San Joaquin River Bridge Scour and Seismic Retrofit Project

Bridges spanning the San Joaquin River
between Fresno and Madera Counties on old State Route 41
06-FRE-41-PM 33.3/33.4 and 06-MAD-41-PM 0.0/0.2
EA 06-0N990
Project ID 06-1200-0114
SCH Number 2013101075

Initial Study
with Mitigated Negative Declaration

Prepared by the
State of California Department of Transportation

October 2014

General Information About This Document

What's in this Document:

Throughout this document, a vertical line in the margin indicates a content change made since the draft document circulation. Minor editorial changes and clarifications have not been so indicated.

This document contains a Mitigated Negative Declaration, which examines the environmental effects of a project on old State Route 41 in the City of Fresno and Madera County.

The Initial Study with Proposed Mitigated Negative Declaration circulated to the public from October 28, 2013 to November 27, 2013. Responses to agency and non-profit organization comments on the circulated document are shown in Appendix F of this document (no comments were received from the public). Elsewhere throughout this document, a vertical line in the margin indicates a content change made since the draft document circulation.

What happens after this:

The proposed project has completed environmental compliance after the publication of this document, and filing of the Notice of Determination with the Office of Planning and Research, State Clearinghouse. Once funding is approved, the California Department of Transportation can design and construct the project.

This document can be accessed electronically at the following website:
http://www.dot.ca.gov/dist6/environmental/envdocs/d6/

Printing this document: To save paper, this document has been set up for two-sided printing (to print the front and back of a page). Blank pages occur where needed throughout the document to maintain proper layout of the chapters and appendices.

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Michelle Ray, Acting Senior Environmental Planner, Division of Environmental Analysis, California Department of Transportation, 855 M Street, Suite 200, Fresno, CA, 93721 phone (559) 445-5286 (Voice), or use the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice), or 711.

SCH Number 2013101075
06-FRE-41-PM 33.3/33.4 and 06-MAD-41-PM 0.0/0.2
Project ID 06-1200-0114

Provide scour and seismic retrofit on the San Joaquin River Bridge (No. 42-0112) on the old State Route 41 and replace the railings of that bridge and the San Joaquin River Overflow Bridge (No. 41-0040) in Fresno and Madera Counties, California

INITIAL STUDY
with Mitigated Negative Declaration

Submitted Pursuant to: (State) Division 13, California Public Resources Code

THE STATE OF CALIFORNIA
Department of Transportation

10/06/14
Date of Approval

MICHELLE RAY
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Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes scour and seismic retrofit to the old State Route 41 San Joaquin River Bridge (Lane's Bridge) (No. 42-0112) in Fresno and Madera Counties. The project would also upgrade the bridge railings on this bridge and on the San Joaquin River Overflow Bridge (No. 41-0040).

Determination

Caltrans has prepared an Initial Study for this project and, following public review, has determined from this study that the project would not have a significant effect on the environment for the following reasons.

The proposed project would have no effect on aesthetics, agriculture and forest resources, air quality, cultural resources, geology and soils, hazards and hazardous materials, hydrology and floodplain, land use and planning, mineral resources, parks and recreational facilities, population and housing, public services, transportation/traffic, and utilities and service systems.

The proposed project would have no significant effect on water quality and noise.

In addition, the proposed project would have no significantly adverse effect on biological resources because the following mitigation measures would reduce potential effects to insignificance:

Great Valley Mixed Riparian Forest: Native trees and shrubs would be replanted in-kind at a 3:1 ratio for trees from 4 to 23.9 inches in diameter at breast height. Trees with a diameter at breast height of 24 or more inches would be replaced at a 10:1 ratio.

Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*): One elderberry bush (*Sambucus sp.*) would be removed and replanted at the French Camp Conservation Bank or at another U.S. Fish and Wildlife Service-approved conservation bank. In addition, a total of 19 elderberry seedlings and 19 associated native plants will be planted within a minimum area of 0.17 acre at the conservation bank. Also, 4 credits would be purchased at the conservation bank.

Waters of the U.S.: Caltrans will mitigate for permanent impacts (0.17 acre) and temporary impacts (0.768 acre) if determined to be jurisdictional waters (the San Joaquin River). The mitigation options proposed are preservation, enhancement, and/or restoration of aquatic resources, creation of aquatic resources onsite or offsite, or payment to an in-lieu fee program.

MICHELLE RAY
Senior Environmental Planner
District 6
California Department of Transportation

10/06/14
Date

San Joaquin River Bridge Scour and Seismic Retrofit Project • v

Table of Contents

Mitigated Negative Declaration v
Table of Contents vii
List of Figures viii
List of Tables viii
Chapter 1 Proposed Project 1
1.1 Introduction 1
1.2 Purpose and Need 1
1.2.1 Purpose 1
1.2.2 Need 1
1.3 Project Description 2
1.3.1 Build Alternative 2
1.3.2 No-Build (No-Action) Alternative 2
1.3.3 Identification of a Preferred Alternative 3
Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures 9
2.1 Human Environment 11
2.1.1 Parks and Recreational Facilities 11
2.1.2 Cultural Resources 16
2.2 Physical Environment 18
2.2.1 Hydrology and Floodplain 18
2.2.2 Water Quality and Storm Water Runoff 22
2.2.3 Noise and Vibration 31
2.3 Biological Environment 33
2.3.1 Natural Communities 33
2.3.2 Wetlands and Other Waters 35
2.3.3 Plant Species 38
2.3.4 Animal Species 40
2.3.5 Threatened and Endangered Species 44
2.3.6 Invasive Species 48
2.4 Climate Change 49
Chapter 3 Comments and Coordination 63
Chapter 4 List of Preparers 65
Chapter 5 Distribution List 67
Appendix A California Environmental Quality Act Checklist 69
Appendix B Title VI Policy Statement 79
Appendix C Minimization and/or Mitigation Summary 81
Appendix D Federal, State and California Native Plant Society Species Lists . 89
Appendix E Species Observed in the Biological Study Area 97
Appendix F Comments and Responses 101
Appendix G Proposed Eaton Trail Extension and Bike Facilities 127

Appendix H Construction Area for Sheet Pile Installation in Riverbed 129
Appendix I Biological Opinion 135

List of Figures

Figure 1-1 Project Vicinity Map 4
Figure 1-2 Project Location Map 5
Figure 1-3 Cross-section of San Joaquin River Bridge (No. 42-0112) Showing Sheet Piles 6
Figure 2-1 Parks and Recreational Facilities in the Project Vicinity 12
Figure 2-2 San Joaquin River Floodplain 21
Figure 2-3 California Greenhouse Gas Forecast 54
Figure 2-4 Mobility Pyramid 56
Figure G-1 Alternatives of Proposed Eaton Trail Extension and Proposed Bicycle Facilities 128

List of Tables

Table 1.1 Permits and Approvals Needed 7
Table 2.1 Construction Site Activities, Materials, and Associated Pollutants 30
Table 2.2 Typical Construction Equipment Noise 32
Table 2.3 Climate Change/CO2 Reduction Strategies 58

Chapter 1 Proposed Project

1.1 Introduction

The project is located in the City of Fresno and the County of Madera, and crosses the San Joaquin River. The project would upgrade two bridges on old State Route 41. Old State Route 41 provides the only public vehicle access to the Woodward Bluffs Mobile Home Park. This project is funded in the 2016 State Highway Operation and Protection Program. After the proposed safety improvements are completed, the bridges will be ready for future relinquishment to Madera County and Fresno County. See Figure 1-1 Project Vicinity Map and Figure 1-2 Project Location Map.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the project is to provide scour and seismic retrofit for the San Joaquin River Bridge (No. 42-0112) as well as to upgrade bridge rails for both the San Joaquin River Bridge (No. 42-0112) and the San Joaquin River Overflow Bridge (No. 41-0040) on old State Route 41.

1.2.2 Need

The San Joaquin River Bridge (No. 42-0112), built in 1941, was identified as deficient in the Caltrans Structure Replacement and Improvement Needs Report (August 2011). The bridge has experienced scour which is caused when swiftly moving water removes sand and rocks from the base of the bridge piers. The cause of the scour is due to long-term degradation of the riverbed and obstruction of flow caused by the piers and abutments. If scour deterioration continues, the bridge would become unstable and would have to be closed due to safety concerns. In addition, this bridge does not meet current Caltrans standards for seismic safety.

The San Joaquin River Bridge (No. 42-0112) and the San Joaquin River Overflow Bridge (No. 41-0040), also built in 1941, still have their original railings, which do not meet current Caltrans standards.

No scour or seismic retrofit is needed for the San Joaquin River Overflow Bridge (No. 41-0040)

Both bridges provide the only public vehicle access to the Woodward Bluffs Mobile Home Park.

1.3 Project Description

Caltrans proposes scour and seismic retrofit to the old State Route 41 San Joaquin River Bridge (Lane's Bridge) (No. 42-0112) in the City of Fresno and Madera County. The project would also upgrade the bridge railings on this bridge and on the San Joaquin River Overflow Bridge (No. 41-0040). Two alternatives are being considered, the Build Alternative and the No-Build Alternative.

1.3.1 Build Alternative

In order to provide scour retrofit, river deposits would be excavated around the bridge piers and then sheet piles (thin interlocking sheets of steel) would be driven around the piers to the top of the footing and capped with a 1-foot by 1-foot concrete cap (see Figure 1-3 and Appendix H). For the seismic retrofit, steel pipes would be installed at the four bridge deck expansion joints to provide sufficient support length during a seismic event to prevent bridge failure.

Existing concrete bridge railings would be demolished and replaced with new upgraded concrete and metal pipe railings for both the San Joaquin River Bridge and the San Joaquin River Overflow Bridge (No. 41-0040).

This project would not acquire any new right-of-way or relocate any utilities. The estimated cost for these improvements is $2,779,000, and the total project cost is estimated to be $6,305,000. Construction is anticipated to begin in late 2016 and would take approximately 150 working days to complete. Seasonal work windows may be required by regulatory agencies; this will be determined in the Project Specifications and Estimates phase of the project. The project is expected to be complete by 2018.

1.3.2 No-Build (No-Action) Alternative

If no action is taken and the project is not built, the bridges will continue to be deficient. The bridge piers of the San Joaquin River Bridge (No. 42-0112) will continue to deteriorate due to the scouring action of the river, and the bridge will not meet current Caltrans seismic standards.

1.3.3 Identification of a Preferred Alternative

The project development team has selected the Build Alternative as the preferred alternative to go forward to final design and construction. If the safety measures proposed by the project are not implemented, the bridge could be damaged during a flood event or severe earthquake, forcing a sudden permanent closure of the bridge for safety reasons. This would cut off public road access to the Wordward Bluffs Mobile Home Park.

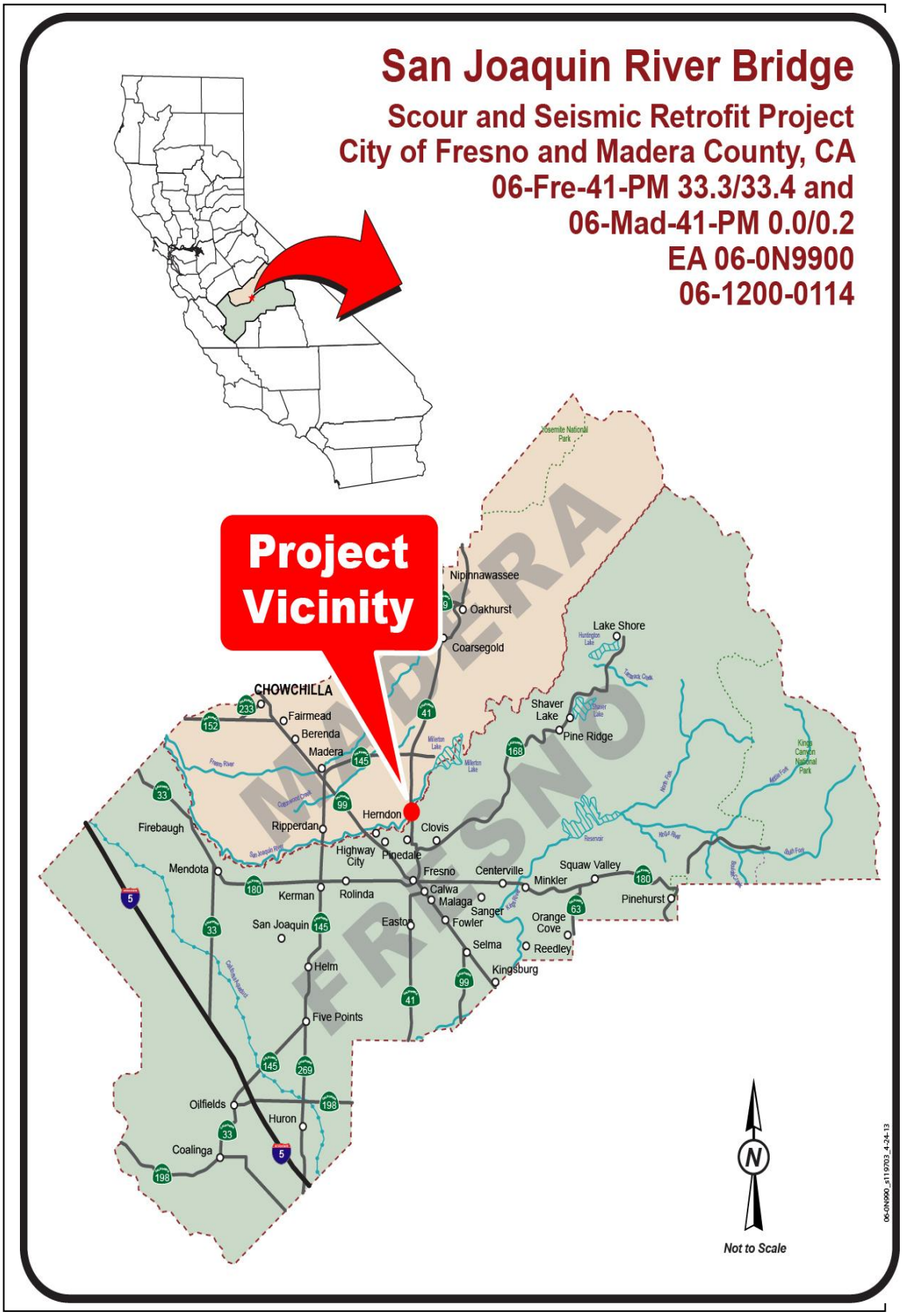

Figure 1-1 Project Vicinity Map

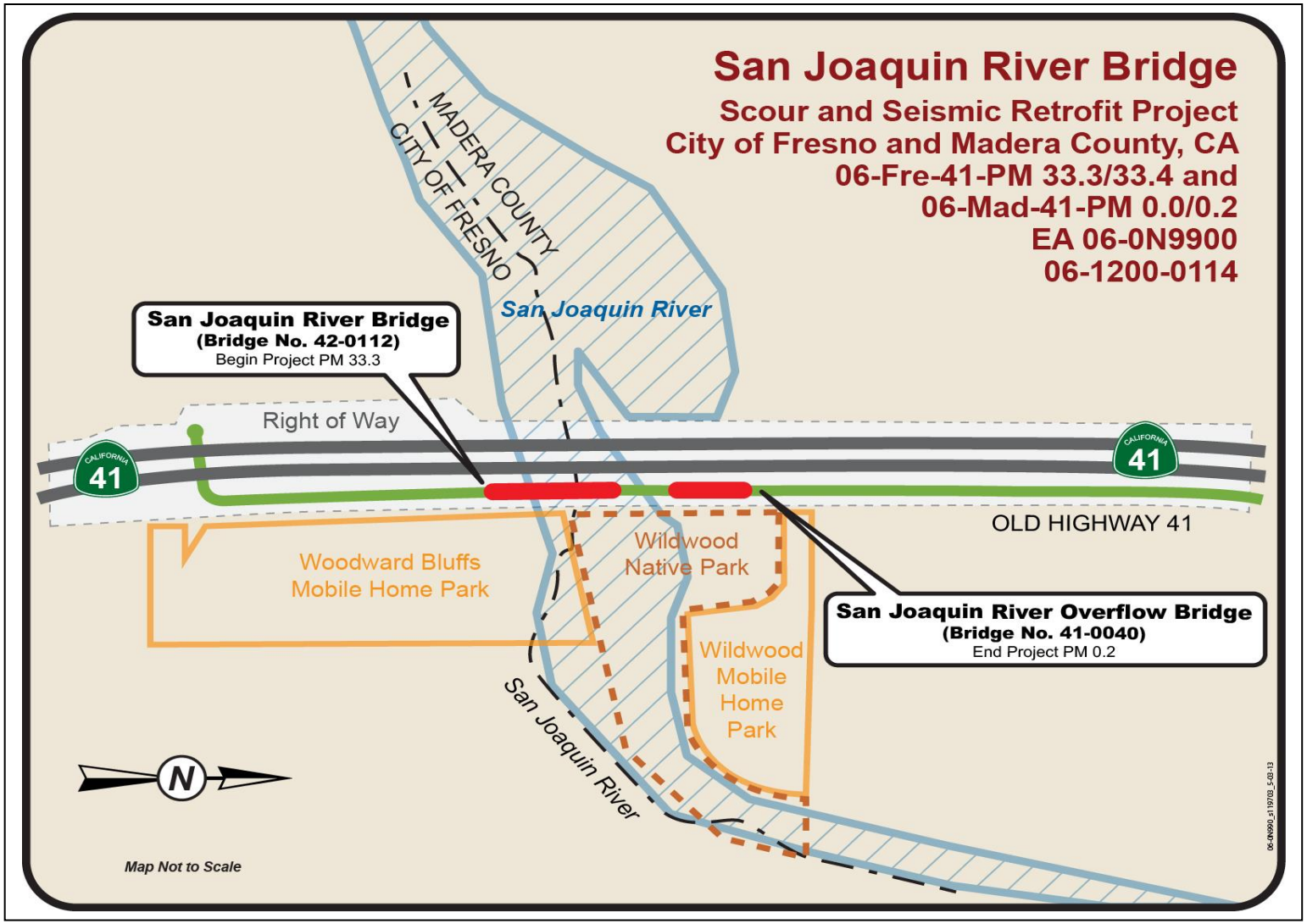

Figure 1-2 Project Location Map

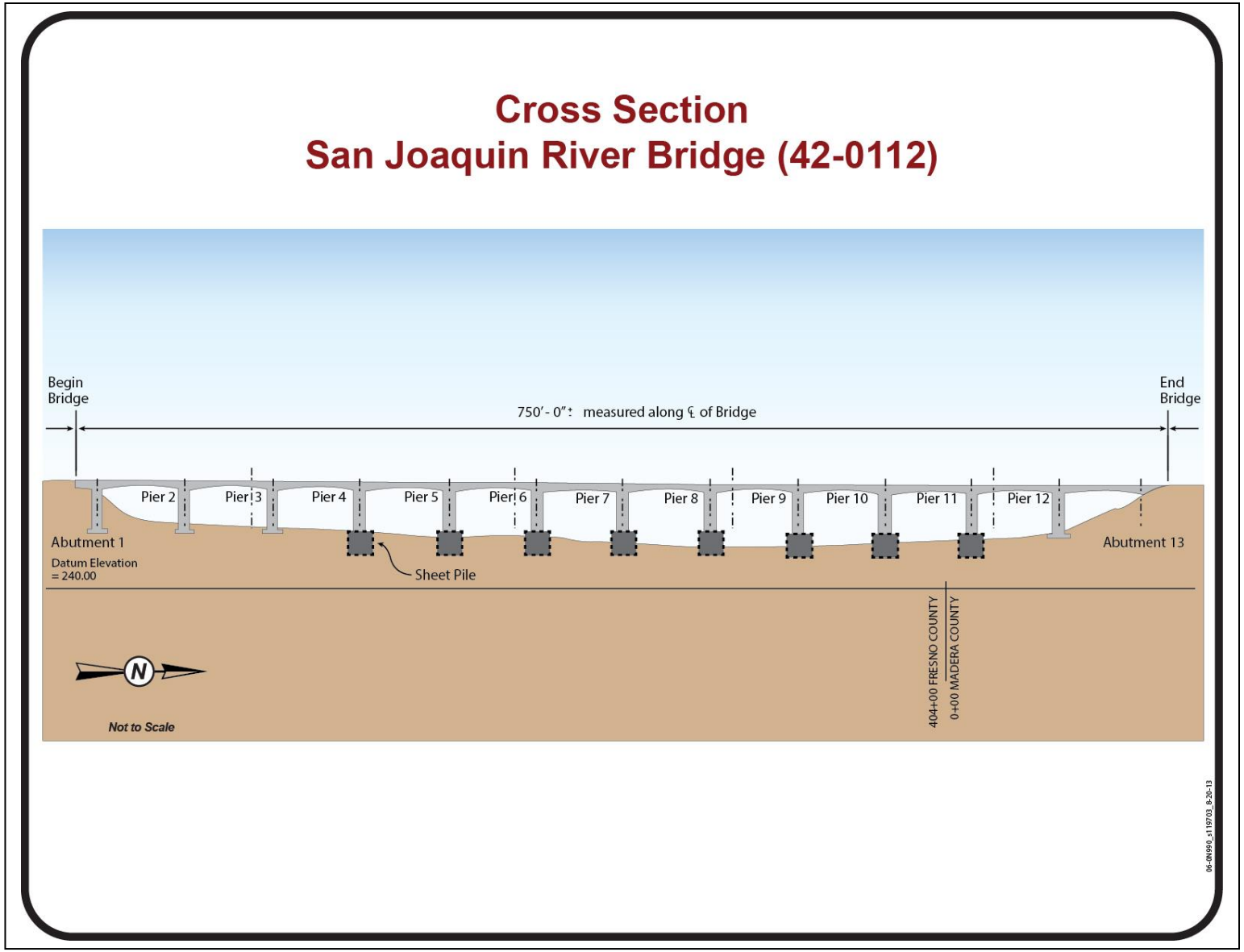

Figure 1-3 Cross-section of San Joaquin River Bridge (No. 42-0112) Showing Sheet Piles

Table 1.1 Permits and Approvals Needed

Agency	Permit/Approval	Status
U.S. Fish and Wildlife Service	Section 7 Consultation for Threatened and Endangered Species: valley elderberry longhorn beetle	A Biological Opinion was received on October 3, 2014.
Regional Water Quality Control Board	401 Water Quality Certification	Pending completion in the Project Specifications and Estimate phase of the project. Anticipate completion in 2015.
U.S. Army Corps of Engineers	Section 404 Nationwide Permit for filling or dredging waters of the U.S.	Pending completion in the Project Specifications and Estimates phase of the project. Anticipate completion in 2015.
California Department of Fish and Wildlife	Streambed Alteration Agreement	Pending completion in the Project Specifications and Estimate phase of the project. Anticipate completion in 2015.
Central Valley Flood Protection Board	Encroachment Permit for work in the riverbed	Pending completion in the Project Specifications and Estimate phase of the project. Anticipate completion in 2015.
California State Lands Commission	Surface Leasing Permit for work in the riverbed	Pending completion in the Project Specifications and Estimate phase of the project. Anticipate completion in 2015.

Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

As part of the scoping and environmental analysis done for the project, the following environmental issues were considered, but no adverse impacts were identified. Consequently, there is no further discussion of these issues in this document.

- Land Use— The land uses surrounding the project area are parks, open space, and two trailer parks. In the City of Fresno, the land adjacent to Caltrans right-of-way is zoned as Multiuse Open Space zoning (City of Fresno Draft General Plan Land Use Map, August 2013); in Madera County the adjacent parcel is designated as Public Open Space (Madera County General Plan, 1995). This project would not trigger any change in land use because it would simply retrofit existing bridges.
- Consistency with Plans—This project is consistent with the Fresno County 2000 General Plan, the Madera County General Plan (1995) or the 2525 Fresno General Plan (adopted by the City of Fresno in 2002).
- Wild and Scenic Rivers—The San Joaquin River is not listed as a national wild and scenic river by the US Fish and Wildlife Service. The California Wild and Scenic Rivers Act does not include the San Joaquin River (Public Resources Code Section 5093.50 et seq.).
- Growth—This project would not cause or enable growth because the type of project, retrofitting an existing bridge, would not add capacity to the roadway. Furthermore, because the old highway dead-ends at the Perrin undercrossing there is no through traffic between the city of Fresno and Madera County on this road (Field visit, February 2013).
- Farmlands/Timberlands—No farmlands or timberlands are present in or next to the proposed project footprint, which is wholly within Caltrans right-of-way (field visit, February 2013).Work will be on the bridges and in the river bed.
- Community Character and Cohesion—Construction of the project would ensure that the only public road access to the Woodward Bluffs Mobile Home Park, from

the north via old State Route 41, would continue to be open (Field Visit, February 2013).

- Relocations and Real Property Acquisitions—No property would need to be acquired for the project. No construction easements are expected to be needed (Project Scope Summary Report [Structure Rehabilitation] November 2011).
- Utility Relocations/Emergency Services—The project would not require relocation of any utilities. During construction, at least one lane of the bridges would be kept open for traffic so emergency vehicles could cross (Project Scope Summary Report [Structure Rehabilitation] November 2011).
- Traffic and Transportation/Pedestrian and Bicycle Facilities—Motor vehicles, bicycles and pedestrians share the San Joaquin River Bridge and the San Joaquin River Overflow Bridge. During construction, at least one lane would remain open at all times. A Traffic Management Plan would also be prepared (Project Scope Summary Report [Structure Rehabilitation] November 2011).
- Aesthetics/Visual—Replacement of the bridge rails would not negatively affect views in this area (Scenic Resource Evaluation and Visual Impact Assessment memo, August 27, 2013).
- Geology/Soils/Seismic/Topography—Construction of the project would not affect the geology or soils of the area. The project area is not located on or near any earthquake faults (Geological Map of California, California Geological Survey, 2010).
- Paleontology—The project area has low sensitivity for the presence of paleontological resources, and the project is unlikely to encounter them (Paleontological Identification Report Memo, October 2011).
- Hazardous Waste/Materials—The bridges are underlain by recent deposits of sands and gravels that are expected to have only minor concentrations of lead. The contractor would be required to prepare a Lead Compliance Plan due to soil disturbance during construction (Hazardous Waste Scoping Memo, November 2011).
- Air Quality—The project is exempt from air quality conformity requirements for safety purposes under the Transportation Conformity Rule because it involves the retrofit of existing bridges. Caltrans standard specifications regarding air pollution control and dust control should effectively reduce and control emissions during construction (Air Quality Scoping Memo, October 2011).

2.1 Human Environment

2.1.1 Parks and Recreational Facilities

Parks and recreational facilities next to or near the project (within one-half mile) are discussed in this section. Figure 2-1 has been revised; updated information regarding planned trails west of freeway State Route 41 has been included on a separate map in Appendix G.

Affected Environment

Wildwood Native Park

The Caltrans right-of-way adjoins Wildwood Native Park on the north side of the San Joaquin River in Madera County. This property is owned by the San Joaquin River Conservancy, a state entity. It is operated as a park and is managed by the City of Fresno.

Wildwood Native Park sits between old State Route 41 and Wildwood Mobile Home Park to the east. A narrow strip of the 23-acre parcel curves around the south and east sides of the mobile home park within the riverbed. Vehicle entry to the park is via Wildwood Lane, which parallels old State Route 41 on the east side going south from Avenue 9. Park amenities include restrooms, parking, and a nature trail that is wheelchair accessible. The park also includes canoe launch areas (foot paths to the water's edge) and river access for fishing. The park is open Friday through Sunday and on holidays from 7:00 a.m. to 7:00 p.m. year round. When the park is closed, the gate is locked.

Wildwood Native Park is fenced on its north side, and the mobile home park next to the east side of the park is also fenced. The west side of the park along the Caltrans right-of-way is not fenced, and neither is the riverside on the south and east sides of the parcel.

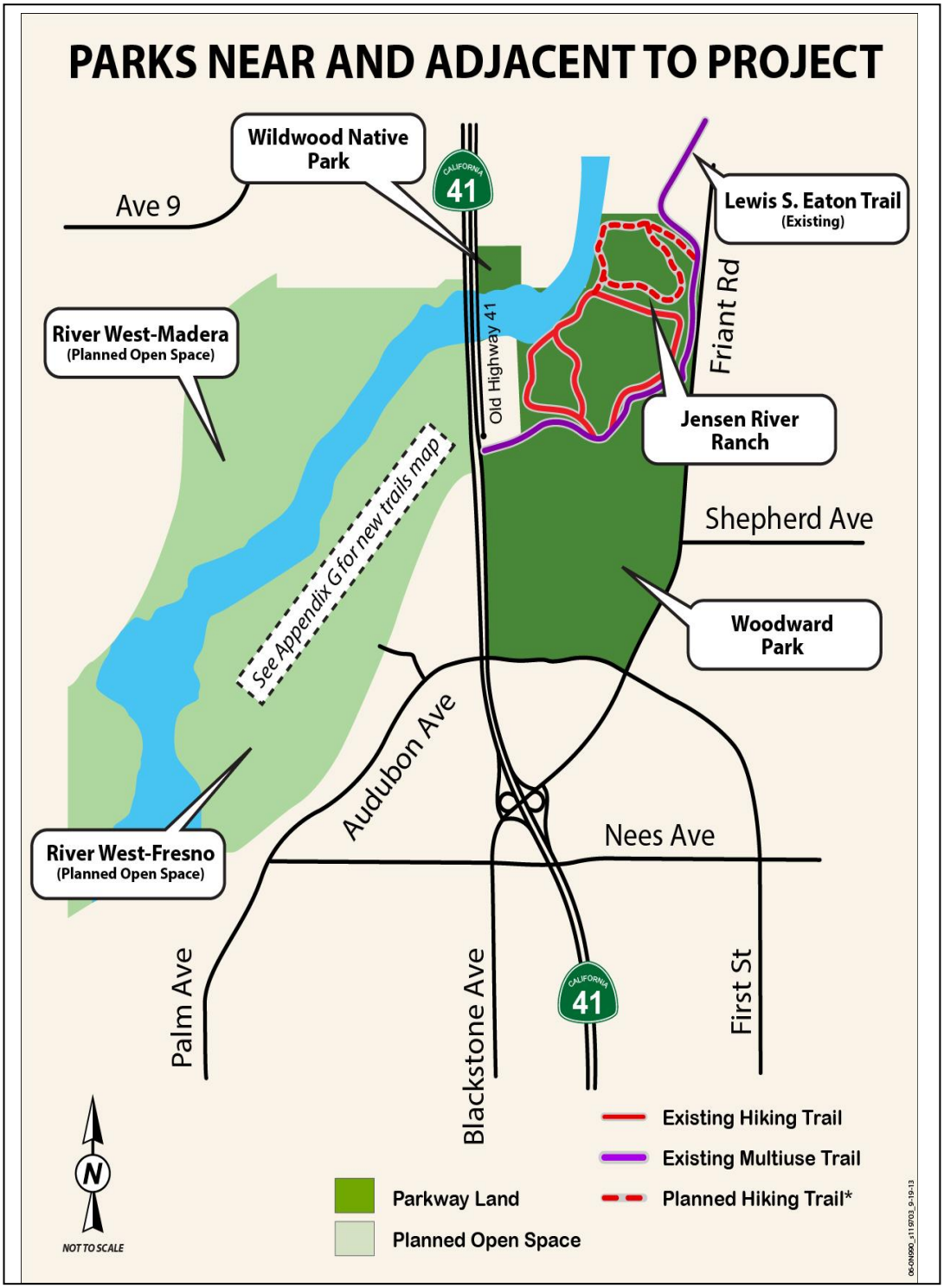

Figure 2-1 Parks and Recreational Facilities in the Project Vicinity

Lewis S. Eaton Trail

The southwestern end of this trail meets the southern end of North Blackstone Avenue (old State Route 41) in front of the Woodward Bluffs Mobile Home Park at the Perrin undercrossing. This paved trail runs for 6 miles along the Fresno side of the San Joaquin River bluffs, passing through Woodward Park, and then runs northeastward along Friant Road to the Coke Hallowell Center for River Studies. A branch of this trail goes southward from the northeast corner of Woodward Park near the park's eastern edge to the southeast corner of the park.

The multi-use trail is open for walking, running, hiking, bicycling, and horseback riding, and is wheelchair accessible. Trailhead parking is available (for a fee) in Woodward Park or at the Coke Hallowell Center (for free).

There are plans for the Lewis S. Eaton Trail network eventually to extend from Friant Dam to State Route 99, a total distance of 22 miles. The segment currently proposed for construction is discussed under River West below.

Woodward Park

This City of Fresno regional park sits between the State Route 41 freeway to the west, Audubon Drive on the south, Friant Road on the east, and Jensen River Ranch and the Woodward Bluffs Mobile Home Park to the north. The main entrance to the 300-acre park is off of Audubon Drive. Park hours run from 6:00 a.m. to 10:00 p.m. from April through October. During the winter, November through March, the park is open from 6:00 a.m. to 7:00 p.m. The park entry fee is $5 per vehicle or $3 per vehicle in which a senior citizen (age 65 or older) is a passenger or a driver. Motor vehicles displaying a valid disabled person placard do not have to pay the fee. An entrance off of Friant Road opposite Fort Washington Road is usually closed to motor vehicles.

Amenities in Woodward Park include picnic tables, restrooms and drinking fountains, various large reservable picnic facilities, a lake with bird sanctuary and other water features, Shinzen Japanese Garden, an amphitheater, Shakespeare in the Park, and a dog park. Recreation facilities include three playgrounds, a par course, a BMX course and other mountain bike courses, and a disc golf course. There are many footpaths within the park in addition to the Lewis S. Eaton Trail (see above). An equestrian trail branches off of the Lewis S. Eaton Trail in the northeastern corner of the park and descends the bluff to Jensen River Ranch.

Jensen River Ranch

Jensen River Ranch, a 167-acre property owned by the San Joaquin River Conservancy, is open to the public free of charge. The San Joaquin River Parkway and Conservation Trust has been working on habitat restoration projects at the former ranch. This facility is accessible from the river or by trail. Current access to this property is available to pedestrians, equestrians, and bicyclists from the Lewis S. Eaton Trail and through Woodward Park on the Thomas MacMichael Senior Trail. This trail is planned to be paved to allow wheelchair access. Picnic facilities are also planned for Jensen River Ranch.

River West

River West is a planned open space area within the San Joaquin River Parkway in both Madera County and the City of Fresno. Parcels have already been acquired by the San Joaquin River Conservancy and/or the California Department of Fish and Wildlife. Near the project, the eastern edge of River West is defined by the west edge of the Caltrans right-of-way along the freeway State Route 41.

The main feature of River West in Fresno is the extension of the Lewis S. Eaton Trail within the old Spano Ranch. This segment of the trail would continue to just below Spano Park, a new City of Fresno park near Palm and Nees avenues. The San Joaquin River Conservancy submitted a Notice of Preparation of an Environmental Impact Report for the Eaton Trail Extension project on June 2, 2014. Several alternatives and design options are proposed (see map in Appendix G). A public scoping meeting was held on June 17, 2014.

A parking lot (earlier proposed by the City of Fresno) is proposed for trailhead access on the west side of the freeway just north of the Perrin overpass dead end. The only way for motor vehicles to reach this parking lot would be via old State Route 41 from the Madera County side of the river, crossing over the San Joaquin River Overflow Bridge (No. 41-0040) and the San Joaquin River Bridge (No. 42-0112).

In Madera County, a trail along the base of the river bluff within the River West open space area has been proposed and may be developed in the future.

Planned Bicycle Facilities

The City of Fresno Bicycle, Pedestrian, and Trails Master Plan of 2010 indicates that two bicycle facilities are planned within the proposed project area. The plan recommends that the segment of Old Highway 41 from the Perrin Undercrossing northward to the City of Fresno/Madera County line be designated a Class II bike

lane. A Class II bike lane is defined as providing a striped lane for one-way bike travel on a street or highway. The San Joaquin River Bridge is too narrow to accommodate striped bicycle lanes.

The Bicycle, Pedestrian, and Trails Master Plan also proposes that a Class I bicycle path run along the south side of the San Joaquin River following the existing bluff trail alignment from below Spano Park to the Perrin Undercrossing at Old Highway 41.

Environmental Consequences

Construction activities for the project would be confined to the Caltrans right-of-way.

As work progresses, Caltrans would temporarily fence portions of the project area where construction is taking place. Fencing would confine construction equipment to the smallest footprint possible within the Caltrans right-of-way; it would also protect the public from entering an active construction zone. The fencing described above should prevent any inadvertent encroachment onto Wildwood Park property during construction.

Although demolition of the existing concrete railing and installation the new railing on the San Joaquin River Overflow Bridge (41-0040) will take place on the bridge deck, during construction some vehicles will need to drive to the area below the bridge. The only access to this area is via a dirt road that runs from the Wildwood Native Park entrance to the riverbank: a dirt road turns off from this dirt road into Caltrans right-of-way and passes under this bridge. This road is within a 40-foot wide Caltrans easement.

The project would not affect Woodward Park, Jensen River Ranch, or the existing Lewis S. Eaton Trail. However, the scour and seismic retrofit and railing upgrade constructed by this project will help ensure that the San Joaquin River Bridge (No. 42-0112) and the San Joaquin River Overflow Bridge (No. 41-0040) remain operational to maintain vehicle access to the parking lot planned just north of the Perrin undercrossing.

Avoidance, Minimization, and/or Mitigation Measures

Caltrans will coordinate with the San Joaquin River Conservancy and the City of Fresno during final design and construction of this project to ensure that Wildwood Native Park would not be affected during construction.

2.1.2 Cultural Resources

Regulatory Setting

The term "cultural resources" as used in this document refers to all "built environment" resources (structures, bridges, railroads, water conveyance systems, etc.), culturally important resources, and archaeological resources (both prehistoric and historic), regardless of significance. Laws and regulations dealing with cultural resources include the following:

The National Historic Preservation Act of 1966, as amended, sets forth national policy and procedures regarding historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places. Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on such properties and to allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings, following regulations issued by the Advisory Council on Historic Preservation (36 Code of Federal Regulations 800).

On January 1, 2004, a Section 106 Programmatic Agreement between the Advisory Council, the Federal Highway Administration, State Historic Preservation Officer, and Caltrans went into effect for Caltrans projects, both state and local, with Federal Highway Administration involvement. The Programmatic Agreement implements the Advisory Council's regulations (36 Code of Federal Regulations 800), streamlining the Section 106 process and delegating certain responsibilities to Caltrans. The Federal Highway Administration's responsibilities under the Programmatic Agreement have been assigned to Caltrans as part of the Surface Transportation Project Delivery Program (23 U.S. Code 327).

Historic properties may also be covered under Section 4(f) of the U.S. Department of Transportation Act, which regulates the "use" of land from historic properties.

Historical resources are considered under the California Environmental Quality Act as well as the California Public Resources Code Section 5024.1, which established the California Register of Historical Resources. California Public Resources Code Section 5024 requires state agencies to identify and protect state-owned resources that meet National Register of Historic Places listing criteria. It further specifically requires Caltrans to inventory state-owned structures in its rights-of-way. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer before altering, transferring, relocating, or

demolishing state-owned historical resources that are listed on or are eligible for inclusion in the National Register or are registered or eligible for registration as California Historical Landmarks.

Affected Environment

A Historic Property Survey Report was completed for the project in May 2013. An Archaeological Survey Report was completed in April 2013.

A record search was done of the following sources:

- National Register of Historic Places
- California Register of Historical Resources
- California Inventory of Historic Resources
- California Historical Landmarks
- California Points of Historical Interest
- Caltrans Historic Highway Bridge Inventory
- Caltrans District 6 Cultural Resources Database

On September 20, 2012, an archaeological survey was conducted of the archaeological study area, 100 feet from the centerline on both sides of the old highway. Ground surface visibility was excellent, and no archaeological resources were found. The Caltrans District 6 Cultural Resources Database indicates a very low sensitivity for buried archaeology within the river channel because the aquatic forces have stripped away soils that could have contained subsurface archaeological deposits.

No properties requiring evaluation were present within the area of potential effects. The San Joaquin River Bridge (Lane's Bridge) (No. 42-0112) and the San Joaquin River Overflow Bridge (No. 41-0040) are listed as Category 5 on the Caltrans historic bridge list, that is, neither of these bridges is eligible for the National Register of Historic Places.

Caltrans has determined that a Finding of No Historic Properties Affected is appropriate for this undertaking.

However, the Caltrans District 6 Native American Coordinator contacted the Native American Heritage Commission on February 15, 2013 for a Sacred Lands File search. The Native American Heritage Commission responded on February 25, 2013 with a

list of Native American contacts and indicated that the area outside the area of potential effects contains cultural resources, some in close proximity to the project, of which members of the Dumna Wo-Wah Tribe are aware.

Environmental Consequences

No historical or archaeological resources were identified in the area of potential effects.

Avoidance, Minimization, and/or Mitigation Measures

Due to the cultural sensitivity of the San Joaquin River corridor and the concerns of the Dumna Wo-Wah Tribe, monitoring will be required during construction. A representative of the Dumna Wo-wah Tribe and a Caltrans archaeologist will be present during earth-moving activities. The seismic retrofit and railing replacements are not expected to cause ground disturbance, only the scour retrofit activities.

If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the county coroner contacted. Pursuant to California Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission who will then notify the Most Likely Descendent. At this time, the person who discovered the remains will contact the Caltrans District 6 archaeologist assigned to the project so that he or she may work with the Most Likely Descendant on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code 5097.98 are to be followed as applicable.

2.2 Physical Environment

2.2.1 Hydrology and Floodplain

Regulatory Setting

Executive Order 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the

only practicable alternative. The Federal Highway Administration requirements for compliance are outlined in 23 Code of Federal Regulations 650 Subpart A.

To comply, the following must be analyzed:

- Practicability of alternatives to any longitudinal encroachments.
- Risks of the action.
- Impacts on natural and beneficial floodplain values.
- Support of incompatible floodplain development.
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values affected by the project.

The base floodplain is defined as "the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year." An encroachment is defined as "an action within the limits of the base floodplain."

Affected Environment

Caltrans completed a Location Hydraulic Study for this project in May 2013. For this study, Flood Insurance Rate Maps were consulted, the Federal Emergency Management Administration (FEMA) hydraulic calculations were reviewed, and a field review was performed.

The Federal Emergency Management Agency Flood Insurance Rate Maps (FIRMs) were reviewed to determine the area subject to the above-described floodplain criteria. Based on Flood Insurance Rate Maps Numbers 06019C1560H and 06019C1020H in Fresno County, dated February 18, 2009, and 06039C1220E in Madera County, dated September 28, 2008, the project area is within Zone AE, and most of the area is also designated as floodway area. Zone AE is a special flood hazard area where base elevations are determined, and it is subject to flooding by the 1 percent annual chance flood (100-year flood) also known as the base flood. A 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.

The existing old State Route 41 San Joaquin River Bridge (No. 42-0112) and the San Joaquin River Overflow Bridge (No. 41-0040) are a transverse encroachment into the floodway area of the San Joaquin River, that is, the bridge piers cross the river bed perpendicular to the direction of the water flow.

Figure 2-2 is a map showing the San Joaquin River floodplain in the vicinity of the project.

Environmental Consequences

The project would transversely encroach into the floodway area of the San Joaquin River. Completion of the scour retrofit would not change the hydraulics of the river. The project would not affect the floodplain, either positively or negatively. Construction of sheet piles on the bridge piers would not alter the river's cross-sectional area, and it would not change the 100-year flood elevation. Therefore, the project would not affect the susceptibility of the Woodward Park Mobile Home Park and the Wildwood Mobile Home Park to flooding.

The project would not constitute a significant floodplain encroachment as defined in Title 23 Code of Federal Regulations, Section 650.105 (q). A significant encroachment is defined as a highway encroachment and any direct support of likely base floodplain development that would involve one or more of the following construction- or flood-related impacts: (1) a significant potential for interruption or termination of a transportation facility, which is needed for emergency vehicles or provides for a community's only evacuation route; 2) a significant risk, or (3) a significant adverse impact on natural and beneficial floodplain values.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization or mitigation measures are proposed.

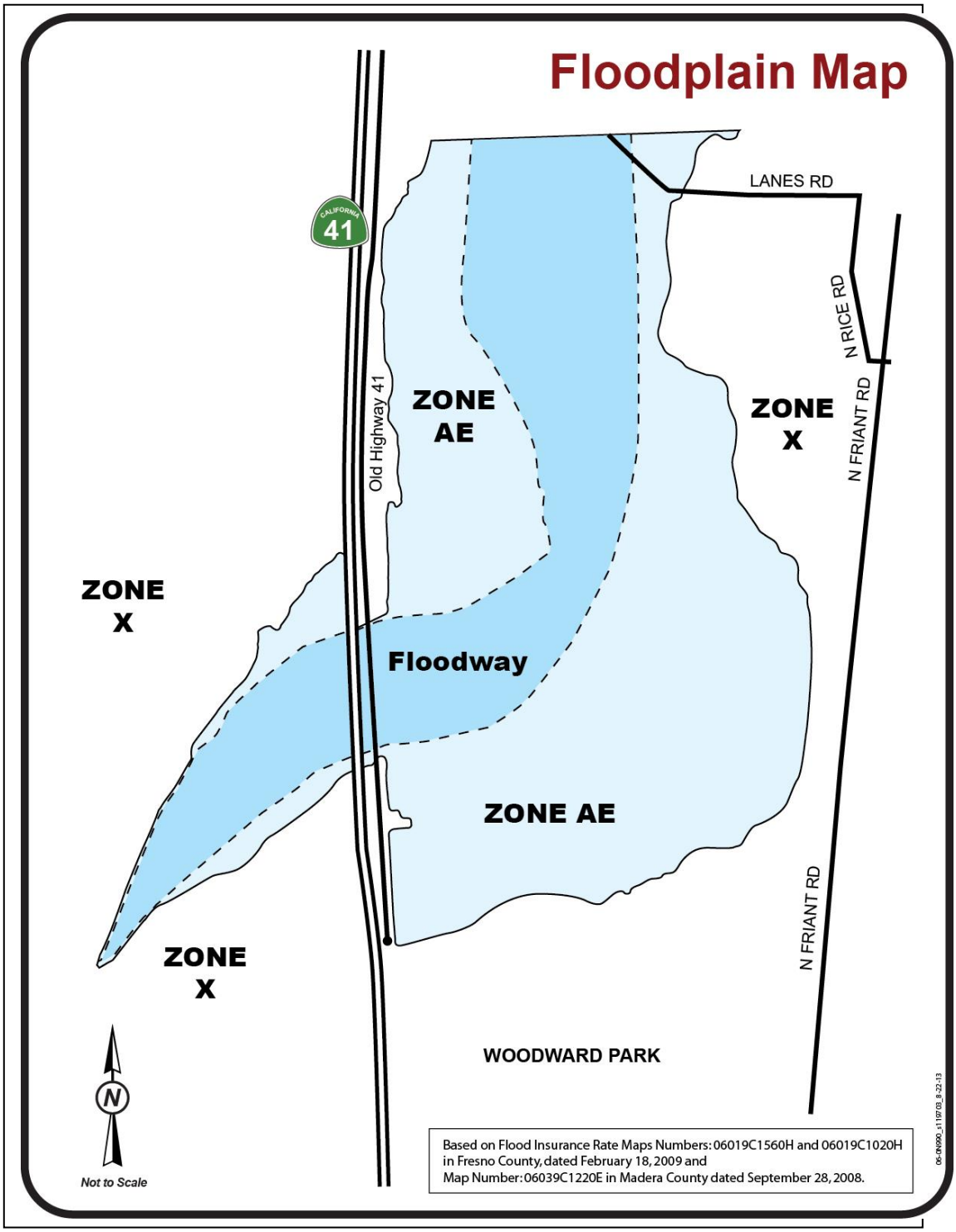

Figure 2-2 San Joaquin River Floodplain

2.2.2 Water Quality and Storm Water Runoff

Regulatory Setting

Federal Requirements: Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the U.S. from any point source unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. Known today as the Clean Water Act, Congress has amended the act several times. In 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the National Pollutant Discharge Elimination System permit scheme.

The following are important Clean Water Act sections:

- Sections 303 and 304 require states to bring forth water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that 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. This is most frequently required in tandem with a Section 404 permit request (see below).
- Section 402 establishes the National Pollutant Discharge Elimination System, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (known as MS4s).
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S. This permit program is administered by the U.S. Army Corps of Engineers.

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

The U.S. Army Corps of Engineers issues two types of 404 permits: General and Standard permits.

There are two types of General permits: Regional permits 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.

Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of the U.S. Army Corps of Engineers' Standard permits.

There are two types of Standard permits: Individual permits and Letters of Permission. For Standard permits, the U.S. Army Corps of Engineers' decision to approve is based on compliance with U.S. Environmental Protection Agency's Section 404 (b)(1) Guidelines (U.S. EPA Code of Federal Regulations 40 Part 230), and whether permit approval is in the public interest. The Section 404(b) (1) Guidelines were developed by the U.S. Environmental Protection Agency in conjunction with the U.S. Army Corps of Engineers and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative that would have less adverse effects.

The guidelines state that the U.S. Army Corps of Engineers may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences. According to the guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has 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 U.S. Army Corps of Engineers, even if not subject to the Section 404(b) (1) Guidelines, must meet general requirements. See 33 Code of Federal Regulations 320.4. A discussion of the least environmentally damaging practicable alternative determination, if any, for the document is included in the Wetlands and Other Waters section.

State Requirements: Porter-Cologne Water Quality Control Act

California's Porter-Cologne Water Quality Control 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 Clean Water Act 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, the act prohibits discharges of "waste" as defined, and this definition is broader than the Clean Water Act definition of a "pollutant." Discharges under the Porter-Cologne Water Quality Control Act are permitted by Waste Discharge Requirements and may be required even when the discharge is already permitted or exempt under the Clean Water Act.

The State Water Resources Control Board and Regional Water Quality Control Boards are responsible for establishing the water quality standards (objectives and beneficial uses) required by the Clean Water Act and regulating discharges to ensure compliance with the water quality standards. Details regarding water quality standards in a project area are contained in the applicable Regional Water Quality Control Boards Basin Plan. In California, Regional Water Quality Control Boards designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect these uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on such use.

In addition, the State Water Resources Control Board identifies waters failing to meet standards for specific pollutants, which are then state-listed in accordance with Clean Water Act Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-point source controls (National Pollutant Discharge Elimination System permits or Waste Discharge Requirements), the Clean Water Act requires the establishment of Total Maximum Daily Loads (TMDLs). Total Maximum Daily Loads specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

State Water Resources Control Board and Regional Water Quality Control Boards

The State Water Resources Control Board administers 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, Total Maximum Daily Loads, and National Pollutant Discharge Elimination System permits. Regional Water Quality Control Boards are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

National Pollution Discharge Elimination System (NPDES) Program Municipal Separate Storm Sewer Systems (MS4)

Section 402(p) of the Clean Water Act requires the issuance of National Pollutant Discharge Elimination System permits for five categories of storm water discharges, including Municipal Separate Storm Sewer Systems (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 storm water, that are designed or used for collecting or conveying storm water." The State Water Resources Control Board has identified Caltrans as an owner/operator of an MS4 pursuant to federal regulations. Caltrans' MS4 permit covers all department rights-of-way, properties, facilities, and activities in the state. The State Water Resources Control Board or the Regional Water Quality Control Board issues National Pollutant Discharge Elimination System permits for five years, and permit requirements remain active until a new permit has been adopted.

Caltrans' MS4 Permit, (Order No. 2012-0011-DWQ) has three basic requirements:

1. Caltrans must comply with the requirements of the Construction General Permit (see below).

2. Caltrans must implement a year-round program in all parts of the state to effectively control storm water and non-storm water discharges, and

3. Caltrans storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) best management practices, to the maximum extent practicable, and other measures as the State Water Resources Control Board determines to be necessary to meet the water quality standards.

To comply with the permit, Caltrans developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The Statewide Storm Water Management Plan assigns responsibilities within Caltrans for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The Storm Water Management Plan describes the minimum procedures and practices Caltrans uses to reduce pollutants in

storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of best management practices. The proposed project would be programmed to follow the guidelines and procedures outlined in the latest Statewide Storm Water Management Plan to address storm water runoff.

Construction General Permit

Construction General Permit (Order No. 2009-009-DWQ), adopted on September 2, 2009, became effective on July 1, 2010. The permit regulates storm water discharges from construction sites that result in a disturbed soil area of 1 acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation results in soil disturbance of at least 1 acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than 1 acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the Regional Water Quality Control Board. Operators of regulated construction sites are required to develop storm water pollution prevention plans; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The 2009 Construction General Permit separates projects into Risk Levels 1, 2, and 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before-construction and after-construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective Storm Water Pollution Prevention Plan (SWPPP). In accordance with Caltrans' Standard Specifications, a Water Pollution Control Plan (WPCP) is necessary for projects with a disturbed surface area of less than 1 acre.

Section 401 Permitting

Under Section 401 of the Clean Water Act, any project requiring a federal license or permit that may result in a discharge to a water of the U.S. must obtain a 401 Certification, which certifies that the project will be in compliance with state water quality standards. The most common federal permits triggering 401 Certification are

Clean Water Act Section 404 permits issued by the U.S. Army Corps of Engineers. The 401 permit certifications are obtained from the appropriate Regional Water Quality Control Board, dependent on the project location, and are required before the U.S. Army Corps of Engineers issues a 404 permit.

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

Affected Environment

A Water Quality Assessment for this project was completed on July 12, 2013.

The project area is in the San Joaquin Valley in Fresno and Madera counties. The main topographic features in the study area are the channel and floodplain of the San Joaquin River. The river valley floor is about 80 feet below the top of the bluffs that rise on each side of the river and is about 7,000 feet wide at the old State Route 41 bridge crossing. The project site is 11.85 miles downstream from Friant Dam.

The climate in the project area is classified as Mediterranean, with hot dry summers and mild wet winters. The average annual temperature is 63 degrees Fahrenheit, although summer temperatures can exceed 100 degrees. The average annual precipitation is about 11 inches, most of which comes from winter rain

Hydrology

The project is in the San Joaquin Valley Basin within the Hydrologic Unit San Joaquin Valley Floor, Hydrologic Sub-Area 545.30.

The San Joaquin River flows through the project site. At approximately 330 miles long, it is the second-longest river in California. The river's headwaters are located high in the central Sierra Nevada mountains. The San Joaquin River drains much of the area between the southern border of Yosemite National Park south to Kings Canyon National Park.

In this area of the San Joaquin Valley, water enters the river from the following:

- Releases from Friant Dam.
- Groundwater at points where the river channel is below the water table.
- Flows from irrigated fields, including flows below ground surface.
- Water imported for irrigation from the Delta-Mendota Canal and San Luis Canal.
- Municipal and industrial discharges (treated wastewater and storm water runoff).
- Discharges from managed wetlands.

The water quality of San Joaquin River water from Friant Dam to Mendota Pool is generally moderate to good. Water released from Friant Dam is low in salinity, and salinity concentrations remain low as the flow travels downstream toward the Mendota Pool. Flow rates are also consistent except during flood conditions, when flows are higher.

The Clean Water Act requires states to identify water bodies that are considered impaired, which means that the water body does not meet water quality standards. The San Joaquin River, from Friant Dam to Mendota Pool, is listed on the Environmental Protection Agency's 2010 303(d) List as being impaired due to invasive non-native fish species.

River Restoration

The San Joaquin River is currently undergoing restoration. The San Joaquin River Restoration Program is a direct result of a settlement of an 18-year-long lawsuit, approved in 2006, between the U.S. Department of the Interior, U.S. Department of Commerce, Natural Resources Defense Council, and Friant Water Users Authority. The settlement is based on two goals:

- The first goal is to restore and maintain fish populations in good condition in the main channel of the San Joaquin River below Friant Dam to the confluence of the Merced River, including naturally reproducing and self-sustaining populations of salmon and other fish.

- The second goal is to reduce or avoid adverse water supply impacts to all of the Friant Division long-term contractors (southern San Joaquin Valley water agencies obtaining irrigation water) that may result from the Interim Flows and Restoration Flows provided for in the settlement.

Since the 1940s, when Friant Dam was built, the reach of the San Joaquin River between Friant Dam and Gravelly Ford was the only stretch of river upstream of the Merced River confluence that carried San Joaquin River water year-round. While most of the river's flow was diverted at Friant Dam to supply irrigation districts along the east side of the San Joaquin Valley, a small amount of water was released from the dam into the river for diversion by downstream landowners, leaving the river dry below Gravelly Ford. The settlement agreement requires that an average of about 20 percent of the river flow will be additionally released annually for restoration.

Groundwater

Most of the project lies within the Kings Groundwater sub-basin, which is bounded on the north by the San Joaquin River. The rest of the project is in the Madera Groundwater sub-basin.

Locally, groundwater occurs in shallow alluvial aquifers and is of moderate to good quality. Next to the river at the project site, groundwater is shallow, ranging from a few feet up to 20 feet below the ground surface of the river bluffs. The project area lies within the Fresno Sole Source Aquifer.

Environmental Consequences

This project would not create any new impervious area (paving or concrete). An increase in the volume and velocity of storm water flow is not anticipated.

During construction, short-term temporary impacts to surface water quality and groundwater could occur.

The total disturbed soil area estimated for construction of this project is approximately 0.67 acre. Soil would be disturbed by construction of a temporary access road and by installation of sheet piles at eight bridge piers of the San Joaquin River Bridge. The existing rock slope protection (boulders placed for erosion control) at the southwest corner of the San Joaquin River Bridge would be removed temporarily, and a ramp would be built so that construction equipment could access the riverbed. After construction activities are completed in the river bed, the rock slope protection would be replaced in its original location.

Potential pollutant sources include construction activities and materials expected at the project site. Table 2.1 lists pollutants from materials spilled or spread during construction activities that have the potential to affect water quality.

Table 2.1 Construction Site Activities, Materials, and Associated Pollutants

Construction Site Activities	Construction Site Materials	Pollutant
Vehicle and equipment cleaning, fueling, and maintenance	Vehicle fluids	Oil Grease Petroleum Coolants
Concrete cement operations and concrete waste management	Portland concrete cement and masonry products	Portland concrete cement
		Masonry products
		Sealant (methyl methacrylate)
		Incinerator bottom ash Bottom ash Steel slag Foundry sand Fly ash
		Mortar Concrete rinse water
	Curing compounds	Non-pigmented curing compounds
Excavation and grading	Contaminated soil	Petroleum

Source: Water Quality Assessment Report, July 2013.

Avoidance, Minimization, and/or Mitigation Measures

Best management practices for clear water diversion and dewatering operations would be selected for the project during the Plans, Specifications and Estimates phase of the project before construction. Best management practices would be consistent with the permits that would be obtained for construction of the project.

Because construction of the project is expected to disturb less than 1 acre of soil, a Water Pollution Control Program would be required. Measures to avoid and reduce potential impacts to water quality in the construction area would be specified, incorporating applicable construction site best management practices. The Water Pollution Control Program is developed by the contractor and submitted to the Caltrans resident engineer for approval before construction starts.

The following would be addressed by specific best management practices:

- Vehicle and equipment fueling, cleaning, and maintenance

- Pile driving operations
- Concrete curing and concrete finishing
- Vehicles and equipment used over water
- Structure demolition or removal over or adjacent to water
- Material delivery and storage
- Material use
- Spill prevention and control
- Solid waste management
- Sanitary/septic waste management
- Liquid management
- Temporary stockpiles
- Clear water diversion
- Dewatering

2.2.3 Noise and Vibration

Construction Noise

Affected Environment

A Noise Compliance Study was prepared for this project in August 2013.

Transportation projects subject to Caltrans' Traffic Noise Analysis Protocol are projects defined as Type I projects in Section 23 Code of Federal Regulations §772. This section of the federal regulations describes a Type I project as follows: "A proposed federal or federal-aid highway project for the construction of a highway on a new location, or the physical alteration of an existing highway which significantly changes either the horizontal or vertical alignment, or increase the number of through-traffic lanes." This project would neither increase the existing traffic capacity nor alter the location of the highway. Because the project would not be considered a Type I project, additional noise investigation in accordance with Caltrans' Traffic Noise Analysis Protocol is not required.

Environmental Consequences

The project has the potential of having temporary construction-related noise impacts. During project construction, noise from construction activities may intermittently

dominate the noise environment in the immediate area of construction. Table 2.2 summarizes noise levels produced by construction equipment commonly used on roadway construction projects.

Table 2.2 Typical Construction Equipment Noise

Equipment	Maximum Noise Level (dBA at 50 feet)
Scrapers	89
Bulldozers	85
Heavy Trucks	88
Backhoe	80
Pneumatic Tools	85
Concrete Pump	82
Impact Pile Driving	101

Source: Federal Transit Administration, 2006.

Non-impact construction equipment (stationary equipment that operates at a constant noise level) is expected to generate noise levels ranging from 70 to 90 dBA at a distance of 50 feet. Piles would be driven on this project and would require the use of an impact pile driver. A typical impact pile driver produces a sound level of 101 dBA at 100 feet.

Noise produced by construction equipment would be reduced over distance at a rate of about 6 dBA per doubling of distance.

No substantial adverse noise impacts from construction are expected because construction would be done in accordance with Caltrans Standard Specifications Section 14-8.02. Construction noise would be short term and intermittent and overshadowed by local traffic noise. Application of abatement measures would reduce the construction impacts; however, a temporary increase in noise and vibration would likely occur.

Avoidance, Minimization, and/or Mitigation Measures

Construction noise is regulated by Caltrans Standard Specifications Section 14-8.02 "Noise Control Requirements," which states that noise levels generated during construction must not exceed 86 dBA at 50 feet from 9:00 p.m. to 6:00 a.m. All

equipment must be fitted with adequate mufflers according to the manufacturers' specifications.

A combination of abatement techniques with equipment noise control and administrative measures can be selected to provide the most effective means to minimize effects of construction activity noise and vibration.

Minimization measures may include the following as needed:

- Using newer equipment with improved muffling and ensuring that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine enclosures, and engine vibration isolators intact and operational. Newer equipment will generally be quieter in operation than older equipment. All construction equipment should be inspected at periodic intervals to ensure proper maintenance and presence of noise control devices (e.g., mufflers and shrouding, etc.).
- Using construction methods or equipment that will provide the lowest level of noise and ground vibration impact such as alternative low noise pile installation methods.
- Turning off idling equipment.
- Using and relocating, as needed, temporary noise barriers to protect sensitive receptors against excessive noise from construction activities. Noise barriers can be made of heavy plywood or moveable insulated sound blankets.
- Planning noisier operations during times of least sensitivity to receptors.
- Keeping noise levels relatively uniform, and avoiding impulsive noises.

2.3 Biological Environment

2.3.1 Natural Communities

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value. Wetlands and other waters are discussed below.

Affected Environment

A Natural Environment Study was completed for this project in June 2013. The landscape of the biological study area consists of water, dry riverbed, riparian woodland, and ruderal areas (weedy roadsides and waste areas).

Great Valley Mixed Riparian Forest

The riparian woodland in the project area is Great Valley Mixed Riparian Forest. This habitat type is characterized by a tall, dense, winter-deciduous broadleaf riparian forest. This vegetation community is found on floodplains of slow-moving streams of the Central Valley. Most of the biological study area includes this habitat type. Typical species present here are California box elder *(Acer negundo californica)*, Southern California black walnut *(Juglans californica)*, California sycamore *(Platanus racemosa)*, valley oak *(Quercus lobata)* and Fremont cottonwood *(Populus fremontii)*, narrow-leaved willow *(Salix exigua)* and red willow *(Salix laevigata)*.

The riparian area (San Joaquin River riverbed and adjacent area) is a much-used travel corridor for a variety of local wildlife, including aquatic species.

Environmental Consequences

The project would result in impacts to Great Valley Mixed Riparian Forest species. Tree and shrub removal would be required to construct protective sheet pilings at the bridge column footings. An estimate of the number of trees and shrubs will be prepared during the Plans, Specifications, and Estimates phase of the project.

The project is not expected to prevent animal movements along the river corridor during construction. Avoidance measures would be in place to avoid potential impacts to fish species. Once project construction is completed, it is expected that wildlife would resume use of the project area as a corridor.

Avoidance, Minimization, and/or Mitigation Measures

Before construction, Caltrans will establish environmentally sensitive areas consisting of orange mesh fencing around the trees and shrubs to be avoided. In addition, the limits of the construction area will be flagged, and all activity would be limited to the marked areas.

Mitigation will include replanting with native trees and shrubs in-kind at a 3:1 ratio for trees between 4 to 23.9 inches in diameter at breast height. Trees with a diameter at breast height of 24 or more inches are defined as heritage trees and must be replaced at a higher ratio of 10:1. Caltrans will continue coordinating with the

California Department of Fish and Wildlife during the Plans, Specifications, and Estimates Phase to determine if replanting will be onsite or offsite.

2.3.2 Wetlands and Other Waters

Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (33 U.S. Code 1344) is the main law regulating wetlands and surface waters. One purpose of the Clean Water Act is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the Clean Water Act, a three-parameter approach is used that includes the presence of: hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the Clean Water Act.

Section 404 of the Clean Water Act establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers with oversight by the U.S. Environmental Protection Agency (U.S. EPA).

The U.S. Army Corps of Engineers issues two types of 404 permits: General and Standard.

There are two types of General permits: Regional permits 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 two types of Standard permits: Individual permits and Letters of Permission. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of U.S. Army Corps of Engineers' Standard permits. For Standard permits, the U.S. Army Corps of Engineers' decision to approve is based on

compliance with U.S. EPA's Section 404(b)(1) Guidelines (U.S. EPA 40 Code of Federal Regulations Part 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines were developed by the U.S. Environmental Protection Agency in conjunction with the U.S. Army Corps of Engineers and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The guidelines state that the U.S. Army Corps of Engineers may not issue a permit if there is a least environmentally damaging practicable alternative to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (Executive Order 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this order states that a federal agency, such as the Federal Highway Administration and/or Caltrans, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated mainly by the California Department of Fish and Wildlife, the State Water Resources Control Board and the Regional Water Quality Control Boards. In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify the California Department of Fish and Wildlife before beginning construction. If the California Department of Fish and Wildlife determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. California Department of Fish and Wildlife jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the U.S. Army Corps of Engineers may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the California Department of Fish and Wildlife.

The Regional Water Quality Control Boards were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The Regional Water

Quality Control Boards also issue water quality certifications for impacts to wetlands and waters in compliance with Section 401 of the Clean Water Act. See Section 2.2.2 Water Quality and Storm Water Runoff for additional details.

Affected Environment

A Natural Environment Study was completed for this project in June 2013.

The landscape of the biological study area consists of water, dry riverbed, riparian woodland, ruderal areas (weedy roadsides), and adjacent agricultural land (see Section 2.3.1 Natural Communities for a discussion of Great Valley Mixed Riparian Forest).

No wetlands were identified within the biological study.

The San Joaquin River flows from east to west through the project site. The extent of jurisdictional waters within the project site will be delineated by Caltrans biologists as part of the 404 permitting process. The waters are potentially jurisdictional to the U.S. Army Corps of Engineers. Coordination with this agency has not yet begun.

Environmental Consequences

Permanent impacts to potentially jurisdictional waters of the U.S. are estimated be 0.17 acre. Temporary impacts due to construction of the project are estimated to be 0.768 acre.

Prior to driving the sheet pilings, which are approximately 27 feet wide by 48 feet long, pits would be excavated from around the base of the pier footing. First, excavations will take place at pier numbers 4, 6, 8 and 10 (Stage 1); and when excavation at these piers is complete, excavations will take place at piers 5, 7, 9 and 11 (Stage 2).

These excavations would total approximately 0.232 acre of surface area. Excavated soil would be temporarily stored within the work area but outside of the wetted channel, and promptly replaced back into an excavated pit. The overlapping work areas for this excavation is approximately 1.37 acres. See Figure 1-3 for locations of the piles and Appendix H for maps of the two stages of excavation.

The small amount of fill needed for installation of sheet piles would not affect the functions and value of the San Joaquin River after construction.

Avoidance, Minimization, and/or Mitigation Measures

Caltrans will work with the U.S. Army Corps of Engineers, the California Department of Fish and Wildlife, and the Central Valley Regional Water Quality Control Board to develop mitigation measures within the context of the San Joaquin River restoration implementation.

Mitigation options may include the following:

- Preservation, enhancement, and/or restoration of aquatic resources.
- Creation of aquatic resources onsite or offsite.
- Payment to an in-lieu fee program.

2.3.3 Plant Species

Regulatory Setting

The U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife have regulatory responsibility for the protection of special-status plant species. “Special-status” species are selected for protection because they are rare and/or subject to population and habitat declines. Special-status is a general term for species that are afforded varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). See the Threatened and Endangered Species Section 2.3.5 in this document for detailed information on these species.

This section of the document discusses all the other special-status plant species, including California Department of Fish and Wildlife species of special concern, U.S. Fish and Wildlife Service candidate species, and California Native Plant Society (CNPS) rare and endangered plants.

Regulatory requirements for the Federal Endangered Species Act can be found at U.S. Code 16, Section 1531, et seq. See also 50 Code of Federal Regulations Part 402. The regulatory requirements for the California Endangered Species Act can be found at California Fish and Game Code, Section 2050, et seq. Caltrans projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Sections 1900-1913, and the California Environmental Quality Act at California Public Resources Code, Sections 2100-21177.

Affected Environment

A Natural Environment Study was completed for this project in June 2013.

All plant species seen within the biological study area during biological surveys are listed in Appendix F. Within the project footprint are blue elderberry (*Sambucus nigra ssp. caerulea*), a common shrub in riparian forests of the Central Valley and the host plant of the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (see Section 2.3.5 Threatened and Endangered Species).

One special-status plant species—Sanford's Arrowhead (*Sagittaria sanfordii*)—has the potential to occur in the project area.

Sanford's Arrowhead

Sanford's arrowhead (*Sagittaria sanfordii*) is listed in the California Native Plant Society Inventory of Rare and Endangered Plants as rare, threatened, or endangered in California and elsewhere. This perennial plant, part of the water-plantain family (*Alismataceae)*, is found in marshes, swamps, ponds, ditches, and other shallow water habitats. It is native to California only. It is an erect plant with white flowers and typically blooms from May to October.

Surveys were done for Sanford's arrowhead during its blooming season. Although the project site contains habitat that may be suitable for this species, this plant was not observed during the survey.

Environmental Consequences

Sanford's Arrowhead

No impacts to Sanford's arrowhead are anticipated with the implementation of the avoidance and minimization measures outlined below.

Avoidance, Minimization, and/or Mitigation Measures

Sanford's Arrowhead

Preconstruction surveys would be completed by qualified biologists the season prior to groundbreaking activities. If Sanford's arrowhead is found, Caltrans would notify the California Department of Fish and Wildlife to discuss conservation measures.

2.3.4 Animal Species

Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service, the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) and the California Department of Fish and Wildlife are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in Section 2.3.5 below. All other special-status animal species are discussed here, including California Department of Fish and Wildlife fully protected species and species of special concern, and U.S. Fish and Wildlife Service or NOAA Fisheries Service candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act
- Sections 1600–1603 of the California Fish and Game Code
- Sections 4150 and 4152 of the California Fish and Game Code

Affected Environment

A Natural Environment Study was completed for this project in June 2013. See Appendix E for a complete list of animal species seen within the biological study area.

Caltrans biologists conducted literature review and field surveys for the project. Sensitive species lists were obtained from the California Natural Diversity Database to determine which special-status animal species had potential to occur within or near the project.

Hardhead

The hardhead (*Mylopharodon conocephalus*) is a member of the minnow family that occurs in the San Joaquin River drainage. These fish are listed as a species of special concern by the California Department of Fish and Wildlife. Hardheads can reach 60 centimeters in length. Adult fish have a brown dusky bronze back with silvery sides; juvenile fish are silver in color. Hardheads prefer clear deep streams with a slow but constant flow, with water temperatures that can exceed 20 degrees Celsius. Juveniles feed mostly on mayfly and caddisfly larvae; adults focus more on plants, crayfish, and other large aquatic invertebrates. These minnows reach sexual maturity around three years of age, and spawning occurs around April-May, but can take place as late as August. Spawning can occur in runs, riffles, or pools with a rocky gravel substrate. Typically, a hardhead lives 9 to 10 years.

No surveys were done for this species. Although suitable aquatic habitat is present within the biological study area, it is unlikely that the hardhead would occur at the project site because most populations of this fish are not present in valley streams.

Western Pond Turtle

The western pond turtle (*Actinemys marmorata*) is recognized as a California species of special concern. They are found in pools, rivers, lakes, marshes, and irrigation ditches with abundant vegetation and either rocky or muddy bottoms. Logs, rocks, or exposed banks are required for basking. Western pond turtles are omnivorous and will forage on aquatic insects and invertebrates, plants, fish, and frogs. Mating typically occurs during April or May, but can occur late into August. Western pond turtles do not reach sexual maturity until 8 to 10 years of age. Female turtles lay a clutch of 2 to 11 eggs in moist soil usually along stream or pond margins.

Suitable habitat exists in the biological study area for the western pond turtle, however none were observed during any surveys.

Tricolored Blackbird

The tricolored blackbird (*Agelaius tricolor*) is designated as a California species of special concern, and is also protected by the Migratory Bird Treaty Act. Adult males are glossy black with bright red forewings with a white stripe. Females are dark brown with grey and brown streaks. Birds of this species commonly nest near fresh water, preferably in wetlands with tall dense cattails or tules, but also in thickets of willows, blackberries, and other plants. Tricolored blackbirds eat mostly seeds, including grain, but can consume a wide variety of plant and animal foods. The

breeding season is mid-April into late July. Nests, built of mud and plant materials, are usually located a few feet over or near fresh water. Tricolored blackbirds nest in colonies, so nesting habitats must be able to support large numbers of breeding pairs.

Biological surveys done for the project identified suitable roosting and nesting habitat for tricolored blackbirds in the biological study area along the river. However, no birds of this species were seen during surveys.

Bat Species

The pallid bat (*Antrozous pallidus*) and the western mastiff bat (*Eumops perotis*)are California Department of Fish and Wildlife species of special concern. These bat species are year-round residents of California, most often found in low- to middle-elevation areas. The pallid bat selects a variety of day roosts, including rock outcrops, mines, caves, hollow trees, buildings, and bridges. The western mastiff bat can roost in bridges, though this has not been recorded in California.

The biological study area was surveyed for potential day and night roosting areas for bats. Suitable roosting habitat is present on the bridges for bats. Mexican free-tailed bats (*Tadarida brasiliensis*) were seen day roosting in an expansion hinge on the San Joaquin River Bridge (No. 42-0112).

Migratory Birds

Migratory bird species seen in the biological study area include the red-tailed hawk (*Buteo jamaicensis*), turkey vulture (*Cathartes aura*), mallard (*Anas platyrhynchos*), and cliff swallow (*Petrochelidon pyrrhonota*).

Environmental Consequences

Hardhead

No impacts to hardhead minnows are expected.

Western Pond Turtle

No impacts to western pond turtles are expected.

Tricolored Blackbird

No impacts to tricolored blackbirds are anticipated from the project.

Bats

With implementation of the avoidance and minimization measures described below, no impacts to bat species are expected.

Migratory Birds

With the implementation of the avoidance and minimization measures outlined below, no impacts to bird species are expected.

Avoidance, Minimization, and/or Mitigation Measures

Hardhead

Monitoring of this species may be required if determined necessary by a Caltrans biologist during in-stream work. If hardhead minnows are discovered at the project site, a Caltrans biologist would be consulted for measures to take to avoid this species where feasible.

Western Pond Turtle

No impacts to the western pond turtle are anticipated, so no mitigation is proposed.

Preconstruction surveys will be completed by a qualified biologist the season before groundbreaking activities. Survey results will be provided to the California Department of Fish and Wildlife within one week of survey completion. If a western pond turtle is found, it would be moved outside the project impact area and the California Department of Fish and Wildlife would be consulted.

Tricolored Blackbird

Preconstruction surveys would be completed by qualified biologists the season before groundbreaking activities. A qualified biologist would monitor any active nests during construction activities to ensure that no interference with the birds' breeding activity occurs.

Bats

Additional surveys would be done within a year before the start of construction to determine whether bats are still present in the project area. If it is determined that bats are using the project bridges, measures would be implemented to prevent bats from roosting. The contractor would be responsible for installing exclusionary measures, such as netting, over the bridge expansion joints to prevent bats from getting into these cracks before construction, and would maintain the devices during construction.

Migratory Birds

Removal of any trees within the project area should be done outside of the nesting season (February 15 to September 1). If trees within the project area need to be removed during the nesting season, a qualified biologist would inspect each tree before removal to ensure that no nests are present.

Exclusionary measures, such as netting, would be installed and maintained by the contractor before the nesting season to prevent swallows from nesting on the bridges.

2.3.5 Threatened and Endangered Species

Regulatory Setting

The main federal law protecting threatened and endangered species is the Federal Endangered Species Act: 16 U.S. Code Section 1531, et seq. See also 50 Code of Federal Regulations Part 402. This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration, are required to consult with the U.S. Fish and Wildlife Service and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) to ensure that they are not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species.

The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take statement, a Letter of Concurrence and/or documentation of a no effect finding. Section 3 of the Federal Endangered Species Act defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act, California Fish and Game Code Section 2050, et seq. The California Endangered Species Act emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project caused losses of listed species populations and their essential habitats. The California Department of Fish and Wildlife is the agency responsible for implementing the California Endangered Species Act. Section 2081 of the Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California Endangered Species Act allows for take incidental to otherwise lawful development projects; for these actions, an incidental take permit is issued by the California Department of Fish and Wildlife. For species listed under both the

Federal Endangered Species Act and the California Endangered Species Act requiring a Biological Opinion under Section 7 of the Federal Endangered Species Act, the California Department of Fish and Wildlife may also authorize impacts to California Endangered Species Act species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the U.S., by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

Affected Environment

A Natural Environment Study was completed for this project in June 2013. No critical habitat for any sensitive species was identified within the biological study area, including no essential fish habitat.

Valley Elderberry Longhorn Beetle

The valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) is federally listed as a threatened species. The current distribution of the species is patchy throughout the remaining riparian forests of the Central Valley from Redding to Bakersfield. The valley elderberry longhorn beetle is completely dependent on its host plant, the blue elderberry (*Sambucus nigra ssp. caerulea*).

The beetles emerge from inside the stems of elderberry shrubs or trees in the spring as the flowers begin to open. The exit holes made by the emerging adults are distinctive small oval openings; often these holes are the only clue that the beetles occur in an area. The adult beetles consume the elderberry foliage until about June, when they mate. The females lay their eggs in crevices of the elderberry's bark. Upon hatching, the larvae burrow into the shrub's stem where they will spend one to two years eating the interior wood (pith), which is their sole food source.

Ten blue elderberry shrubs were found in the biological study area during biological surveys within the riverbed.

Swainson's Hawk

The Swainson's hawk (*Bueto swainsoni*), State-listed as threatened, is also protected by the Migratory Bird Treaty Act. This raptor species is a summer migrant to the Central Valley and spends winters in South America. Swainson's hawks are slender with long pointed wings and dark flight wings. They forage in grasslands, agricultural fields, or pastures. The hawks eat mice, gophers, ground squirrels, rabbits, large insects, reptiles, amphibians, and small birds. Swainson's hawks roost and nest in trees. Breeding occurs from late March into late August. The female lays 2 to 4 eggs, which hatch 25 to 28 days later.

No Swainson's hawks were seen in the biological study area during spring 2013 raptor surveys.

Environmental Consequences

Valley Elderberry Longhorn Beetle

Of the 10 blue elderberry shrubs (host plants) found in the biological study area, only one growing by a bridge pier in the riverbed would be directly affected by construction activities.

It is the U.S. Fish and Wildlife Service' biological opinion that the project, as proposed, is not likely to jeopardize the continued existence of the valley elderberry longhorn beetle. The Biological Opinion was received on October 3, 2014.

Swainson's Hawk

The project impact area contains trees suitable for nests for Swainson's hawks, but this species of hawk was not seen during surveys in spring 2013. With implementation of the avoidance and minimization measures outlined below, no impacts to Swainson's hawks are expected.

Avoidance, Minimization, and/or Mitigation Measures

Valley Elderberry Longhorn Beetle

Caltrans will implement the following measures:

- All elderberry shrubs that can be avoided by construction and therefore do not require transplanting will be designated as environmentally sensitive areas and identified with appropriate signs and high visibility fencing in order to prevent construction activities from encroaching on them. Fencing will be installed 20 feet

from the driplines of the shrubs or at the greatest distance feasible (but no closer than the shrubs' driplines).

    - Fencing and signs will be checked and maintained weekly until all construction is completed.

- A qualified U.S. Fish and Wildlife Service-approved biologist will conduct an environmental education program for all construction employees and contractors, covering the status of the valley elderberry longhorn beetle, how to avoid damaging the elderberry shrubs, the importance of avoiding adverse effects to the valley elderberry longhorn beetle, and the penalties for non-exempted take. New construction personnel who are added to the project after the training is first conducted also will be required to be trained.

    - The U.S. Fish and Wildlife Service-approved biologist will be present onsite during trimming and transplanting activities.

- Prior to groundbreaking, Caltrans will transplant one elderberry shrub to the French Camp Conservation Bank or to another U.S. Fish and Wildlife Service-approved conservation bank, and to compensate for the loss of this shrub and to minimize the resulting effects to the valley elderberry long beetle by planting a total of 19 elderberry seedlings and 19 associated native plants within a minimum area of 0.17 acre at the French Camp Conservation Bank or to another U.S. Fish and Wildlife Service-approved conservation bank. This equates to the purchase of four credits at an approved conservation bank.

- Prior to the start of construction, additional surveys will be conducted to update elderberry findings if the survey results are more than two years old. If this occurs, the measures stated in the previous paragraph will be modified, if necessary.

For details, please see Appendix I to read the Biological Opinion.

Swainson's Hawk

- Preconstruction surveys would be completed by qualified biologists the season before groundbreaking activities.

- Removal of any trees within the project area should be done outside of the nesting season (February 15 to September 1). If trees within the project area need to be removed during the nesting season, a qualified biologist would inspect each tree before removal to ensure that no nests were present.

- If nesting Swainson's hawks are found in the project area, the nest site would be designated an environmentally sensitive area with fencing surrounding it 600 feet from the tree. This protected zone would be maintained until a qualified biologist has determined that the young hawks have left the nest.
- A qualified biologist would monitor the active nest during construction.

2.3.6 Invasive Species

Regulatory Setting

On February 3, 1999, President Bill Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the U.S. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration guidance issued August 10, 1999 directs the use of the state's invasive species list currently maintained by the California Invasive Species Council to define the invasive species that must be considered as part of the National Environmental Policy Act analysis for a proposed project.

Affected Environment

A Natural Environment Study was completed for this project in June 2013.

The following invasive plant species were found in the biological study area: Italian thistle (*Carduus pycnocephalus*), yellow star thistle (*Centaurea solstitialis*), and Bermuda grass (*Cynodon dactylon*). These three plant species are on the California Noxious Weeds List.

Environmental Consequences

This project would not introduce, transport, or spread invasive species and would not change the surrounding habitat to encourage movement of invasive species to the project site.

Avoidance, Minimization, and/or Mitigation Measures

In compliance with the Executive Order on Invasive Species (Executive Order 13112) and subsequent guidance from the Federal Highway Administration, erosion control included in the project would not use species listed as invasive. In areas of particular sensitivity, extra precautions would be taken if invasive species were found in or next

to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.

2.4 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to greenhouse gas emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of greenhouse gases generated by human activity including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), HFC-23 (fluoroform), HFC-134a (s, s, s, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of greenhouse gas emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light-duty trucks, other trucks, buses, and motorcycles) make up the largest source of greenhouse gas-emitting sources. The dominant greenhouse gas emitted is carbon dioxide, mostly from fossil fuel combustion.

There are typically two terms used when discussing the impacts of climate change: "greenhouse gas mitigation" and "adaptation." "Greenhouse gas mitigation" is a term for reducing greenhouse gas emissions to reduce or "mitigate" the impacts of climate change. "Adaptation" refers to the effort of planning for and adapting to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels)[1].

There are four primary strategies for reducing greenhouse gas emissions from transportation sources: 1) improving the transportation system and operational efficiencies, 2) reducing travel activity, 3) transitioning to lower greenhouse gas-

[1] http://climatechange.transportation.org/ghg_mitigation/

emitting fuels, and 4) improving vehicle technologies/efficiency. To be most effective, all four strategies should be pursued cooperatively.[2]

Regulatory Setting

This section outlines state and federal efforts to comprehensively reduce greenhouse gas emissions from transportation sources.

State

With the passage of several pieces of legislation including State Senate and Assembly bills and executive orders, California launched an innovative and proactive approach to dealing with greenhouse gas emissions and climate change.

Assembly Bill 1493 (AB 1493), Pavley, Vehicular Emissions: Greenhouse Gases, 2002: This bill requires the California Air Resources Board to develop and implement regulations to reduce automobile and light truck greenhouse gas emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year.

Executive Order S-3-05 (June 1, 2005): The goal of this order is to reduce California's greenhouse gas emissions to 1) year 2000 levels by 2010, 2) year 1990 levels by 2020, and 3) 80 percent below the year 1990 levels by 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32.

Assembly Bill 32 (AB 32), Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 sets the same overall greenhouse gas emissions reduction goals as outlined in Executive Order S-3-05, while further mandating that the Air Resources Board create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases."

Executive Order S-20-06 (October 18, 2006): This order establishes the responsibilities and roles of the Secretary of the California Environmental Protection Agency (Cal/EPA) and state agencies with regard to climate change.

Executive Order S-01-07 (January 18, 2007): This order set forth the low carbon fuel standard for California. Under this order, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020.

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[2] http://www.fhwa.dot.gov/environment/climate_change/mitigation/

Senate Bill 97 (SB 97) Chapter 185, 2007, Greenhouse Gas Emissions: This bill required the Governor's Office of Planning and Research to develop recommended amendments to the California Environmental Quality Act Guidelines for addressing greenhouse gas emissions. The amendments became effective on March 18, 2010.

Senate Bill 375 (SB 375), Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires the California Air Resources Board to set regional emissions reduction targets from passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land use, and housing policies to plan for the achievement of the emissions target for its region.

Senate Bill 391 (SB 391) Chapter 585, 2009 California Transportation Plan: This bill requires the state's long-range transportation plan to meet California's climate change goals under AB 32.

Federal

Although climate change and greenhouse gas reduction are a concern at the federal level, currently no regulations or legislation have been enacted specifically addressing greenhouse gas emissions reductions and climate change at the project level. Neither the U.S. Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration has issued explicit guidance or methods to conduct project-level greenhouse gas analysis.[3] The Federal Highway Administration supports the approach that climate change considerations should be integrated throughout the transportation decision-making process—from planning through project development and delivery.

Addressing climate change mitigation and adaptation up front in the planning process will assist in decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project-level decision-making. Climate change considerations can be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

[3] To date, no national standards have been established regarding mobile source greenhouse gases, nor has U.S. EPA established any ambient standards, criteria or thresholds for greenhouse gases resulting from mobile sources.

The four strategies outlined by the Federal Highway Administration to lessen climate change impacts correlate with efforts that the state is undertaking to deal with transportation and climate change; these strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and a reduction in travel activity.

Climate change and its associated effects are also being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the "National Clean Car Program" and Executive Order 13514 - *Federal Leadership in Environmental, Energy and Economic Performance*.

Executive Order 13514 (October 5, 2009): This order is focused on reducing greenhouse gases internally in federal agency missions, programs and operations, but also directs federal agencies to participate in the Interagency Climate Change Adaptation Task Force, which is engaged in developing a national strategy for adaptation to climate change.

The U.S. EPA's authority to regulate greenhouse gas emissions stems from the U.S. Supreme Court decision in *Massachusetts v. EPA* (2007). The Supreme Court ruled that greenhouse gases meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the court's ruling, the U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence, it found that six greenhouse gases constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing act and EPA's assessment of the scientific evidence that form the basis for EPA's regulatory actions. The U.S. EPA in conjunction with the National Highway Traffic Safety Administration issued the first of a series of greenhouse gas emission standards for new cars and light-duty vehicles in April 2010.[4]

The U.S. EPA and the National Highway Traffic Safety Administration are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced greenhouse gas emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever greenhouse gas regulations for heavy-duty engines and vehicles first-ever GHG regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle greenhouse gas regulations.

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[4] http://www.c2es.org/federal/executive/epa/greenhouse-gas-regulation-faq

The final combined standards that made up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards implemented by this program are expected to reduce greenhouse gas emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

On August 28, 2012, the U.S. EPA and National Highway Traffic Safety Administration issued a joint Final Rulemaking to extend the National Program for fuel economy standards to model year 2017 through 2025 passenger vehicles. Over the lifetime of the model year 2017-2025 standards, this program is projected to save approximately four billion barrels of oil and two billion metric tons of greenhouse gas emissions.

The complementary U.S. EPA and National Highway Traffic Safety Administration standards that make up the Heavy-Duty National Program apply to combination tractors (semi-trucks), heavy-duty pickup trucks and vans, and vocational vehicles (including buses and refuse or utility trucks). Together, these standards will cut greenhouse gas emissions and domestic oil use significantly. This program responds to President Barack Obama's 2010 request to jointly establish greenhouse gas emissions and fuel efficiency standards for the medium- and heavy-duty highway vehicle sector. The agencies estimate that the combined standards will reduce carbon dioxide emissions by about 270 million metric tons and save about 530 million barrels of oil over the life of model year 2014 to 2018 heavy-duty vehicles.

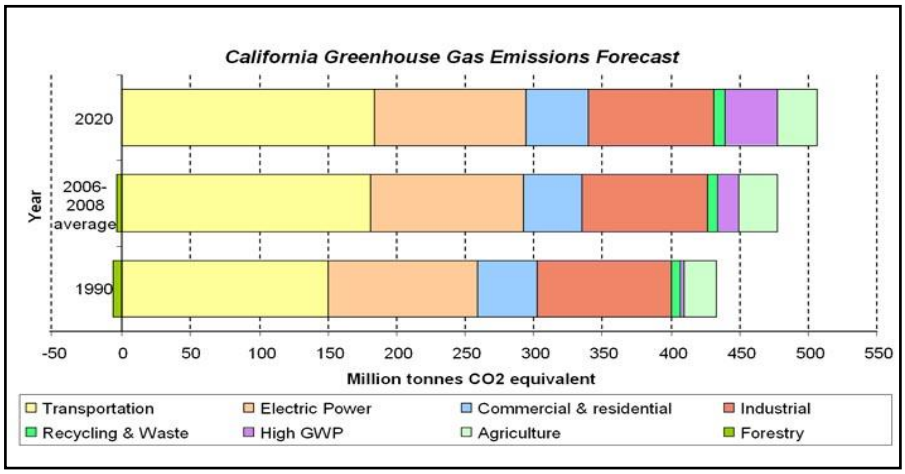
Project Analysis

An individual project does not generate enough greenhouse gas emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its *incremental* change in emissions when combined with the contributions of all other sources of greenhouse gas.[5] In the assessment of cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (California Environmental Quality Act Guidelines Sections 15064(h)(1) and 15130). To make this determination, the incremental impacts of the project must be compared

[5] This approach is supported by the AEP: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the South Coast Air Quality Management District (Chapter 6: The CEQA Guide, April 2011) and the U.S. Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects to make this determination is a difficult, if not impossible, task.

The AB 32 Scoping Plan mandated by AB 32 includes the main strategies California will use to reduce greenhouse gas emissions. As part of its supporting documentation for the Draft Scoping Plan, the Air Resources Board released the greenhouse gas inventory for California (forecast last updated: October 28, 2010). See Figure 2-3. The forecast is an estimate of the emissions expected to occur in 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the greenhouse gas inventory for 2006, 2007, and 2008.



Source: http://www.arb.ca.gov/cc/inventory/data/forecast.htm

Figure 2-3 California Greenhouse Gas Forecast

Caltrans and its parent agency, the Transportation Agency, have taken an active role in addressing greenhouse gas emission reduction and climate change. Recognizing that 98 percent of California's greenhouse gas emissions are from the burning of fossil fuels and 40 percent of all human-made greenhouse gas emissions are from transportation, Caltrans has created and is implementing the Climate Action Program at Caltrans that was published in December 2006.[6]

[6] Caltrans Climate Action Program is located at the following web address: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf

The project would retrofit the San Joaquin River Bridge (No. 42-0112) and the San Joaquin Overflow Bridge (No. 41-0040) on old State Route 41 to bring them up to Caltrans' current roadway structure standards. No roadway capacity would be added, so the light amount of local traffic that travels over these bridges would not increased by the project. Thus, while construction emissions will be unavoidable, no increases in operational GHG emissions are anticipated.

Construction Emissions

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction greenhouse gas emissions include emissions produced as a result of material processing, emissions produced by on-site construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the greenhouse gas emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events.

Additionally, this project includes following construction vehicle idling measures included in the San Joaquin Valley Air Pollution Control District's 2002 California Environmental Quality Act guidelines. During construction of the proposed bridge scour and seismic retrofit project, contractors would be required to minimize heavy duty construction equipment idling to less than 10 minutes.

CEQA Conclusion

While the proposed project will result in construction-related greenhouse gas emissions during construction, it is anticipated that the project will not result in any increase in operational greenhouse gas emissions. While it is Caltrans determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct impact and its contribution on the cumulative scale to climate shange, Caltrans is firmly committed to implementing measures to help reduce greenhouse gas emissions. These measures are outlined in the following section.

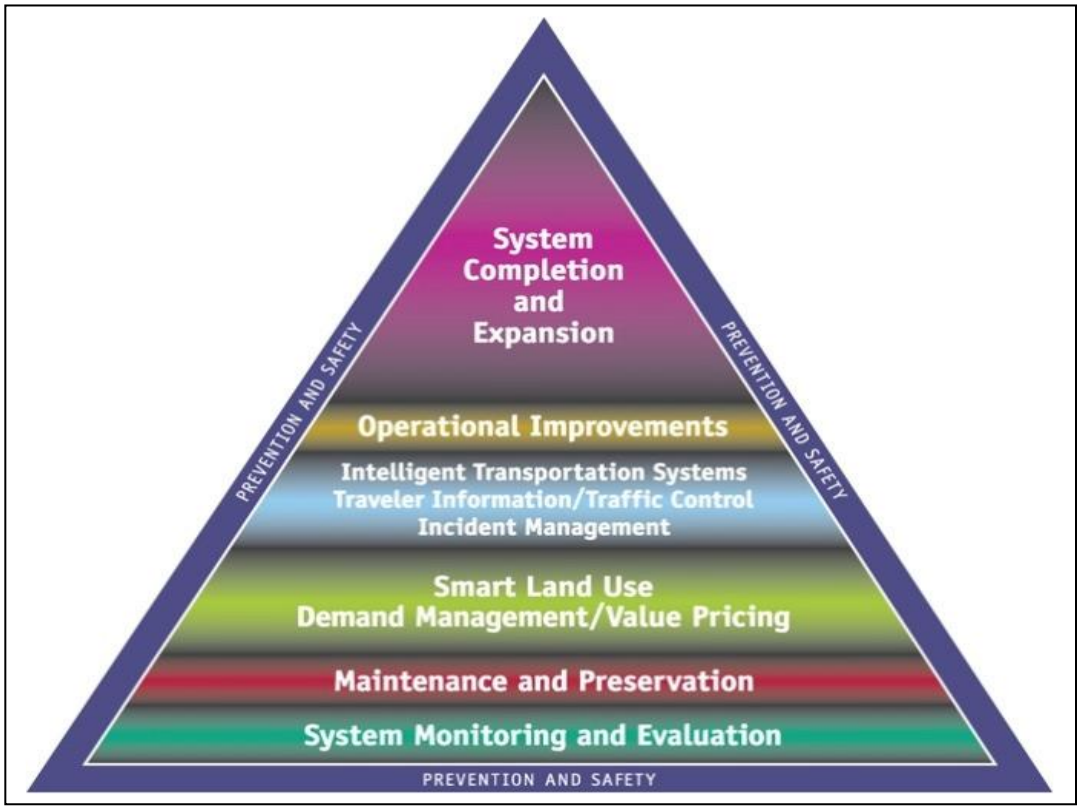


Figure 2-4 Mobility Pyramid

Greenhouse Gas Reduction Strategies

Caltrans continues to be involved on the Governor's Climate Action Team as the Air Resources Board works to implement Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from then-Governor Arnold Schwarzenegger's Strategic Growth Plan for California. The Strategic Growth Plan targeted a significant decrease in traffic congestion below 2008 levels and a corresponding reduction in greenhouse gas emissions, while accommodating growth in population and the economy. The Strategic Growth Plan relies on a complete systems approach to attain carbon dioxide reduction goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements as shown in Figure 2-4 Mobility Pyramid.

Caltrans is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high-density housing along transit corridors. Caltrans also works closely with local jurisdictions on planning activities, but does not have local land use planning authority. Caltrans assists efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light- and heavy-duty trucks; the department is doing this by supporting ongoing research efforts at universities, by supporting legislative efforts to increase fuel economy, and by participating on the Climate Action Team. It is important to note, however, that control of fuel economy standards is held by the U.S. EPA and Air Resources Board.

Caltrans is also working toward enhancing the State's transportation planning process to respond to future challenges. Similar to requirements for regional transportation plans under Senate Bill 375 (Steinberg 2008), Senate Bill 391(Liu 2009) requires the State's long-range transportation plan to meet California's climate change goals under AB 32.

The California Transportation Plan is a statewide, long-range transportation plan to meet our future mobility needs and reduce greenhouse gas emissions. The California Transportation Plan defines performance-based goals, policies, and strategies to achieve our collective vision for California's future, statewide, integrated, multimodal transportation system.

The purpose of the California Transportation Plan is to provide a common policy framework that will guide transportation investments and decisions by all levels of government, the private sector, and other transportation stakeholders. Through this policy framework, the California Transportation Plan 2040 will identify the statewide transportation system needed to achieve maximum feasible greenhouse gas emission reductions while meeting the state's transportation needs.

Table 2.3 summarizes the departmental and statewide efforts that Caltrans is implementing to reduce greenhouse gas emissions. More detailed information about each strategy is included in the Climate Action Program at Caltrans (December 2006).

Table 2.3 Climate Change/CO2 Reduction Strategies

Strategy	Program	Partnership		Method/Process	Estimated CO_2 Savings Million Metric Tons (MMT)	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review (IGR)	Caltrans	Local governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	0.975	7.8
Operational Improvements & Intelligent Transportation System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	0.07	2.17
Mainstream Energy & GHG into Plans and Projects	Office of Policy Analysis & Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational & Information Program	Office of Policy Analysis & Research	Interdepartmental, CalEPA, ARB, CEC		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening & Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement B20 B100	0.0045	0.0065 0.045 0.0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	0.117	0.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries		2.5 % limestone cement mix 25% fly ash cement mix > 50% fly ash/slag mix	1.2 0.36	4.2 3.6
Goods Movement	Office of Goods Movement	Cal EPA, ARB, BT&H, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.72	18.18

Caltrans Director's Policy Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) is intended to establish a department policy that will ensure coordinated efforts to incorporate climate change into Caltrans decisions and activities.

Caltrans Activities to Address Climate Change (April 2013)[7] provides a comprehensive overview of activities undertaken by Caltrans statewide to reduce greenhouse gas emissions resulting from agency operations.

The following measures will also be included in the project to reduce the greenhouse gas emissions and potential climate change impacts from the project:

1. According to the Caltrans Standard Specifications, the contractor must comply with all local Air Pollution Control District's rules, ordinances, and regulations for air quality restrictions. During construction of the proposed project contractors would be required to follow mitigation for construction vehicle idling as recommended by the San Joaquin Valley Air Pollution Control District's 2002 California Environmental Quality Act Guidelines. The San Joaquin Valley Air Pollution Control District recommends minimizing heavy duty construction equipment idling to less than 10 minutes.

Adaptation Strategies

"Adaptation strategies" refer to how Caltrans and others can plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the White House Council on Environmental Quality, the Office of Science and Technology Policy, and the National Oceanic and Atmospheric Administration

[7] http://www.dot.ca.gov/hq/tpp/offices/orip/climate_change/projects_and_studies.shtml

(NOAA), released its interagency task force progress report on October 28, 2011[8], outlining the federal government's progress in expanding and strengthening the nation's capacity to better understand, prepare for, and respond to extreme events and other climate change impacts. The report provides an update on actions in key areas of federal adaptation, including building resilience in local communities, safeguarding critical natural resources such as freshwater, and providing accessible climate information and tools to help decision-makers manage climate risks.

Climate change adaptation must also involve the natural environment as well. Efforts are underway on a statewide level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, then-Governor Arnold Schwarzenegger signed Executive Order S-13-08, which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change. This order set in motion several agencies and actions to address the concern of sea level rise.

In addition to addressing projected sea level rise, the California Natural Resources Agency (Resources Agency) was directed to coordinate with local, regional, state and federal public and private entities to develop the California Climate Adaptation Strategy (Dec 2009)[9], which summarizes the best-known science on climate change impacts to California, assesses California's vulnerability to the identified impacts, and then outlines solutions that can be implemented within and across state agencies to promote resiliency.

The strategy outline is in direct response to Executive Order S-13-08 that specifically asked the Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. Numerous other state agencies were involved in the creation of the Adaptation Strategy document, including the California Environmental Protection Agency; Transportation Agency (formerly Business, Transportation and Housing); Health and Human Services; and the Department of Agriculture. The document is broken down

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[8] http://www.whitehouse.gov/administration/eop/ceq/initiatives/adaptation

[9] http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF

into strategies for different sectors that include public health; biodiversity and habitat; ocean and coastal resources; water management; agriculture; forestry; and transportation and energy infrastructure. As data continues to be developed and collected, the state's adaptation strategy will be updated to reflect current findings.

The National Academy of Science was directed to prepare a Sea Level Rise Assessment Report[10] to recommend how California should plan for future sea level rise. The report was released in June 2012 and included the following:

- Relative sea level rise projections for California, Oregon and Washington, taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge and land subsidence rates.
- Range of uncertainty in selected sea level rise projections.
- Synthesis of existing information on projected sea level rise impacts to state infrastructure (such as roads, public facilities and beaches), natural areas, and coastal and marine ecosystems.
- Discussion of future research needs regarding sea level rise.

In 2010, interim guidance was released by the Coastal Ocean Climate Action Team (CO-CAT) as well as Caltrans as a method to initiate action and discussion of potential risks to the state's infrastructure due to projected sea level rise. Subsequently, CO-CAT updated the Sea Level Rise guidance to include information presented in the National Academy's study.

All state agencies that are planning to build projects in areas vulnerable to future sea level rise are directed to consider a range of sea level rise scenarios for the years 2050 and 2100 to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. Sea level rise estimates should also be used in conjunction with information on local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data.

All projects that have filed a Notice of Preparation as of the date of Executive Order EO S-13-08 and/or are programmed for construction funding from 2008 through 2013, or are routine maintenance projects may, but are not required to, consider these

[10] *Sea Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future* (2012) is available at http://www.nap.edu/catalog.php?record_id=13389

planning guidelines. The proposed project is outside the coastal zone, and direct impacts to transportation facilities due to projected sea level rise are not expected.

Executive Order S-13-08 also directed the Transportation Agency (formerly Business, Transportation, and Housing Agency) to prepare a report to assess vulnerability of transportation systems to sea level rise affecting safety, maintenance and operational improvements of the system, and economy of the state. Caltrans continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

Currently, Caltrans is assessing which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change effects, Caltrans has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide planning scenarios become available, Caltrans will be able to review its current design standards to determine what changes, if any, may be needed to protect the transportation system from sea level rise.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. Caltrans is an active participant in the efforts being conducted in response to Executive Order S-13-08 and is mobilizing to be able to respond to the National Academy of Science Sea Level Rise Assessment Report.

Chapter 3 Comments and Coordination

The Initial Study with Proposed Mitigated Negative Declaration circulated to the public from October 28, 2013 to November 27, 2013. The public notice announcing the availability of the draft environmental document included the opportunity for a public hearing. However, since only the San Joaquin River Parkway and Conservation Trust requested that a public hearing be held, Caltrans staff met with the Trust's Executive Director and the Executive Officer of the San Joaquin River Conservancy to discuss their concerns (this meeting is discussed below). Responses to agency and non-profit organization comments on the circulated document are shown in Appendix F of this document (no comments were received from the public).

Caltrans staff coordinated with the following entities for this project:

California Department of Fish and Wildlife (formerly Fish and Game)

- December 7, 2012—Staff Augmentation Biologist Zachary Foster emailed Laura Peterson-Diaz, Environmental Scientist and Caltrans liaison at the California Department of Fish and Wildlife. Mr. Foster inquired about the status of California Department of Fish and Wildlife efforts on the San Joaquin River Restoration Project, including the re-introduction of Chinook salmon.

- December 17, 2012—Laura Peterson-Diaz responded via email stating that the Department of Fish and Wildlife would include avoidance and mitigation measures in the 1602 Streambed Alteration agreement that will address the San Joaquin River restoration program and the re-introduction of Chinook salmon.

U.S. Fish and Wildlife Service

- April 2014—Phone conversation between Ronald Cummings, Staff Augmentation Biologist, Caltrans and Jennifer Schofield, Biologist and Caltrans liason with U.S. Fish and Wildlife Service, Sacramento Office. Ms. Schofield stated that consultation for the valley elderberry longhorn beetle would be required for this project.

- May 2, 2014—an email query from Jennifer Schofield to Ronald Cummings requested answers to several questions about project construction details described in the Biological Assessment.

- May 7, 2014—Ronald Cummings responded to Jennifer Schofield's email of May 2 with answers to her questions. Ms. Schofield emailed back to Mr. Cummings to acknowledge receiving his email.

San Joaquin River Parkway and Conservation Trust
San Joaquin River Conservancy

Caltrans met with Mr. Dave Koehler, Executive Director of the San Joaquin River Parkway and Conservation Trust, and Ms. Melinda Marks, Executive Director of the San Joaquin River Conservancy, on March 11, 2014 to discuss the project and to address concerns stated by Mr. Koehler in his comment letter dated November 27, 2013.

Native American Coordination

The Caltrans District 6 Native American Coordinator contacted the Native American Heritage Commission on February 15, 2013 for a Sacred Lands File search. The Native American Heritage Commission responded on February 25, 2013 with a list of Native American contacts and indicated that the area outside the area of potential effects contains cultural resources, some in close proximity to the project, of which members of the Dumna Wo-Wah Tribe are aware.

Chapter 4 List of Preparers

This document was prepared by the following Caltrans Central Region staff:

Ronald Cummings, Principal Scientist, Parsons Corporation, working at Caltrans as a Staff Augmentation Biologist. B.S., General Biology, Oregon State University, Corvallis, Oregon; 25 years of combined experience in terrestrial field biology, environmental analysis, and biological resource management. Contribution: Biological Assessment.

Rajeev Dwivedi, Associate Engineering Geologist. Ph.D., Environmental Engineering, Oklahoma State University, Stillwater; 20 years of environmental technical studies experience. Contribution: Water Quality Report, Air Quality and Noise memos.

Zachary Foster, Biologist, URS, working at Caltrans as a Staff Augmentation Biologist. B.A., Ecology, Evolution, and Organismal Biology, California State University, Fresno. Certificate in GIS; 3 years of experience in biological studies and fieldwork. Contribution: Biological studies.

Clemens Goewert, Environmental Planner (Hazardous Waste Specialist). B.A., Geology, St. Louis University, St. Louis, Missouri; 40 years of combined experience in geology, engineering geology, environmental studies, and hazardous and nuclear waste management. Contribution: Hazardous waste review.

Wendy Kronman, Associate Environmental Planner. M.A., Linguistics, California State University, Fresno; Certificate in Horticulture, Merritt College, Oakland; B.A., Anthropology, Sonoma State University; 8 years of environmental planning experience. Contribution: Prepared the Initial Study.

David Lanner, Associate Environmental Planner. B.F.A., Art, Utah State University; 15 years of cultural resources experience. Contribution: Historic Properties Survey Report, Archaeological Survey Report.

Joseph Llanos, Graphic Designer III. B.A., Graphic Design, California State University, Fresno; 15 years of visual design and public participation experience. Contribution: Maps.

Michael Mills, Landscape Architect. B.L.A., Utah State University; 14 years of experience in visual studies and landscape architecture. Contribution: Scenic Resource Evaluation and Visual Impact Assessment memo.

Michelle Ray, Senior Environmental Planner. B.S., Environmental Toxicology and Biology, University of California, Riverside; 8 years of environmental planning experience. Contribution: supervising Senior Environmental Planner.

Richard C. Stewart, Engineering Geologist, P.G. B.S., Geology, California State University, Fresno; more than 23 years of hazardous waste and water quality experience; 9 years of paleontology/geology experience. Contribution: Paleontological Identification Report memo.

Chapter 5 Distribution List

CEQA Reviewing Agencies:	State Clearinghouse 1400 Tenth Street Sacramento, CA 95814

- Air Resources Board
- California Highway Patrol
- Caltrans District 6
- Central Valley Flood Protection Board
- California Department of Fish and Wildlife, Region 4
- Native American Heritage Commission
- Office of Historic Preservation
- Public Utilities Commission
- Central Valley Regional Water Quality Control Board, Region 5
- San Joaquin River Conservancy
- State Lands Commission
- Department of Water Resources

US Army Corps of Engineers, Sacramento District ATTN: Regulatory Branch 1325 J Street, Room 1480 Sacramento, CA 95814-2922	US Bureau of Reclamation South-Central California Area Office 1243 "N" Street Fresno, CA 93721-1813
US Fish and Wildlife Service 2800 Cottage Way, Room W-2605 Sacramento, CA 95825	City of Fresno, PARCS Department 848 M Street, 3rd Floor Fresno, CA 93721
Fresno Metropolitan Flood Control District 5469 E. Olive Avenue, Fresno, CA 93727	City of Fresno, Water Division 1910 E. University Ave. Fresno, CA 93703-2927
City of Fresno Fire Department Kerri L. Donis, Interim Fire Chief 911 H Street Fresno, CA 93721	Ashley Swearengin, Mayor City of Fresno 2600 Fresno Street, Room 2075 Fresno, CA 93721
Fresno Council of Governments 2035 Tulare Street, Suite 201 Fresno, CA 93721	Clovis Unified School District 1415 Herndon Avenue Clovis, CA 93611
City Council, City of Fresno 2600 Fresno Street, Room 2097 Fresno, CA 93721	Madera County Transportation Commission 2001 Howard Road, Suite 201 Madera, CA 93637
San Joaquin River Parkway & Conservation Trust, Dave Koehler, Executive Director 11605 Old Friant Road Fresno, CA 93730	Fire Chief Madera County Fire Department 14225 Road 28 Madera, CA 93638
Planner, City of Fresno, Development and Resource Management Department 2600 Fresno Street, Room 3065 Fresno, CA 93721	Matthew Treber, Senior Planner Madera County Planning Department 2037 West Cleveland Avenue Madera, CA 93637

Appendix A California Environmental Quality Act Checklist

Supporting documentation of all California Environmental Quality Act checklist determinations is provided in Chapter 2 of this Initial Study. Documentation of "No Impact" determinations is provided at the beginning of Chapter 2. Discussion of all impacts, avoidance, minimization, and/or mitigation measures under the appropriate topic headings in Chapter 2.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	☐	☐	☐	X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	☐	☐	☐	X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	X
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	X
II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	X

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	X
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	X
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	X
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	X
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	X
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	X
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	X
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	X	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	X	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	X
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	X
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	X
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	X
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	X
VI. GEOLOGY AND SOILS: Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	X
ii) Strong seismic ground shaking?	☐	☐	☐	X
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	X

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
iv) Landslides?	☐	☐	☐	X
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	X
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	X
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	X

VII. GREENHOUSE GAS EMISSIONS: Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document.

VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	X
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	X
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	X

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	X
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	X
IX. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	X	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	X
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	X
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	X
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	X
f) Otherwise substantially degrade water quality?	☐	☐	☐	X

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	X
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	X
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	X
j) Inundation by seiche, tsunami, or mudflow	☐	☐	☐	X
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	☐	☐	☐	X
b)Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	X
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	X
XI. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	X
XII. NOISE: Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	X	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	X	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	X

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	X
) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	X
XIII. POPULATION AND HOUSING: Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	X
XIV. PUBLIC SERVICES:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☐	X
Fire protection?	☐	☐	☐	X
Police protection?	☐	☐	☐	X
Schools?	☐	☐	☐	X
Parks?	☐	☐	☐	X
Other public facilities?	☐	☐	☐	X

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XV. RECREATION:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	X
XVI. TRANSPORTATION/TRAFFIC: Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	X
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	X
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	X
e) Result in inadequate emergency access?	☐	☐	☐	X
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	X
XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	X
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	X

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	X
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	X
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	X
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	X
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	X

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	X	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	X
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	X

Appendix B Title VI Policy Statement

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
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Flex your power!
Be energy efficient!

March 2013

NON-DISCRIMINATION
POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, 1823 14th Street, MS-79, Sacramento, CA 95811. Telephone: (916) 324-0449, TTY: 711, or via Fax: (916) 324-1949.

MALCOLM DOUGHERTY
Director

"Caltrans improves mobility across California"

Appendix C Minimization and/or Mitigation Summary

Parks and Recreational Facilities

Caltrans will coordinate with the San Joaquin River Conservancy and the City of Fresno during final design and construction of this project to ensure that Wildwood Native Park will not be affected during construction of the project.

Cultural Resources

Due to the cultural sensitivity of the San Joaquin River corridor and the concerns of the Dumna Wo-Wah Tribe, monitoring will be required during construction. A representative of the Dumna Wo-wah Tribe and a Caltrans archaeologist will be present during earth-moving activities. The seismic retrofit and railing replacements are not expected to cause ground disturbance, only the scour retrofit activities.

If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to California Public Resources Code (PRC) Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC) who will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact the Caltrans District 6 archaeologist assigned to the project so that he or she may work with the Most Likely Descendant on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code 5097.98 are to be followed as applicable.

Water Quality and Storm Water Runoff

Best management practices for clear water diversion and dewatering operations would be selected for the project during the Plans, Specifications and Estimates phase of the project before construction. Best management practices would be consistent with the permits that would be obtained for construction of the project.

Because construction of the project is expected to disturb less than 1 acre of soil, a Water Pollution Control Program would be required. Measures to avoid and reduce

potential impacts to water quality in the construction area would be specified, incorporating applicable construction site best management practices. The Water Pollution Control Program is developed by the contractor and submitted to the Caltrans resident engineer for approval before construction starts.

The following would be addressed by specific best management practices:

- Vehicle and equipment fueling, cleaning, and maintenance
- Pile driving operations
- Concrete curing and concrete finishing
- Vehicles and equipment used over water
- Structure demolition or removal over or adjacent to water
- Material delivery and storage
- Material use
- Spill prevention and control
- Solid waste management
- Sanitary/septic waste management
- Liquid management
- Temporary stockpiles
- Clear water diversion
- Dewatering

Noise and Vibration

Construction noise is regulated by Caltrans Standard Specifications Section 14-8, "Sound Control Requirements," which states that noise levels generated during construction must not exceed 86 dBA at 50 feet from 9:00 p.m. to 6:00 a.m. All equipment must be fitted with adequate mufflers according to the manufacturers' specifications.

A combination of abatement techniques with equipment noise control and administrative measures can be selected to provide the most effective means to minimize effects of construction activity noise and vibration.

Minimization measures may include the following as needed:

- Using newer equipment with improved muffling and ensuring that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine enclosures, and engine vibration isolators intact and operational. Newer equipment will generally be quieter in operation than older equipment. All construction equipment should be inspected at periodic intervals to ensure proper maintenance and presence of noise control devices (e.g., mufflers and shrouding, etc.).
- Using construction methods or equipment that will provide the lowest level of noise and ground vibration impact such as alternative low noise pile installation methods.
- Turning off idling equipment.
- Temporary noise barriers shall be used and relocated, as needed, to protect sensitive receptors against excessive noise from construction activities. Noise barriers can be made of heavy plywood, or moveable insulated sound blankets.
- Planning noisier operations during times of least sensitivity to receptors.
- Keeping noise levels relatively uniform and avoiding impulsive noises.

Natural Communities

Before construction, Caltrans will establish environmentally sensitive areas consisting of orange mesh fencing around the trees and shrubs to be avoided. In addition, the limits of the construction area would be flagged, and all activity would be limited to the marked areas.

Mitigation will include replanting with native trees and shrubs in-kind at a 3:1 ratio for trees between 4 to 23.9 inches in diameter at breast height. Trees with a diameter at breast height of 24 or more inches are defined as heritage trees and must be replaced at a higher ratio of 10:1. Caltrans will continue coordinating with the California Department of Fish and Wildlife during the Plans, Specifications, and Estimates Phase to determine if replanting will be onsite or offsite.

Wetlands and Other Waters

Caltrans will work with the U.S. Army Corps of Engineers, the California Department of Fish and Wildlife, and the Central Valley Regional Water Quality Control Board to develop mitigation measures within the context of the San Joaquin River restoration implementation.

Mitigation options may include the following:

- Preservation, enhancement, and/or restoration of aquatic resources.
- Creation of aquatic resources onsite or offsite.
- Payment to an in-lieu fee program.

Plant Species

Sanford's Arrowhead

Preconstruction surveys will be completed by qualified biologists the season before groundbreaking activities. If the Sanford's arrowhead is found, Caltrans will notify the California Department of Fish and Wildlife to discuss conservation measures to be implemented.

Animal Species

Hardhead

Monitoring of this species may be required if determined necessary by a Caltrans biologist during in-stream work. If hardhead minnows are discovered at the project site, a Caltrans biologist will be consulted for measures to take to avoid this species where feasible.

Western Pond Turtle

No impacts to the western pond turtle are anticipated, so no mitigation is proposed.

Preconstruction surveys will be completed by a qualified biologist the season before groundbreaking activities. Survey results will be provided to the California Department of Fish and Wildlife within one week of survey completion. If a western pond turtle is found, it would be moved outside the project impact area and the California Department of Fish and Wildlife would be consulted.

Tricolored Blackbird

Preconstruction surveys would be completed by qualified biologists the season before groundbreaking activities. A qualified biologist would monitor any active nests during construction activities to ensure that no interference with the birds' breeding activity occurs.

Bats

Additional surveys would be conducted within a year before the start of construction to determine whether bats are still present in the project area. If it is determined that bats are using the project bridges, measures would be implemented to prevent bats from roosting. The contractor will be responsible for installing exclusionary measures, such as netting, over the bridge expansion joints to prevent bats from getting into these cracks before construction, and would maintain the devices during construction.

Migratory Birds

Removal of any trees within the project area should be done outside of the nesting season (February 15 to September 1). If trees within the project area need to be removed during the nesting season, a qualified biologist would inspect each tree before removal to ensure that no nests are present.

Exclusionary measures, such as netting, would be installed and maintained by the contractor before the nesting season to prevent swallows from nesting on the bridges.

Threatened and Endangered Species

Valley Elderberry Longhorn Beetle

Caltrans will implement the following measures:

- All elderberry shrubs that can be avoided by construction and therefore do not require transplanting will be designated as environmentally sensitive areas and identified with appropriate signs and high visibility fencing in order to prevent construction activities from encroaching on them. Fencing will be installed 20 feet from the driplines of the shrubs or at the greatest distance feasible (but no closer than the shrubs' driplines).
    - Fencing and signs will be checked and maintained weekly until all construction is completed.
- A qualified U.S. Fish and Wildlife Service-approved biologist will conduct an environmental education program for all construction employees and contractors,

covering the status of the valley elderberry longhorn beetle, how to avoid damaging the elderberry shrubs, the importance of avoiding adverse effects to the valley elderberry longhorn beetle, and the penalties for non-exempted take. New construction personnel who are added to the project after the training is first conducted also will be required to be trained.

  - The U.S. Fish and Wildlife Service-approved biologist will be present onsite during trimming and transplanting activities.

- Prior to groundbreaking, Caltrans will transplant one elderberry shrub to the French Camp Conservation Bank or to another U.S. Fish and Wildlife Service-approved conservation bank, and to compensate for the loss of this shrub and to minimize the resulting effects to the valley elderberry long beetle by planting a total of 19 elderberry seedlings and 19 associated native plants within a minimum area of 0.17 acre at the French Camp Conservation Bank or to another U.S. Fish and Wildlife Service-approved conservation bank. This equates to the purchase of four credits at an approved conservation bank.
- Prior to the start of construction, additional surveys will be conducted to update elderberry findings if the survey results are more than two years old. If this occurs, the measures stated in the previous paragraph will be modified, if necessary.

For details, please see Appendix I to read the Biological Opinion.

Swainson's Hawk

- Preconstruction surveys would be completed by qualified biologists the season before groundbreaking activities.
- Removal of any trees within the project area should be done outside of the nesting season (February 15 to September 1). If trees within the project area need to be removed during the nesting season, a qualified biologist would inspect each tree before removal to ensure that no nests are present.
- If nesting Swainson's hawks are observed in the project area, the nest site would be designated an environmentally sensitive area with fencing surrounding it 600 feet from the tree. This protected zone would be maintained until a qualified biologist has determined that the young hawks have left the nest.
- A qualified biologist would monitor the active nest during construction.

Invasive Species

In compliance with the Executive Order on Invasive Species (Executive Order 13112) and subsequent guidance from the Federal Highway Administration, erosion control included in the project would not use species listed as invasive. In areas of particular sensitivity, extra precautions would be taken if invasive species are found in or next to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.

Appendix D Federal, State and California Native Plant Society Species Lists

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 140724114730

Current as of: July 24, 2014

Quad Lists

Listed Species

Invertebrates

Branchinecta conservatio
- Conservancy fairy shrimp (E)

Branchinecta lynchi
- Critical habitat, vernal pool fairy shrimp (X)
- vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
- valley elderberry longhorn beetle (T)

Fish

Hypomesus transpacificus
- delta smelt (T)

Oncorhynchus mykiss
- Central Valley steelhead (T) (NMFS)

Amphibians

Ambystoma californiense
- California tiger salamander, central population (T)
- Critical habitat, CA tiger salamander, central population (X)

Rana draytonii
- California red-legged frog (T)

Reptiles

Gambelia (=Crotaphytus) sila
- blunt-nosed leopard lizard (E)

Thamnophis gigas
- giant garter snake (T)

Mammals

Dipodomys nitratoides exilis
- Fresno kangaroo rat (E)

Vulpes macrotis mutica
- San Joaquin kit fox (E)

Plants

Castilleja campestris ssp. succulenta
- Critical habitat, succulent (=fleshy) owl's-clover (X)
- succulent (=fleshy) owl's-clover (T)

Caulanthus californicus
California jewelflower (E)

Orcuttia inaequalis
Critical habitat, San Joaquin Valley Orcutt grass (X)
San Joaquin Valley Orcutt grass (T)

Orcuttia pilosa
Critical habitat, hairy Orcutt grass (X)
hairy Orcutt grass (E)

Pseudobahia bahiifolia
Hartweg's golden sunburst (E)

Tuctoria greenei
Critical habitat, Greene's tuctoria (=Orcutt grass) (X)
Greene's tuctoria (=Orcutt grass) (E)

Quads Containing Listed, Proposed or Candidate Species:

FRIANT (378B)
CLOVIS (378C)
LANES BRIDGE (379A)
GREGG (379B)
HERNDON (379C)
FRESNO NORTH (379D)
MILLERTON LAKE WEST (398C)
DAULTON (399C)
LITTLE TABLE MTN. (399D)

County Lists

No county species lists requested.

Key:

(E) *Endangered* - Listed as being in danger of extinction.

(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.

(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.

Critical Habitat - Area essential to the conservation of a species.

(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.

(C) *Candidate* - Candidate to become a proposed species.

(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.

(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and

indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be October 22, 2014.

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad is (Lanes Bridge (3611987) or Fresno North (3611977))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	None	G2G3	S1S2	SSC
Ambystoma californiense California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	SSC
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S2S3	
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Castilleja campestris var. succulenta succulent owl's-clover	PDSCR0D3Z1	Threatened	Endangered	G4?T2	S2	1B.2
Caulanthus californicus California jewelflower	PDBRA31010	Endangered	Endangered	G1	S1	1B.1
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S2	
Dipodomys nitratoides exilis Fresno kangaroo rat	AMAFD03151	Endangered	Endangered	G3T1	S1	
Efferia antiochi Antioch efferian robberfly	IIDIP07010	None	None	G1G3	S1S3	
Eremophila alpestris actia California horned lark	ABPAT02011	None	None	G5T3Q	S3	WL
Eryngium spinosepalum spiny-sepaled button-celery	PDAPI0Z0Y0	None	None	G2	S2	1B.2
Eumops perotis californicus western mastiff bat	AMACD02011	None	None	G5T4	S3?	SSC
Great Valley Mixed Riparian Forest Great Valley Mixed Riparian Forest	CTT61420CA	None	None	G2	S2.2	
Imperata brevifolia California satintail	PMPOA3D020	None	None	G3	S3	2B.1
Leptosiphon serrulatus Madera leptosiphon	PDPLM09130	None	None	G1?	S1?	1B.2
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G3	S2S3	
Lytta molesta molestan blister beetle	IICOL4C030	None	None	G2	S2	
Metapogon hurdi Hurd's metapogon robberfly	IIDIP08010	None	None	G1G3	S1S3	
Mylopharodon conocephalus hardhead	AFCJB25010	None	None	G3	S3	SSC

Government Version -- Dated July, 1 2014 -- Biogeographic Data Branch

Report Printed on Thursday, July 24, 2014

Page 1 of 2

Information Expires 1/1/2015

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Northern Claypan Vernal Pool	CTT44120CA	None	None	G1	S1.1	
Northern Claypan Vernal Pool						
Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	
Northern Hardpan Vernal Pool						
Orcuttia inaequalis	PMPOA4G060	Threatened	Endangered	G1	S1	1B.1
San Joaquin Valley Orcutt grass						
Orcuttia pilosa	PMPOA4G040	Endangered	Endangered	G1	S1	1B.1
hairy Orcutt grass						
Perognathus inornatus inornatus	AMAFD01061	None	None	G4T2T3	S2S3	
San Joaquin pocket mouse						
Sagittaria sanfordii	PMALI040Q0	None	None	G3	S3	1B.2
Sanford's arrowhead						
Spea hammondii	AAABF02020	None	None	G3	S3	SSC
western spadefoot						
Tropidocarpum capparideum	PDBRA2R010	None	None	G1	S1	1B.1
caper-fruited tropidocarpum						

Record Count: 28

Government Version -- Dated July, 1 2014 -- Biogeographic Data Branch

Report Printed on Thursday, July 24, 2014

Page 2 of 2

Information Expires 1/1/2015

CNPS California Native Plant Society — Rare and Endangered Plant Inventory

Home | About the Inventory | CNPS Home | Join CNPS | Simple Search | Advanced Search

Plant List

16 matches found. *Click on scientific name for details*

Search Criteria

Found in 9 Quads around 36119H7

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Bryum chryseum	brassy bryum	Bryaceae	moss	4.3	S3	G5
Castilleja campestris var. succulenta	succulent owl's-clover	Orobanchaceae	annual herb (hemiparasitic)	1B.2	S2	G4?T2
Caulanthus californicus	California jewel-flower	Brassicaceae	annual herb	1B.1	S1	G1
Delphinium hansenii ssp. ewanianum	Ewan's larkspur	Ranunculaceae	perennial herb	4.2	S3.2	G4T3
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	2B.2	S2	GU
Eryngium spinosepalum	spiny-sepaled button-celery	Apiaceae	annual / perennial herb	1B.2	S2	G2
Imperata brevifolia	California satintail	Poaceae	perennial rhizomatous herb	2B.1	S3	G3
Leptosiphon serrulatus	Madera leptosiphon	Polemoniaceae	annual herb	1B.2	S1?	G1?
Lupinus citrinus var. citrinus	orange lupine	Fabaceae	annual herb	1B.2	S2.2	G2T2
Navarretia nigelliformis ssp. radians	shining navarretia	Polemoniaceae	annual herb	1B.2	S2	G4T2
Orcuttia inaequalis	San Joaquin Valley Orcutt grass	Poaceae	annual herb	1B.1	S1	G1
Orcuttia pilosa	hairy Orcutt grass	Poaceae	annual herb	1B.1	S1	G1
Pseudobahia bahiifolia	Hartweg's golden sunburst	Asteraceae	annual herb	1B.1	S2	G2
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb	1B.2	S3	G3
Tropidocarpum capparideum	caper-fruited tropidocarpum	Brassicaceae	annual herb	1B.1	S1	G1
Tuctoria greenei	Greene's tuctoria	Poaceae	annual herb	1B.1	S1	G1

Suggested Citation

CNPS, Rare Plant Program. 2014. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, CA. Website http://www.rareplants.cnps.org [accessed 24 July 2014].

Appendix E Species Observed in the Biological Study Area

Plants

Scientific Name	Common Name	Native/Not Native
Adoxaceae		
Sambucus nigra ssp. Caerulea	Black elderberry	Native
Anacardiaceae		
Toxicodendron diversilobum	Poison oak	Native
Apiaceae		
Anthriscus caucalis	Bur chevril	Not Native
Apiastrum angustifolium	Wild celery	Native
Conium maculatum	Poison hemlock	Not Native
Asteraceae		
Anaphalis margaritacea	Pearly everlasting	Native
Artemisia ludoviciana	Silver wormwood	Native
Baccharis pilularis	Coyote brush	Native
Baccharis salicifolia	Seep willow	Native
Carduus pycnocephalus	Italian thistle	Not Native
Centaurea solstitialis	Yellow-star thistle	Not Native
Helenium puberulum	Sneezeweed	Native
Helianthus annuus	Sunflower	Native
Heterotheca grandiflora	Telegraph weed	Native
Hypochaeris glabra	Smooth cat's eat	Not Native
Lactuca serriola	Prickly lettuce	Not Native
Matricaria discoidea	Pineapple weed	Not Native
Silybum marianum	Milk thistle	Not Native
Taraxacum officinale	Dandelion	Not Native
Xanthium strumarium	Rough cockleburr	Native
Betulaceae		
Alnus rhombifolia	White alder	Native
Boraginaceae		
Amsinckia intermedia	Common fiddleneck	Native
Brassicaceae		
Brassica nigra	Black mustard	Not Native
Lepidium densiflorum	Common pepperweed	Native
Raphanus raphanistrum	Wild radish	Not Native
Sisymbrium orientale	Oriental hedge mustard	Not Native

Scientific Name	Common Name	Native/Not Native
Cyperaceae		
Cyperus squarrosus	Umbrella Sedge	Native
Cyperus strigosus	False nutsedge	Native
Schoenoplectus acutus	Hardstem bullrush	Native
Equisetaceae		
Equisetum hyemale ssp. Affine	Common scouring rush	Native
Fabaceae		
Acmispon glaber	Deerweed	Native
Medicago polymorpha	Burclover	Not Native
Medicago sativa	Alfalfa	Not Native
Melilotus albus	White sweetclover	Not Native
Melilotus indicus	Annual yellow sweetclover	Not Native
Melilotus officinalis	Yellow sweetclover	Not Native
Sesbania punicea	Rattlebox	Not Native
Vicia sativa ssp. Nigra	Common vetch	Not Native
Fagaceae		
Quercus lobata	Valley oak	Native
Geraniaceae		
Erodium botrys	Broad leaf filaree	Not Native
Geranium dissectum	Wild geranium	Not Native
Haloragaceae		
Myriophyllum aquaticum	Parrot's feather	Not Native
Juglandaceae		
Juglans californica	Southern California black walnut	Native
Juncaceae		
Juncus effusus	Common rush	Native
Lamiaceae		
Marrubium vulgare	Horehound	Not Native
Mentha pulegium	Pennyroyal	Not Native
Stachys ajugoides	Hedge nettle	Native
Loasaceae		
Mentzelia laevicaulis	Blazing star	Native
Malvaceae		
Sphaeralcea ambigua	Desert mallow	Native
Montiaceae		
Claytonia perfoliata	Miner's lettuce	Native
Moraceae		
Ficus carica	Common fig	Not Native
Morus alba	Mulberry	Not Native
Oleaceae		
Fraxinus latifolia	Oregon ash	Native

Scientific Name	Common Name	Native/Not Native
Onagraceae		
Chamerion angustifolium	Fireweed	Native
Circaea alpina	Nightshade	Native
Epilobium brachycarpum	Tall annual willowherb	Native
Ludwigia repens	Creeping water primrose	Native
Oxalidaceae		
Oxalis corniculata	Creeping wood sorrel	Not Native
Papaveraceae		
Eschscholzia californica	California poppy	Native
Platanaceae		
Platanus racemosa	Western sycamore	Native
Poaceae		
Arundo donax	Giant reed	Not Native
Avena fatua	Wild oats	Not Native
Briza minor	Little rattlesnake grass	Not Native
Bromus diandrus	Bromegrass	Not Native
Bromus hordeaceus	Soft chess	Not Native
Cynodon dactylon	Bermudagrass	Not Native
Paspalum dilatatum	Dallisgrass	Not Native
Phalaris arundinacea	Reed canarygrass	Native
Polypogon interruptus	Beard grass	Not Native
Polypogon monspeliensis	Rabbitsfoot grass	Not Native
Setaria parviflora	Marsh bristlegrass	Native
Polygonaceae		
Eriogonum fasciculatum	California buckwheat	Native
Rumex crispus	Curley leaved dock	Not Native
Rosaceae		
Rubus ursinus	California blackberry	Native
Rubiaceae		
Cephalanthus occidentalis	Common buttonbush	Native
Galium aparine	Common bedstraw	Native
Salicaceae		
Populus fremontii	Fremont cottonwood	Native
Salix exigua	Narrow leaved willow	Native
Salix gooddingii	Goodding's willow	Native
Salix laevigata	Red willow	Native
Scrophulariaceae		
Verbascum thapsus	Woolly mullein	Not Native
Verbascum virgatum	Wand mullein	Not Native
Solanaceae		
Datura stramonium	Jimson weed	Not Native
Nicotiana glauca	Tree tobacco	Not Native

Scientific Name	Common Name	Native/Not Native
Typhaceae		
Typha angustifolia	Cattail	Not Native
Urticaceae		
Parietaria hespera	Pelitory	Native
Urtica dioica	Stinging nettle	Native
Verbenaceae		
Phyla nodiflora	Common lippia	Native

Wildlife

Scientific Name	Common Name
Reptiles/Amphibians	
Rana catesbeiana	American Bullfrog
Sceloporus occidentalis	Western Fence Lizard
Birds	
Anas platyrhynchos	Mallard
Bombycilla cedrorum	Cedar Waxwing
Branta canadensis	Canada Goose
Buteo jamaicensis	Red-tailed Hawk
Buteo lineatus	Red-shouldered Hawk
Cathartes aura	Turkey Vulture
Corvus brachyrhyncho	American Crow
Egretta thula	Snowy Egret
Falco sparverius	American Kestrel
Minus polyglottos	Northern Mockingbird
Petrochelidon pyrrhonota	Cliff Swallow
Sturnus vulgaris	European Starling
Zenaida macroura	Mourning Dove
Mammals	
Otospermophilus beecheyi	California Ground Squirrel
Sylvilagus audubonii	Audubon's Cottontail
Procyon lotor	Raccoon (tracks)

Appendix F Comments and Responses

Letter from the State Clearinghouse, Governor's Office of Planning and Research

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

November 26, 2013

Kelly Hobbs
California Department of Transportation, District 6
855 M Street, Suite 200
Fresno, CA 93721

Subject: San Joaquin River Bridge Scour and Seismic Retrofit
SCH#: 2013101075

Dear Kelly Hobbs:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on November 25, 2013, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Letter from the State Clearinghouse, Governor's Office of Planning and Research, page 2

Document Details Report
State Clearinghouse Data Base

SCH#	**2013101075**
Project Title	San Joaquin River Bridge Scour and Seismic Retrofit
Lead Agency	Caltrans #6
Type	**MND** Mitigated Negative Declaration
Description	Caltrans proposes scour and seismic retrofit to the old SR 41 San Joaquin River Bridge (Lane's Bridge) (No. 42-0112) in Fresno and Madera Counties. The project would also upgrade the bridge railings on this bridge and on the San Joaquin River Overflow Bridge (No. 41-0040) immediately to the north on the old highway. This project would not acquire any new right-of-way or relocate any utilities. No construction easements are expected to be needed. Work on the bridge piers would involve work in the San Joaquin River bed.

Lead Agency Contact

Name	Kelly Hobbs		
Agency	California Department of Transportation, District 6		
Phone	559 445 5286	*Fax*	
email			
Address	855 M Street, Suite 200		
City	Fresno	*State* CA	*Zip* 93721

Project Location

County	Fresno, Madera			
City	Fresno			
Region				
Lat / Long				
Cross Streets	nearest cross street, Avenue 9, is north of project limits			
Parcel No.				
Township		*Range*	*Section*	*Base*

Proximity to:

Highways	Hwy 41
Airports	
Railways	
Waterways	San Joaquin River
Schools	
Land Use	Existing land use is transportation. River bed is zoned as Open Space by the City of Fresno and Madera County.

Project Issues	Archaeologic-Historic; Biological Resources; Flood Plain/Flooding; Noise; Recreation/Parks; Vegetation; Water Quality; Wetland/Riparian
Reviewing Agencies	Resources Agency; Department of Fish and Wildlife, Region 4; Department of Parks and Recreation; Central Valley Flood Protection Board; Department of Water Resources; California Highway Patrol; Air Resources Board; Regional Water Quality Control Bd., Region 5 (Fresno); Native American Heritage Commission

Date Received 10/24/2013 *Start of Review* 10/25/2013 *End of Review* 11/25/2013

Response to Acknowledgement from State Clearinghouse

Thank you for this letter stating that Caltrans has complied with the State Clearinghouse review requirements pursuant to the California Environmental Quality Act.

Letter from the U.S. Bureau of Reclamation

United States Department of the Interior

BUREAU OF RECLAMATION
Mid-Pacific Region
South-Central California Area Office
1243 N Street
Fresno, CA 93721-1813

IN REPLY REFER TO:
SCC-411
ENV-6.0

NOV 26 2013

Mr. Kelly Hobbs
Branch Chief, California Department of Transportation
District 6 Environmental Analysis
855 M Street, 3rd Floor
Fresno, CA 93721

Subject: Comments to the California Department of Transportation (Caltrans) Initial Study with Proposed Mitigated Negative Declaration on the San Joaquin River Bridge Scour and Seismic Retrofit Project

Mr. Hobbs:

Thank you for the opportunity to comment on the San Joaquin River Bridge Scour and Seismic Retrofit Project Initial Study with Proposed Mitigated Negative Declaration. The Bureau of Reclamation (Reclamation) has reviewed the document and we have the following comments:

1. The Hydrology Section (pages 28 and 29) mentions water from Delta Mendota Canal and San Luis canal in the river. Water from these canals enters the river at Mendota Pool which is located downstream from the proposed project. **1**

2. Reclamation requests that Caltrans personnel monitor contractor compliance with Section 401 and 404 permits to ensure sediment disturbance and entry of pollutants are avoided or minimized. A water pollution control program is required. **2**

3. Some seasonal releases are required therefore Reclamation is requesting that Caltrans provide a construction schedule to our South Central California Area Office Chief of Operations to ensure conflicts are avoided. **3**

4. Reclamation requests that Caltrans personnel provide 24-hour emergency contacts that can be called if we need to make flood releases. These contacts should be provided to our Friant Dam operators, with any changes or updates as may be required. **4**

5. It is possible that above average precipitation would result in the release of flood flows. Reclamation is requesting that Caltrans provide a contingency plan to halt construction in case of this unlikely event. **5**

Letter from the U.S. Bureau of Reclamation, page 2

If you have any questions on the above comments, please feel free to contact me at 559-487-5138, csiek@usbr.gov, or at 800-735-2929 for the hearing impaired.

Sincerely,

Chuck Siek, M.A.
Supervisory Natural Resources Specialist

Response to the U.S. Bureau of Reclamation

Response to comment 1: The Hydrology section discussed a larger section of the San Joaquin River than the immediate project area.

Response to comment 2: Caltrans will monitor contractor compliance with the Section 401 and Section 404 permits for water quality. As stated in the draft environmental document, a Water Pollution Control Program will be required for the project.

Response to comment 3: Caltrans will provide the construction schedule to the Bureau of Reclamation, South Central California Area Office Chief of Operations prior to construction.

Response to comment 4: Prior to construction, Caltrans will provide emergency contact information to the Friant Dam operators for individuals to be called in case they decide that an emergency flood release from Friant Dam is necessary.

Response to comment 5: Caltrans will create and provide a contingency plan to halt construction in case of the release of flood flows from Friant Dam.

Letter from the Central Valley Flood Protection Board

STATE OF CALIFORNIA – CALIFORNIA NATURAL RESOURCES AGENCY EDMUND G. BROWN JR., GOVERNOR

CENTRAL VALLEY FLOOD PROTECTION BOARD
3310 El Camino Ave., Rm. 151
SACRAMENTO, CA 95821
(916) 574-0609 FAX: (916) 574-0682
PERMITS: (916) 574-2380 FAX: (916) 574-0682

November 12, 2013

Ms. Kelly Hobbs
California Department of Transportation
District 6
855 M Street, Suite 200
Fresno, California 93721

Subject: San Joaquin River Bridge Scour and Seismic Retrofit
SCH Number: 2013101075
Document Type: Negative Declaration

Dear Ms. Hobbs:

Staff of the Central Valley Flood Protection Board (Board) has reviewed the subject document and provides the following comments:

The proposed project is located adjacent to or within the San Joaquin River which is under the jurisdiction of the Central Valley Flood Protection Board. The Board is required to enforce standards for the construction, maintenance, and protection of adopted flood control plans that will protect public lands from floods. The jurisdiction of the Board includes the Central Valley, including all tributaries and distributaries of the Sacramento River, the San Joaquin River, and designated floodways (Title 23 California Code of Regulations (CCR), Section 2).

A Board permit is required prior to starting the work within the Board's jurisdiction for the following:

- The placement, construction, reconstruction, removal, or abandonment of any landscaping, culvert, bridge, conduit, fence, projection, fill, embankment, building, structure, obstruction, encroachment, excavation, the planting, or removal of vegetation, and any repair or maintenance that involves cutting into the levee (CCR Section 6); **1**

- Existing structures that predate permitting, or where it is necessary to establish the conditions normally imposed by permitting. The circumstances include those where responsibility for the encroachment has not been clearly established or ownership and use have been revised (CCR Section 6);

- Vegetation plantings will require the submission of detailed design drawings; identification of vegetation type; plant and tree names (i.e. common name and scientific name); total number of each type of plant and tree; planting spacing and irrigation method that will be utilized within the project area; a complete vegetative management plan for maintenance to prevent the interference with flood control, levee maintenance, inspection, and flood fight procedures (CCR Section 131).

Letter from the Central Valley Flood Protection Board, page 2

Ms. Kelly Hobbs
November 12, 2013
Page 2 of 2

Vegetation requirements in accordance with Title 23, Section 131 (c) states "Vegetation must not interfere with the integrity of the adopted plan of flood control, or interfere with maintenance, inspection, and flood fight procedures."

The accumulation and establishment of woody vegetation that is not managed has a negative impact on channel capacity and increases the potential for levee over-topping. When a channel develops vegetation that then becomes habitat for wildlife, maintenance to initial baseline conditions becomes more difficult as the removal of vegetative growth is subject to federal and State agency requirements for on-site mitigation within the floodway. The project should include mitigation measures to avoid decreasing floodway channel capacity. **2**

Hydraulic Impacts - Hydraulic impacts due to encroachments could impede flood flows, reroute flood flows, and/or increase sediment accumulation. The project should include mitigation measures for channel and levee improvements and maintenance to prevent and/or reduce hydraulic impacts. Off-site mitigation outside of the State Plan of Flood Control should be used when mitigating for vegetation removed within the project location. **3**

The permit application and Title 23 CCR can be found on the Central Valley Flood Protection Board's website at http://www.cvfpb.ca.gov/. Contact your local, federal and State agencies, as other permits may apply.

The Board's jurisdiction, including all tributaries and distributaries of the Sacramento River and the San Joaquin River, and designated floodways can be viewed on the Central Valley Flood Protection Board's website at http://gis.bam.water.ca.gov/bam/.

If you have any questions, please contact me by phone at (916) 574-0651, or via e-mail at James.Herota@water.ca.gov.

Sincerely,

James Herota
Senior Environmental Scientist
Projects and Environmental Branch

cc: Governor's Office of Planning and Research
State Clearinghouse
1400 Tenth Street, Room 121
Sacramento, California 95814

Response to the Central Valley Flood Protection Board

Response to comment 1: As stated in the draft environmental document, Caltrans will apply for a Central Valley Flood Protection Board permit during the Plans, Specifications and Estimates Phase of the project (see Table 1.1, Permits and Approvals Needed).

Response to comment 2: The project will not decrease floodway channel capacity by installing sheet piles around eight bridge piers, therefore no mitigation measures are needed.

The San Joaquin River in the project vicinity is not a levee, but a vegetated river. Riparian vegetation, including trees, provides habitat to animal species including migratory birds and raptors. The federally protected valley elderberry longhorn beetle is present on elderberry shrubs within the project area. This stretch of the San Joaquin River is part of the San Joaquin River Parkway. Caltrans will not remove anymore vegetation than is necessary to construct the project.

Response to comment 3: Proposed construction work will be below the existing grade and will not decrease channel capacity or change the channel characteristics of the San Joaquin River. Since there will be no impact, we do not propose any flow mitigation in the channel. The California Department of Fish and Wildlife may require onsite revegetation plantings within the riverbed as mitigation under the 1602 Streambed Alteration Agreement permit.

Letter from the Fresno Metropolitan Flood Control District

FRESNO METROPOLITAN FLOOD CONTROL DISTRICT

File 550.20 "Caltrans"

November 14, 2013

Kelly Hobbs
Senior Environment Planner
California Department of Transportation
855 M Street, Suite 200
Fresno, CA 93721

Dear Mr. Hobbs,

Comments on the Initial Study with Proposed Mitigated Negative Declaration for the San Joaquin River Bridge Scour and Seismic Retrofit Project

After thorough review of the Initial Study with Proposed Mitigated Negative Declaration for the San Joaquin River Bridge Scour and Seismic Retrofit Project, the Fresno Metropolitan Flood Control District concurs with the findings of the initial study and the implementation of the mitigation measures listed in the Mitigated Negative Declaration. **1**

In addition, the California Department of Transportation should communicate with the California Department of Water Resources regarding San Joaquin River design flows that must be conveyed beneath the bridge. **2**

If you have any questions, please contact Kristine Johnson at the District at (559) 456-3292.

Sincerely,

Bob Van Wyk
General Manager – Secretary

BVW/DR/sy

j:\wprocess\bobvw (bvw)\2013\rt 41 bridge mnd letter dr

5469 E. OLIVE • FRESNO, CA 93727 • (559) 456-3292 • FAX (559) 456-3194

Response to the Fresno Metropolitan Flood Control District

Response to comment 1: Thank you for your review and your agreement with the draft environmental document.

Response to comment 2: During the design phase of the project, Caltrans will contact the Department of Water Resources to obtain the design flows for the river for the Central Valley Flood Protection Board permit.

Letter from the San Joaquin River Parkway and Conservation Trust and attachments, page 1 of 12

San Joaquin River
Parkway and
Conservation Trust, Inc.

November 27, 2013

Sent Via email to Kelly.Hobbs@dot.ca.gov

Mr. Kelly Hobbs, Branch Chief
Department of Transportation
855 M. Street, Suite 200
Fresno, CA

BOARD OF DIRECTORS

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Christopher A. Brown
General Counsel

Dave Koehler
Executive Director

Subject: Comments on the Initial Study and Proposed Mitigated Negative Declaration for the San Joaquin River Bridge Scour and Seismic Retrofit Project, EA 06-0N990

Dear Mr. Hobbs,

Thank you for this opportunity to comment on the Initial Study and Proposed Mitigated Negative Declaration dated October 2013 for the Bridge Scour and Seismic Retrofit Project on the Old State Route 41. We support Caltrans efforts to address the public's safety with this Project and appreciate that the study includes information about the San Joaquin River Parkway.

However, after reviewing the document, we find that the section on Parks and Recreation Facilities (Section 2.1.1.1) is substantially incomplete with respect to key information and analysis of existing and future regional trail use of the Old State Route 41. Central to our concern about the Project's environmental document is that it omits a thorough analysis of the need for a multi-use trail crossing of the river in the Highway 41 corridor; that a significant amount of public and private resources have been spent and are being spent to address regional trail use of the Old State Route 41 and San Joaquin River Parkway connectivity; and, that Caltrans has not addressed matters outlined in the San Joaquin River Conservancy's letter dated November 15, 2011, (copy attached) which requests guidance and analysis of the bridge as a key multiple-use trail crossing. 1 2

Your letter of October 24, 2013, extends an offer for a public hearing and we'd like to accept that offer. Perhaps the most effective public hearing would include a joint meeting scheduled with the board of the San Joaquin River Conservancy, which would be an effective way of addressing our 3

CREATING AND PROTECTING THE SAN JOAQUIN RIVER PARKWAY
11605 Old Friant Road • Fresno, California 93730-9701 • 559.248.8480 • Fax 559.248.8474 • www.riverparkway.org

Comment from San Joaquin River Parkway and Conservation Trust and attachments, page 2 of 12

Mr. Hobbs, November 27, 2013
Page, 2

concerns and including responsible agencies and stakeholders in the discussion.

In order to understand the importance of this issue, a little history of trail planning efforts related to the old bridge undertaken thus far is in order. In the late 1990's the San Joaquin River Parkway and Conservation Trust hired a licensed landscape architect, Patrick Miller, 2M Associates, designer of the Lewis S. Eaton Trail, to plan a multiple use trail crossing for Old State Route 41. The upshot of his study and meetings with Caltrans, Madera County, and the City of Fresno, was that the agencies did not think it was feasible for a variety of reasons and the Trust was directed to look at an alternative crossing site. With that information, the Trust then hired Mr. Miller to develop a conceptual design for River West (Fresno and Madera) that was completed in 2004 and subsequently again hired Mr. Miller and a team of design and engineering consultants to complete a preliminary design for a bridge for the Lewis S. Eaton Trail, a non-motorized multiple-use trail downstream of Highway 41. This site was included and identified as future trail crossing location in the River West-Madera Master Plan.

In the fall of 2011, confusing and incomplete information entered the dialog in board meetings of the San Joaquin River Conservancy as the public discussed the planned extension of the Lewis S. Eaton Trail for River West-Fresno. Mr. Barry Bauer, representing a bluff homeowners association on the Fresno side, said that he attended meetings with Caltrans officials and he had determined that it was feasible to attach a cantilevered multi-use trail to the Old State Route 41. As a result of this, the San Joaquin River Conservancy board directed the November 15, 2011, letter to be sent to Caltrans. It was reported to the public at Conservancy meetings, and is documented in their letter, that a future safety upgrade to the Old State Route 41 (the Project) would analyze, *"whether non-structural measures could be implemented to improve shared use."* 4

Perhaps Caltrans can imagine how frustrating the situation now is--fifteen years after we began studying the use of the Old State Route 41, we are still left in the dark with respect to what are the agency plans and direction for a river crossing to accommodate non-motorized commuter and multi-use recreational trails. There needs to be closure with respect to the question, "Do we plan to bring the Lewis S. Eaton Trail over the Old State Route 41; or do we need to construct a new trail crossing?" The answer to this question is needed for your Project's analysis to be complete because bridge modifications to accommodate a multiple-use trail crossing could impact the type and extent of seismic retro-fit construction plans. 5

Comment from San Joaquin River Parkway and Conservation Trust and attachments, page 3 of 12

Mr. Hobbs, November 27, 2013
Page, 3

We believe connecting the Lewis S. Eaton Trail and regional trail connections across the river between Fresno and Madera in the Highway 41 corridor with a functional design will provide the greatest potential in the Valley to reduce vehicle trips and air quality impacts from one trail project's implementation. We encourage Caltrans to see the opportunity and take a proactive role in this effort. 6 7

To provide a more thorough and accurate environmental setting for the Project, the section on Parks and Recreation Facilities (Section 2.1.1.1) should be amended with the following information:

- Figure 2-1 and the text of Section 2.1.1.1 should be amended to include the River West – Madera Master Plan (attached), which has been adopted by the boards of Madera County and the San Joaquin River Conservancy. River West - Madera includes a network of multi-use trails on about 800 acres of public land adjacent to Old State Route 41. In states on Page 24 of the River West-Madera Master Plan, *"The Parkway-wide multi-purpose trail will provide for bicycle, pedestrian, and equestrian use. Bicyclists and pedestrians currently utilize the old Highway 41 bridge to cross into Madera County from the city of Fresno. In order to access River West-Madera, bicyclists may continue to utilize the old Highway 41 bridge. If the old Highway 41bridge remains as the only connection in the area across the river, the bridge should be improved to provide greater safety to pedestrians and bicyclists. More long term access points may include new pedestrian, bicycle, and equestrian bridges. Two conceptual bridge locations are shown near the Van Buren Unit trailhead and at the western end of Sycamore Island."* See Figure 15, Implementation Plan, of the River West-Madera Master Plan 8

- Section 2.1.1.1 should be amended to add the regional trail networks planned in the City of Fresno's Bicycle and Pedestrian Master Plan, and the trail plans of Gunner Ranch West and Gateway Village in Madera County (copies attached) 9

- The public road entrance to River West- Fresno at Audubon and Del Mar is a critical connection for bicycle commuters. Figure 2-1 currently shows a poorly planned serpentine "hiking trail" alignment connecting at this location for the River West-Fresno project. This connection should include bicycle use and the alignment should be changed to be consistent with the alignments shown in the City of Fresno's Bicycle and Pedestrian Master Plan. We understand that

Comment from San Joaquin River Parkway and Conservation Trust and attachments, page 4 of 12

Mr. Hobbs, November 27, 2013
Page, 4

Caltrans likely picked up the River West-Fresno alignments shown on Figure 2-1 from preliminary planning maps; however there's no agreement on the alignment and there's no reason to promulgate a poor design that inhibits bicycle commuter use. Let's stick to showing what's been adopted by the City in their Bicycle and Pedestrian Master Plan until the River West-Fresno design has matured.

- The Lewis S. Eaton Trail begins at Audubon and Friant Road, Figure 2-1 should be amended to add the 1-mile section from this corner of Woodward Park to the junction at the northeast corner of the Park **10**

- The San Joaquin River Conservancy has initiated an update of the San Joaquin River Parkway Master Plan Update process and a Draft Environmental Impact Report is being prepared and a section should be added to include this information. Caltrans and the Conservancy should proactively collaborate to jointly plan and identify the appropriate river crossing for trail use in the Highway 41 corridor **11** **12**

Thank you for considering our concerns and the request for a public meeting. Should you have any questions or would like additional information, please contact me at 559-248-8480 ext. 212.

Sincerely,

Dave Koehler
Executive Director

attachments

cc Melinda Marks, San Joaquin River Conservancy
Matthew Treber, Madera County
Keith Bergthold, City of Fresno
Anand Kapoor, Caltrans

Comment from San Joaquin River Parkway and Conservation Trust and attachments, page 5 of 12

SAN JOAQUIN RIVER CONSERVANCY
STATE OF CALIFORNIA

5469 E. Olive Avenue
Fresno, California 93727
Telephone (559) 253-7324
Fax (559) 456-3194
www.sjrc.ca.gov

GOVERNING BOARD

Susan Anderson, Chair
Fresno County Board of Supervisors

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Madera County Board of Supervisors

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State Lands Commission

Ana J. Matosantos, *Director*
Department of Finance

Bryn Forhan
Ralph Waterhouse
William Wattenbarger
Citizen Representatives

Melinda S. Marks
Executive Officer

Edmund G. Brown Jr., Governor
STATE OF CALIFORNIA

700.045

November 15, 2011

Mr. John Liu
Caltrans District 6
P. O. Box 12616
Fresno, CA 93728-2616

Dear Mr. Liu:

Old Highway 41 River Crossing

Thank you for organizing and participating in a meeting on September 8, 2011, for the involved agencies to discuss the potential to widen the bridges on the old Highway 41 crossing of the San Joaquin River, or otherwise improve the crossing for safe use by pedestrians and bicyclists. The San Joaquin River Conservancy Board was very interested in the ideas raised at the meeting. Thanks as well to Mr. Marco Sanchez, District 6 S.H.O.P.P. Manager, who provided information to me in follow-up to the meeting, as I was in Sacramento and unable to attend.

The Conservancy is a regionally governed state agency formed to implement and manage the San Joaquin River Parkway, a planned 22-mile regional natural and recreation area in the river-bottom extending from Friant Dam to Highway 99. The Parkway Master Plan includes a multiple purpose trail extending the length of the Parkway and interconnecting trail systems and recreational areas on both sides of the river. The old Highway 41 crossing is currently used, and will continue to be used, as an important connection for recreational and commuter hiking, bicycling, and jogging in the Parkway.

Caltrans proposes to replace the crossings' guardrails and address structural issues in an upgrade to be scheduled for FY 2014-15. Theoretically, during the upgrade the bridges could be widened for trail purposes, with additional funding estimated by Caltrans to be approximately $4.75 million. The Conservancy has state bond funds it could potentially allocate to such a project; however, on review of the costs and time schedules this seems to be unlikely and less desirable than other options.

Comment from San Joaquin River Parkway and Conservation Trust and attachments, page 6 of 12

Mr. John Liu
November 15, 2011
Page 2

Instead, the Conservancy requests the professional guidance and assistance of Caltrans and the local transportation agencies that will have jurisdiction over the bridge after the upgrade to analyze whether the multi-modal use of the crossing presents risks to public safety, and whether non-structural measures could be implemented to improve shared use.

The Conservancy periodically meets with its Interagency Project Development Committee to plan Parkway projects. I will contact you within the next year to invite you, or your staff's, participation in a Committee discussion of potential improvements for shared vehicle/pedestrian/bicyclist use of the crossing. I will also make sure the City of Fresno and County of Madera are represented at the meeting. With prior planning, the agencies can ensure the recreating public is well-served by this important crossing of the river.

Please call me at (559) 253-7324 or email Melinda.Marks@sjrc.ca.gov if you have any questions.

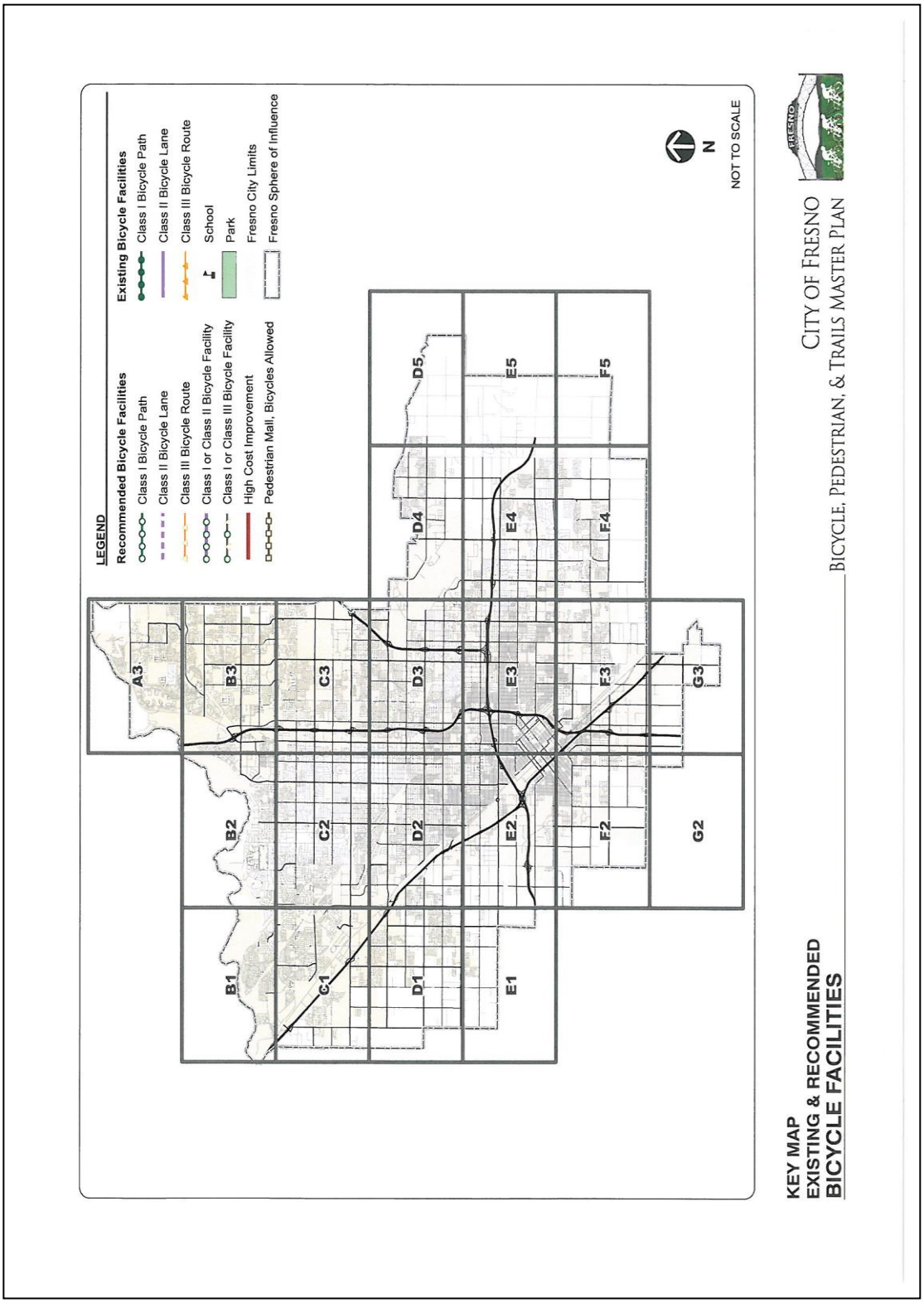
Respectfully,

Melinda S. Marks
Executive Officer

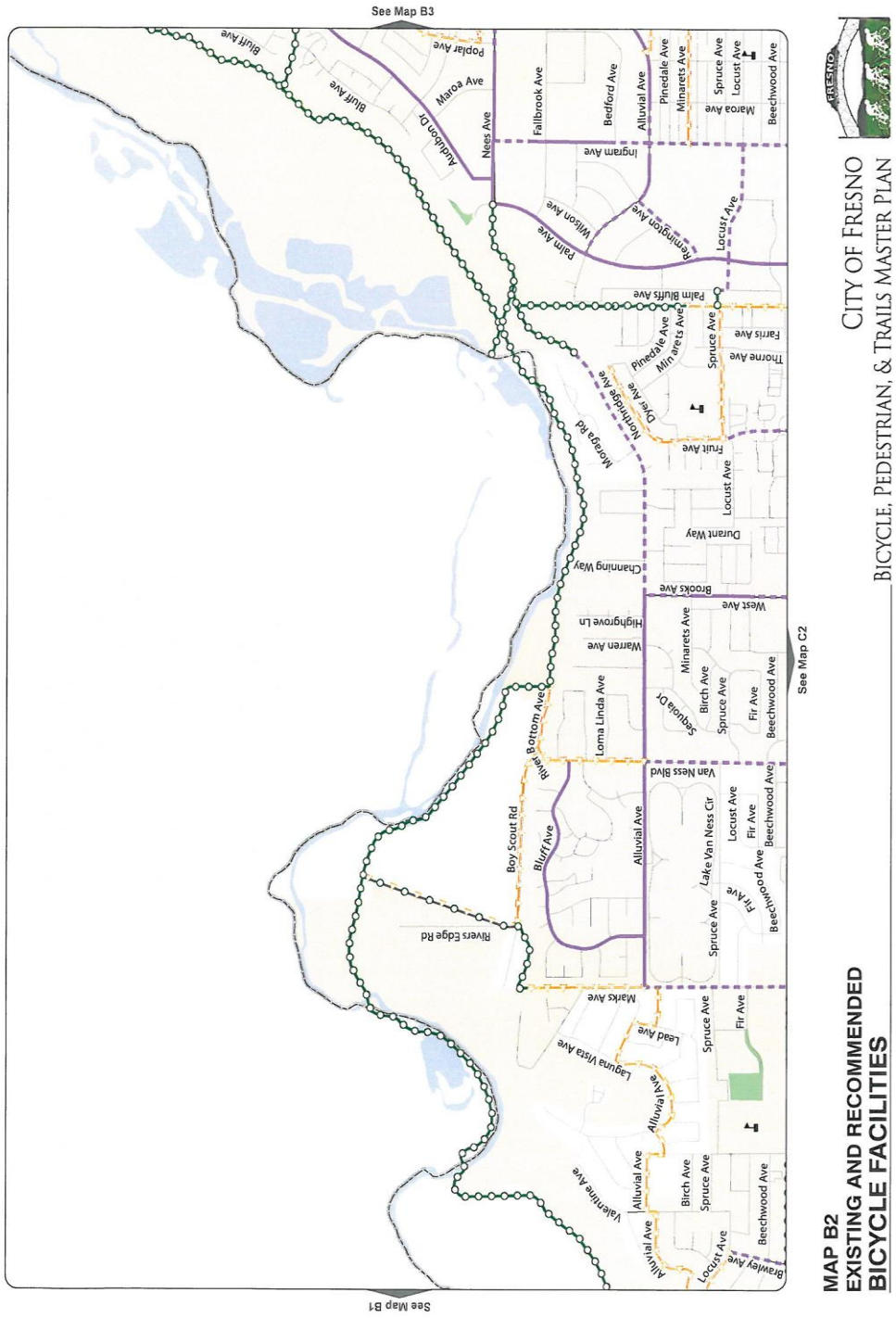
c: Mr. Scott Krauter
City of Fresno Department of Public Works

Mr. Kheng Vang
County of Madera Resource Management Agency

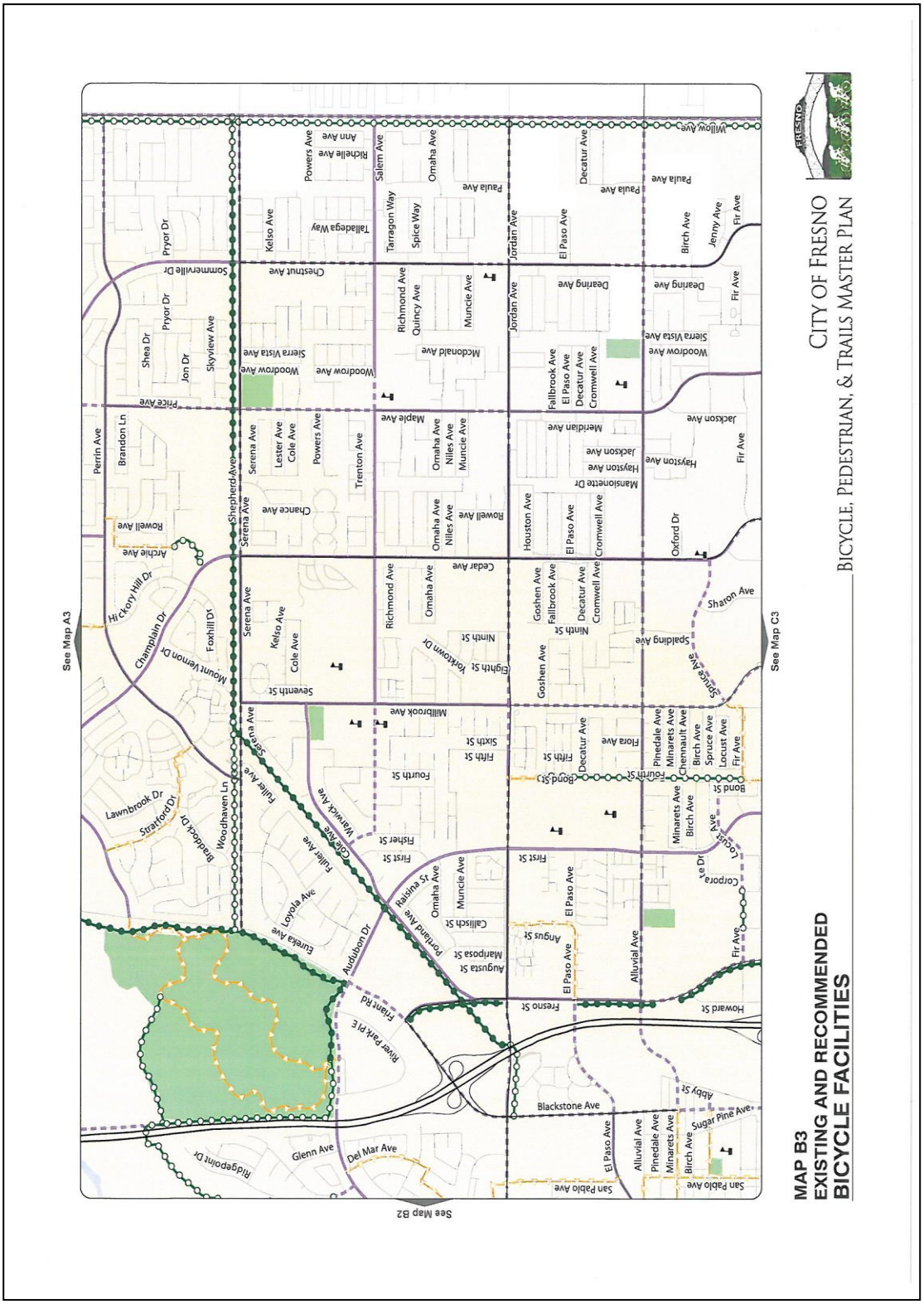
Comment from San Joaquin River Parkway and Conservation Trust and attachments, page 7 of 12



Comment from San Joaquin River Parkway and Conservation Trust and attachments, page 8 of 12

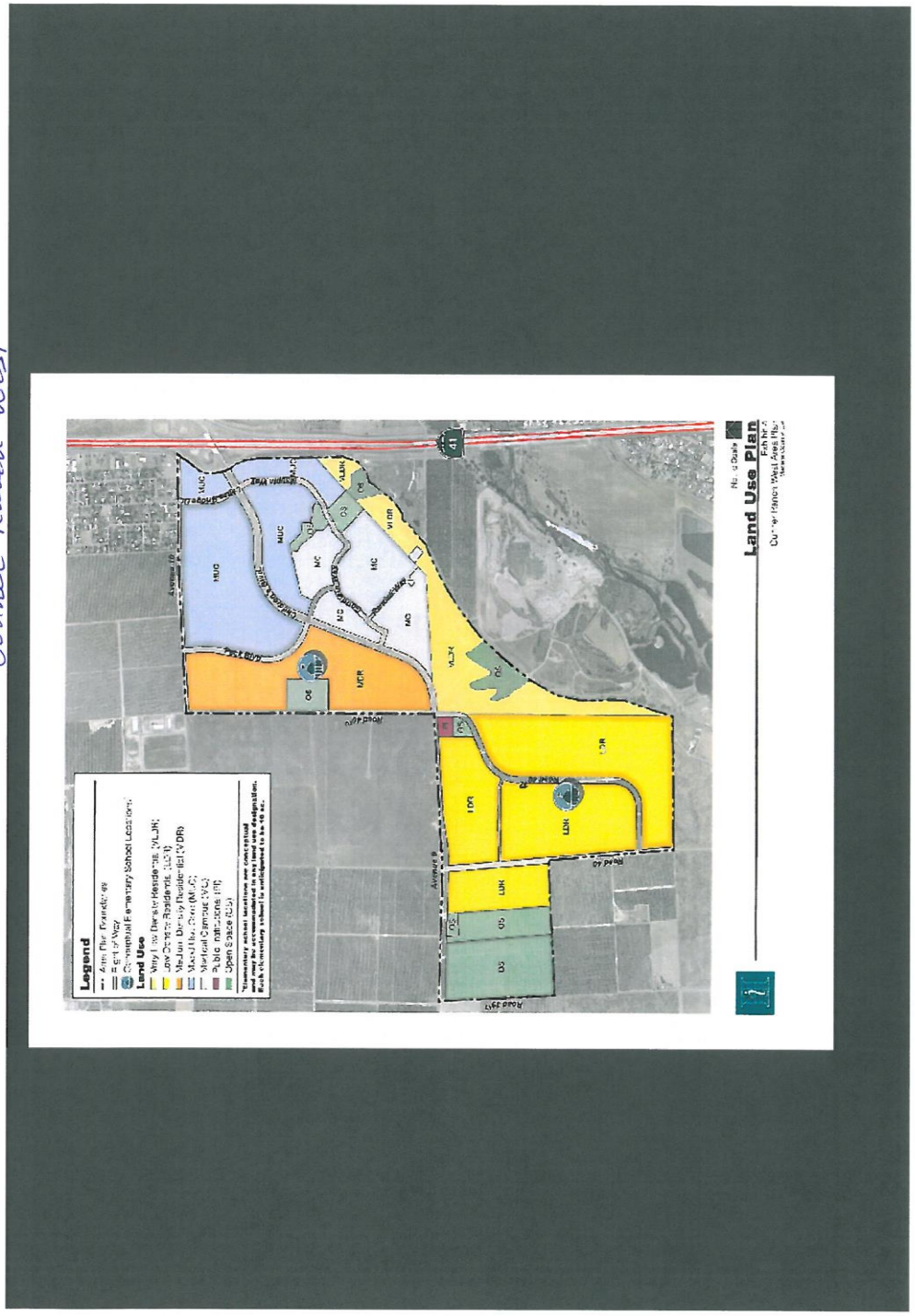


Comment from San Joaquin River Parkway and Conservation Trust and attachments, page 9 of 12



Comment from San Joaquin River Parkway and Conservation Trust and attachments, page 10 of 12

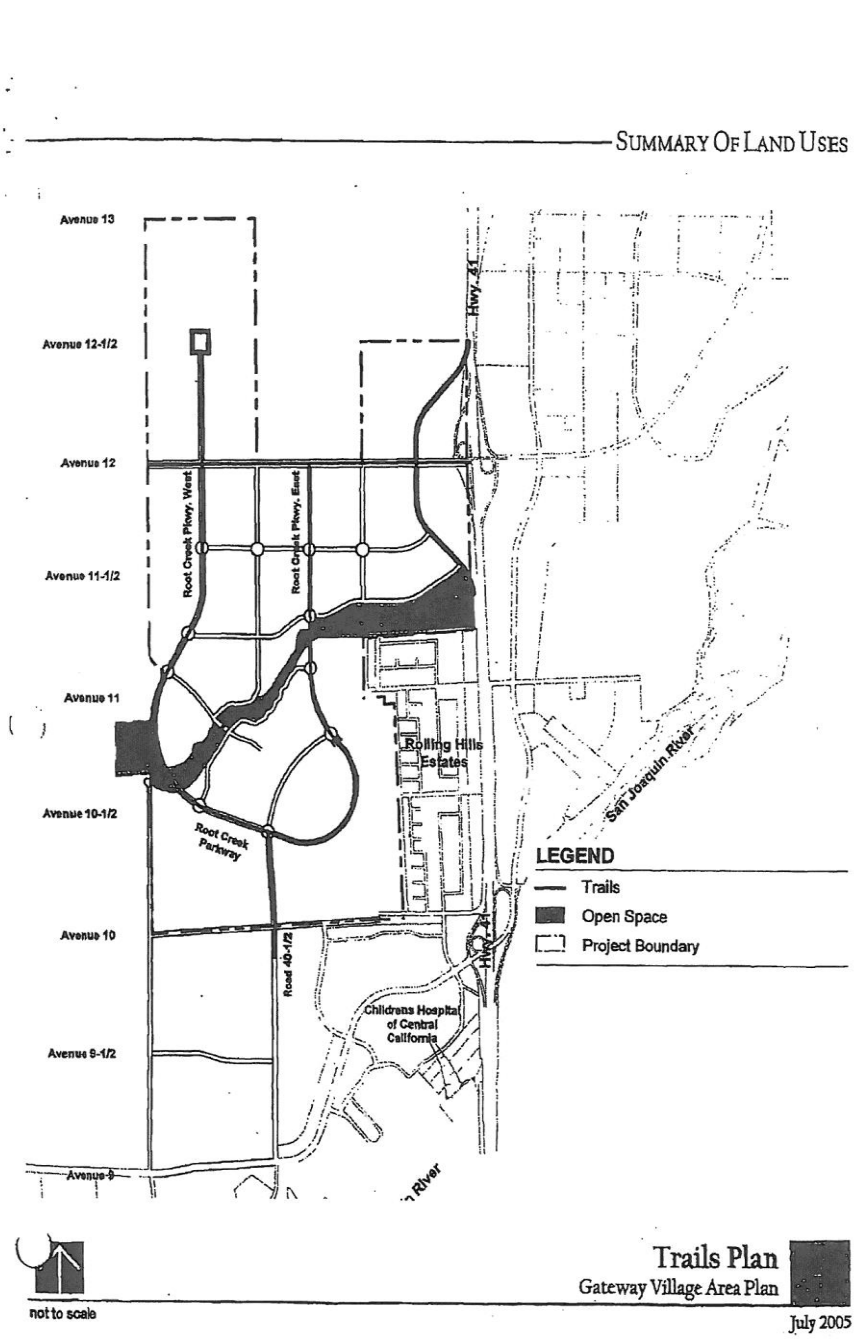
Gunner Ranch West



Comment from San Joaquin River Parkway and Conservation Trust and attachments, page 11 of 12

Gunner Ranch West

Comment from San Joaquin River Parkway and Conservation Trust and attachments, page 12 of 12



Response to San Joaquin River Parkway and Conservation Trust

Thank you for your comments on the project.

Response to comment 1: An analysis of the need for a multi-use trail crossing of the river in the vicinity of State Route 41 is beyond the scope of this project. The purpose of including Section 2.1.1 is to identify any parks and recreational facilities within or near a project area that could be potentially affected by the project and to discuss any impacts and mitigation measures, if needed. The project area studied was appropriate for the project scope.

Response to comment 2: The letter referred to, written in November 2011, was not directed to the project development team for this project and we were not aware of it.

Response to comment 3: A public hearing was not held because no comments were received from the public on the draft environmental document, and no agencies requested a public hearing. Caltrans met with Mr. Dave Koehler, Executive Director of the San Joaquin River Parkway and Conservation Trust, and Ms. Melinda Marks, Executive Director of the San Joaquin River Conservancy, on March 11, 2014 to discuss the project and the concerns stated in this letter.

Response to comment 4: Please refer to the response to comment 2 above.

Response to comment 5: Caltrans does not plan to incorporate a multi-use trail into the two bridges on old State Route 41 that are proposed for scour and seismic retrofit. The type of funding for this project, State Highway Operation and Protection Plan, does not allow for widening bridges when it is not structurally necessary. During the Plans, Specifications and Estimates Phase of the project, Caltrans will consider installing bicycle railings, which are higher than the most commonly used bridge rails, to provide a greater measure of safety for cyclists and pedestrians.

Response to comment 6: It appears that Mr. Koehler is saying that construction of a bridge connecting the Lewis S. Eaton Trail with trails across the San Joaquin River in Madera County would reduce vehicle trips to reach the other side of the river for recreational purposes, and thus would cause reduced auto emissions.

Response to comment 7: Caltrans does not normally fund recreational trails; it funds transportation projects. Types of transportation projects include bicycle facilities or multi-use trails whose primary purpose is transportation rather than recreation; however, this type of work would be outside the scope of this project.

Response to comment 8: The River West-Madera Master Plan was consulted during the preparation of this document, however the area covered by that plan is outside the study area defined for parks and recreational facilities in this document.

Response to comment 9: Two planned bicycle facilities included in the City of Fresno Bicycle, Pedestrian, and Trails Master Plan of 2010 are shown on the map of the Eaton Trail Extension which has been added in Appendix G. A discussion of these proposed bicycle facilities has been added to Section 2.1.1.

The proposed Gunner Ranch West development and the Gateway Village Area Plan are both more than ½ mile away from this project, outside the study area defined for parks and recreational facilities.

Response to comment 10: The purpose of Figure 2.1 is not to show the extent of the Lewis S. Eaton Trail but is to focus on the study area defined for the project.

Response to comment 11: A Notice of Preparation for an Environmental Impact Report was submitted to the State Clearinghouse in June 2013 by the San Joaquin River Conservancy for the San Joaquin River Parkway Master Plan Update. The draft environmental document is still in preparation.

Response to comment 12: See the response to comment 7 above.

Appendix G Proposed Eaton Trail Extension and Bike Facilities

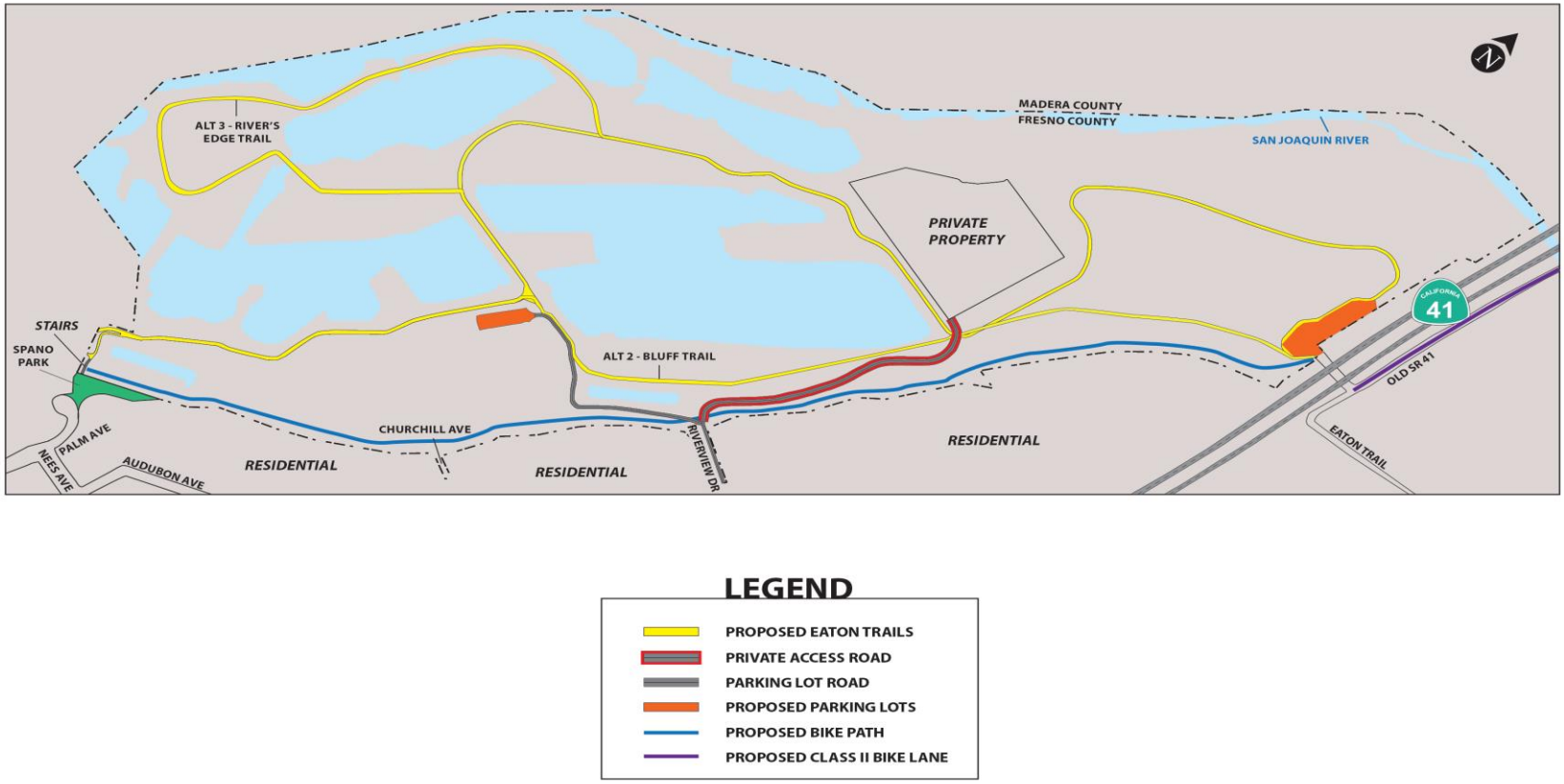


Figure G-1 Alternatives of Proposed Eaton Trail Extension and Proposed Bicycle Facilities

Appendix H Construction Area for Sheet Pile Installation in Riverbed

STAGE 1- WORK INCLUDES PIERS 4,6,8,10
TOTAL WORK AREA = 560′ X 130′
AVERAGE ORIGINAL GROUND ELEVATION = 260′
ELEVATION TO BOTTOM OF PIER FOUNDATION = 250′

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre/Mad	41	0.0/0.2		

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

LIMITS OF CONSTRUCTION WORK FOR STAGE 1
SCALE: 1"= 50′

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR: GETACHEW ESHETE
CALCULATED-DESIGNED BY: THAER JAWHAR
CHECKED BY
REVISED BY
DATE REVISED

LAST REVISION 11-04-13 | DATE PLOTTED => 07-NOV-2013 | TIME PLOTTED => 08:55

BORDER LAST REVISED 7/2/2010 | USERNAME => s110028 | DGN FILE => workarea_stage1.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 1475 | PROJECT NUMBER & PHASE 06120001141

STAGE 2- WORK INCLUDES PIERS 5,7,9,11
TOTAL WORK AREA = 560′ X 130′
AVERAGE ORIGINAL GROUND ELEVATION = 260′
ELEVATION OF BOTTOM OF PIER FOUNDATION = 250′

LEGEND:
LIMITS OF EXCAVATION
PIER FOUNDATION (7′x29′)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre/Mad	41	0.0/0.2		

REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
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LIMITS OF CONSTRUCTION WORK FOR STAGE 2
SCALE: 1"= 50′

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Caltrans
DESIGN
FUNCTIONAL SUPERVISOR: GETACHEW ESHETE
CALCULATED-DESIGNED BY: THAER JAWHAR
CHECKED BY
REVISED BY
DATE REVISED

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Appendix I Biological Opinion

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846

In Reply Refer to:
08ESMF00-
2014-F-0262

OCT 03 2014

Mr. Javier Almaguer
Chief, Central Region Biology South Branch
California Department of Transportation, District 6
855 M Street, Suite 200
Fresno, California 93721

Subject: Formal Consultation for the San Joaquin River Bridge Scour and Seismic Retrofit Project, Fresno and Madera Counties, California (California Department of Transportation 06-FRE/MAD-41-PM 33.3/33.4 [FRE]; 0.0/0.2 [MAD], EA 06-0N990), as appended to the Valley Elderberry Longhorn Beetle Programmatic Consultation

Dear Mr. Almaguer:

This is the U.S. Fish and Wildlife Service's (Service) response to the California Department of Transportation's (Caltrans) request for formal consultation on its action to construct the San Joaquin River Bridge Scour and Seismic Retrofit Project (project) in Fresno and Madera Counties, California.

The Moving Ahead for Progress in the 21st Century Act (MAP-21) was signed into law on July 16, 2012. Caltrans was approved to participate in the MAP-21 Surface Transportation Project Delivery Program through the National Environmental Policy Act (NEPA) assignment Memorandum of Understanding (MOU) between the Federal Highway Administration (FHWA) and Caltrans (effective October 1, 2012), as codified in 23 U.S.C. 327. The MOU allows Caltrans to assume the FHWA's responsibilities under NEPA as well as FHWA's consultation and coordination responsibilities under Federal environmental laws for the majority of transportation projects in California.

Your letter requesting formal consultation, dated February 24, 2014, was received in this office on February 26, 2014. Caltrans determined, and the Service has agreed, that the project be considered for inclusion with the Service's March 11, 1997, *Formal Programmatic Consultation Permitting Projects with Relatively Small Effects on the Valley Elderberry Longhorn Beetle within the Jurisdiction of the Sacramento Field Office, California* (Programmatic) (Service file number 1-1-96-F-0156). At issue are the effects of this proposed project on the federally-listed as threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*). This document has been prepared in accordance with section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 *et seq.*) (Act).

The findings and recommendations of this biological opinion are based on: (1) Caltrans' February 24, 2014, letter, and the accompanying February 2014 *San Joaquin River Bridge Scour and Seismic Retrofit Project Biological Assessment* (BA); (2) Caltrans' draft Amended BA, dated September 2014; (3) email correspondence between the Service and Caltrans; and (4) other information available to the Service.

Consultation History

February 26, 2014. The Service received a letter from Caltrans requesting to initiate formal consultation, along with the 2014 BA.

May 2, 2014. The Service emailed Caltrans a series of questions concerning the BA.

May 7, 2014. Caltrans emailed the Service to obtain clarification on one of the Service's earlier questions from May 2 concerning vegetation types present in the project area. The Service responded to discuss.

June 2, 2014. Caltrans and the Service exchanged emails to discuss the status of Caltrans' forthcoming responses to the Service's May 2 email. Caltrans also asked if it could consider removing the valley elderberry longhorn beetle from consultation, but the Service stated that consultation should continue as originally proposed in Caltrans' initiation letter and BA.

June 4, 2014. Caltrans emailed the Service to respond to its May 2 questions concerning the BA. The Service deemed the initiation package to be complete.

August 5, 2014. The Service emailed Caltrans to follow-up on several additional questions regarding the project and BA.

August 18-19, 2014. Caltrans responded to the Service's August 5 email.

August 25, 2014. Caltrans telephoned the Service to report that a new hydrologic survey was scheduled to occur on-site, which might have additional project impacts not discussed in the BA. However, details had not yet been confirmed so Caltrans would need to follow-up with the Service once further information was available. Caltrans also reported several changes in the elderberry shrub data as a result of updated stem surveys.

September 2-4, 2014. The Service and Caltrans exchanged emails clarifying and confirming the activities associated with the proposed hydrologic survey and the likelihood of the survey to further impact the project area; and the revised elderberry shrub survey data. Caltrans emailed the Service an Errata Sheet describing the modifications made to the BA, plus a draft copy of the Amended BA.

BIOLOGICAL OPINION

Project Description

Caltrans proposes to conduct retrofit activities on the San Joaquin River Bridge (Bridge No. 42-0112) and the San Joaquin River Overflow Bridge (Bridge No. 41-0040) in order to upgrade the structures to Caltrans' current design standards. According to Caltrans' *Structure Replacement and Improvement Needs Report*, both bridges currently are listed as deficient in terms of seismic, scour, and railing standards. Both bridges are located on old State Route (SR) 41 just north of the city of Fresno at the boundary of Fresno and Madera Counties, between postmiles 33.3-33.4 (Fresno)/0.0-0.2 (Madera). These bridges serve primarily as access routes to a residential mobile home park and recreational areas neighboring the old SR 41 alignment.

Scour, seismic, and railing retrofit activities are proposed to take place on the San Joaquin River Bridge (SJRB). Although no scour or seismic retrofit work is proposed to occur on the San Joaquin River Overflow Bridge (SJROB), railing upgrades are planned. The SJRB has two abutments and 11 piers whose footings are approximately 25 feet (ft.) wide by 3 ft. thick.

Scour retrofit work will involve the addition of protective sheet pilings around eight of the 11 pier footings. These pilings will be capped with a 1 $ft.^2$ concrete cap. Installation of the sheet pilings will involve the excavation of pits (approximately 27 ft. wide by 48 ft. long) around the base of each pier footing; pilings then will be placed approximately 48 inches from the pier footings. In order to maintain the structural integrity of the bridge during this work, installation of the sheet pilings will be performed in two phases. During Phase 1, excavations will take place at piers #4, #6, #8, and #10. Once these are completed, Phase 2 excavations will follow at piers #5, #7, #9, and #11. The excavation of these eight pits will impact a surface area of approximately 0.23 acres (ac). Excavated soil will be stored temporarily within the work area but away from the river channel, and then placed back into the pits once the sheet pilings are installed. Dewatering will be required around piers #8 and #10 during Phase 1 excavation work, and then around piers #9 and #11 during Phase 2 excavation work.

Seismic retrofit work will involve adding expansion hinges with four pipe extenders to prevent excessive movement of the bridge during a seismic event. Railing upgrades will involve demolishing the existing concrete railings and replacing them with modern concrete and metal pipe designs.

Prior to construction, structural and hydrologic surveys will be conducted by a four-person crew using hand-portable, automated laser survey equipment. To ensure that the bridge column sheet piles are accurately designed, measurements will be taken of the distance from the bottom of the bridge bents to the ground, as well as of the topography of the river channel at the bridge site.

Survey work is expected to occur in September or October 2014 and take approximately five days to complete. Construction is anticipated to begin in late 2016 and end approximately one year later. No night work is proposed. The contractor will follow best management practices during construction. Dust control measures will be implemented as part of the project.

Equipment staging and access is expected to occur on the southwestern side of the project area between old SR 41 and the northbound lanes of new SR 41; this site is located within Caltrans' right-of-way (ROW) and above the Ordinary High Water Mark of the channel.

Conservation Measures

Caltrans will implement the following proposed measures, several of which are drawn from the Service's 1999 *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* (Guidelines), in order to minimize and avoid effects to the valley elderberry longhorn beetle.

1. a. All elderberry shrubs (*Sambucus* sp.) that can be avoided by construction and therefore do not require transplanting will be designated as environmentally sensitive areas (ESA) and identified with appropriate signs and high visibility fencing in order to prevent construction activities from encroaching on them. Fencing will be installed 20 ft. from the driplines of the shrubs or at the greatest distance feasible (but no closer than the shrubs' driplines).

b. Fencing and signs will be checked and maintained weekly until all construction is completed.

2. A qualified Service-approved biologist(s) will conduct an environmental education program for all construction employees and contractors, covering the status of the valley elderberry longhorn beetle, how to avoid damaging the elderberry shrubs, the importance of avoiding adverse effects to the valley elderberry longhorn beetle, and the penalties for non-exempted take. New construction personnel who are added to the project after the training is first conducted also will be required to be trained.

   a. The Service-approved biologist(s) will be present on-site during trimming and transplanting activities.

3. a. Prior to groundbreaking, Caltrans proposes to transplant one elderberry shrub to the French Camp Conservation Bank (FCCB) or to another Service-approved conservation bank, and to compensate for the loss of this shrub and to minimize the resulting effects to the valley elderberry longhorn beetle by planting a total of 19 elderberry seedlings and 19 associated native plants (Table 1) within a minimum area of 0.17 ac at the FCCB or at another Service-approved conservation bank. This equates to the purchase of four credits at an approved conservation bank.

   b. The survey results used to determine appropriate compensation will not be more than two years old. The original stem-count survey covering the project area was conducted in October 2013; surveys were conducted again in August and September 2014. Prior to the start of construction, additional surveys will be conducted to update elderberry findings and conservation measure 3a will be modified, if necessary.

Table 1. The number of elderberry stems affected by the project and the proposed compensation (# elderberry seedlings and # associated natives), as based on the Service's 1999 Guidelines.

Shrub ID #[a]	Stem Size	# of Stems	Exit Holes	Riparian Habitat	Elderberry Seedling Ratio	# Elderberry Seedlings	Associated Native Ratio	# Associated Natives
1	≥1"- ≤3"	4	No	Yes	2:1	8	1:1	8
	>3" - <5"	1			3:1	3	1:1	3
	≥5"	2			4:1	8	1:1	8
Totals		**7**				**19**		**19**

a. As identified in Caltrans' Amended BA, based on updated surveys conducted on August 19 and September 2, 2014.

Action Area

The action area is defined in 50 CFR § 402.02, as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." The action area includes a 0.3 mile (mi) long segment of old SR 41 that encompasses both the SJRB and SJROB; plus portions of the San Joaquin River channel, dry riverbed/sandbars, Great Valley Mixed Riparian Forest, and ruderal areas in which bridge retrofit activities will occur, and staging and access areas will be established. The action area further includes land that extends approximately 100 ft. from the edge of construction impacts, which will experience further-reaching effects of bridge work such as noise and visual disturbance.

Appending to the Programmatic Biological Opinion

The Service has determined that it is appropriate to append the San Joaquin River Bridge Scour and Seismic Retrofit Project to the Programmatic. This letter is an agreement by the Service to append the proposed project to the Programmatic and represents the Service's biological opinion on the effects of the proposed action. Compensation for projects appended to the Programmatic is consistent with the Service's Guidelines, except as approved by the Service. A copy of these Guidelines is found as an appendix to the Programmatic.

The compensation identified in the Programmatic involves transplanting affected elderberry shrubs (those which cannot be avoided by construction activities) to a conservation area, as well as planting specified numbers of elderberry seedlings/cuttings and associated native species. Those shrubs that do not necessitate removal instead will have ESA fencing installed 20 ft. from their driplines or at the greatest distance feasible (but no closer than the shrubs' driplines).

The proposed project will adversely affect one elderberry shrub that is suitable habitat for the valley elderberry longhorn beetle; this shrub is located within the construction limits and cannot be avoided so it will be transplanted to a conservation area. As of August/September 2014, surveys identified seven stems one inch in diameter or greater at ground level (Table 1). Caltrans proposes to minimize the adverse effects of the project by preserving habitat for the species through the purchase of four valley elderberry longhorn beetle credits at the FCCB or at another Service-approved conservation bank.

Analytical Framework for the Jeopardy/No Jeopardy Determination

In accordance with policy and regulation, the following analysis relies on four components to support the jeopardy/no jeopardy determination for the valley elderberry longhorn beetle: (1) the *Status of the Species*, which evaluates the range-wide condition of the valley elderberry longhorn beetle, the factors responsible for that condition, and its survival and recovery needs; (2) the *Environmental Baseline*, which evaluates the condition of the valley elderberry longhorn beetle in the action area, the factors responsible for that condition, and the role of the action area in the species' survival and recovery; (3) the *Effects of the Action*, which determines the direct and indirect effects of the proposed project and the effects of any interrelated or interdependent activities on the valley elderberry longhorn beetle; and (4) *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the valley elderberry longhorn beetle.

In accordance with policy and regulation, the jeopardy/no jeopardy determination is made by evaluating the effects of the proposed Federal action in the context of the current status of the valley elderberry longhorn beetle, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of the species in the wild.

The following analysis places an emphasis on consideration of the range-wide survival and recovery needs of the valley elderberry longhorn beetle, and the role of the action area in meeting those needs as the context for evaluating the significance of the effects of the proposed project, combined with cumulative effects, for purposes of making the jeopardy/no jeopardy determination. In short, a non-jeopardy determination is warranted if the proposed action is consistent with maintaining the role of habitat for the valley elderberry longhorn beetle populations in the action area for the survival and recovery of the species.

Supplement to the Programmatic's Environmental Baseline

The action area consists primarily of the San Joaquin River channel, Great Valley Mixed Riparian Forest habitat, and some ruderal areas in the form of unpaved highway shoulders and land adjacent to the highway that is routinely maintained and used by vehicle traffic. Surveys for elderberry shrubs were conducted by Caltrans on October 30 and November 16, 2012, and again on May 15, 2013. A total of 13 elderberry shrubs, with multiple stems measuring at least one inch in diameter at ground level, were identified within the action area. Elderberry stem surveys were carried out on October 17, 2013, and again on August 19 and September 2, 2014. Only one of the total 13 shrubs will require removal given that it is located within the construction footprint; the remaining 12 shrubs will be avoided. No exit holes were discovered on the shrub that will require removal. Survey information will be updated prior to the start of work.

According to the California Natural Diversity Database (CNDDB, 2014)[1], there are no valley elderberry longhorn beetle records within the action area; however, there is one record of the species, dating from 1992, located just north of the action area. Because the action area is situated within the range of the species and there is suitable habitat present, as evidenced by Caltrans' survey results and the neighboring CNDDB record, the Service concludes that it is reasonably likely for the valley elderberry longhorn beetle to be present in the action area.

Effects of the Proposed Action

Thirteen elderberry shrubs were identified within the action area at the southeast end of the SJRB. Only one shrub of the total 13 is likely to be destroyed as a result of construction if left in place. Consequently, this shrub will be removed in order to facilitate access to the bridge pier for the purpose of excavation and installation of sheet pilings around the pier footing. Once removed, the shrub will be transplanted off-site to an appropriate conservation bank. However, mortality of the valley elderberry longhorn beetle could still occur as a result of the removal methods used to displace and transplant the shrub.

The remaining 12 shrubs do not require transplanting since they are not located within the immediate construction footprint. Due to their increased distance from retrofitting activities, any potential effects from construction work are unlikely to be significant to a degree that will adversely affect either these elderberry shrubs or any valley elderberry longhorn beetles inhabiting them. Caltrans will establish an ESA exclusion zone around these shrubs; temporary fencing will be installed 20 ft. from their driplines or at the greatest distance feasible (but no closer than the shrubs' driplines). Construction work is not expected to occur within this exclusion zone.

When last surveyed in September 2014, a total of seven stems were identified on the shrub that will be removed during construction. Caltrans will minimize the potential for losing all valley elderberry longhorn beetles within this single elderberry shrub by transplanting it and compensating for the loss of suitable habitat. Caltrans proposes to plant 19 elderberry seedlings and 19 associated native plants at the FCCB or at another Service-approved conservation bank, in accordance with the Guidelines (see Table 1). The proposed preservation of suitable elderberry habitat, along with the plantings of new elderberry seedlings and associated natives will minimize the effects of the permanent loss of the shrub considered in this biological opinion. The compensation measures will protect and manage habitat for the conservation of the species in perpetuity. The protected land and plantings purchased through credits will provide habitat commensurate with or better than

[1] California Natural Diversity Database. 2014. Natural Heritage Division, California Department of Fish and Wildlife. RareFind 5. Sacramento, California. Accessed July 31, 2014.

habitat lost as a result of the project, ensuring that the valley elderberry longhorn beetle will have habitat in which to breed, feed, and develop in conjunction with its host plant.

Conclusion

After reviewing the status of the valley elderberry longhorn beetle, the environmental baseline, and cumulative effects as analyzed in the Programmatic, as well as the environmental baseline specific to this project's action area and the effects of this project on the species, it is the Service's biological opinion that the project, as proposed, is not likely to jeopardize the continued existence of the valley elderberry longhorn beetle.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by FWS regulations at 50 CFR 17.3 as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the same regulations as an act which actually kills or injures wildlife. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described are nondiscretionary, and must be undertaken by Caltrans for the exemption in section 7(o)(2) to apply. Caltrans has a continuing duty to regulate the activity covered by this incidental take statement. If Caltrans (1) fails to assume and implement the terms and conditions, or (2) fails to require any of its contractors to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, Caltrans must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement. [50 CFR §402.14(i)(3)].

Amount or Extent of Take

It is infeasible for the Service to quantify the exact number of valley elderberry longhorn beetles that will be taken as a result of the proposed action because the number of individuals in the action area is unknown and estimates of population density in the action area are unavailable. In instances in which the number of individuals that may be taken cannot be determined, the Service may quantify take in the amount of lost or degraded habitat as a result of the project action; since take is expected to result from these effects to habitat, the quantification of habitat becomes a direct surrogate for the species that will be taken. Therefore, the Service quantifies take incidental to this project as the single elderberry shrub proposed for removal, which contains seven stems measuring one inch or greater in diameter at ground level. Upon implementation of the Programmatic's *Reasonable and Prudent Measures*, *Terms and Conditions*, and the *Conservation Measures* considered herein, incidental take in the form of mortality as a result of removal methods used to displace and transplant the shrub in

order to facilitate bridge retrofit activities, will become exempt from the prohibitions described under section 9 of the Act.

Effect of the Take

The effects of this project fall within the parameters established within the Programmatic; the Service has determined that this level of anticipated take is not likely to jeopardize the continued existence of the valley elderberry longhorn beetle.

REINITIATION—CLOSING STATEMENT

This concludes the Service's review of the San Joaquin River Bridge Scour and Seismic Retrofit Project on old SR 41. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained or is authorized by law and if (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action.

If you have any questions regarding this biological opinion, please contact Jen Schofield, Fish and Wildlife Biologist, or Thomas Leeman, Chief, San Joaquin Valley Division, at the letterhead address or at (916) 414-6600.

Sincerely,

Kenneth Sanchez
Assistant Field Supervisor

cc:
Craig Bailey, California Department of Fish and Wildlife, Fresno, California

List of Technical Studies

Water Quality Report, July 2013

Location Hydraulic Study, May 2013

Noise Compliance Study, August 2013

Natural Environment Study, June 2013