ☒ YES ☐ NO

¹ Form adapted from Figure 804.7A Technical Information for Location Hydraulic Study located in Chapter 804 of the Highway Design Manual.

- B. Emergency vehicle access? ☒ YES ☐ NO
C. Practicable detour available? ☒ YES ☐ NO
D. School bus or mail route? ☒ YES ☐ NO

7. Estimated duration of traffic interruption for 100-year event: No interruption anticipated

8. Estimated value of Q₁₀₀ flood damages (if any) – moderate risk level.

A. Roadway \$ N/A
B. Property \$ N/A
Total \$ N/A

9. Assessment of Level of Risk ☐ Low ☒ Moderate ☐ High

For High Risk projects, during design phase, additional Design Study Risk Analysis may be necessary to determine design alternative.

PREPARED BY:

Hamed Hakimelahi

1/30/26

Signature- Dist. Hydraulic Engineer
(Item numbers 3,4,5,7,9)

Date

Is there any longitudinal encroachment, significant encroachment, or any support of incompatible Floodplain development? ☐ YES ☒ NO

If yes, provide evaluation and discussion of practicability of alternatives in accordance with 23 CFR 650.113.

Information developed to comply with the Federal requirement for the Location Hydraulic Study shall be retained in the project files.

Signature- Dist. Project Engineer
(Item numbers 1,2,6,8)

Date

Attachment D – 2009 FEMA Flood Insurance Rate Map

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 10N. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this FIRM was derived from digital orthophotography collected by the U.S. Department of Agriculture Farm Service Agency under its National Agriculture Imagery Program (NAIP). This imagery was flown in 2005 and was produced with a 1-meter ground sample distance.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables for Mariposa Creek, Merced River, Merced River - Left Overbank, and South Fork Merced River in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at <http://msc.fema.gov>.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA MAP (1-877-336-2627) or visit the FEMA website at www.fema.gov.

LEGEND

 **SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.
ZONE AE Base Flood Elevations determined.
ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently derelict. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99 Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

 **FLOODWAY AREAS IN ZONE AE**

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

 **OTHER FLOOD AREAS**

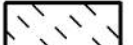
ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

 **COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**

 **OTHERWISE PROTECTED AREAS (OPAs)**

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

 1% annual chance floodplain boundary
 0.2% annual chance floodplain boundary
 Floodway boundary
 Zone D boundary
 CBRS and OPA boundary
 Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
 Base Flood Elevation line and value; elevation in feet*
 Base Flood Elevation value where uniform within zone; elevation in feet*
(EL. 987)

* Referenced to the North American Vertical Datum of 1988

 Cross section line
 Transect line
87°07'45", 32°22'30"
41°54'00"N
600000 FT
DX5510 x
● M1.5
River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

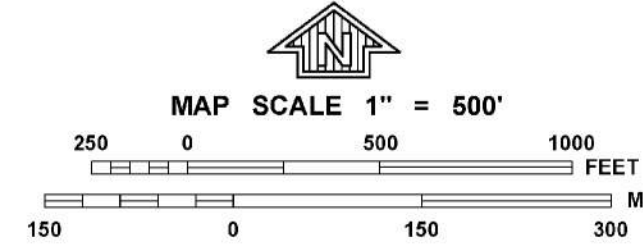
EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP

September 5, 1990

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
September 25, 2009 - to change and add Special Flood Hazard Areas, to update map format, to add roads and road names, and to change zone designations.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.



NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

MARIPOSA COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 751 OF 1025

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARIPOSA COUNTY	060634	0751	C

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER

06043C0751C

MAP REVISED

SEPTEMBER 25, 2009

Federal Emergency Management Agency

PANEL 0751C

FIRM

FLOOD INSURANCE RATE MAP

MARIPOSA COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 751 OF 1025

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
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MAP NUMBER

06043C0751C

MAP REVISED

SEPTEMBER 25, 2009

Federal Emergency Management Agency