

# **Merced Seismic Retrofit Project**

On State Routes 59, 140, and 152 in Merced County

10-MER-59/140/152 Various Post Miles

10-0G830/1012000316

## **Initial Study with Proposed Mitigated Negative Declaration/ Environmental Assessment and Draft Section 4(f) Evaluation**



Prepared by the  
State of California Department of Transportation

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 U.S.C. 327 and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans.

**January 2019**



# General Information About This Document

## ***What's in this document:***

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), has prepared this Initial Study/Environmental Assessment and Draft Section 4(f) Evaluation, which examines the potential environmental impacts of alternatives being considered for the proposed project located in various areas of Merced County in California. The document explains why the project is being proposed, the alternatives being considered for the project, the existing environment that could be affected by the project, potential impacts of each of the alternatives, and proposed avoidance, minimization, and/or mitigation measures.

## ***What you should do:***

- Read the document. Additional copies of the document and the related technical studies are available for review at the Caltrans District 10 office at 1976 East Charter Way, Stockton, CA 95205 from 9:00 a.m. to 5:00 p.m. and the Los Banos Branch Public Library at 1312 Seventh Street, Los Banos, CA 93635. The document can also be downloaded at the following website: <http://www.dot.ca.gov/d10/projects.html>.
- Tell us what you think. If you have any comments regarding the proposed project, please send your written comments to Caltrans by the deadline. Submit comments via U.S. mail to: Jennifer Lugo, Senior Environmental Planner, Central Sierra Analysis Branch, California Department of Transportation, 855 M Street, Suite 200, Fresno, CA 93721.
- Submit comments via email to: [jennifer\\_lugo@dot.ca.gov](mailto:jennifer_lugo@dot.ca.gov).
- Submit comments by the deadline: . 03/31/19

## ***What happens next:***

After comments are received from the public and reviewing agencies, Caltrans, as assigned by the Federal Highway Administration (FHWA), may 1) give environmental approval to the proposed project, 2) do additional environmental studies, or 3) abandon the project. If the project is given environmental approval and funding is appropriated, Caltrans could design and construct all or part of the project.

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 write to or call Caltrans, Attn: Jennifer Lugo, Senior Environmental Planner, 855 M Street, Suite 200, Fresno, CA 93721; phone 559-445-6172 (Voice), or use the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice), or 711.

Seismically retrofit seven state bridges and upgrade deficient bridge railings  
on State Routes 59, 140 and 152 in Merced County

**INITIAL STUDY  
with Proposed Mitigated Negative Declaration  
/Environmental Assessment  
and Draft Section 4(f) Evaluation**

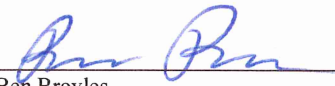
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THE STATE OF CALIFORNIA  
Department of Transportation

Cooperating Agency: U.S. Department of Fish and Wildlife

Responsible Agency: California Transportation Commission  
California Environmental Protection Agency  
U.S. Environmental Protection Agency  
California Department of Fish and Wildlife

January 22, 2019  
Date

  
Ben Broyles  
Interim Environmental Office Chief, North  
California Department of Transportation  
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# Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

## ***Project Description***

The California Department of Transportation (Caltrans) proposes to seismically retrofit seven bridges in Merced County to increase their structural integrity in case of a seismic event and upgrade deficient bridge railings to current standards.

## ***Determination***

This proposed Mitigated Negative Declaration is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt a Mitigated Negative Declaration for this project. This does not mean that Caltrans' decision on the project is final. This Mitigated Negative Declaration is subject to change based on comments received from interested agencies and the public.

Caltrans has prepared an Initial Study for this project and, pending public review, expects to determine 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 agricultural and forest resources, air quality, land use and planning, mineral resources, noise, population and housing, traffic and transportation, and paleontology.

In addition, the proposed project would have no significant effect on aesthetics, geology and soils, hazards and hazardous waste, hydrology and water quality parks and recreational facilities, utilities and emergency services.

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

- **Archaeology:** The project would adversely affect a National Register of Historic Places-eligible archaeological resource. Caltrans would enter into a Memorandum of Agreement with the State Office of Historic Preservation to address impacts to the site. These minimization measures would include data recovery and monitoring. Environmentally sensitive areas would be established and delineated by fencing to avoid unnecessary impacts to portions of the two archaeological sites outside of the area of direct impacts. Results of the data recovery efforts would be presented to the public via accessible media.
- **Wetlands and Other Waters:** The project would follow the avoidance, mitigation and minimization measures within the U.S. Army Corps of Engineers and Regional Water Quality Control Board permits. Also required is mitigation that would include the purchase of replacement acres for impacts to wetlands and waters.
- **Threatened and Endangered Species:** The project would require mitigation that includes the purchase of 6.9 acres of giant garter snake habitat. Also, monitoring, worker education, and the use of environmentally sensitive area fencing would be incorporated.

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Ben Broyles  
Interim Environmental Office Chief, North  
District 10  
California Department of Transportation

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Date



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# Chapter 1      Proposed Project

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## 1.1      Introduction

For the proposed project, the California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), is the lead agency under the National Environmental Policy Act (NEPA). Caltrans is also the lead agency under the California Environmental Quality Act (CEQA).

California participated in the “Surface Transportation Project Delivery Pilot Program” (Pilot Program) pursuant to 23 U.S. Code 327, for more than five years, beginning July 1, 2007, and ending September 30, 2012. MAP-21 (P.L. 112-141), signed by President Barack Obama on July 6, 2012, amended 23 U.S. Code 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, Caltrans entered into a Memorandum of Understanding pursuant to 23 U.S. Code 327 (NEPA Assignment MOU) with the Federal Highway Administration. The NEPA Assignment MOU became effective October 1, 2012, and was renewed on December 23, 2016, for a term of five years. In summary, Caltrans continues to assume Federal Highway Administration responsibilities under the National Environmental Policy Act and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. With NEPA Assignment, the Federal Highway Administration assigned and Caltrans assumed all of the U.S. Department of Transportation (USDOT) Secretary’s responsibilities under the National Environmental Policy Act. This assignment includes projects on the state highway system and local assistance projects off the State Highway System within the State of California, except for certain categorical exclusions that the Federal Highway Administration assigned to Caltrans under the 23 U.S. Code 326 CE Assignment MOU, projects excluded by definition, and specific project exclusions.

The project proposes to seismically upgrade seven bridges and upgrade the bridge railings. The project is located on State Routes 59, 140, and 152 throughout Merced County. Figure 1-1 shows the project vicinity and Figures 1-2 through 1-4 show the bridge locations and immediate project surroundings.

The project is programmed in the 2018 State Highway Operations and Project Program (SHOPP) under the 20.10.201.113 Seismic Retrofit Program with delivery in the 2022/2023 fiscal year.

The project is currently programmed in the 2018 State Highway Operations and Protection Program (SHOPP) under the Seismic Restoration program (201.113) for construction funding in the 2022/23 fiscal year. A Project change Request (PCR) is being prepared to move construction funding to the 2022/2023 fiscal year.

## 1.2 Purpose and Need

### 1.2.1 Purpose

The purpose of the project is to upgrade the following bridges to current seismic standards:

1. Bear Creek Bridges, both northbound (Bridge Number, 39-0009 L) and southbound (Bridge Number 39-0009 R) on State Route 59 in the City of Merced. See Figure 1-2.
2. San Joaquin River (Santa Rita) Bridge eastbound (Bridge Number, 39-0028 L) on State Route 152 in Merced County. See Figure 1-3.
3. Eastside Bypass Channel Bridges, both eastbound (Bridge Number No. 39-0034R) and westbound (Bridge Number. No. 39-0034R) on State Route 152 in Merced County. See Figure 1-3.
4. Los Banos Creek/West Branch Mud Slough (Bridge Number 039-0090) on State Route 140 in Merced County. See Figure 1-3.
5. San Joaquin River Bridge (Bridge Number. 39-0092) on State Route 140 in Merced County. See Figure 1-3.

### 1.2.2 Need

The bridges were identified as seismically vulnerable by the Office of Earthquake Engineering, and the Office of Structure Maintenance and Investigations identified a need to upgrade the non-standard bridge railings at each project location. The bridges are vulnerable to collapse during an earthquake if not retrofitted to withstand a maximum credible earthquake event.

Five of the structures were found to have obsolete bridge railing. Under the provisions of Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21), each state uses the nationally defined performance measures for bridges, which identify a bridge's condition as good, fair or poor. The project bridges have non-standard railings in "poor" condition.

## 1.3 Project Description

The project would seismically retrofit seven bridges on State Routes 59, 140, and 152 in Merced County to increase their structural integrity by doing the following:

- Adding steel column casings
- Retrofitting hinges with pipe seat extenders and cable restrainers



The work would bring the bridges up to current standards and minimize the risk of collapse during a seismic event. The project would also upgrade the non-standard bridge railings. In addition, 8-foot shoulders would be added on the Los Banos Creek/West Branch Mud Slough bridge (Bridge Number 039-0090); the bridge currently has no shoulders and does not match the approaching roadway, which has 8-foot shoulders.



**Figure 1-1 Project Vicinity Map**



**Figure 1-2 Project Location Map – State Route 59**

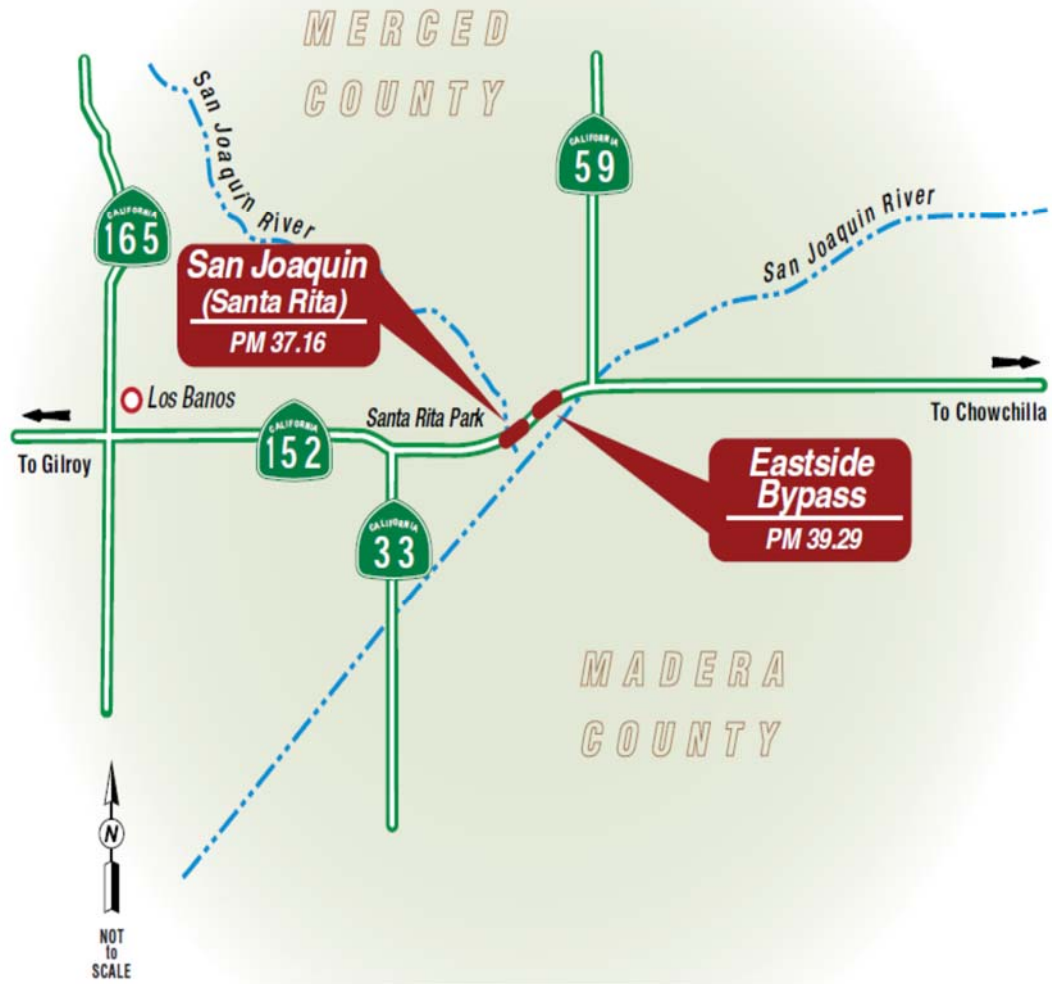


Figure 1-3 Project Location Map – State Route 152

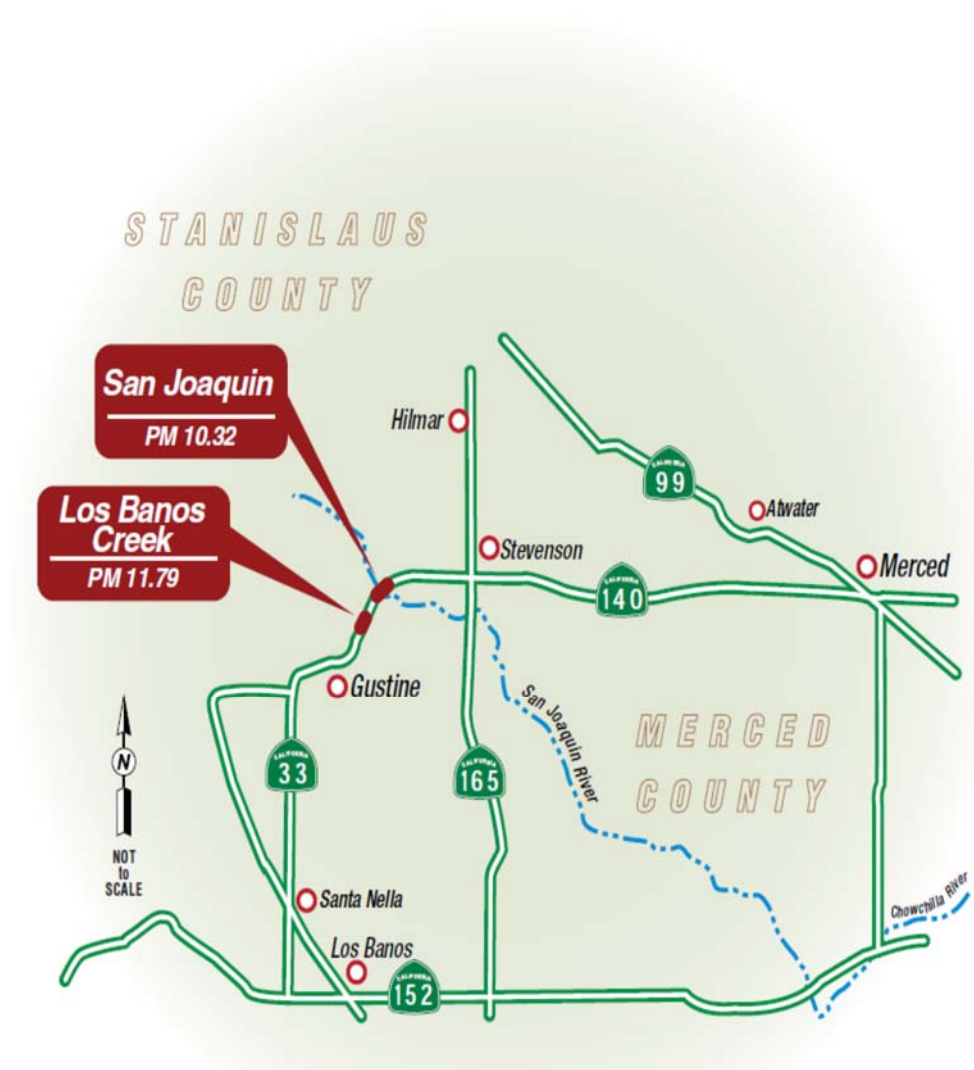


Figure 1-4 Project Location Map – State Route 140

## 1.4 Project Alternatives

The project is considering a build alternative and the No-Build Alternative.

### 1.4.1 Build Alternative

The build alternative would seismically retrofit seven bridges on State Routes 59, 140, and 152 in Merced County to increase their structural integrity by doing the following:

- Adding steel column casings
- Retrofitting hinges with pipe seat extenders and cable restrainers

Below are specific descriptions for each location.

#### ***Location 1: Bear Creek Bridge (See Figure 1-2)***

The two rows of columns closest to each bank of the river would be retrofitted with steel casings. The steel casings consist of lengths of steel pipe split lengthwise into two halves. The halves of casing pipe are fitted around the existing concrete columns and then welded together. The casings extend 3 feet below ground and would require a large enough excavation for the welder to have access to the portion below ground.

The project would retrofit the bridge's mid-span expansion joint, where two sections of the bridge meet to allow for expansion due to temperature change. The retrofit would add a series of 8-inch-diameter steel pipes across the width of the bridge. Steel cables would be attached to the girders on each side of the expansion joint.

Existing curbs and sidewalks would be replaced. This would require closing a portion of the bridge to allow for construction.

A water diversion plan would be required at this bridge for work to occur under the bridge.

#### ***Location 2: San Joaquin River (Santa Rita) Bridge (See Figure 1-3)***

The project would retrofit the mid-span expansion joint to prevent the girder from moving apart during an earthquake.

The project would remove and replace existing obsolete concrete barriers, as well as widen the bridge 9 inches on each side. The existing bridge rail would be removed and upgraded to meet current standards.

Lane closures and temporary railing would be required during construction. One lane of traffic would remain open at all times during construction.

Water diversion is not anticipated but, if it becomes necessary, an earthen berm would most likely be used.

**Location 3: Eastside Bypass Channel (See Figure 1-3)**

The project would seismically retrofit the mid-span expansion joint on both the left and right bridges.

The existing railings on the right bridge would be replaced.

**Location 4: Los Banos Creek (West Mud Slough Bridge) (See Figure 1-4)**

This structure would be widened to accommodate two 12-foot lanes and 8-foot shoulders to meet current standards and roadway approaches. The project would install additional piles (approximately 28) to support the proposed widening.

The two rows of columns closest to each bank of the river would be retrofitted with steel casings. The steel casings consist of lengths of steel pipe split lengthwise into two halves. The halves of casing pipe are fitted around the existing concrete columns and then welded together. The casings extend 3 feet below ground and would require a large enough excavation for the welder to have access to the portion below ground.

A water diversion plan would be required at this bridge for work to occur under the bridge. This plan would consist of temporary culverts.

The project work would be conducted from a trestle, a temporary bridge made of wooden beams.

A temporary signal system would be used to allow for reversing one-lane traffic control during construction.

**Location 5: San Joaquin River Bridge (See Figure 1-4)**

The project would seismically retrofit this bridge by retrofitting the expansion joint and grouted steel casings at pier 2 and piers 10 through 24. Outriggers would be placed at alternating even-number bents.

Lane closures, a temporary signal, and temporary railing would be required during construction. One lane of traffic would remain open during construction. The construction work and setup would be done using a trestle system built next to the bridge.

For the overall project, daytime lane closures with flagging are anticipated during construction. Water diversion may be required based on the water level during the time of construction.

For the build alternative, the estimated cost of construction is \$9,700,00.

This project contains standardized project measures that are used on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed project. These measures are addressed in more detail in the Environmental Consequences sections found in Chapter 2.

The following are some of the standardized project measures that are anticipated on this project:

- A Transportation Management Plan (TMP) would be prepared for the project.
- Standard specifications dealing with the discovery of unanticipated cultural materials or human remains would be included in the project plans and specifications.
- If human remains are discovered on non-federal land, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. The resident engineer would be contacted so that he or she can work with the most likely descendent on the respectful treatment and disposition of remains.
- The construction contractor would comply with construction site Best Management Practices specified in the Storm Water Pollution Prevention Plan and any other permit conditions to minimize the introduction of construction-related contaminants and mobilization of sediment in and adjacent to the project areas at all project locations, as necessary. The Best Management Practices would be selected to achieve maximum sediment removal and represent the best available technology that is economically achievable and are subject to review and approval by Caltrans.
- Selected Best Management Practices that may serve as conservation measures to avoid and minimize impacts to Essential Fish Habitat may include but would not be limited to the following:
  - Equipment used in and around the waterways would be in good working order and free of dripping or leaking engine fluids. All vehicle maintenance would be performed outside of the bed, bank, or channel of the waterways.
  - The Storm Water Pollution Prevention Plan would include a hazardous spill prevention control and countermeasure plan. The plan would include onsite handling rules to keep construction and maintenance materials from entering the river, including procedures related to refueling, operating, storing and staging construction equipment and preventing and responding to spills. The plan would also identify the parties responsible for monitoring the spill response. During construction, any spills would be cleaned up immediately according to the spill prevention and countermeasure plan.
  - The Storm Water Pollution Prevention Plan for the project would detail the applications and type of measures and the allowable exposure of unprotected soils.
  - Discharge from dewatering operations, if needed, and runoff from disturbed areas would be made to conform to the water quality requirements of the waste discharge permit issued by the Regional Water Quality Control Board.

- Temporary erosion control measures, such as sandbagged silt fences, would be applied throughout the construction of the proposed project and would be removed after the working area is stabilized or as directed by the engineer. Soil exposure would be minimized through the use of temporary Best Management Practices, groundcover, and stabilization measures. Exposed dust-producing surfaces would be sprinkled daily, if necessary, until wet; this measure would be controlled to avoid producing runoff. Paved roads would be swept daily following construction activities.
- The contractor would conduct periodic maintenance of erosion and sediment control measures.
- An appropriate seed mix of native species would be planted on disturbed areas upon completion of construction.
- A 401 Water Quality Certification would be obtained from the Central Valley Regional Water Quality Control Board that contains additional Best Management Practices and water quality measures to ensure the protection of water quality.
- Enclose and cover exposed stockpiles of dirt or other loose, granular construction materials that could contribute sediment to waterways. Side slopes would not be steeper than 2:1. All stockpile areas would be surrounded by a filter fabric fence and interceptor dike.
- Contain soil and filter runoff from disturbed areas by berms, vegetated filters, silt fencing, straw wattle, plastic sheeting, catch basins, or other means necessary to prevent the escape of sediment from the disturbed area.
- Use other temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, sandbag dikes, and temporary re-vegetation or other ground cover) to control erosion from disturbed areas as necessary.
- Avoid earth or organic material from being deposited or placed where it may be directly carried into the channel.

#### **1.4.2 No-Build (No-Action) Alternative**

The No-Build Alternative would leave the bridges in their current conditions, resulting in the bridges staying at risk of damage from a seismic event. The No-Build Alternative would not meet the purpose and need of the project.



## 1.5 Permits and Approvals Needed

The following permits, reviews, and approvals would be required for project construction:

Agency	Permit/Approval	Status
U.S. Army Corps of Engineers, Sacramento District	Clean Water Act Section 404: Placement of Fill	Application to be submitted during the project's final design phase
Regional Water Quality Control Board	Clean Water Act Section 401: Water Quality Certification	Application to be submitted during the project's final design phase
California Department of Fish and Wildlife	California Fish and Game Code 1602: Lake and Streambed Alteration Agreement	Application to be submitted during the project's final design phase
U.S. Fish and Wildlife Service	Section 7 of the Endangered Species Act: Biological Opinion	To be obtained before the final environmental document
National Marine Fisheries Service	Section 7 of the Endangered Species Act: Biological Opinion	To be obtained before the final environmental document
State Historic Preservation Office	Findings of Effects/Memorandum of Agreement	To be obtained before the final environmental document
U.S. Army Corps of Engineers	Section 10 Navigable Rivers Permit	To be obtained prior to construction
Central Valley Flood Protection Board	Encroachment Permit	To be obtained prior to construction



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

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

- Existing and Future Land Use—The project complies with current land use plans and would have no effect on future land use (Merced County General Plan, December 2013).
- Consistency with State, Regional and Local Plans—The build alternative is consistent with the Merced County General Plan, as well as the Merced County Association of Governments Regional Transportation Plan (Merced County General Plan, December 2013).
- Coastal Zone—The project is not within the coastal zone (Field Visit, October 2017).
- Wild and Scenic Rivers—There are no wild and scenic rivers within the project areas (Field Review and U.S. Wild and Scenic Rivers System Webpage, October 2017).
- Farmlands—There are no farmlands affected by this project (Field Visit, October 2017).
- Timberlands—There are no timberlands affected by this project (Field Visit, October 2017).
- Growth—The project does not change accessibility and therefore would not have growth-inducing impacts (Caltrans First Cut Screening Evaluation, March 2018).
- Community Character and Cohesion—Except for Bear Creek Bridge, the project locations are in rural areas and would have no effect on community character or cohesion. Bear Creek Bridge is within a mostly industrial area, and the minor changes to the bridge would either go unnoticed or be consistent with the character of the area (Field Visit, December 2017).
- Relocations and Real Property Acquisition—There are no relocations or permanent property acquisitions required for this project (Draft Project Report, September 2018).
- Environmental Justice—No minority or low-income populations would be adversely affected by the proposed project. Therefore, this project is not subject to provisions of Executive Order 12898 (Field Review and Review of Project Maps, October 2017).
- Hydrology and Floodplain—The proposed project does not consist of a longitudinal encroachment or a meaningful encroachment on the base floodplain (Location Hydrology Report, March 2018).

- Paleontology—The excavation required for this project is not anticipated to reach depths that could affect fossils (Paleontology Identification Report, October 2016).
- Air—The project is exempt from air quality conformity analysis requirements (Air Scoping, January 2015).
- Noise—The project is not a Type 1 project and would not have permanent noise impacts (Noise Scoping, January 2015).

## **2.1 Human Environment**

### **2.1.1 0.56Parks and Recreational Facilities**

#### ***Regulatory Setting***

This project would affect facilities that are protected by the Park Preservation Act (California Public Resources Code Sections 5400-5409). The Park Preservation Act prohibits local and state agencies from acquiring any property that is in use as a public park at the time of acquisition, unless the acquiring agency pays sufficient compensation or land, or both, to enable the operator of the park to replace the parkland and any park facilities on that land.

#### ***Affected Environment***

The following parks, recreation areas, and wildlife/waterfowl refuges are within half a mile of the project areas:

- San Luis National Wildlife Refuge—This refuge lies south of the Los Banos Creek Bridge on State Route 140. This refuge is run by the U.S. Department of Fish and Wildlife. It preserves wetlands and native grasslands.
- Great Valley Grasslands State Park—This park lies south of the San Joaquin River Bridge on State Route 140. The park was established in 1986 and spans 2,826 acres. It preserves native grasslands of the Central Valley and is part of the Grasslands Ecological Area. The park attracts visitors interested in its wildflowers, wildlife viewing, and fishing. Next to the San Joaquin River Bridge project area are a boat launch, restrooms, and a parking lot.
- North Grasslands Wildlife Management Area—This wildlife area lies north of the Los Banos Creek (West Mud Slough) Bridge and the San Joaquin River Bridge on State Route 140. The management area is run by the California Department of Fish and Wildlife. It consists of 7,400 acres of wetlands, riparian habitat, and uplands. It includes the China Island Unit, Gadwall, and Salt Slough units. The unit just north of the project locations is the China Island Unit.

Because these properties are publicly owned parks or wildlife refuges, they are subject to Section 4(f) of the Department of Transportation Act. Please see the Section 4(f) Evaluation located in Appendix A.

## ***Environmental Consequences***

### ***San Luis National Wildlife Refuge/North Grasslands Wildlife Management Area***

#### **Temporary Construction Easements**

The project would require a temporary construction easement on both the San Luis National Wildlife Refuge and the North Grasslands Wildlife Management Area. A 0.56-acre easement is needed on the San Luis National Wildlife Refuge, and a 0.42-acre easement is needed on the North Grasslands Wildlife Management Area. This is a Section 4(f) use, which is fully discussed in Appendix A.

The temporary construction easements within these areas are needed to access the piers under the bridge, construct a trestle, and implement Caltrans' Best Management Practices (BMPs) to protect water quality.

Once construction is completed, the project area would be returned to its original state. All material would be removed, graded slopes would be returned to the natural state, and removed vegetation would be replanted. There would be no permanent impacts to either the San Luis National Wildlife Refuge or the North Grasslands Wildlife Management Area.

### ***Great Valley Grasslands State Park***

#### **Construction Impacts**

Construction would occur on the San Joaquin River Bridge, which borders the Great Valley Grasslands State Park. The entrance to a parking lot with a boat launch and a restroom is immediately west of the San Joaquin River Bridge. The facility would remain open during construction. However, when one-way traffic control is in effect, anyone accessing the parking lot could experience some travel delay. Access to the parking lot would be available at all times.

Some project-related noise is anticipated during the construction of the project. However, the noise would be temporary and would have a minimal effect. Most of the project construction would occur during the dry season, when boating and fishing use of the park is less.

#### **Permanent Impacts**

The project would have no permanent impacts to any of these properties.

## ***Avoidance, Minimization, and/or Mitigation Measures***

All areas that require temporary construction easements would be returned to their original state after construction.

## **2.1.2 Utilities and Emergency Services**

### ***Affected Environment***

On Bear Creek Bridge, utility conduits attached to the bridge carry water and gas. The water line is owned by the City of Merced, and the gas line is owned by PG&E.

First responders to emergencies within the project area may include the California Highway Patrol, Merced County Fire Department, Merced City Police Department, and private emergency medical transportation.

### ***Environmental Consequences***

The utility conduits would be relocated or detached from the bridge and suspended to allow replacement of rails on the bridge. A temporary disruption of utility service may occur, but it would be short-term. Caltrans would negotiate with the utility agencies to ensure there would be minimal disruption of services.

Emergency services could be affected during construction due to temporarily increased response times for emergency medical and fire services. The project would leave one lane open and provide preferable access to emergency services.

### ***Avoidance, Minimization, and/or Mitigation Measures***

No other mitigation measures would be required once the above measures are included in the project.

## **2.1.3 Visual/Aesthetics**

### ***Regulatory Setting***

The National Environmental Policy Act of 1969, as amended, establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 U.S. Code 4331[b][2]). To further emphasize this point, the Federal Highway Administration, in its implementation of the National Environmental Policy Act (23 U.S. Code 109[h]), directs that final decisions on projects are to be made in the best overall public interest, taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

The California Environmental Quality Act establishes that it is the policy of the state to take all action necessary to provide the people of the state “with...enjoyment of aesthetic, natural, scenic and historic environmental qualities” (California Public Resources Code Section 21001[b]).

### ***Affected Environment***

A Scenic Resource Assessment/Visual Impact Analysis was completed in May 2018.

Bear Creek Bridge is on State Route 4, which is a four-lane conventional highway. It is within the city limits of Merced and is in an urban setting. The area is characterized by urban commercial, industrial, and residential uses.

The Los Banos Bridge and the San Joaquin River Bridge both sit on State Route 140, which is a two-lane conventional highway. At these locations, State Route 140 goes through the San Luis National Wildlife Refuge, North Grasslands Wildlife Management Area and Great Valley Grasslands State Park. The surrounding area contains public land, recreational spaces and open space.

San Joaquin River (Santa Rita) Bridge and Eastside Bypass Channel Bridge both sit on State Route 152, a four-lane expressway. The surrounding area is agricultural.

### ***Environmental Consequences***

There is no highway planting within the project areas.

All the project areas are designated bicycle and pedestrian routes. Bikes are allowed on the right shoulder along the highway in the same direction as auto travel, and pedestrians are allowed to travel on the shoulders. The project would upgrade deficient bridge railings to current standards; this is expected to be perceived by bicyclists and pedestrians as beneficial. Visual impediments or impacts to bicycle or pedestrian travel would not occur as a result of the project.

No project location is on a scenic highway, and no project location has been designated as eligible to be a scenic highway. The sites are not listed in the Merced County General Plan as scenic highways.

This project proposes to upgrade deficient bridge railings to current standards. To provide visual consistency to the corridor, aesthetic treatments to the bridge railing would be included in this project. Aesthetic enhancements include color or architectural bridge railings. Also, the rural bridge locations would use a concrete barrier (Type 80) or something similar to visually blend the bridge railing into its rural surroundings.

### ***Avoidance, Minimization, and/or Mitigation Measures***

No mitigation measures would be required once the above measures are included in the project.

## **2.1.4 Cultural Resources**

### ***Regulatory Setting***

The term “cultural resources,” as used in this document, refers to the “built environment” (structures, bridges, railroads, water conveyance systems, etc.), places of traditional or cultural importance, and archaeological sites (both prehistoric and historic), regardless of significance. Under federal and state laws, cultural resources that meet certain criteria of significance are referred to by various terms including “historic properties,” “historic sites,” “historical resources,” and “tribal cultural resources.” 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 for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in 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 historic 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, 2014, the First Amended Section 106 Programmatic Agreement (PA) among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and Caltrans went into effect for Caltrans projects, both state and local, with Federal Highway Administration involvement. The PA implements the Advisory Council on Historic Preservation'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 PA have been assigned to Caltrans as part of the Surface Transportation Project Delivery Program (23 U.S. Code 327).

The Archaeological Resources Protection Act (ARPA) applies when a project may involve archaeological resources located on federal or tribal land. The act requires that a permit be obtained before any excavation of an archaeological resource on such land can take place.

The California Environmental Quality Act requires the consideration of cultural resources that are historical resources and tribal cultural resources, as well as "unique" archaeological resources. California Public Resources Code Section 5024.1 established the California Register of Historical Resources and outlined the necessary criteria for a cultural resource to be considered eligible for listing in the California Register of Historical Resources and, therefore, a historical resource. Historical resources are defined in Public Resources Code Section 5020.1(j). In 2014, Assembly Bill 52 (AB 52) added the term "tribal cultural resources" to the California Environmental Quality Act, and AB 52 is commonly referenced instead of the California Environmental Quality Act when discussing the process to identify tribal cultural resources (as well as identifying measures to avoid, preserve, or mitigate effects to them). Defined in Public Resources Code Section 21074(a), a tribal cultural resource is a California Register of Historical Resources or local register eligible site, feature, place, cultural landscape, or object that has a cultural value to a California Native American tribe. Tribal cultural resources must also meet the definition of a historical resource. Unique archaeological resources are referenced in Public Resources Code Section 21083.2.

Public Resources Code Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the National Register of Historic Places listing criteria. It further 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 of Historic Places or are registered or eligible for



registration as California Historical Landmarks. Procedures for compliance with Public Resources Code Section 5024 are outlined in a Memorandum of Understanding (MOU) between Caltrans and the State Historic Preservation Officer, effective January 1, 2015. For most federal-aid projects on the state highway system, compliance with the Section 106 PA will satisfy the requirements of Public Resources Code Section 5024.

### ***Affected Environment***

The following studies have been completed for this project: a Historic Property Survey Report, an Archaeological Survey Report, an Extended Phase I Report at the Santa Rita Bridge, an Extended Phase I Report for CA-MER-46 (prepared in February 2018) and a Phase II Report for CA-MER-06 (prepared in April 2018). A Memorandum of Agreement would be completed prior to completion of the environmental document.

All the project bridges were listed as Category 5, which means they were previously determined to be ineligible for inclusion on the National Register of Historic Places. Therefore, no Historic Resource Evaluation Report was done for the bridges or any other architectural or structural resources in the project's Area of Potential Effects (APE).

In compliance with Section 106 of the National Historic Preservation Act, Caltrans identified an Area of Potential Effects for the project. This area includes all areas that could be potentially affected by the project, both horizontally and vertically. The Area of Potential Effects includes construction areas, easements, and staging areas.

A records search was conducted at the Central San Joaquin Information Center of the California Historical Resources Information System in August 2015 and August 2017. The searches spanned a quarter-mile around each of the project areas. The search identified two prehistoric archaeological sites within the project area.

No archaeological field survey was needed or conducted for this project. All of the project construction locations have been previously surveyed to Caltrans' standards. These earlier studies identified three locations that needed further archaeological studies.

Native American consultation for this project was carried out in tandem with the Native American consultation for the Merced 140 Guardrail Upgrade Project (10-0Y110). The two known prehistoric archaeological sites are within both project areas.

Consultation was conducted by the Caltrans District 10 Native American Coordinator. Caltrans requested information from the California Native American Heritage Commission in September 2016. The request was for known Native American traditional or cultural properties within the project areas. The commission responded that the search found no known properties. The Native American Heritage Commission also provided three Native American contacts that might have information or concerns related to the project areas. Caltrans sent letters and email to four groups. Caltrans received responses from the following:

- Katherine Perez, Chairperson, Northern Valley Yokuts
- Kerri Vera, National Resource Management Director, Tule River Indian Tribe

- Valentin Lopez, Chairman, Amah Mutsun Tribal Band

All wanted to consult regarding the project.

At the beginning of the field work for this project, the Caltrans archaeology team and representatives of the Northern Valley Yokuts met in the area of the two archaeological sites.

Previous walk-through surveys identified three locations, described below, that required further evaluation.

#### **CA-MER-06**

This is a prehistoric habitation site consisting of a midden deposit, house rings, and burials. The site spans 90 acres and is bisected by one of the highways and bridges within the project area.

#### **Phase II Testing**

Previous surveys had identified this prehistoric archaeological site within one of the project areas. Those surveys found the presence of house pits, midden, and human remains. To avoid disturbance of the human remains, no previous subsurface investigation was performed.

Caltrans conducted Phase II archaeological investigations to identify any previously unidentified materials that could be unearthed during construction. Planned field work included six backhoe trenches, 15 shovel test units, and one excavated control unit.

Before full testing could be implemented, human cranial bone fragments were recovered in a single excavation unit. The discovery was reported to the coroner, the U.S. Fish and Wildlife Service, and the Native American Heritage Commission. Monitors from the Northern Valley Yokuts Tribe and the Tule River Tribe were monitoring the excavations at the time of discovery. Due to the presence of human remains, all further testing was stopped.

#### **Eligibility**

Site CA-MER-06 has been determined eligible to the National Register of Historic Places, under Criterion D, which means the site has yielded or may be likely to yield information important to prehistory or history. This determination was due to previous documentation of intact house pit features, midden deposits, and the presence of human remains. There are many pit features relatively undisturbed within the site boundaries.

#### **CA-MER-46**

CA-MER-46 is a smaller prehistoric habitation site than CA-MER-06. Because of the previously identified sites, limited past excavations, and current ground conditions, an Extended Phase I was conducted at the San Joaquin River Bridge location and at CA-MER-46.

### CA-MER-46: Extended Phase I Testing

CA-MER-46 was a previously identified prehistoric archaeological site located within the project area. The site had been studied numerous times over the years. The previous surveys noted the presence of midden, possible burials, and extensive cultural deposits. Although previously excavated areas were determined to be ineligible for inclusion on the National Register, much of the surrounding area had not been subjected to formal subsurface testing. An Extended Phase I test at this location was conducted to identify previously undiscovered deposits with integrity within the Area of Potential Effects.

Backhoe testing and hand testing were done. No evidence of deposits was found outside the existing site boundaries. During testing within the site boundary, a partially intact pit feature was found, and most of the feature was excavated. Only the lower portion of the feature remained intact, as the upper portion had been destroyed by previous road construction. It contains small fragments of burnt bone, seed, and nutshell, as well as a sparse amount of small debitage. A small sample of charred acorn shell from the feature was radiocarbon-dated to be between 1,560 and 1,415 calendar years before the present. This is 1,000 years earlier than previous estimates of occupation. This indicates multiple occupations may be present within the undisturbed portion of this site.

### Eligibility

Materials within the feature were found to have integrity and have provided directly dateable material. The feature has provided and can provide important information on the prehistoric diet and the relative importance of particular plant foods during the time of site occupation. These data in turn can help resolve broader questions of diet that are currently of great interest to researchers working in the area. The site has been determined eligible for inclusion in the National Register under Criterion D, which means the site has yielded or may be likely to yield information important to prehistory or history.

### Area Near the San Joaquin River (Santa Rita) Bridge

#### Santa Rita Bridge Location (San Joaquin River Bridge on State Route 152):

### Extended Phase I Testing

Because of the presence of a natural waterway and the age of the soil, the San Joaquin River Bridge on State Route 152 (Santa Rita Bridge) was determined to be an area of high sensitivity for archaeological resources. Therefore, an Extended Phase I geoarchaeological survey was conducted.

The testing consisted of backhoe testing, which was conducted in September 2017. This process was done completely in the Caltrans right-of-way. Five trenches were dug ranging from 9 to 12 feet deep. The trenches were searched for buried cultural resources. This study found two historic-era resources and no prehistoric archaeological resources. The two historic resources present had been previously identified and deemed ineligible for the National Register.

#### **Section 4(f)**

Because CA-MER-06 and CA-MER-46 are eligible under Criterion D, they are not considered Section 4(f) resources. See Appendix A, Section 4(f) Evaluation, Resources Evaluated Relative to the Requirements of Section 4(f), for more information.

#### **Environmental Consequences**

Within the project Area of Potential Effects, two cultural resources have been determined eligible for the National Register of Historic Places. Both properties are prehistoric archaeological sites. The project would potentially affect both sites during construction. With input from relevant stakeholders, Caltrans would develop a Memorandum of Agreement that would codify all environmental commitments and mitigation responsibilities for the cultural resources. It is anticipated that the project would have a Finding of Adverse Effect on both archaeological properties. Final consultation would be done prior to completion of the final environmental document. A data recovery plan would be put into place to capture data from damaged property. The data from any affected part of the site would be saved by the data recovery plan to preserve its historic value.

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

If human remains are discovered on non-federal lands, State Health and Safety Code Section 7050.5 states that further disturbances and activities must 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 would notify the Native American Heritage Commission, which would then notify the Most Likely Descendent. At this time, the person who discovered the remains would contact the Resident Engineer so that he or she could work with the most likely descendent on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code 5097.98 are to be followed as applicable.

#### **Avoidance, Minimization, and/or Mitigation Measures**

Caltrans, as designated by the Federal Highway Administration and the State Office of Historic Preservation, would execute a Memorandum of Agreement that would determine a treatment plan to mitigate potential impacts to affected properties. The treatment plan may include data recovery, monitoring of environmentally sensitive areas (ESAs), and a means of distributing the results of mitigation efforts to the general public. The treatment plan would be discussed in the final environmental document. The data from any affected part of the site would be saved by the data recovery plan to preserve its historic value.

Contributing portions of each archaeological site that would not be directly affected by construction activities would be designated environmentally sensitive areas. A fence would be put around each of the environmentally sensitive areas; these areas would be

monitored by professionally qualified archaeologists and Native American monitors during project-related ground-disturbing activities.

The San Luis National Wildlife Refuge is a federal refuge administered by the U.S. Fish and Wildlife Service. The proposed project requires temporary use of land on the refuge. The excavation and inadvertent discovery of Native American remains on federal land or tribal lands requires compliance with the Native American Graves and Repatriation Act (NAGRA). Under this act, tribal lands are lands (including private lands) within the exterior boundaries of an Indian reservation. When a discovery occurs, any activity taking place in the area of the discovery must stop for 30 days. Under the regulations at 43 Code of Federal Regulations 10.4, the responsible agency official must initiate consultation on a discovery pursuant to Section 10.5 of the regulations. Consultation, in turn, must be followed by an approved and signed Plan of Action (43 Code of Federal Regulations 10.5(e)). The regulations provide no exceptions to this rule. The agency must prepare, approve, and sign a Plan of Action even if no ongoing activity is to occur. A Plan of Action must, at minimum, comply with the requirements at Section 10.3(b)(1) of the regulations (which governs an “intentional excavation”). Following the effective date of the plan, exposing or finding already-exposed cultural items within the geographical area covered by the plan would be an “intentional excavation” and would be excavated or removed, or left in place according to the terms of the plan.

## **2.2 Physical Environment**

### **2.2.1 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 United States (U.S.) from any point source<sup>1</sup> unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act. Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. The following are important Clean Water Act sections:

- Sections 303 and 304 require states to issue 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 would comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).

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<sup>1</sup> A point source is any discrete conveyance such as a pipe or a human-made ditch.

- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. 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 (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 goal 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 Individual. There are two types of General permits: Regional and Nationwide. 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 allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of the U.S. Army Corps of Engineers’ Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the U.S. Army Corps of Engineers’ decision to approve is based on compliance with the U.S. Environmental Protection Agency’s (U.S. EPA) Section 404 (b)(1) Guidelines (40 Code of Federal Regulations Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines were developed by the U.S. EPA 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 to demonstrate that a sequence of avoidance, minimization, and compensation measures have been followed, in that order. The guidelines also restrict permitting activities that violate water quality or toxic effluent<sup>2</sup> 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 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. Also, it prohibits discharges of “waste” as defined, and this definition is broader than the Clean Water Act definition of “pollutant.” Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the 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 about water quality standards in a project area are included in the applicable Regional Water Quality Control Board 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 those uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use. In addition, the State Water Resources Control Board identifies waters failing to meet standards for specific pollutants. These waters 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 (NPDES permits or Waste Discharge Requirements), the Clean Water Act requires the establishment of Total Maximum Daily Loads (TMDL), which 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 NPDES 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 Pollutant Discharge Elimination System (NPDES) Program*

##### *Municipal Separate Storm Sewer Systems (MS4)*

Section 402(p) of the Clean Water Act requires the issuance of NPDES permits for five categories of storm water discharges, including municipal separate storm sewer systems (MS4s). An MS4 is defined 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 is 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 under federal regulations. The Caltrans MS4 permit covers all Caltrans rights-of-way, properties, facilities, and activities in the state. The State Water Resources Control Board or the Regional Water Quality Control Board issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

The Caltrans MS4 permit, Order No. 2012-0011-DWQ (adopted on September 19, 2012 and effective on July 1, 2013), as amended by Order No. 2014-0006-EXEC (effective January 17, 2014), Order No. 2014-0077-DWQ (effective May 20, 2014) and Order No. 2015-0036-EXEC (conformed and effective April 7, 2015) 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 (BMPs), 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 to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The 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 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.

#### *State Water Resources Control Board Construction General Permit*

The Construction General Permit, Order No. 2009-0009-DWQ (adopted on September 2, 2009 and effective on July 1, 2010), as amended by Order No. 2010-0014-DWQ (effective February 14, 2011) and Order No. 2012-0006-DWQ (effective on July 17, 2012) regulates storm water discharges from construction sites that result in a Disturbed Soil Area (DSA) of 1 acre or greater, and/or 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 result 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; implement sediment, erosion, and pollution prevention control measures; and obtain coverage under the Construction General Permit.

The 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. In accordance with the Caltrans Statewide Storm Water Management Plan and Standard Specifications, a Water Pollution Control Program is necessary for projects with a Disturbed Soil Area 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 would comply 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 was completed in April 2018.

#### ***Hydrology***

This project lies within the jurisdiction of Region 5 (Central Valley) of the Regional Water Quality Control Board, in the hydrological area 535.70, 535.80, 541.29 and 541.20.

The project area is spread throughout Merced County and is located in Subwatershed Bear Creek in the Hydrological Unit (HU) 180400011801, Ash Slough-Fresno River in HU 180400070505, Lower Poso Slough-Salt Slough in the HU 180400012005 and Mustang Creek-Los Banos Creek in HU 180400011905.

### ***Precipitation and Climate***

The climate of the project area is Mediterranean, with warm dry summers and mild winters. Temperatures are mild, with averages ranging from 48.3 degrees Fahrenheit to 76.1 degrees Fahrenheit.

### ***Floodplains***

Most of the project area is in flood zone AO 1, defined as areas that have a 1 percent annual chance of shallow flooding (average of 1 to 3 feet of water).

Los Banos Creek and San Joaquin River are in flood zone A (areas with an annual 1 percent chance of flooding).

### ***Groundwater Hydrology***

Merced County comprises four groundwater subbasins within the larger San Joaquin Valley Groundwater Basin. The largest is Merced, followed by Turlock and Chowchilla, all to the east of the San Joaquin River, and the Delta-Mendota Groundwater Basin to the west.

### ***Environmental Consequences***

The project has the potential to temporarily increase suspended sediment from construction activities within the waterways.

All short-term water quality impacts would be addressed in the Design and Construction phases of the project. Caltrans Best Management Practices would minimize and prevent water quality impacts.

#### ***Bear Creek Bridge***

Proposed retrofitting of the two structures would extend approximately 3 feet below the surface of the channel side slopes and may require a temporary water diversion system if the water is not low enough for workers to weld the casing together. A temporary construction easement would be required at this location.

#### ***Los Banos Creek Bridge (West Mud Slough Bridge)***

A water diversion plan consisting of temporary culverts and a trestle system is anticipated at this location. A temporary construction easement would be required at this location.

#### ***San Joaquin River Bridge***

A water diversion plan is required at this location. It would consist of temporary culverts and a trestle system. The water diversion at this location would likely be earthen berms only at bents 2 and 8, depending on the water level. A temporary construction easement would be required at this location.

All short-term water quality impacts would be addressed in the Design and Construction phases of the project. To address any potential impacts, Best Management Practices would be selected and implemented in accordance with the Project Planning and Design

Guide. The contractor, as required in Caltrans Standard Specifications Section 13-1.01, must address all potential water quality impacts that may occur during construction.

1. A Notification of Intent (NOI) for all construction projects with more than 1 acre of soil disturbance would be submitted to the appropriate Regional Water Quality Control Board at least 30 days prior to the start of construction. The tentative start date, tentative duration, location of construction, description of project, estimate of the number of affected acres, resident engineer in charge of the project, and telephone number of the resident engineer would be reported.
2. A Notice of Termination (NOT) would be submitted to the Regional Water Quality Control Board upon completion of the construction and stabilization of the site. A project would be considered complete when the criteria for final stabilization in the Construction General Permit are met.

A Storm Water Pollution Prevention Plan in accordance with the Statewide Storm Water Management Plan would be developed prior to construction. Appropriate use of Best Management Practices (BMPs) would be implemented based on the regional workplan. Costs are expected to be 0.1% of construction costs.

The design and construction of the proposed project must adhere to the requirements set forth in the Caltrans National Pollutant Discharge Elimination System (NPDES) permit (Order No. 99-06-DWQ, No. CAS000003), the Caltrans Storm Water Management Plan (Statewide Storm Water Management Plan), the Caltrans Project Planning and design Guide, the Construction Site Best Management Practices (BMPs) Manual and Caltrans Standard Specifications.

There may be temporary increases of turbidity (cloudiness) in the river during in-water work. A Caltrans-approved water quality monitor would be onsite during dewatering to evaluate the impacts on water quality up- and downstream. Should turbidity levels approach or reach the criteria, the water quality monitor would implement measures to reduce those levels, which could include slowing or even stopping activities temporarily to keep turbidity levels from exceeding the criteria.

### ***Avoidance, Minimization, and/or Mitigation Measures***

Caltrans Best Management Practices, which are standard construction activities, would address temporary construction impacts.

## **2.2.2 Geology, Soils, Seismicity and Topography**

### ***Regulatory Setting***

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects “outstanding examples of major geological features.” Topographic and geologic features are also protected under the California Environmental Quality Act.

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. Structures are designed using the Caltrans Seismic Design Criteria, which provide the minimum seismic requirements for highway bridges designed in California. A bridge's category and classification would determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities.

### ***Affected Environment***

A Geotechnical Technical Report was prepared for the bridges during winter 2017 and spring 2018.

The Los Banos Bridge on State Route 140 and San Joaquin River Bridge on State Route 140 were constructed in 1948. The soils below these bridges are a layer of loose/medium dense sand that extends to a depth of 50 feet. Below that, the soils change to dense to very dense sand.

Groundwater was encountered at about 70 feet below the surface. Groundwater surface elevations are subject to seasonal fluctuations and may occur higher or lower depending on the conditions and time of construction.

### ***Liquefaction***

Liquefaction occurs when solid ground turns to a jellylike mass because of shaking during an earthquake. This results in a loss of support for structures built on that ground, greatly increasing the chance of structure failure or collapse.

Both the Los Banos Bridge and the San Joaquin River Bridge on State Route 140 were found to have a potential for liquefaction at the Peak Ground Acceleration of 0.4 g. Peak Ground Acceleration is a measure of the amount of ground shaking that occurs during an earthquake.

### ***Environmental Consequences***

The project would bring the bridges into compliance with Caltrans standards and reduce the risk of structure collapse due to liquefaction during a seismic event. If liquefaction were to occur during an earthquake, the design upgrades would reduce the chance of the possibility of the bridge collapsing even if the piers could not support the bridge.

The No-Build Alternative would leave the bridges at greater risk of collapse if liquefaction were to occur during an earthquake.

### ***Avoidance, Minimization, and/or Mitigation Measures***

No measures are proposed.

### 2.2.3 Hazardous Waste and Materials

#### ***Regulatory Setting***

Hazardous materials, including hazardous substances and wastes, are regulated by many state and federal laws. Statutes govern the generation, treatment, storage and disposal of hazardous materials, substances, and waste, and also the investigation and mitigation of waste releases, air and water quality, human health, and land use.

The main federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, and the Resource Conservation and Recovery Act (RCRA) of 1976. The purpose of CERCLA, often referred to as “Superfund,” is to identify and clean up abandoned contaminated sites so that public health and welfare are not compromised. The Resource Conservation and Recovery Act provides for “cradle to grave” regulation of hazardous waste generated by operating entities. Other federal laws include:

- Community Environmental Response Facilitation Act (CERFA) of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

In addition to the acts listed above, Executive Order 12088, Federal Compliance with Pollution Control Standards, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the California Health and Safety Code and is also authorized by the federal government to implement the Resource Conservation and Recovery Act in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and cleanup of contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of

hazardous material are vital if such material is found, disturbed, or generated during project construction.

### ***Affected Environment***

An Initial Site Assessment was completed in February 2015. A Preliminary Site Assessment for Asbestos and Metal-Containing Paints Survey was completed in May 2018.

The following California EPA data, commonly referred to as the “Cortese List,” were searched for this review:

- EnviroStor database, List of Hazardous Waste and Substances sites, Department of Toxic Substances Control (DTSC)
- Geotracker database, List of Leaking Underground Storage Tank site, State Water Resources Control Board
- Sites Identified with Waste Constituents Above Hazardous Waste Levels Outside the Waste Management Unit, State Water Resources Control Board
- CDO/CAO List, List of active Cease and Desist Orders and Cleanup and Abatement Orders, State Water Resources Control Board
- List of hazardous waste facilities subject to corrective action (DTSC)

In addition, the following database was checked:

- SWIS database, Solid Waste Information System, Department of Resources Recycling and Recovery (CalRecycle)

The project area contains bridges that were built with potential hazardous waste components, such as asbestos and lead paint. The database search did not identify any Leaking Underground Storage Tank cases or cleanup site that would affect the project. However, because of the age and nature of the bridges, a Preliminary Site Assessment was conducted to test for asbestos and metal-containing paints.

### ***Environmental Consequences***

#### ***Asbestos***

Asbestos was detected in the San Joaquin River (Santa Rita) Bridge and the East Bypass Channel Bridges on State Route 152. The amount anticipated is less than 100 square feet. If disturbance of the sheet piling is necessary, then compliance with California Occupational Safety and Health (Cal/OSHA) asbestos standards would be required.

The construction contractor would be notified of the presence of asbestos in the work area. Personnel who are not trained for asbestos work would be instructed not to disturb the asbestos. Written notification to the San Joaquin Valley Air Pollution Control District is required 10 working days before starting any demolition activity.

### ***Metal-Containing Paint***

Deteriorated barrier railing paint was identified on Los Banos Creek (West Mud Slough) on State Route 140. This would be classified as California and federal hazardous material based on lead content. Deteriorated metal-containing paint must be removed and disposed of prior to disturbance activities.

Yellow traffic striping on Los Banos Creek (West Mud Slough), San Joaquin River (Santa Rita) Bridge, and the Eastside Bypass is classified as California hazardous material if stripped, blasted or otherwise separated from the asphalt.

Contractors removing metal-containing paint would be required to use personnel who have lead-related construction certification as supervisors or workers. Deteriorated or stripped metal-containing paint requires waste segregation to separate hazardous waste from non-hazardous materials. The contractor would be responsible for the proper disposal of materials.

All paints from the project location would be treated as lead-containing for the purpose of determining the applicability of the Cal/OSHA lead standards. Written notification of the nearest Cal/OSHA district office is required at least 24 hours prior to certain lead-related work. A lead compliance plan would be required.

### ***Avoidance, Minimization, and/or Mitigation Measures***

Provisions would be included in the contract to ensure any potential waste is treated to minimize exposure to the public and construction workers.

## **2.3 Biological Environment**

### **2.3.1 Natural Communities**

#### ***Regulatory Setting***

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. The emphasis of the section is on the ecological function of the natural communities within the area. This section also includes information on wildlife corridors, fish passage 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.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed in the Threatened and Endangered Species section (Section 2.3.2). Wetlands and other waters are also discussed later (Section 2.3.4).

#### ***Affected Environment***

A Natural Environment Study was completed in July 2018.

### ***Essential Fish Habitat***

Essential Fish Habitat has been defined as *those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity*. The National Oceanic and Atmospheric Administration Fisheries has further added the following interpretations to clarify this definition:

- “Waters” include aquatic areas and their associated physical, chemical, and biological properties that are used by fish, and may include areas historically used by fish where appropriate.
- “Substrate” includes sediment, hard bottom, structures underlying the waters, and associated biological communities.
- “Necessary” means the habitat required to support a sustainable fishery and the managed species’ contribution to a healthy ecosystem.
- “Spawning, breeding, feeding, or growth to maturity” covers the full life cycle of a species.

Essential Fish Habitat has been identified at the follow locations:

- Location 1: Bear Creek Bridge on State Route 59
- Location 2: San Joaquin River Bridge (Santa Rita Bridge) on State Route 152
- Location 3: Eastside Bypass on State Route 152
- Location 5: San Joaquin River Bridge on State Route 140

Each of these channels is linked to the San Joaquin River, which is considered Essential Fish Habitat for Chinook salmon.

The Magnuson-Stevens Fishery Conservation and Management Act of 1976 (as amended) requires that Essential Fish Habitat be identified for all federally managed species, including all species managed by the Pacific Fisheries Management Council. The Pacific Fisheries Management Council is responsible for managing commercial fisheries resources along the coasts of Washington, Oregon, and California. Managed species that have a potential to occur in the project areas are covered under the Pacific Salmon Fishery Management Plan.

The only fish species subject to any federal fisheries management plan that may occur within the project areas is the fall-run Chinook salmon. The fall-run Chinook salmon is regulated by the Pacific Fisheries Management Council’s Salmon Fishery Management Plan; Amendment 18 of the plan describes Essential Fish Habitat in the Middle San Joaquin-Lower Chowchilla hydrologic unit (18040001) that includes the project areas.

### ***Environmental Consequences***

Although migrating salmonids (any of the salmon family of fish such as salmon or trout) may travel through these waters to reach suitable spawning areas, the substrate within the project areas is sandy and silty and is not suitable for spawning. Also, some of the project



areas do not have consistent water levels required for salmonids. The San Joaquin River project locations experience variable and low water levels depending on winter rains; during drier years, water may not reach the San Joaquin River (Santa Rita) Bridge. Eastside Bypass also experiences variable water levels and is dry during much of the year. With the implementation of the avoidance and minimization measures and Best Management Practices discussed below, effects to Essential Fish Habitat are not anticipated and would not considerably reduce the likelihood of the survival of Chinook salmon runs.

A Biological Assessment was submitted to the National Marine Fisheries Service on April 25, 2018 to initiate informal consultation under Section 7 of the Endangered Species Act. A revised Biological Assessment was submitted on July 13, 2018 to initiate formal consultation. The proposed project may affect, but is not likely to adversely affect Essential Fish Habitat.

These standard Caltrans procedures would be used:

- The construction contractor would comply with construction site Best Management Practices specified in the Storm Water Pollution Prevention Plan and any other permit conditions to minimize the introduction of constructed-related contaminants and mobilization of sediment in and adjacent to the project areas at all project locations, as necessary. The Best Management Practices would be selected to achieve maximum sediment removal and represent the best available technology that is economically achievable and are subject to review and approval by Caltrans.
- Selected Best Management Practices that may serve as conservation measures to avoid and minimize impacts to Essential Fish Habitat may include but would not be limited to the following:
  - Equipment used in and around the waterways would be in good working order and free of dripping or leaking engine fluids. All vehicle maintenance would be performed outside of the bed, bank, or channel of the waterways.
  - The Storm Water Pollution Prevention Plan would include a hazardous spill prevention control and countermeasure plan. The plan would include onsite handling rules to keep construction and maintenance materials from entering the river, including procedures related to refueling, operating, storing and staging construction equipment and preventing and responding to spills. The plan would also identify the parties responsible for monitoring the spill response. During construction, any spills would be cleaned up immediately according to the spill prevention and countermeasure plan.
  - The Storm Water Pollution Prevention Plan for the project would detail the applications and type of measures and the allowable exposure of unprotected soils.

- Discharge from dewatering operations, if needed, and runoff from disturbed areas would be made to conform to the water quality requirements of the waste discharge permit issued by the Regional Water Quality Control Board.
- Temporary erosion control measures, such as sandbagged silt fences, would be applied throughout construction of the proposed project and would be removed after the working area is stabilized or as directed by the engineer. Soil exposure would be minimized through use of temporary Best Management Practices, groundcover, and stabilization measures. Exposed dust-producing surfaces would be sprinkled daily, if necessary, until wet; this measure would be controlled to avoid producing runoff. Paved roads would be swept daily following construction activities.
- The contractor would conduct periodic maintenance of erosion and sediment control measures.
- An appropriate seed mix of native species would be planted on disturbed areas upon completion of construction.
- A 401 Water Quality Certification would be obtained from the Central Valley Regional Water Quality Control Board that contains additional Best Management Practices and water quality measures to ensure the protection of water quality.
- Enclose and cover exposed stockpiles of dirt or other loose, granular construction materials that could contribute sediment to waterways. Side slopes would not be steeper than 2:1. All stockpile areas would be surrounded by a filter fabric fence and interceptor dike.
- Contain soil and filter runoff from disturbed areas by berms, vegetated filters, silt fencing, straw wattle, plastic sheeting, catch basins, or other means necessary to prevent the escape of sediment from the disturbed area.
- Use other temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, sandbag dikes, and temporary re-vegetation or other ground cover) to control erosion from disturbed areas as necessary.
- Avoid earth or organic material from being deposited or placed where it may be directly carried into the channel.

### ***Avoidance, Minimization, and/or Mitigation Measures***

The following measure would be included in project plans:

Caltrans would retain a qualified biologist(s) to conduct environmental awareness training, covering all listed species and appropriate regulations, for construction crews before project implementation.

### **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. The lateral limits of jurisdiction over non-tidal water bodies extend to the ordinary high-water mark, in the absence of adjacent wetlands. When adjacent wetlands are present, Clean Water Act jurisdiction extends beyond the ordinary high-water mark to the limits of the adjacent wetlands. 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 Individual. There are two types of General permits: Regional and Nationwide. 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 allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of U.S. Army Corps of Engineers' Individual permits. There are two types of individual permits: Standard permits and Letters of Permission. For Individual permits, the U.S. Army Corps of Engineers' decision to approve is based on compliance with the U.S. EPA's Section 404(b)(1) Guidelines (40 Code of Federal Regulations 230), and whether permit approval is in the public interest. The Section 404(b)(1) Guidelines were developed by the U.S. EPA 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.

The Executive Order for the Protection of Wetlands (Executive Order 11990) also regulates the activities of federal agencies regarding wetlands. Essentially, Executive

Order 11990 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. A Wetlands Only Practicable Alternative Finding must be made.

At the state level, wetlands and waters are regulated mainly by the State Water Resources Control Board, the Regional Water Quality Control Boards and the California Department of Fish and Wildlife. In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the 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 would 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 would be required. The 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. Discharges under the Porter-Cologne 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. In compliance with Section 401 of the Clean Water Act, the Regional Water Quality Control Boards also issue water quality certifications for activities that may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request. See the Water Quality section (Section 2.2.1) for more details.

### ***Affected Environment***

A Natural Environment Study was completed for the project in July 2018. A wetland delineation was completed in December 2017. A wetland delineation report and a request for a preliminary jurisdictional determination was submitted to the U.S. Army Corps of Engineers on March 5, 2018. The preliminary jurisdictional determination will be included in the final environmental document.

The project crosses several waterways, which include river, perennial stream, and slough systems: San Joaquin River, Los Banos Creek, Bear Creek, and the Eastside Bypass Channel. All waters connect directly or indirectly to the San Joaquin River. Work would be performed at low-flow or possibly no-flow conditions.

## *Wetlands*

### *Freshwater Emergent Wetlands*

A freshwater wetland is an area that is frequently or continually flooded. This habitat is dominated by herbaceous plants (plants that usually lack any above-ground woody stems). This vegetation is usually perennial (year-round) and present for most of the growing season. Freshwater emergent wetlands were found next to the Los Banos Creek Bridge.

### *Floodplain Wetlands*

Floodplain wetlands are areas within a floodplain that meet the criteria for wetlands. Those criteria are wetlands hydrology, water-loving plants, and hydric soils (formed under flooding conditions). This type of habitat exists at both San Joaquin River Bridges.

### *Riparian Wetlands*

Riparian wetlands are areas within the riparian zone that meet the criteria for wetlands: wetlands hydrology, water-loving plants, and hydric soils (formed under flooding conditions). Riparian wetlands exist at the San Joaquin River Bridge on State Route 140.

## *Other Waters*

### *Perennial Stream*

A perennial stream is a stream that flows all year long in years of normal rainfall. This habitat exists at all the bridge locations except for the Eastside Bypass.

### *Ephemeral Stream*

An ephemeral stream is a stream that does not flow all year but flows during periods of rainfall. This habitat exists at the Eastside Bypass.

### *Riparian Floodplain*

A riparian floodplain is an area within the floodplain that does not meet the criteria for wetlands.

### *Canals*

A canal is an artificial waterway that conveys water. The Riverside Canal is located at the San Joaquin River (Santa Rita Bridge on State Route 152).

### *Culverts*

A culvert is a tunnel that carries water under the roadway. Culverts are found at both San Joaquin River bridges.

## *Waters of the State*

Waters of the State include all waters of the U.S. plus waters that do not qualify under the U.S. Army Corps of Engineers' definition of waters of the U.S. Waters of the State include all waters within the state boundaries. Approximately 4.26 acres of waters of the State occur within the project areas.

Table 2-1 shows a breakdown of what types of waters lie within in the project areas.

**Table 2-1 Summary of Potentially Jurisdictional Waters and Other Areas on the Project Sites**

Potentially Jurisdictional Waters	Bridge 39-0009 Bear Creek (Acres*)	Bridge 39-0028 San Joaquin River (Santa Rita Bridge) (Acres*)	Bridge 39-0034 Eastside Bypass Channel (Acres*)	Bridge 39-0090 Los Banos Creek (Acres*)	Bridge 39-0092 San Joaquin River (Acres*)	Total (Acres <sup>1</sup> )
<b>Section 404 Wetlands</b>						
Freshwater emergent wetland	0.00	0.00	0.00	1.40	0.00	1.40
Floodplain wetland	0.00	0.31	0.00	0.00	1.09	1.4
Riparian wetland	0.00	0.00	0.00	0.00	0.34	0.34
<b>Total of Section 404 Wetlands</b>	<b>0.00</b>	<b>0.31</b>	<b>0.00</b>	<b>1.40</b>	<b>1.43</b>	<b>3.1</b>
<b>Section 404 Other Waters</b>						
Perennial stream	0.70	1.11	0.00	0.56	0.59	2.96
Ephemeral stream	0.00	0.0	1.36	0.00	0.00	1.36
Riparian floodplain	0.00	0.23	0.00	0.00	0.18	0.41
Canal	0.00	0.08	0.00	0.00	0.00	0.08
Culvert	0.00	0.13	0.00	0.00	0.01	0.14
<b>Total of Section 404 Other Waters</b>	<b>0.70</b>	<b>1.55</b>	<b>1.36</b>	<b>0.56</b>	<b>0.77</b>	<b>4.9</b>
<b>Total of Potentially Jurisdictional Wetlands and Waters</b>	<b>0.70</b>	<b>1.86</b>	<b>1.36</b>	<b>1.96</b>	<b>2.12</b>	<b>8.00</b>
<b>Nonjurisdictional Areas</b>	<b>1.43</b>	<b>3.02</b>	<b>2.84</b>	<b>0.55</b>	<b>1.72</b>	<b>9.56</b>
Upland	1.43	3.02	2.84	0.55	1.72	9.56
<b>Project Site Total</b>	<b>1.82</b>	<b>4.88</b>	<b>4.20</b>	<b>2.51</b>	<b>7.98</b>	<b>21.39</b>
<b>Total Section 10 Waters<sup>2</sup></b>	<b>0.00</b>	<b>1.11</b>	<b>0.00</b>	<b>0.00</b>	<b>1.73</b>	<b>2.84</b>

\* <sup>1</sup> Acreage totals are rounded.

<sup>2</sup> Section 10 waters are not included in totals

### **Environmental Consequences**

A jurisdictional determination would be completed prior to completion of the final environmental document to address impacts to jurisdictional waters of the U.S. Waters of the U.S. include wetlands and other waters. For a description of the types of the waters of the U.S., see the Affected Environment section above.

New piling (piles that the support the bridge) proposed for the Los Banos Creek Bridge (West Mud Slough) and San Joaquin River Bridge on State Route 140 would cause permanent impacts to waters of the U.S. Approximately 0.0037 acre of waters would be removed to accommodate the new structure.

See Table 2-2 and Figures 2-1 through 2-5 for impacts by location. See Table 2-3 for impact by type.

**Table 2-2 Potential Impacts to Wetlands and Other Waters of the U.S. by Location**

<b>Project Area</b>	<b>Potential Impacts to Wetlands and Other Waters of the U.S. (Acres)</b>
Bear Creek on State Route 59	
Temporary	0.70
Permanent	0.0
San Joaquin River (Santa Rita)	
Temporary	1.86
Permanent	0.0
Eastside Bypass	
Temporary	1.36
Permanent	0.0
Los Banos Creek (West Mud Slough)	
Temporary	1.96
Permanent	0.002
San Joaquin River on State Route 140	
Temporary	2.12
Permanent	0.0017

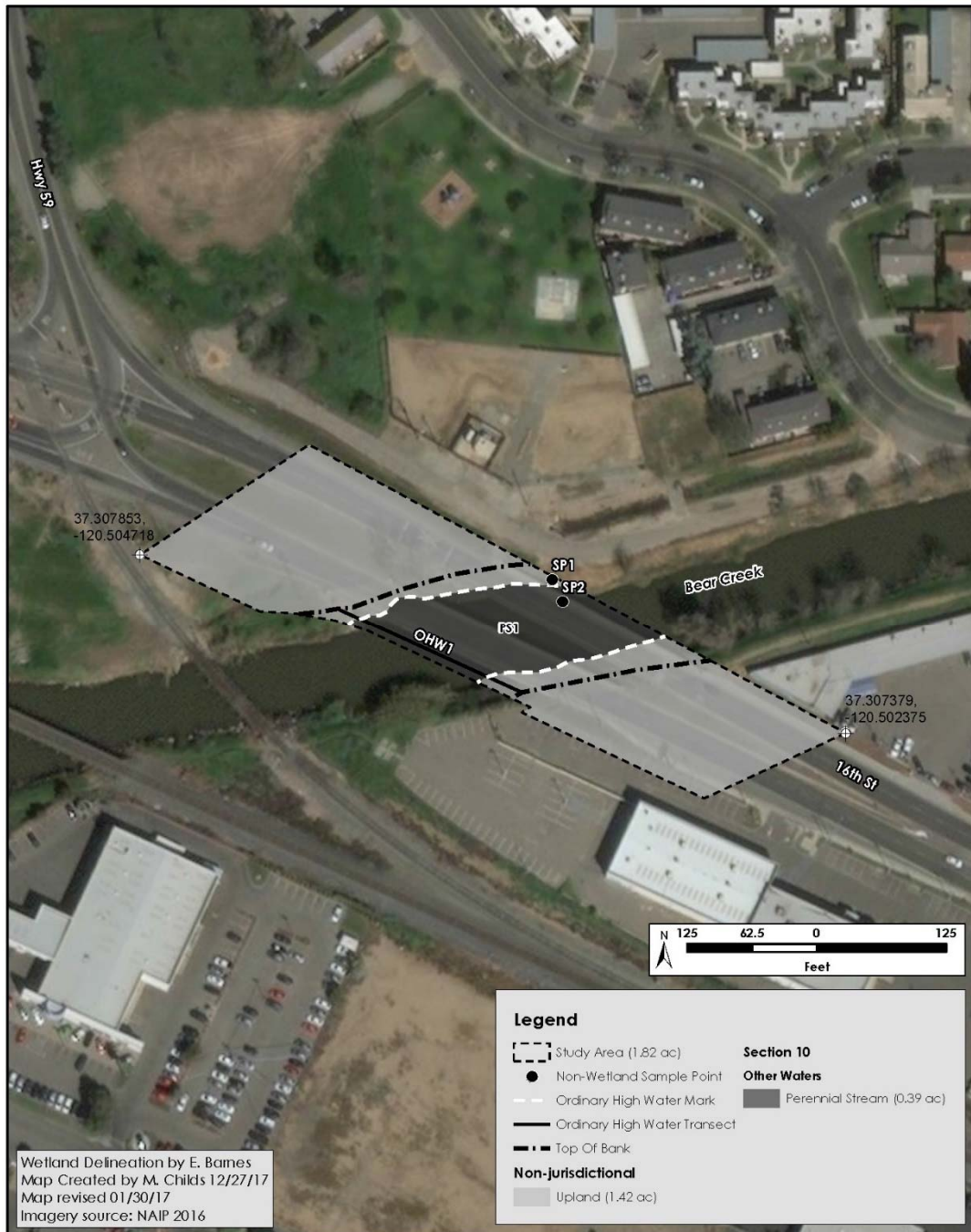


**Table 2-3 Potential Impacts to Wetlands and Other Waters of the U.S. by Type**

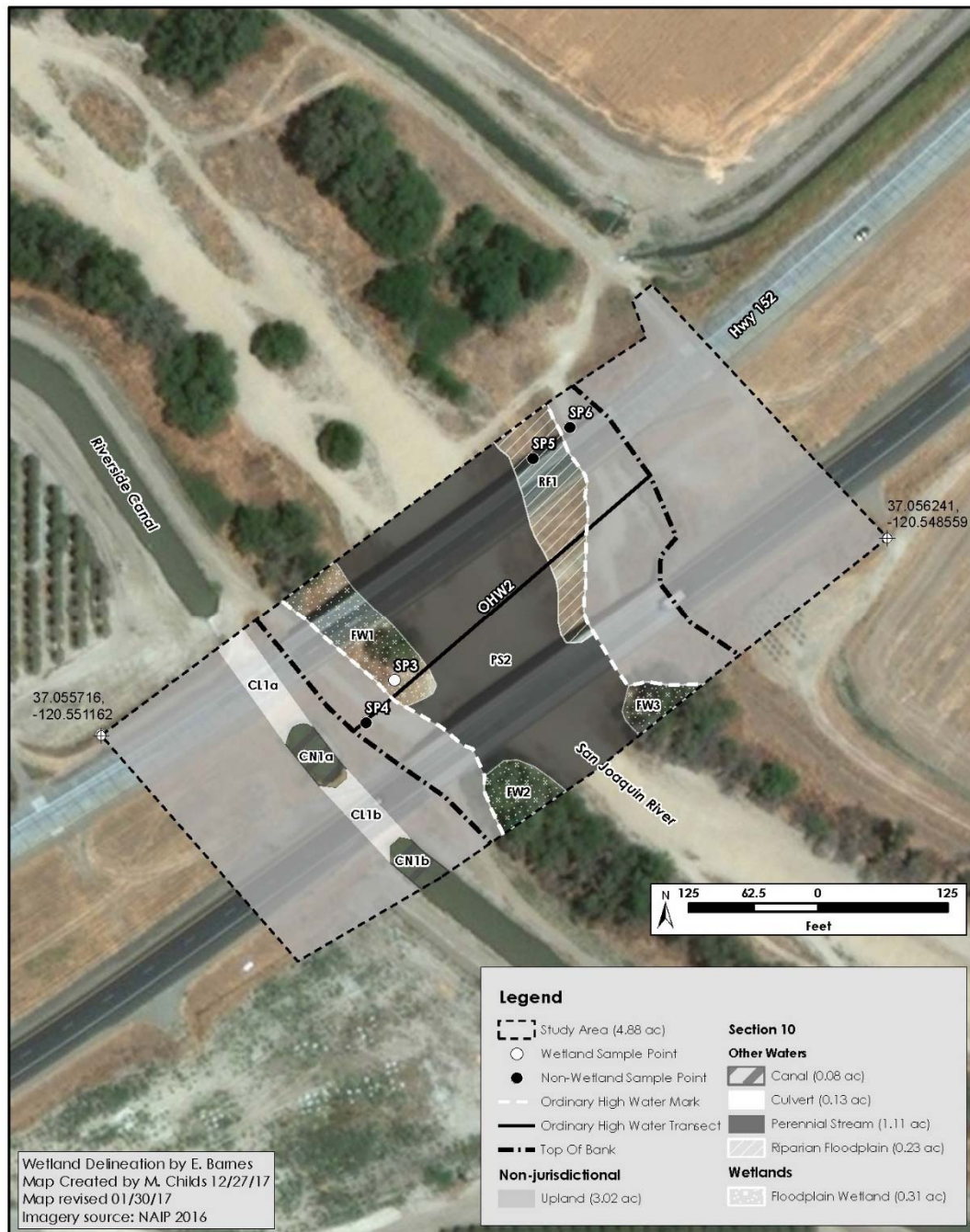
Potentially Jurisdictional Waters	Bridge 39-0009 Bear Creek (Acres*)	Bridge 39-0028 San Joaquin River (Santa Rita Bridge) (Acres*)	Bridge 39-0034 Eastside Bypass Channel (Acres*)	Bridge 39-0090 Los Banos Creek (Acres*)	Bridge 39-0092 San Joaquin River (Acres*)	Total (Acres <sup>1</sup> )
<b>Section 404 Wetlands</b>						
Freshwater emergent wetland	0.00	0.00	0.00	1.40	0.00	1.40
Floodplain wetland	0.00	0.31	0.00	0.00	1.09	1.4
Riparian wetland	0.00	0.00	0.00	0.00	0.34	0.34
<b>Total of Section 404 Wetlands</b>	<b>0.00</b>	<b>0.31</b>	<b>0.00</b>	<b>1.40</b>	<b>1.43</b>	<b>3.1</b>
<b>Section 404 Other Waters</b>						
Perennial stream	0.70	1.11	0.00	0.56	0.59	2.96
Ephemeral stream	0.00	0.0	1.36	0.00	0.00	1.36
Riparian floodplain	0.00	0.23	0.00	0.00	0.18	0.41
Canal	0.00	0.08	0.00	0.00	0.00	0.08
Culvert	0.00	0.13	0.00	0.00	0.01	0.14
<b>Total of Section 404 Other Waters</b>	<b>0.70</b>	<b>1.55</b>	<b>1.36</b>	<b>0.56</b>	<b>0.77</b>	<b>4.9</b>
<b>Total of Potentially Jurisdictional Wetlands and Waters</b>	<b>0.70</b>	<b>1.86</b>	<b>1.36</b>	<b>1.96</b>	<b>2.12</b>	<b>8.00</b>

\*1 Acreage totals are rounded.



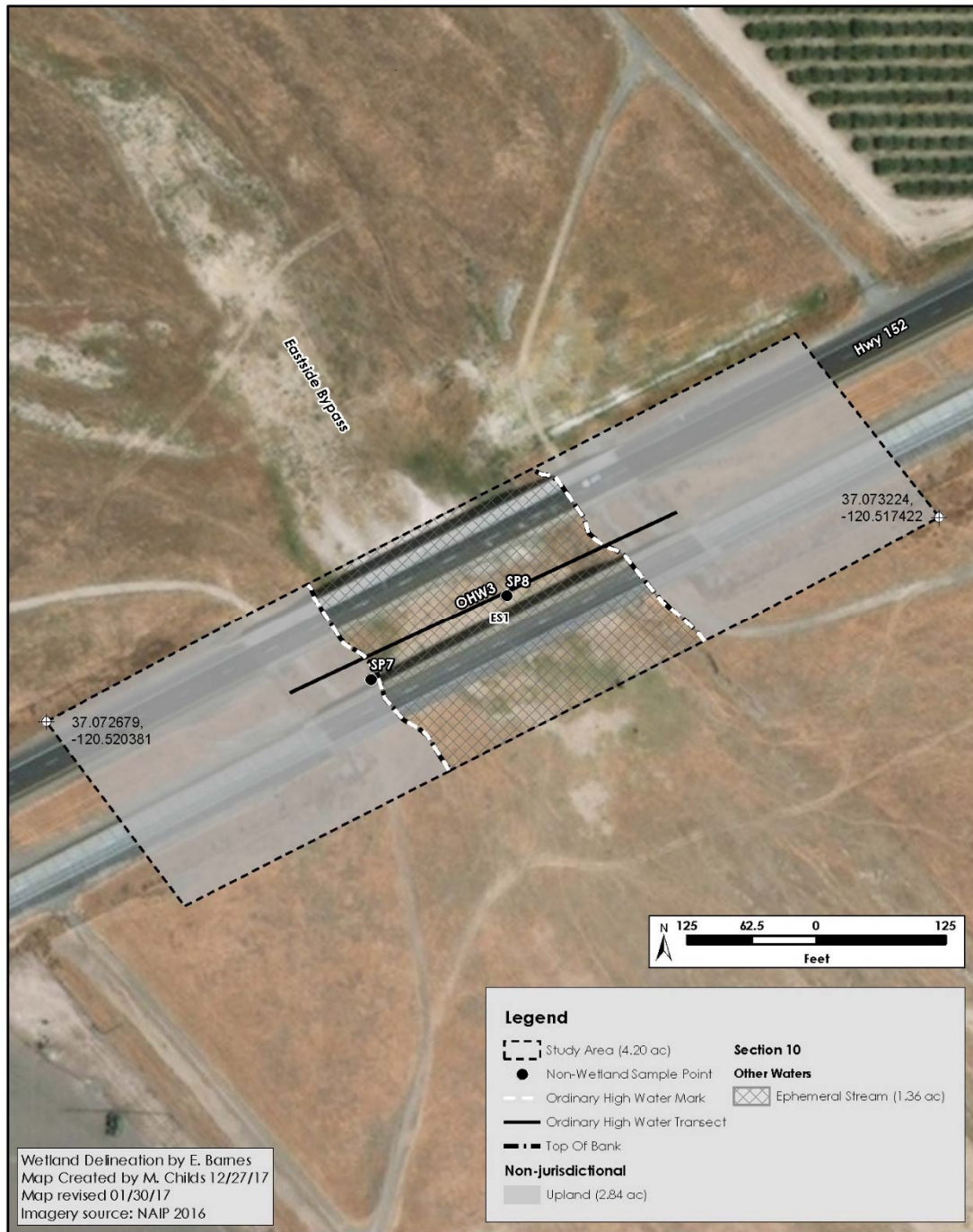


**Figure 2-1 Wetlands Impacts on Bear Creek**



**Figure 2-2 Wetlands Impacts on San Joaquin River (Santa Rita) Bridge**





**Figure 2-3 Wetlands Impacts on East Bypass Bridge**



**Figure 2-4 Wetlands Impacts on Los Banos Creek Bridge**





Figure 2-5 Wetlands Impacts on San Joaquin River Bridge

Jurisdictional other waters and wetlands are located within the project areas. Approximately 8.0 acres of potentially jurisdictional waters were identified at the project sites: 3.1 acres of Section 404 wetlands and 4.9 acres of Section 404 other waters. Also, approximately 2.84 acres and approximately 870 linear feet of the San Joaquin River were identified as Section 10 waters. Section 10 waters are waters of the State (see Affected Environment section for description).

Temporary impacts to wetlands and other waters are anticipated. Work within the waterway is required to construct this project. Construction would not affect the function and use of the remaining wetlands or locations outside the project area. All temporary construction areas would be returned to their original state.

Accessing the streambeds, where work would mostly take place, may disturb adjacent wetlands and riparian zones and would therefore require a 1602 Lake and Streambed Alteration Agreement from the California Department of Fish and Wildlife. Coordination with the regulatory agency would take place during the permit application phase of the project planning process (after the final environmental document).

Standard Best Management Practices outlined in the Essential Fish Habitat Section would help to avoid and minimize wetlands and waters impacts.

### ***Avoidance, Minimization, and/or Mitigation Measures***

#### ***Compensatory Impacts***

Temporary impacts to wetlands and other waters would be mitigated through replacement habitat; the exact ratio would be negotiated as part of the Jurisdictional Determination and Section 404 permit.

### **2.3.3 Plant Species**

#### ***Regulatory Setting***

The U.S. Fish and Wildlife Service and 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 provided 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 (Section 2.3.5) in this document for detailed information about these species.

This section of the document discusses all 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 rare and endangered plants.



The regulatory requirements for the Federal Endangered Species Act can be found at 16 U.S. Code 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, Section 1900-1913, and the California Environmental Quality Act, found at California Public Resources Code, Sections 21000-21177.

### ***Affected Environment***

A Natural Environment Study was completed for the project in July 2018. The following special-status plant species were determined to have the potential to appear within the project area. Species listed as Threatened and Endangered are discussed in Section 2.3.5.

#### ***Parry's Rough Tarplant***

Parry's rough tarplant (*Centromadia parryi* ssp. *ruidis*) is an annual herb found in mesic soils, coastal scrub meadows and seeps, and valley and foothill grasslands below 4,000 feet. This plant blooms between May and October. It is listed by the California Native Plant Society as being fairly endangered in California.

#### ***Delta Button Celery***

Delta button celery (*Eryngium racemosum*) is an annual/perennial herb found in riparian scrub habitat, near seasonally flooded waterways below 100 feet elevation from the Sacramento-San Joaquin region of the Central Valley and up into the Sierra Nevada foothills. This plant typically blooms between June and September. This species is listed as endangered in California and as a California Native Plant Society rare plant rank of 1B.1 (seriously endangered in California). Threats to the Delta button celery include agriculture, non-native plants, and flood-control activities.

Protocol-level surveys have not been conducted for the Delta button celery within the project areas, but multiple occurrences have been recorded near the State Route 140 locations. This species was not found during reconnaissance surveys, but suitable habitat and soils occur within the State Route 140 locations.

### ***Environmental Consequences***

#### ***Parry's Rough Tarplant***

Protocol surveys were not completed for this species, and it was not found in reconnaissance surveys. However, suitable grassland habitat occurs at the bridges at the San Joaquin River (Santa Rita) Bridge and the Eastside Bypass.

Most construction activity associated with this project would take place within and next to the waterways. Disturbance to terrestrial habitat that could support this species would be limited in area and duration to allow equipment access to the channel and would therefore be considered temporary. No permanent loss of habitat is expected from project activities.

### *Delta Button Celery*

Most construction activity associated with this project would take place within and next to the waterways. Disturbance to terrestrial habitat that could support this species would be limited in area and duration to allow equipment access to the channel and would therefore be considered temporary. No permanent loss of habitat is expected from project activities. Also, no sightings of this species have occurred on any project locations. However, if the species is found during pre-construction surveys and is unable to be avoided, a 2081 Incidental Take Permit from California Department of Fish and Wildlife may be required.

### ***Avoidance, Minimization, and/or Mitigation Measures***

#### *Parry's Rough Tarplant*

##### *Avoidance and Minimization Measures*

A pre-construction survey for Parry's rough tarplant would be completed during the appropriate blooming season prior to ground-disturbing activities.

If Parry's rough tarplant is found within the project area and can be avoided, environmentally sensitive area fencing would be placed around the location.

If Parry's rough tarplant is found and cannot be avoided, then appropriate minimization measures would be implemented, such as salvage of topsoil, seed collection and transplanting.

##### *Compensatory Mitigation*

No compensatory mitigation is proposed.

#### *Delta Button Celery*

##### *Avoidance and Minimization Measures*

A pre-construction survey for the Delta button celery would be completed during the appropriate blooming season (June to October) prior to ground-disturbing activities.

If the Delta button celery is found within the project area and can be avoided, environmentally sensitive area fencing would be placed around the location.

If the Delta button celery is found and cannot be avoided, then appropriate minimization measures would be implemented, such as salvage of topsoil, seed collection and transplanting.

##### *Compensatory Mitigation*

No compensatory mitigation is proposed.

### 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 the Threatened and Endangered Species section (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 relevant to wildlife include the following:

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

State laws and regulations relevant 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 the project in July 2018. The following special-status animal species were determined to have the potential to appear within the project area. Species listed as Threatened and Endangered are discussed in Section 2.3.5.

##### ***Tri-colored Blackbird***

The tri-colored blackbird (*Agelaius tricolor*) is a medium-sized blackbird that closely resembles the common red-winged blackbird. The species is currently considered a Species of Special Concern by the California Department of Fish and Wildlife; in April 2018, the tri-colored blackbird was voted by the California Fish and Game Commission to list as threatened under the California Endangered Species Act.

Tri-colored blackbirds nest in large dense colonies, typically in wetlands or marshy areas dominated by cattails and bulrushes with willows, nettles, mustards, blackberries, thistles, and mallows. In recent decades, they have formed colonies in grain fields (almost exclusively triticale), and they also frequent dairies.

The tri-colored blackbird historically was one of the most numerous birds in California, with a population estimated from the 1930s in the range of 2-3 million birds. Since that time, habitat loss, nest colony predation, deliberate elimination as an agricultural pest, and conflicts with agricultural practices have led to the species' decline.

The tri-colored blackbird is well documented within the general project area, particularly near Los Banos Creek and San Joaquin River Bridges on State Route 140 where suitable wetland vegetation and habitat occur. Several California Natural Diversity Database occurrences have been recorded within 3 miles of the project areas. The most recent occurrence was recorded in 2015 within 1 mile of the Los Banos Creek Bridge. There are historic occurrences within 3 miles of Bear Creek Bridge on State Route 59, but this location is highly disturbed and does not provide suitable marshy habitat.

### *Yuma Myotis*

The Yuma myotis (*Myotis yumanensis*) is a common bat throughout California. Its distribution runs from British Columbia, through the western United States, and into Central Mexico. This species has an average wingspan of 9-10 inches and weighs 0.1-0.2 ounce. Roosting sites include buildings, bridges, caves, and mines. Large nursery colonies are formed in late May and early June.

Threats to the Yuma myotis include habitat loss due to the disappearance of suitable riparian habitat and permanent water sources and the destruction/unavailability of potential roosting sites.

Bats were observed roosting in the San Joaquin River (Santa Rita) Bridge on State Route 152 on the initial reconnaissance survey done in September 2017. A visual and acoustic bat survey was done on October 16, 2016 and confirmed the presence of the Yuma myotis at this location. In the fall of 2017, bats were observed still roosting at this location.

### *Mexican Free-tailed Bat*

The Mexican free-tailed bat (*Tadarida brasiliensis*) is widely distributed throughout much of North and South America. The Mexican free-tailed bat is found in mostly dry, lower elevation areas. Populations of this species are in decline due to habitat disturbance, destruction of roost sites, and use of pesticides.

### *Silvered-haired Bat*

The silver-haired bat (*Lasionycteris noctivagans*) is found in most of the United States. The species is identified by its black fur with silver or white tips covering almost all its body. Silver-haired bats are most commonly found in forests near rivers, lakes, streams, estuaries, or ponds. They typically roost under loose bark and cavities in trees. Human-made structures are occasionally used as roost sites but are likely for solitary roosting only.

### ***Western Red Bat***

The western red bat (*Lasiurus blossevillei*) is a California Species of Concern. The distribution of this bat extends from southern British Columbia through the western United States, Mexico, Central America, and South America.

Potential roosting and foraging habitat is present within the study area. Breeding habitat is absent because breeding females are confined to low elevation, cottonwood/sycamore and oak-dominated riparian habitat.

### ***Hoary Bat***

The hoary bat (*Lasiurus cinereus*) is widely distributed throughout North America and much of South America. Hoary bats are typically found in open areas or edge habitats with large trees that provide suitable roosting habitat.

### ***Pallid Bat***

The pallid bat (*Antrozous pallidus*) is designated as a California Species of Special Concern and considered a moderate- to high-priority species in California by the Western Bat Working Group. This bat is found throughout most of California at low to middle elevations (6,000 feet). Pallid bats are found in a variety of habitats, including desert, brushy terrain, coniferous forest, and non-coniferous woodlands. Day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, tree hollows, and various human-made structures such as bridges, barns, and vacant buildings. Hibernation may occur during late November through March. Pallid bats breed from late October through February, and pups are born between late April and July and weaned in August.

### ***Bat Survey Results***

Bats were observed roosting in the expansion joint (hinge) of the left bridge of the San Joaquin River (Santa Rita) Bridge on State Route 152. Approximately 35-45 bats were observed at this location. Acoustic surveys indicated the presence of Mexican free-tailed bats and silver-haired bats. There is also potential for other bat species to use the bridge as a night roost. Four other species (western red bat, hoary bat Townsend big-eared bat and pallid bat) may occur within the project areas. However, acoustic studies were unable to confirm this.

### ***Swallows***

The federal Migratory Bird Treaty Act of 1918 protects migratory and nongame birds, their occupied nest, and their eggs. Migratory and nongame birds use the study area for roosting, nesting, and foraging year-round. Birds covered by the Migratory Bird Treaty Act are protected from hunting, taking, capture, killing, possession, sale, purchase, shipment, transportation, carriage, or export of any bird, or any part, nest or egg. State fully protected species (including their parts) may not be injured, killed, or possessed at any time. Birds within California have an approximate breeding and nesting season from February 15 to September 1.

Swallows (*Petrochelidon pyrrhonota*) have the potential to nest on the bridge structures. They are protected by the Migratory Bird Treaty Act.

### **Environmental Consequences**

#### ***Tri-colored Blackbird***

The project would not permanently disturb potential tri-colored blackbird nesting habitat. If it is determined that there are nesting tri-colored blackbirds in the project area, construction could potentially indirectly affect the nesting colony.

#### ***Bats***

Bats would be excluded at the San Joaquin (Santa Rita) Bridge location prior to construction activities. Because construction at this bridge is anticipated to be from April to October, exclusion would be required for only one season if deemed practical during construction. Suitable habitat is at the adjacent bridge structure approximately 130 feet south of the eastbound bridge, where work would be taking place. The work location would likely be accessed from the median, so construction crews and equipment are not anticipated to be under the westbound bridge; therefore, the bridge may temporarily provide suitable habitat during construction.

#### ***Swallows***

The project may include the temporary exclusion of swallows from nesting under the bridges during construction. Exclusionary measures would be placed under the bridges prior to February 1 of the first year of construction. A swallow non-standard special provision would be included in the construction contract to allow nest removal or application of exclusionary devices between September 30 and February 1.

### **Avoidance, Minimization, and/or Mitigation Measures**

The following measures would be implemented to address potential impacts.

- Pre-construction surveys would be conducted within the project area at the Los Banos Creek Bridge and San Joaquin River Bridge on State Route 140 to determine any presence of the tri-colored blackbird.
- A qualified biologist would be present at the construction site in areas that have the potential for nesting tri-colored blackbirds, during construction activities.
- Worker Environmental Awareness Training would be performed by a qualified biologist for all work personnel to inform them of the special-status species potentially within the work area, protective measures, reporting procedures, and consequences of violating environmental laws and permit requirements.
- Bridges would be surveyed prior to construction for the presence of roosting bats. Exclusionary measures would be put in place prior to construction. If bats are present, a qualified biologist would monitor construction activities to determine if bats are being disturbed. If bats are disturbed, work would be suspended and the situation would be evaluated to determine if the installation of bat exclusion

methods are practicable, or if the work should be done at night when the bats are not roosting under the bridge.

### **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 later 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 (and Caltrans, as assigned), 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 or a Letter of Concurrence. 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 2080 of the California 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 California 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 Federal Endangered Species Act and California Endangered Species Act requiring a Biological Opinion under Section 7 of 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 United States. This is done 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 the project in July 2018. The following threatened and endangered species were determined to have the potential to appear within the project area. Special-status species that are not listed as Threatened and Endangered are discussed in Section 2.3.3 Plants and Section 2.3.4 Animals.

#### ***San Joaquin Kit Fox***

The San Joaquin kit fox (*Vulpes macrotis mutica*) is found mostly in the southern half of California but can range as far north as Contra Costa County. The San Joaquin kit fox prefers annual grasslands or an open grassy portion of vegetation with mixed scrub and brush. Adapted to dry conditions, San Joaquin kit foxes get most of their water from prey and may not always need to den near water. They are active at night and the cool times of the day.

Protocol surveys were not completed for this species, and no signs of occupancy were observed during field surveys. However, there is still potential for the species to be present within the project area, especially at the San Joaquin River (Santa Rita) Bridge on State Route 152.

#### ***Giant Garter Snake***

The giant garter snake (*Thamnophis gigas*) is federally listed as threatened and protected by the Federal Endangered Species Act. The giant garter snake is a large garter snake. Its back is brown or olive, occasionally mixed with orange, and its underbelly can range from cream to olive to brown.

Giant garter snakes inhabit agricultural wetlands and other waterways such as irrigation and drainage canals, rice lands, marshes, sloughs, ponds, small lakes, low-gradient streams, and adjacent uplands in the Central Valley.

Protocol-level surveys were not conducted for this species. However, each project location was walked by Caltrans biologists to determine the presence of giant garter snake habitat.

The bridges on State Route 140 (Los Banos Creek and San Joaquin River) were determined to provide suitable terrestrial and aquatic habitats as well as corridors between habitats. Upland habitat at these locations includes grassy banks next to the waterways and emergent wetland vegetation that may provide suitable foraging habitat and cover from predators. Small burrows on the banks of the waterways may provide cover during warmer months and during the dormancy period.



The Bear Creek Bridge and San Joaquin River (Santa Rita) Bridge does not provide suitable bankside emergent wetland vegetation within 200 feet of the waterway, but may be used as an aquatic migration corridor to travel to more suitable habitat.

Water availability during the giant garter snake active season is variable at the San Joaquin River (Santa Rita) Bridge. For this reason, suitable aquatic habitat is not consistent at this location. Because work at this location is not anticipated to occur within the main channel of the river, aquatic habitat impacts are not expected to occur. However, upland habitat at this location may provide areas for basking and riparian vegetation that may be used for cover.

The Eastside Bypass Channel Bridge, in addition to the lack of suitable upland vegetation and habitat, does not always have water in the channel, particularly during drier summer months that coincide with the giant garter snake's active season, so this location does not provide giant garter snake habitat.

### *California Central Valley Steelhead Trout*

The California Central Valley steelhead trout (*Oncorhynchus mykiss*) is federally listed as threatened (Distinct Population Segment). The steelhead trout migrate from the ocean to spawn in river and streams. Steelhead trout in California typically spawn from December through April.

Prior to extensive habitat changes to California's Central Valley, steelhead trout were found throughout much of the Sacramento and San Joaquin drainages. Historical run size has been estimated at anywhere from one to two million adults annually. By the 1960s, run size had shrunk to roughly 40,000 adults. It is estimated that up to 80% of the historical steelhead trout spawning and rearing habitat is now obstructed by impassable dams. Though it is thought that steelhead trout have been extirpated from all waters upstream of the Merced River and San Joaquin River confluence, irrigation return and restoration flows resulting from the San Joaquin River Restoration Program may attract adults into the restoration area. The restoration area is found between the Merced River-San Joaquin River confluence and the Friant dam. Adult steelhead trout entering the restoration area would be cut off from spawning habitat due to impassable barriers.

No focused surveys were conducted for the Central Valley steelhead trout within the project areas, but habitat occurs within the Central Valley. California Central Valley steelhead trout may migrate through the project areas, but the project areas do not provide spawning substrate. While adult trout may use the project areas as an upstream migration corridor, it is unlikely because of the Hills Ferry barrier. The barrier sits at the confluence of the San Joaquin and Merced rivers. It protects Central Valley steelhead trout from migrating upstream in the San Joaquin River from late September to late December, when habitat is unsuitable.

### *Central Valley Spring-run Chinook Salmon*

The Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha*) is federally listed as threatened. It is one of the many migrating fish species found in

California's Central Valley. Historically, Chinook salmon were distributed throughout the Sacramento and San Joaquin river systems in the Central Valley. Recently, wild populations have been in decline due to loss of historic habitat.

Focused surveys for Chinook salmon were not conducted within the project areas. The only known population with the potential to occur within the project areas has been designated by the National Marine Fisheries as a non-essential experimental population.

However, due to reintroduction efforts by the San Joaquin River Restoration Program, there is potential for Chinook salmon to occur at the State Route 140 bridge (San Joaquin River and Los Banos Creek) locations. These locations do not provide spawning substrate or habitat, but seasonal flooding within this area may provide suitable rearing habitat.

### *California Tiger Salamander*

The California tiger salamander (*ambystoma californiense*) is both state and federally listed as threatened. These salamanders are large land salamanders, most commonly found in annual grassland habitat. They may also occur in the grassy understory of valley-foothill hardwood habitats and uncommonly along streams in valley-foothill riparian habitats. They range from Sonoma, Colusa, and Yolo counties south through the Central Valley to Tulare County, and through the Coast Range in Santa Barbara County.

California tiger salamanders are typically associated with vernal pools or similar habitats consisting of seasonal pools or ponds surrounded by grasslands. Adult California tiger salamanders spend most of their lives underground in small mammal burrows, which are a required habitat element. The salamanders are relatively poor burrowers and require refuges provided by ground squirrels and other burrowing mammals.

No protocol-level surveys have been conducted for California tiger salamanders within the project area. Annual grassland vegetation that may provide suitable upland habitat occurs near Los Banos Creek. Vernal pools and seasonal wetlands occur on the Kesterson unit of the San Luis National Wildlife Refuge, which is next to Los Banos Creek, on the south side of State Route 140. There is a chance for California tiger salamanders to occur within small burrows along the banks of Los Banos Creek, but the area is susceptible to flooding and therefore considered low-quality habitat; it is unlikely for the species to occur within the project area. No vernal pools or seasonal ponds that could be used for breeding occur within the project area, and most of the area is disturbed. There is a low potential that individuals could travel through the project area to get to breeding habitat within the adjacent San Luis National Wildlife Refuge. The other bridges do not provide suitable grassland habitat close to vernal pools or seasonal breeding ponds.

### ***Swainson's Hawk***

The Swainson's hawk (*Buteo swainsoni*), a state threatened species, is a summer migrant in the Central Valley and Sacramento Valley, Klamath Basin, northeastern Plateau, and Lassen, Kern, Mono, and Inyo counties. Individuals migrate north to California in March through May and return to South America in September through October.

Swainson's hawks are well documented in the project area. Multiple records of their presence have been found within a 3-mile radius of all project locations.

One Swainson's hawk nest was observed within a half-mile of San Joaquin River (Santa Rita) Bridge. Individuals were also seen soaring near Bear Creek Bridge and both San Joaquin River Bridges.

Suitable foraging habitat is present in all project areas. Suitable nesting habitat is present within the project areas at Bear Creek, San Joaquin River (Santa Rita) Bridge on State Route 152 and the San Joaquin River Bridge on State Route 140.

### ***Environmental Consequences***

The Natural Environment Study identified the following potential impacts to federally listed threatened and endangered species. For each federally listed threatened and endangered species, a determination is made of (1) No Effect, (2) May Affect, Likely to Not Adversely Affect or (3) May Affect, Likely to Adversely Affect. Table 2-5 at the end of this subsection shows the effect determination for each species.

### ***San Joaquin Kit Fox***

Construction activities may result in the temporary unavailability of foraging habitat and travel corridors due to the presence of equipment and workers. Ground disturbance may also cause a small reduction in prey availability within the project areas. San Joaquin kit foxes would be expected to avoid the project area when work is taking place. Standard kit fox provisions would be placed in the contract provisions.

The project is expected to have only temporary effects to potential habitat for the San Joaquin kit fox. The effects would be limited in duration, and habitat would not be changed and would be available for use after construction. Also, kit foxes have not been documented recently within the project areas, and direct interactions are not likely. It is anticipated that the Federal Endangered Species Act determination for the San Joaquin kit fox on this project would be May Affect, Likely to Not Adversely Affect.

### ***Giant Garter Snake***

Potential impacts to the giant garter snake include the temporary restriction of space available for movement because of necessary water diversions. Disturbance to vegetation and burrows in upland habitat could affect their use for cover and/or dormancy. Los Banos Creek and San Joaquin River Bridge on State Route 140 were the only locations determined to provide both suitable aquatic and terrestrial habitat

within the project areas. Work is expected to begin in the spring (around April), when the snakes are beginning to emerge from wintering burrows. Working within the giant garter snake's active season would help avoid and minimize impacts to individuals, allowing them to flee the area. Though the San Joaquin River Bridge on State Route 152 may serve as a travel corridor for the giant garter snake, impacts at this location are expected to be minimal or avoided entirely; a water diversion plan is not anticipated at this location, and availability of water during the giant garter snake's active season is variable. It is anticipated that the Federal Endangered Species Act determination for the giant garter snake on this project would be May Affect, Likely to Adversely Affect.

Though this species has a limited and declining distribution, the impacts associated with this project are for a short duration within isolated areas of the species' larger distribution through the San Joaquin Valley. The project would have 1.83 acres of temporary impacts and 0.0007 acre of permanent impacts to aquatic giant garter snake habitat. It would have 4.80 acres of temporary impacts and 0.001 acre of permanent impacts to upland giant garter snake habitat. See Table 2-4 for a breakdown of impacts by location.

**Table 2-4 Potential Giant Garter Snake Habitat Impacts**

<b>Potential Giant Garter Snake Habitat Impacts (in acres)</b>	
<b>Bear Creek Bridge on State Route 59</b>	
Temporary Aquatic Habitat	0.70
Temporary Upland Habitat	-
<b>San Joaquin River (Santa Rita) Bridge on State Route 152</b>	
Temporary Aquatic Habitat	-
Temporary Upland Habitat	2.09
<b>Eastside Bypass on State Route 152</b>	
Temporary Aquatic Habitat	-
Temporary Upland Habitat	-
<b>Los Banos Creek (West Mud Slough) on State Route 140</b>	
Temporary Aquatic Habitat	0.59
Temporary Upland Habitat	1.46
Permeant Aquatic Habitat	0.002
Permanent Upland Habitat	0.0
<b>San Joaquin River Bridge on State Route 140</b>	
Temporary Aquatic Habitat	0.54
Temporary Upland Habitat	1.25
Permeant Aquatic Habitat	0.0007
Permanent Upland Habitat	0.001
<b>Total Aquatic Habitat (acres)</b>	<b>1.83</b>
<b>Total Terrestrial Habitat (acres)</b>	<b>4.80</b>

On April 26, 2018, Caltrans began formal consultation with the U.S. Fish and Wildlife Service for impacts to the giant garter snake. Consultation will be completed prior to the final environmental document.

### *California Central Valley Steelhead Trout*

Individual steelhead trout traveling through the project areas may be exposed to materials installed for water diversion, creating a restriction of available space for movement. Exposure to high levels of noise may cause temporary hearing loss or tissue damage in steelhead trout. Potential effects associated with chronic turbidity (murky water) include reduced growth in fry (young fish), reduction in fry density, and reduction in fry competitive capability.

The exposure and responses described above may result in adverse effects to the California Central Valley steelhead trout through impacts to individuals and their habitat. Habitat impacts would be for a limited duration. Also, the species is not likely to be present within the project areas because of the Hills Ferry barrier. It is anticipated that Federal Endangered Species Act determination for the California Central Valley steelhead trout on this project would be May Affect, Likely to Adversely Affect.

On July 13, 2018, Caltrans began formal consultation with the National Marine Fisheries Service for impacts to the California Central Valley steelhead trout.

### *Central Valley Spring-Run Chinook Salmon*

The project work at Los Banos Creek and San Joaquin River Bridge on State Route 140 may cause a temporary decline in Chinook salmon habitat quality. These actions may cause a short-term increase in turbidity within the project area. Removal of vegetation near the margins of the waterways may cause a temporary decline in habitat quality because of the loss of shade that regulates water temperatures. This could cause fish to seek out other cold water refuge, resulting in changes to the fish community. Individual salmon going through the project areas may be exposed to materials installed for water diversion and temporary trestle systems, creating a restriction of available space for movement.

Installation of piles at the Los Banos Creek and San Joaquin Bridge on State Route 140 may also adversely affect migrating fish. Adverse effects may include physical injury, change in behavior, or increased susceptibility to predation.

Project work is unlikely to occur within the main waterway at Eastside Bypass, so impacts are not anticipated at this location.

It is anticipated that the Federal Endangered Species Act determination for Central Valley spring-run Chinook salmon on this project would be May Affect, Likely to Adversely Affect.

On July 13, 2018, Caltrans began formal consultation with National Marine Fisheries Service for impacts to the Central Valley spring-run Chinook salmon.

### California Tiger Salamander

No permanent effects to California tiger salamander upland or breeding habitat are anticipated with the project. At the Los Banos Creek Bridge, burrows occur within the project area and may provide suitable summer dormancy habitat, but breeding habitat does not occur within the project area. There is a low potential that individuals could travel through the project area, but construction and staging work would take place in mostly disturbed land habitats, making it unlikely that California tiger salamanders would be encountered within the project areas. It is anticipated that the Federal Endangered Species Act determination for the California tiger salamander on this project would be May Effect, Not Likely to Adversely Affect.

### Swainson's Hawk

Suitable habitat for Swainson's hawks exists within and near the project areas. However, because that habitat is close to roadways with continuous traffic, it is not anticipated that construction activities would disturb any hawks. If hawks are found within a half-mile of the project area, an Incidental Take permit from the California Department of Fish and Wildlife would be required. This species is a State listed threatened and endangered species but is not federally listed, and therefore does not receive an effect determination.

**Table 2-5 Federal Endangered Species Act Effects Determinations**

Common Name Scientific Name	Status		Habitat - Present/Absent	Federal Endangered Species Act Effect Determination
	Federal	State		
Invertebrates				
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT/–	–	Absent	No Effect
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	FE	–	Absent	No Effect
Conservancy fairy shrimp <i>Branchinecta conservatio</i>	FE	–	Absent	No Effect
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT/–	–	Absent	No Effect
Amphibians				
California tiger salamander <i>Ambystoma californiense</i>	FT	ST	Absent	May Affect, No Likely to Adversely Affect
California red-legged frog <i>Rana draytonii</i>	FT	SSC	Absent	No Effect
Fish				
California Central Valley steelhead trout	FT		Present	May affect, likely to Adversely Affect
California Central Valley steelhead trout Critical Habitat	CH		Absent	No effect
Central Valley spring-run Chinook salmon	FT		Present	May affect, likely to Adversely Affect
Central Valley spring-run Chinook salmon Essential Fish Habitat	EFH		Present	May affect, Not likely to Adversely Affect

Common Name Scientific Name	Status		Habitat - Present/Absent	Federal Endangered Species Act Effect Determination
	Federal	State		
Delta smelt <i>Hypomesus transpacificus</i>	FT	ST	Absent	No effect
<b>Reptiles</b>				
Giant garter snake <i>Thamnophis gigas</i>	FT	ST	Present	May affect, likely to Adversely Affect
Blunt-nosed leopard lizard <i>Gambelina silus</i>	FE	SE	Absent	No effect
<b>Mammals</b>				
Fresno kangaroo rat <i>Vulpes macrotis mutica</i>	FE	CE	Absent	No effect
San Joaquin kit fox <i>Vulpes macrotis mutica</i>	FT	ST	Present	May affect, likely to not Adversely Affect
<b>Plants</b>				
Colusa grass	FT	SE	Absent	No Effect
Fleshy (succulent) owl's clover	FT	SE	Absent	No Effect
San Joaquin orcutt grass	FT	SE	Absent	No Effect
Hairy orcutt grass	FE	SE	Absent	No Effect

### ***Avoidance, Minimization, and/or Mitigation Measures***

Below are measures that would be used to avoid, minimize and mitigate for impacts.

#### ***San Joaquin Kit Fox***

Caltrans would retain a qualified biologist(s) to conduct environmental awareness training, covering all listed species and appropriate regulations, for construction crews before project implementation.

Pre-construction/pre-activity surveys would be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities or any project activity likely to impact the San Joaquin kit fox.

#### ***Giant Garter Snake***

Pre-construction surveys would be conducted by a qualified biologist to identify areas that have potential to encounter a giant garter snake.

Caltrans would retain a qualified biologist(s) to conduct environmental awareness training, covering all listed species and appropriate regulations, for construction crews before project implementation.

Temporary silt fencing may be installed where necessary to minimize adverse impacts to water quality and prevent giant garter snakes from entering the work area.

If a live giant garter snake is encountered during construction activities, the biological monitor would do the following: Stop construction activity near the snake, monitor the giant garter snake, and allow the giant garter snake to leave on its own. The monitor would remain in the area for the remainder of the workday to make sure that

the snake is not harmed or that it leaves the site and does not return. If the giant garter snake does not leave on its own within one working day, further consultation with the U.S. Fish and Wildlife Service would be conducted.

Any disturbed areas would be revegetated with native seed mixture. The seed mixture would be approved by the U.S. Fish and Wildlife Service.

### Compensatory Mitigation

Caltrans would mitigate for temporary and permanent impacts by purchasing mitigation bank credits. The total estimated credits would be 6.9 acres.

### *California Central Valley Steelhead Trout*

Caltrans would retain a qualified biologist(s) to conduct environmental awareness training, covering all listed species and appropriate regulations, for construction crews before project implementation.

The construction contractor would comply with all construction site Best Management Practices specified in the Storm Water Pollution Prevention Plan and any other permit conditions to minimize the introduction of construction-related contaminants and mobilization of sediment in and adjacent to the action areas at all project locations, as necessary. The Best Management Practices would be selected to achieve maximum sediment removal and represent the best available technology that is economically achievable and are subject to review and approval by Caltrans.

Selected Best Management Practices, similar to those discussed as avoidance and minimization measures for Essential Fish Habitat (Section 2.3.1), would be implemented throughout construction to avoid and minimize adverse effects to water quality within the project areas.

If dewatering is determined to be necessary where there is fish potential, then fish rescue would be completed by a designated fisheries biologist, prior to dewatering. Rescued fish would be moved to the nearest appropriate site. A record of the rescues and locations would be kept.

### *Central Valley Spring-run Chinook Salmon*

The measures in place for steelhead trout would be used to minimize and avoid impacts for salmon as well.

### *California Tiger Salamander*

Caltrans would retain a qualified biologist(s) to conduct environmental awareness training, covering all listed species and appropriate regulations, for construction crews before project implementation.

A pre-construction survey would be conducted at Los Banos Creek Bridge by a qualified biologist.



A biological monitor would be present during any activities that could have the potential to encounter the California tiger salamander.

### ***Swainson's Hawk***

If construction occurs during the nesting season (February 1–September 30), Swainson's hawk pre-construction surveys would be conducted within 0.5-mile of the project areas. If Swainson's hawks are observed nesting within 0.5-mile of the project, a 600-foot-radius no-work buffer would be designated by an Environmentally Sensitive Area fence around the tree housing the nest, wherever the no-work buffer may overlap with project construction limits. The nest tree would be monitored by a qualified biologist during construction activities in proximity to the nest until the birds have fledged (left the nest).

## **2.3.6 Invasive Species**

### ***Regulatory Setting***

On February 3, 1999, President William J. Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. 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, 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***

Poison hemlock, black mustard, milk thistle, red brome and rip gut brome are some of the invasive species that are known to grow within the project areas.

### ***Environmental Consequences***

Because of the project, these invasive species would likely be removed in some, if not all, areas of occurrence. To prevent further spread of these species, a noxious weed special provision would be followed during construction.

### ***Avoidance, Minimization, and/or Mitigation Measures***

Because of the noxious weed provisions, minimal impacts are anticipated; no further measures are required.



## Chapter 3      CEQA Evaluation

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### 3.1      Determining Significance under CEQA

The proposed project is a joint project by Caltrans and the Federal Highway Administration and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The Federal Highway Administration's responsibility for environmental review, consultation, and any other actions required by applicable federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 U.S. Code Section 327 (23 USC 327) and the Memorandum of Understanding dated December 23, 2016 and executed by the Federal Highway Administration and Caltrans. Caltrans is the lead agency under the California Environmental Quality Act and the National Environmental Policy Act.

One of the main differences between the National Environmental Policy Act and California Environmental Quality Act is the way significance is determined. Under the National Environmental Policy Act, significance is used to determine whether an Environmental Impact Statement, or a lower level of documentation, would be required. The National Environmental Policy Act requires that an Environmental Impact Statement be prepared when the proposed federal action (project) as a whole has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under the California Environmental Quality Act may not be of sufficient magnitude to be determined significant under the National Environmental Policy Act. Under the National Environmental Policy Act, once a decision is made regarding the need for an Environmental Impact Statement, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. The National Environmental Policy Act does not require that a determination of significant impacts be stated in the environmental documents.

The California Environmental Quality Act, on the other hand, does require Caltrans to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an Environmental Impact Report must be prepared. Each and every significant effect on the environment must be disclosed in the Environmental Impact Report and mitigated if feasible. In addition, the California Environmental Quality Act Guidelines list a number of "mandatory findings of significance," which also require the preparation of an Environmental Impact Report. There are no types of actions under the National Environmental Policy Act that parallel the findings of mandatory significance of the California Environmental Quality Act. This chapter discusses the effects of this project and California Environmental Quality Act significance.

## 3.2 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects would indicate that there are no impacts to a particular resource. A “No Impact” answer in the last column reflects this determination. The words “significant” and “significance” used throughout the following checklist are related to the California Environmental Quality Act, not National Environmental Policy Act, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project and standardized measures that are applied to all or most Caltrans projects such as Best Management Practices (BMPs) and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below; see Chapters 1 and 2 for a detailed discussion of these features. The annotations to this checklist are summaries of information contained in Chapter 2 to provide you with the rationale for significance determinations; for a more detailed discussion of the nature and extent of impacts, please see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.

**AESTHETICS**

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**CEQA Significance Determinations for Aesthetics*****a) No Impact***

The proposed project would not have a substantial adverse impact on a scenic vista because the project does not include any scenic vistas.

***b) No Impact***

The proposed project is not a scenic highway. There would be no impact.

***c) Less Than Significant Impact***

As discussed in the Visual Aesthetics section in Chapter 2, the proposed project would have minimal visual impacts.

***d) No Impact***

The proposed project would not include lighting elements in an area where currently there is no lighting.

## AGRICULTURE AND FOREST RESOURCES

<p>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.</p>				
Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### CEQA Significance Determinations for Agriculture and Forest Resources

#### ***a-e) No Impact***

The project does not impact prime farmland, unique farmland, farmland of Statewide Importance, Williamson Act Contract land, or forest land. The project would not require conversion of farmland.

**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:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**CEQA Significance Determinations for Air Quality****a-d) No Impact**

The proposed project lies in the San Joaquin Valley Air Basin and is within the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD) and the California Air Resources Board. The San Joaquin Valley Air Pollution Control District is the main agency responsible for writing the Air Quality Management Plan in cooperation with Merced County Association of Governments, local governments, and the private sector. The Air Quality Management Plan provides the blueprint for meeting state and federal ambient air quality standards. This project is classified as part of the “Safety Improvements Program” and is exempt from conformity determinations.

**e) No Impact**

Temporary construction activities could generate fugitive dust from the operation of construction equipment. The project would comply with construction standards adopted by the San Joaquin Valley Air Pollution Control District as well as Caltrans’ standardized procedures for minimizing air pollutants during construction.

**BIOLOGICAL RESOURCES**

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**CEQA Significance Determinations for Biological Resources*****a) Less than Significant with Mitigation Incorporated***

As discussed in the Threatened and Endangered Species section in Chapter 2, the project was determined to “may affect, likely to adversely affect” the California Central Valley steelhead trout, Central Valley spring-run Chinook salmon, and giant garter snake. However, proposed avoidance, minimization, and mitigation measures



would reduce the project impacts to below significance. Please see Chapter 2, Section 2.3.5 Threatened and Endangered Species.

***b) Less than Significant with Mitigation Incorporated***

As discussed in the Natural Communities section of Chapter 2, the project would result in a minor disruption of Essential Fish Habitat. Mitigation would reduce impacts below significance.

***c) Less than Significant with Mitigation Incorporated***

As discussed in the Wetlands and Waters section of Chapter 2, the project would temporarily impact 8 acres of wetlands and other waters of the United States and have 0.0037 acre of permanent impact wetlands and other waters. Mitigation would reduce impacts below significance.

***d) Less than Significant with Mitigation Incorporated***

As discussed in the Natural Communities section of Chapter 2, the project would result in a minor disruption of Essential Fish Habitat. Mitigation would reduce impacts below significance.

***e) No Impact***

There are no applicable local policies in effect at the project locations.

***f) No Impact***

There are no Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plans within the project area.

**CULTURAL RESOURCES**

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CEQA Significance Determinations for Cultural Resources*****a-b) Less than Significant with Mitigation Incorporated***

As identified in the Cultural Resources section in Chapter 2, the project would impact CA-MER-06 and CA-MER-046. Both are eligible for inclusion in the National Register of Historic Places (historic properties) and the California Register of Historical Resources (historical resources) under Criterion D. A Phase III data recovery program, establishment of Environmentally Sensitive Areas (ESAs), construction monitoring by archaeologists and Native Americans, and a public outreach program would minimize project impacts below significance. See Chapter 2, Section 2.1.4 Cultural Resources.

***c) No Impact***

The project is not anticipated to reach depths that could affect paleontological resources.

***d) Less than Significant with Mitigation Incorporated***

There are known human remains within CA-MER-06, which could be unearthed during construction. If human remains are discovered, Caltrans would act in accordance with California law and the Native American Graves Protection and Repatriation Act (Historic Property Survey Report, June 2018).

**GEOLOGY AND SOILS**

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**CEQA Significance Determinations for Geology and Soils*****a-b) No Impact***

The project would improve the seismic fitness of the proposed bridges. See Chapter 1, Section 1.2 Purpose and Need.

**c) Less Than Significant Impact**

Two of the bridges on State Route 140 are at risk because of potential liquefaction during an earthquake. The project purpose is to address and alleviate that issue. See Chapter 2, Section 2.2.2 Geology, Soils, Seismicity, and Topology.

**d) No Impact**

The project is not on expansive soils. There would be no impact (Geotech Report, November 2017).

**e) No Impact**

The project would replace bridges and does not include the construction of septic tanks or alternative waste water disposal systems. There would be no impact.

**GREENHOUSE GAS EMISSIONS**

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Caltrans has used the best available information based to the extent possible on scientific and factual information, to describe, calculate, or estimate the amount of greenhouse gas emissions that may occur related to this project. The analysis included in the climate change section of this document provides the public and decision-makers as much information about the project as possible. It is Caltrans' determination that in the absence of statewide-adopted thresholds or greenhouse gas emissions limits, it is too speculative to make a significance determination regarding an individual project's direct and indirect impacts with respect to global climate change. Caltrans remains committed to implementing measures to reduce the potential effects of the project. These measures are outlined in the climate change section that follows the CEQA checklist and related discussions.			
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				

**HAZARDS AND HAZARDOUS MATERIALS**

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**CEQA Significance Determinations for Hazards and Hazardous Materials****a) No Impact**

The project would replace existing bridges with new bridges. Caltrans contract special provisions to safely dispose of lead paint, asbestos-containing material, and

treated wood waste generated during demolition are discussed in Chapter 2, Section 2.2.3 Hazardous Waste and Materials.

***b) Less Than Significant Impact***

Some of the bridges may have asbestos in them and would require special handling during construction.

***c) No impact***

There are no schools within the vicinity of the project areas.

***d) No Impact***

There are no Cortese List sites in the project vicinities.

***e) No Impact***

The project is not located within an airport land use plan or within 2 miles of a public airport or public use airport.

***f) No Impact***

The project is not located within the vicinity of a private airstrip.

***g) Less Than Significant Impact***

The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. During construction, at least one lane would be open at all time (Merced County Emergency Operations Plan, December 2017).

***h) No Impact***

The project would not expose people or structures to a significant wildland fires.

**HYDROLOGY AND WATER QUALITY**

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



## **CEQA Significance Determinations for Hydrology and Water Quality**

### ***a-f) Less than significant impacts***

Construction work occurs over several waterways, so there is potential for sediment to get into the waterways. Best Management Practices would prevent significant impacts to waterways. See Chapter 2, Section 2.2.1 Water Quality, for more information.

### ***g) No Impact***

This project is not a housing project.

### ***h) Less Than Significant Impact***

The project does not consist of a longitudinal encroachment or a meaningful encroachment into the base floodplain.

### ***i) No Impact***

The project does not involve a dam or a levee.

### ***j) No impact***

The project is not on a hillside or near an ocean or a lake, so it would have no effect on seiche, tsunami, or mudflow risks.

**LAND USE AND PLANNING**

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**CEQA Significance Determinations for Land Use and Planning*****a) No Impact***

The project areas are on existing highways, and the project does not significantly increase the size of the roadway. There would be no division of a community.

***b) No Impact***

The project is a seismic retrofit project and does not conflict with land use plans.

***c) No impact***

The project does not conflict with an existing habitat conservation plan or a natural conservation plan.

**MINERAL RESOURCES**

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**CEQA Significance Determinations for Mineral Resources*****a) No Impact***

The project would have no effect on access to mineral resources. There are no mineral resources within the project area.

***b) No Impact***

There are no important mineral sites within the project area.

**NOISE**

Would the project result in:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**CEQA Significance Determinations for Noise****a) No Impact**

The project would have no change in permanent noise impacts. Construction noise would be in accordance with Caltrans Standard Specifications.

**b) No Impact**

The project would have no change in permanent groundborne vibration or noise levels. Construction noise would be in accordance with Caltrans Standard Specifications.

**c) No Impact**

There would be no permanent increase in noise near the project areas.

**d) No Impact**

The project would expose some receptors to construction noise in the project areas. Except for Bear Creek Bridge, there are no noise receptors. At Bear Creek, there are some noise receptors, mostly industrial facilities and residential housing, all of which are at least 50 to 100 feet away.

**e-f) No Impact**

There are no airports within the vicinity of the project areas (Field Visit, November 2018).

**POPULATION AND HOUSING**

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**CEQA Significance Determinations for Population and Housing****a) No Impact**

The project is a seismic retrofit project, so it would not add capacity or remove limits on growth. It would have no effect on growth.

**b-c) No Impact**

This project would not acquire housing or displace any residents (Draft Project Report, August 2018).

**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:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**CEQA Significance Determinations for Public Services****a) No Impact**

The project would not trigger the need for new or modified public facilities of any type.

**RECREATION**

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**CEQA Significance Determinations for Recreation*****a) Less Than Significant Impact***

The project would require temporary construction easements on the San Joaquin Wildlife Refuge and the North Grasslands Wildlife Management Area. The locations are isolated, and the project would not affect access or recreational use of the refuge or the wildlife management area. See Chapter 2, Section 2.1.1 Parks and Recreational Facilities, for more details.

***b) No Impact***

The project does not include the construction of recreational facilities.



**TRANSPORTATION/TRAFFIC**

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**CEQA Significance Determinations for Transportation/Traffic****a) No Impact**

The project would not conflict with any traffic circulation plan or policy.

**b) No Impact**

The project would not conflict with any traffic congestion plan.

**c) No Impact**

The project would have no impact on air traffic patterns.

**d) No Impact**

The seismic retrofit project would not increase hazards due to a design feature.

**e) No Impact**

The project would be constructed with one-lane traffic control. This would involve some delays for motorists and bicyclists. There may be some night work for some aspects of the project, but it is not a major feature of the project. A Traffic Management Plan would be put in place to minimize these delays.

**f) No Impact**

The project would not conflict with any policies, plans, or programs regarding transit, bicycle, or pedestrian facilities.

**TRIBAL CULTURAL RESOURCES**

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CEQA Significance Determinations for Tribal Cultural Resources*****a-b) Less than Significant with Mitigation Incorporated***

The project would have an adverse impact on two eligible sites. They are eligible under Criterion D for data recovery. A data recovery plan would be implemented to capture data from damaged property. Data from any affected part of the site would be saved by the data recovery plan to preserve its historic value.

**UTILITIES AND SERVICE SYSTEMS**

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**CEQA Significance Determinations for Utilities and Service Systems****a-b) No Impact**

The project would have no impact on wastewater treatment facilities.

**c) No Impact**

The project would have no impact on stormwater drainage facilities.

**d) No Impact**

The project would have no effect on the need for water supplies (Draft Project Report, August 2018).

**e) No Impact**

The project would have no effect on wastewater treatment needs (Draft Project Report, August 2018).

**f) No Impact**

The project would have no effect on landfill needs (Draft Project Report, August 2018).

**g) No Impact**

The project would comply with all solid waste regulations (Draft Project Report, August 2018).

**MANDATORY FINDINGS OF SIGNIFICANCE**

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**CEQA Significance Determinations for Mandatory Findings of Significance*****a) Less than Significant with Mitigation Incorporated***

The project would impact biological and archaeological resources. Proposed avoidance, minimization, and mitigation measures would reduce the impacts to below a level of significance. Please see Chapter 2, Section 2.1.4 Cultural Resources and Section 2.3 Biological Resources, for more information.

***b) Less Than Significant Impact***

The project would not have cumulative impacts, as any potentially significant impacts would be reduced through avoidance, minimization, and mitigation measures.

***c) No Impact***

The project would not have any environmental effects that would cause substantial adverse effects on human beings.

### 3.3 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 concerned mostly with the emissions of greenhouse gases generated by human activity, including carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF<sub>6</sub>), HFC-23 (fluoroform), HFC-134a (1,1,1,2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of greenhouse gas emissions is electricity generation, followed by transportation.<sup>2</sup> In California, however, transportation sources (including passenger cars, light-duty trucks, other trucks, buses, and motorcycles) are the largest contributors of greenhouse gas emissions.<sup>3</sup> The dominant greenhouse gas emitted is carbon dioxide, mostly from fossil fuel combustion.

Two terms are typically used when discussing how we address the impacts of climate change: “greenhouse gas mitigation” and “adaptation.” Greenhouse gas mitigation covers the activities and policies aimed at reducing greenhouse gas emissions to limit or “mitigate” the impacts of climate change. Adaptation, on the other hand, is concerned with planning for and responding to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels).

#### ***Regulatory Setting***

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

##### ***Federal***

To date, no national standards have been established for nationwide mobile-source greenhouse gas reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and greenhouse gas emissions reduction at the project level.

The National Environmental Policy Act (42 U.S. Code Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project.

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<sup>2</sup> <https://www.epa.gov/ghgemissions/us-greenhouse-gas-inventory-report-1990-2014>

<sup>3</sup> <https://www.arb.ca.gov/cc/inventory/data/data.htm>

The Federal Highway Administration recognizes the threats that extreme weather, sea-level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. The Federal Highway Administration therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices.<sup>4</sup> This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—“the triple bottom line of sustainability.”<sup>5</sup> Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life. Addressing these factors up front in the planning process would assist in decision-making and improve efficiency at the program level, and would inform the analysis and stewardship needs of project-level decision-making.

Various efforts have been made at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects.

The Energy Policy Act of 1992 (EPACT92, 102nd Congress H.R.776.ENR): With this act, Congress set goals, created mandates, and amended utility laws to increase clean energy use and improve overall energy efficiency in the United States. EPACT92 consists of 27 titles detailing various measures designed to lessen the nation’s dependence on imported energy, provide incentives for clean and renewable energy, and promote energy conservation in buildings. Title III of EPACT92 addresses alternative fuels. It gave the U.S. Department of Energy administrative power to regulate the minimum number of light-duty alternative fuel vehicles required in certain federal fleets beginning in fiscal year 1993. The main goal of the program is to cut petroleum use in the United States by 2.5 billion gallons per year by 2020.

Energy Policy Act of 2005 (109th Congress H.R.6 (2005–2006): This act sets forth an energy research and development program covering: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) Indian energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

Energy Policy and Conservation Act of 1975 (42 U.S. Code Section 6201) and Corporate Average Fuel Standards: This act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the Corporate Average Fuel Economy (CAFE) program on the basis of each manufacturer’s average fuel economy for the portion of its vehicles produced for sale in the United States.

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<sup>4</sup> <https://www.fhwa.dot.gov/environment/sustainability/resilience/>

<sup>5</sup> <https://www.sustainablehighways.dot.gov/overview.aspx>



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 (NHTSA) issued the first of a series of greenhouse gas emission standards for new cars and light-duty vehicles in April 2010<sup>6</sup> and significantly increased the fuel economy of all new passenger cars and light trucks sold in the United States. The standards required these vehicles to meet an average fuel economy of 34.1 miles per gallon by 2016. In August 2012, the federal government adopted the second rule that increases fuel economy for the fleet of passenger cars, light-duty trucks, and medium-duty passenger vehicles for model years 2017 and beyond to average fuel economy of 54.5 miles per gallon by 2025. Because the National Highway Traffic Safety Administration cannot set standards beyond model year 2021 due to statutory obligations and the rules' long timeframe, a mid-term evaluation is included in the rule. The Mid-Term Evaluation is the overarching process by which the National Highway Traffic Safety Administration, EPA, and Air Resources Board will decide on the Corporate Average Fuel Economy (CAFE) and greenhouse gas emissions standard stringency for model years 2022–2025. The National Highway Traffic Safety Administration has not formally adopted standards for model years 2022 through 2025. However, the EPA finalized its mid-term review in January 2017, affirming that the target fleet average of at least 54.5 miles per gallon by 2025 was appropriate. In March 2017, President Donald Trump ordered the EPA to reopen the review and reconsider the mileage target.<sup>7</sup>

The National Highway Traffic Safety Administration and EPA issued a Final Rule for "Phase 2" for medium- and heavy-duty vehicles to improve fuel efficiency and cut carbon pollution in October 2016. The agencies estimate that the standards will save up to 2 billion barrels of oil and reduce carbon dioxide emissions by up to 1.1 billion metric tons over the lifetimes of model year 2018–2027 vehicles.

### *State*

With the passage of legislation including State Senate and Assembly bills and executive orders, California has been innovative and proactive in addressing greenhouse gas emissions and climate change.

<sup>6</sup> <https://one.nhtsa.gov/Laws-&-Regulations/CAFE-%E2%80%93-Fuel-Economy>

<sup>7</sup> <http://www.nbcnews.com/business/autos/trump-rolls-back-obama-era-fuel-economy-standards-n734256> and

<https://www.federalregister.gov/documents/2017/03/22/2017-05316/notice-of-intention-to-reconsider-the-final-determination-of-the-mid-term-evaluation-of-greenhouse>

Assembly Bill 1493, Pavley Vehicular Emissions: Greenhouse Gases, 2002: This bill required the California Air Resources Board (ARB) 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 year 1990 levels by 2050. This goal was further reinforced with the passage of Assembly Bill 32 in 2006 and SB 32 in 2016.

Assembly Bill 32 (AB 32), Chapter 488, 2006: Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 codified the 2020 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." The Legislature also intended that the statewide greenhouse gas emissions limit continue in existence and be used to maintain and continue reductions in emissions of greenhouse gases beyond 2020 (Health and Safety Code Section 38551(b)). The law requires the Air Resources Board to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective greenhouse gas reductions.

Executive Order S-01-07 (January 18, 2007): This order set forth the low carbon fuel standard (LCFS) for California. Under this order, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by the year 2020. The Air Resources Board re-adopted the low carbon fuel standard regulation in September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the Governor's 2030 and 2050 greenhouse gas reduction goals.

Senate Bill 97 (SB 97), Chapter 185, 2007, Greenhouse Gas Emissions: This bill required the Governor's Office of Planning and Research (OPR) 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 requireds Air Resources Board to set regional emissions reduction targets for 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 how it will achieve the emissions target for its region.

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

Executive Order B-16-12 (March 2012): This order required state entities under the direction of the governor, including the Air Resources Board, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

Executive Order B-30-15 (April 2015): This order established an interim statewide greenhouse gas emission reduction target of 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. It further ordered all state agencies with jurisdiction over sources of greenhouse gas emissions to implement measures, pursuant to statutory authority, to achieve reductions of greenhouse gas emissions to meet the 2030 and 2050 greenhouse gas emissions reductions targets. It also directed the Air Resources Board to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO<sub>2</sub>e). Finally, it required the Natural Resources Agency to update the state's climate adaptation strategy, Safeguarding California, every 3 years, and to ensure that its provisions are fully implemented.

Senate Bill 32 (SB 32), Chapter 249, 2016: This bill codified the greenhouse gas reduction targets established in Executive Order B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.

### *Environmental Setting*

In 2006, the Legislature passed the California Global Warming Solutions Act of 2006 (AB 32), which created a comprehensive, multi-year program to reduce greenhouse gas emissions in California. AB 32 required the Air Resources Board to develop a Scoping Plan that describes the approach California would take to achieve the goal of reducing greenhouse gas emissions to 1990 levels by 2020. The Scoping Plan was first approved by the Air Resources Board in 2008 and must be updated every 5 years. The second updated plan, *California's 2017 Climate Change Scoping Plan*, adopted on December 14, 2017, reflects the 2030 target established in Executive Order B-30-15 and SB 32.

The AB 32 Scoping Plan and the subsequent updates contain the main strategies California would use to reduce greenhouse gas emissions. As part of its supporting documentation for the updated Scoping Plan, the Air Resources Board released the greenhouse gas inventory for California.<sup>8</sup> The Air Resources Board is responsible for maintaining and updating California's Greenhouse Gas Inventory per H&SC Section 39607.4. The associated forecast/projection is an estimate of the emissions anticipated to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented.

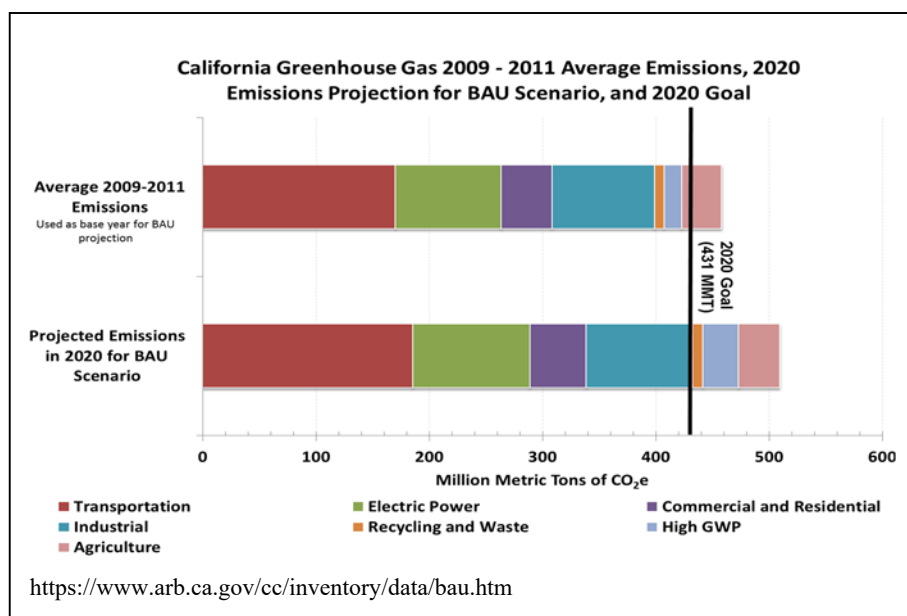
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<sup>8</sup> 2018 Edition of the Greenhouse Gas Emission Inventory Released (July 2018): <https://www.arb.ca.gov/cc/inventory/data/data.htm>

An emissions projection estimates future emissions based on current emissions, expected regulatory implementation, and other technological, social, economic, and behavioral patterns. The projected 2020 emissions provided in Figure 3-1 represent a business-as-usual (BAU) scenario assuming none of the Scoping Plan measures are implemented. The 2020 BAU emissions estimate assists the Air Resources Board in demonstrating progress toward meeting the 2020 goal of 431 MMTCO<sub>2</sub>e.<sup>9</sup> The 2018 edition of the greenhouse gas emissions inventory (released in July 2018) found total California emissions of 429 MMTCO<sub>2</sub>e for 2016.

The 2020 BAU emissions projection was revisited in support of the First Update to the Scoping Plan (2014). This projection accounts for updates to the economic forecasts of fuel and energy demand as well as other factors. It also accounts for the effects of the 2008 economic recession and the projected recovery. The total emissions expected in the 2020 BAU scenario include reductions anticipated from Pavley I and the Renewable Electricity Standard (30 MMTCO<sub>2</sub>e total). With these reductions in the baseline, estimated 2020 statewide BAU emissions are 509 MMTCO<sub>2</sub>e.

**Figure 3-1 2020 Business-as-Usual (BAU) Emissions Projection 2014 Edition**



### 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

<sup>9</sup> The revised target using Global Warming Potentials (GWP) from the IPCC Fourth Assessment Report (AR4)

through its incremental change in emissions when combined with the contributions of all other sources of greenhouse gas.<sup>10</sup> In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines Sections 15064(h)(1) and 15130). To make this determination, one must compare the incremental impacts of the project 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.

Greenhouse gas emissions for transportation projects can be divided into those produced during operations and those produced during construction. The following represents a best faith effort to describe the potential greenhouse gas emissions related to the proposed project.

### *Operational Emissions*

The purpose of the proposed project is to bring five bridges up to current seismic standards by seismically retrofitting the structures and upgrading bridge railings. The project would not increase roadway capacity or vehicle miles traveled. Improved shoulders, sidewalks, and bridge railings would support bicycle use, which is permitted at all project locations. Accordingly, no increase in operational greenhouse gas emissions is expected to result from the proposed project.

### *Construction Emissions*

Construction greenhouse gas emissions would result from material processing, onsite construction equipment, and traffic delays due to construction. These emissions would 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 offset to some degree by longer intervals between maintenance and rehabilitation activities.

The Caltrans Construction Emissions Tool (CAL-CET) was used to calculate construction-related CO<sub>2</sub> (carbon dioxide) emissions. The amount of CO<sub>2</sub> emissions estimated was 560 US tons, generated over a 12-month work timeframe.

Caltrans Standard Specifications Section 7-1.02C, Emissions Reduction, a part of all construction contracts, requires the contractor to certify awareness of, and comply with, the emissions reduction regulations mandated by the California Air Resources

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<sup>10</sup> 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).

Board. Section 14-9.02, Air Pollution Control, requires contractors to comply with all air-pollution-control rules, regulations, ordinances, and statutes of the Air Resources Board and the local air pollution control district. Standard construction best management practices for air quality would also apply. Such air-pollution control measures can also help reduce construction greenhouse gas emissions.

### **CEQA Conclusion**

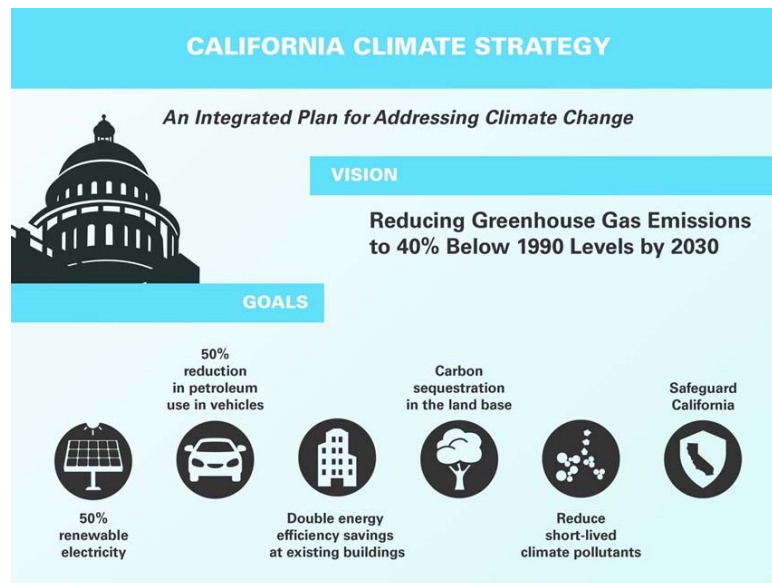
While the project would result in greenhouse gas emissions during construction, it is anticipated that the project would not result in any increase in operational greenhouse gas emissions. While it is Caltrans' determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and California Environmental Quality Act 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 change, Caltrans is firmly committed to implementing measures to help reduce greenhouse gas emissions. These measures are outlined in the following section.

### **Greenhouse Gas Reduction Strategies**

#### **Statewide Efforts**

In an effort to further the vision of California's greenhouse gas reduction targets outlined in AB 32 and SB 32, Governor Edmund G. Brown Jr. identified key climate change strategy pillars (concepts). See Figure 3-2.

**Figure 3-2 Governor's Climate Change Pillars: 2030 Greenhouse Gas Reduction Goals**



These pillars highlight the idea that several major areas of the California economy will need to reduce emissions to meet the 2030 greenhouse gas emissions target.

These pillars are (1) reducing today's petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent our electricity derived from renewable sources; (3) doubling the energy-efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farm and rangelands, forests, and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, Safeguarding California.

The transportation sector is integral to the people and economy of California. To achieve greenhouse gas emission reduction goals, it is vital that we build on our past successes in reducing criteria and toxic air pollutants from transportation and goods movement activities. Greenhouse gas emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled. One of Governor Brown's key pillars sets the ambitious goal of reducing today's petroleum use in cars and trucks by up to 50 percent by 2030.

Governor Brown called for support to manage natural and working lands, including forests, rangelands, farms, wetlands, and soils, so they can store carbon. These lands have the ability to remove carbon dioxide from the atmosphere through biological processes, and to then sequester carbon in above- and below-ground matter.

### *Caltrans Activities*

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. Executive Order B-30-15, issued in April 2015, and SB 32 (2016), set a new interim target to cut greenhouse gas emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

### *California Transportation Plan (CTP 2040)*

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce greenhouse gas emissions. The plan defines performance-based goals, policies, and strategies to achieve our collective vision for California's future statewide, integrated, multimodal transportation system. It serves as an umbrella document for all of the other statewide transportation planning documents.

SB 391 (Liu 2009) requires the California Transportation Plan to meet California's climate change goals under AB 32. Accordingly, the CTP 2040 identifies the statewide transportation system needed to achieve maximum feasible greenhouse gas emission reductions while meeting the state's transportation needs. While Metropolitan Planning Organizations have primary responsibility for identifying land use patterns to help reduce greenhouse gas emissions, CTP 2040 identifies additional strategies in Pricing, Transportation Alternatives, Mode Shift, and Operational Efficiency.

### Caltrans Strategic Management Plan

The Strategic Management Plan, released in 2015, creates a performance-based framework to preserve the environment and reduce greenhouse gas emissions, among other goals. Specific performance targets in the plan that will help to reduce greenhouse gas emissions include the following:

- Increasing percentage of non-auto mode share
- Reducing vehicle miles traveled per capita
- Reducing Caltrans' internal operational (buildings, facilities, and fuel) greenhouse gas emissions

### Funding and Technical Assistance Programs

In addition to developing plans and performance targets to reduce greenhouse gas emissions, Caltrans also administers several funding and technical assistance programs that have greenhouse gas reduction benefits. These include the Bicycle Transportation Program, Safe Routes to School, Transportation Enhancement Funds, and Transit Planning Grants. A more extensive description of these programs can be found in Caltrans Activities to Address Climate Change (2013).

The 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 departmental decisions and activities.

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

### Project-Level Greenhouse Gas Reduction Strategies

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

- Caltrans Standard Specification 14-9.02 requires contractors to comply with all state, local, Air Resources Board, and air district rules, regulations, ordinances, and statutes. Measures that reduce construction vehicle emissions, such as idling restrictions and ensuring engines are properly tuned and maintained, may also help reduce greenhouse gas emissions.
- A transportation management plan (TMP) will be developed and implemented to minimize traffic delays and associated idling emissions resulting from periods of one-way traffic control during construction.

### 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—or, put another way, planning and design for resilience. Climate change is expected to produce increased variability in precipitation, rising



temperatures, rising sea levels, variability in storm surges and their 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. These types of impacts to the transportation infrastructure may also have economic and strategic ramifications.

### Federal Efforts

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the Council on Environmental Quality, the Office of Science and Technology Policy (OSTP), and the National Oceanic and Atmospheric Administration (NOAA), released its interagency task force progress report on October 28, 2011<sup>11</sup>, 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 provided an update on actions in key areas of federal adaptation, including: building resilience in local communities, safeguarding critical natural resources such as fresh water, and providing accessible climate information and tools to help decision-makers manage climate risks.

The federal Department of Transportation issued a U.S. DOT Policy Statement on Climate Adaptation in June 2011, committing to “integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of DOT in order to ensure that taxpayer resources are invested wisely and that transportation infrastructure, services and operations remain effective in current and future climate conditions.”<sup>12</sup>

To further the DOT Policy Statement, on December 15, 2014, the Federal Highway Administration issued order 5520 (*Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events*).<sup>13</sup> This directive established a Federal Highway Administration policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. The Federal Highway Administration will work to integrate consideration of these risks into its planning, operations, policies, and programs in order to promote preparedness and resilience; safeguard federal investments; and ensure the safety, reliability, and sustainability of the nation's transportation systems.

The Federal Highway Administration has developed guidance and tools for transportation planning that fosters resilience to climate effects and sustainability at the federal, state, and local levels.<sup>14</sup>

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<sup>11</sup> <https://obamawhitehouse.archives.gov/administration/eop/ceq/initiatives/resilience>

<sup>12</sup>

[https://www.fhwa.dot.gov/environment/sustainability/resilience/policy\\_and\\_guidance/usdot.cfm](https://www.fhwa.dot.gov/environment/sustainability/resilience/policy_and_guidance/usdot.cfm)

<sup>13</sup> <https://www.fhwa.dot.gov/legisregs/directives/orders/5520.cfm>

<sup>14</sup> <https://www.fhwa.dot.gov/environment/sustainability/resilience/>

### State Efforts

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 and directed all state agencies planning to construct projects in areas vulnerable to future sea-level rise to consider a range of sea-level rise scenarios for the years 2050 and 2100, 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 high water levels, and storm surge and storm wave data.

Then-Governor Schwarzenegger also requested the National Academy of Sciences to prepare an assessment report to recommend how California should plan for future sea-level rise. The final report, *Sea-Level Rise for the Coasts of California, Oregon, and Washington (Sea-Level Rise Assessment Report)*,<sup>15</sup> was released in June 2012 and included relative sea-level rise projections for the three states, taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge, and land subsidence rates, and the range of uncertainty in selected sea-level rise projections. It provided a 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, and a discussion of future research needs regarding sea-level rise.

In response to Executive Order S-13-08, the California Natural Resources Agency (Resources Agency), in coordination with local, regional, state, federal, and public and private entities, developed *The California Climate Adaptation Strategy* (Dec 2009),<sup>16</sup> which summarized the best available science on climate change impacts to California, assessed California's vulnerability to the identified impacts, and outlined solutions that can be implemented within and across state agencies to promote resiliency. The adaptation strategy was updated and rebranded in 2014 as *Safeguarding California: Reducing Climate Risk (Safeguarding California Plan)*.

Governor Edmund G. Brown Jr. enhanced the overall adaptation planning effort by signing Executive Order B-30-15 in April 2015, requiring state agencies to factor climate change into all planning and investment decisions. In March 2016, sector-specific Implementation Action Plans that demonstrate how state agencies are implementing Executive Order B-30-15 were added to the *Safeguarding California Plan*. This effort represents a multi-agency, cross-sector approach to addressing adaptation to climate change-related events statewide.

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<sup>15</sup> *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](http://www.nap.edu/catalog.php?record_id=13389).

<sup>16</sup> <http://www.climatechange.ca.gov/adaptation/strategy/index.html>

Executive Order S-13-08 also gave rise to the *State of California Sea-Level Rise Interim Guidance Document* (SLR Guidance), produced by the Coastal and Ocean Working Group of the California Climate Action Team (CO-CAT), of which Caltrans is a member. First published in 2010, the document provided “guidance for incorporating sea-level rise (SLR) projections into planning and decision making for projects in California,” specifically, “information and recommendations to enhance consistency across agencies in their development of approaches to SLR.”<sup>17</sup>

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 actively engaged in working toward identifying these risks throughout the state and will work to incorporate this information into all planning and investment decisions as directed in Executive Order B-30-15.

This proposed project is located outside of the coastal zone and it is not in an area subject to sea-level rise. Accordingly, direct impacts to transportation facilities due to projected sea-level rise are not expected.

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<sup>17</sup> <http://www.opc.ca.gov/2013/04/update-to-the-sea-level-rise-guidance-document/>



## Chapter 4      Comments and Coordination

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Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required, and to identify potential impacts and avoidance, minimization and/or mitigation measures and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including Project Development Team meetings, interagency coordination meetings, and letters and correspondence. This chapter summarizes the results of Caltrans' efforts to identify, address, and resolve project-related issues through early and continuing coordination.

### ***Coordination During Preparation of Technical Studies and the Initial Study/Environmental Assessment***

The following agency coordination took place during preparation of the technical studies and the Draft Initial Study/Environmental Assessment.

#### ***California Department of Fish and Wildlife***

On July 16, 2018, Caltrans and representatives from the North Grasslands Wildlife Management Area discussed Section 4(f) issues, such as outlining what Section 4(f) is and how we would affect the North Grasslands Wildlife Management Area. During the meeting, refuge staff indicated that they would not be able to concur with a Section 4(f) De Minimis determination.

#### ***U.S. Fish and Wildlife Service***

Caltrans obtained a Special Use Permit to conduct studies on August 7, 2017.

On April 26, 2018, Caltrans entered formal consultation with the U.S. Fish and Wildlife Service for impacts to the giant garter snake.

On June 28, 2018, Caltrans and representatives from the San Luis National Wildlife Refuge met to discuss Section 4(f) issues related to this project and an additional culvert project located on State Route 140. Caltrans and the San Luis National Wildlife Refuge staff also discussed the procedures for getting a Special Use Permit for the construction work.

On July 12, 2018, Caltrans and Cultural Resources staff from the U.S. Fish and Wildlife Service discussed the need for an Archaeological Resources Protection Act Permit for any area that might encounter archaeological material. This would include construction work and data recovery on the CA-MER-06 and CA-MER-46 sites. The group also discussed why CA-MER-06 and CA-MER-46 were not considered Section 4(f) resources.

### *National Marine Fisheries Service (NMFS)*

On April 26, 2018, Caltrans entered informal consultation with the National Marine Fisheries Service for impacts to the Central Valley spring-run Chinook salmon and California Central Valley steelhead trout.

Due to project changes, on July 13, 2018, Caltrans entered formal consultation with National Marine Fisheries Service for impacts to Central Valley spring-run Chinook salmon and California Central Valley steelhead trout.

### *California Department of Fish and Wildlife*

On June 11, 2018, the Caltrans biologist contacted the California Department of Fish and Wildlife regarding the planned releases of Central Valley spring-run Chinook salmon (non-essential experimental population) in the San Joaquin River by the San Joaquin River Restoration Project (SJRRP). The California Department of Fish and Wildlife specified that the release of adults and juveniles is expected to continue, and releases would take place in the San Joaquin River between Friant and the confluence of the Merced River. As release timing and location depend on river conditions, it cannot be said at this time where the fish would be released at the time of project construction. It was also noted that some juveniles released near Friant have successfully migrated to the Delta.

### *Native American Coordination*

Native American consultation for this undertaking was carried out in tandem with the Native American consultation for the Merced 140 Guardrail Upgrade project (10-0Y110). Portions of the guardrail project overlap with the Merced Seismic Retrofit project being addressed in this document, and both prehistoric archaeological sites—CA-MER-6 and CA-MER46—are within the Area of Potential Effects for both projects.

Consultation was conducted by the District 10 Native American Coordinator, who contacted the California Native American Heritage Commission on September 21, 2016 to request information on known Native American traditional cultural properties within the five Merced Seismic Retrofit project areas. The commission responded on October 11, 2016 indicating that a search of the Sacred Lands file was completed for the project with negative results.

The commission also provided a list of three Native American contacts that might have information or concerns pertinent to the project area. In November 2016 and March 2017, letters and emails were sent to four groups. Responses were received from Katherine Perez, Chairperson Northern Valley Yokuts; Kerri Vera, Director, Department of Environmental Protection, Tule River Indian Reservation; and Valentin Lopez, Chairman, Amah Mutsun Tribal Band. All wanted to consult regarding the project. It should be noted that one of the archaeological sites (CA-MER-6) in the project area is well known to members of the Native American community because they are aware that human remains have been found there in the past.

At the beginning of the field work for this project, the consultant archaeological teams, the Caltrans cultural resources team, and representatives of the Northern Valley Yokuts met near the two archaeological sites to discuss identification efforts moving forward.

To date, during all activities, including geotechnical testing, that could affect archaeological resources CA-MER-6 and CA-MER-46, Native American monitors have been present. The Native American monitors were from either the Northern Valley Yokuts and/or the Tule River Indian Reservation.

#### *Public Information Meeting*

Caltrans will circulate the draft environmental document for a 30-day review by agencies and members of the public. Upon completion of the public review and comment period, written responses to all comments will be prepared and made part of the final environmental document for consideration by decision-makers for the project.





## Chapter 5 List of Preparers

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

Jon L. Brady, Associate Environmental Planner/Architectural Historian. M.A., History, California State University, Fresno; B.A., Political Science and Anthropology; more than 30 years of experience as a consulting archaeologist and historian. Contribution: Architectural History.

Jeanne Day Binning, Senior Environmental Planner. Ph.D., Anthropology, University of California, Riverside; B.A., Anthropology, California State University, Northridge; more than 45 years of cultural resources management experience, Great Basin and California. Contribution: Principal Investigator, Prehistoric Archaeology.

Jeffrey Delsescaux, Associate Environmental Planner (Archaeology). M.A., Anthropology (Archaeology Option), California State University, Los Angeles; B.A., Anthropology, California State University, Fullerton; 9 years of experience in archaeology, 2 years in Cultural Resource Management. Contribution: Native American Coordinator.

David Farris, Associate Environmental Planner. B.S., Environmental Biology and Management, University of California, Davis; 2 years of preliminary environmental analysis experience; 15 years of environmental planning experience. Contribution: Document Preparation.

Jennifer Lugo, Senior Environmental Planner. M.A., History, California State University, Fresno; B.A., History, Minor in Political Science, California State University, Fresno; 13 years of environmental planning experience. Contribution: Generalist Senior.

Shawn Ogletree, Engineering Geologist. B.S., Environmental Conservation of Natural Resources, Texas Tech University; B.S., Wildlife/Fisheries Management, Texas Tech University; MPH, California State University, Fresno; 13 years of environmental health, environmental technical studies experience; 10 years of biology experience. Contribution: Hazardous Waste and Paleontology.

Jessica Rinella, Environmental Planner (Natural Sciences). B.S., Biology, University of Nevada, Las Vegas; 3 years of ecology and biological science experience. Contribution: Biology.

Vladimir Timofet, Transportation Engineer. M.S., Civil Engineering, California State University, Fullerton; 17 years of environmental technical studies experience. Contribution: Air, Noise and Water.

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# Appendix A Section 4(f)

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## A1.1 Introduction

The California Department of Transportation (Caltrans) proposes to retrofit seven bridges in Merced County along State Routes 59, 140 and 152 to upgrade the bridges to current seismic standard. The project would include bridge railing replacement and widening on the Los Banos Bridge. Figure A-1 shows the project vicinity, and Figures A-2 to A-4 show the various project locations.

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 U.S. Code § 303, declares that “it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.”

Section 4(f) at 49 U.S. Code § 303(c) specifies that:

“[T]he Secretary [of Transportation] may approve a transportation program or project [ . . . ] requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:

- 1) there is no prudent and feasible alternative to using that land; and
- 2) the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.”

Section 4(f) further requires coordination with the U.S. Department of the Interior and, as appropriate, the involved offices of the U.S. Department of Agriculture and the U.S. Department of Housing and Urban Development in developing transportation projects and programs that use lands protected by Section 4(f). If historic sites are involved, then coordination with the State Historic Preservation Officer is also needed.

Responsibility for compliance with Section 4(f) has been assigned to Caltrans pursuant to 23 U.S. Code §§ 326 and 327, including determinations and approval of Section 4(f) evaluations, as well as coordination with those agencies that have jurisdiction over a Section 4(f) resource that may be affected by a project action.

The project was originally intended to go for a Section 4(f) de Minimis finding, because impacts are small in scale compared to the size of the properties being affected. However, consultation with the California Department of Fish and Game,

the stakeholders of the North Grasslands Wildlife Management Area, indicated that they could not concur with a De minimis finding.

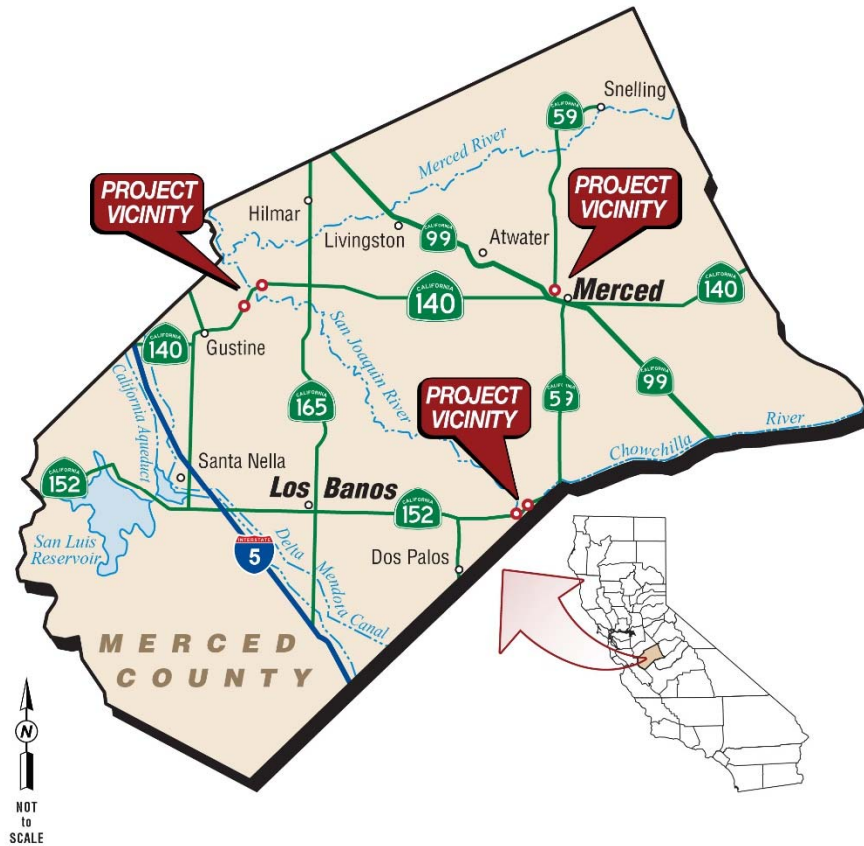
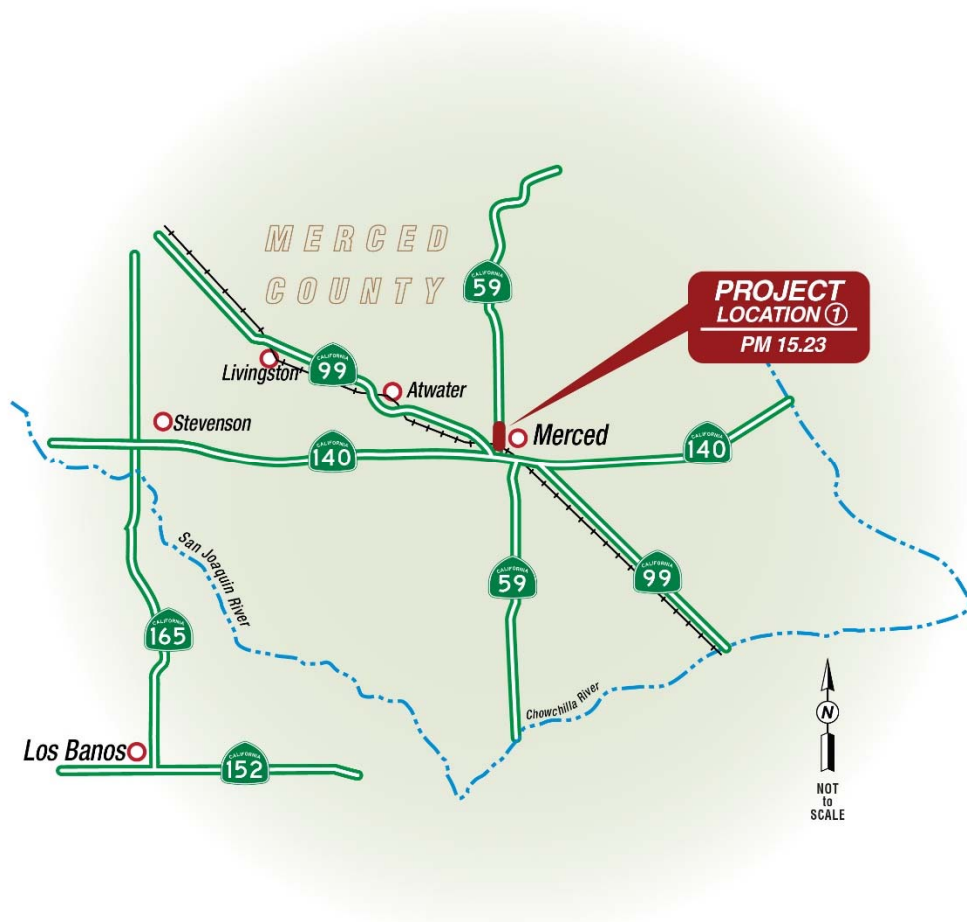
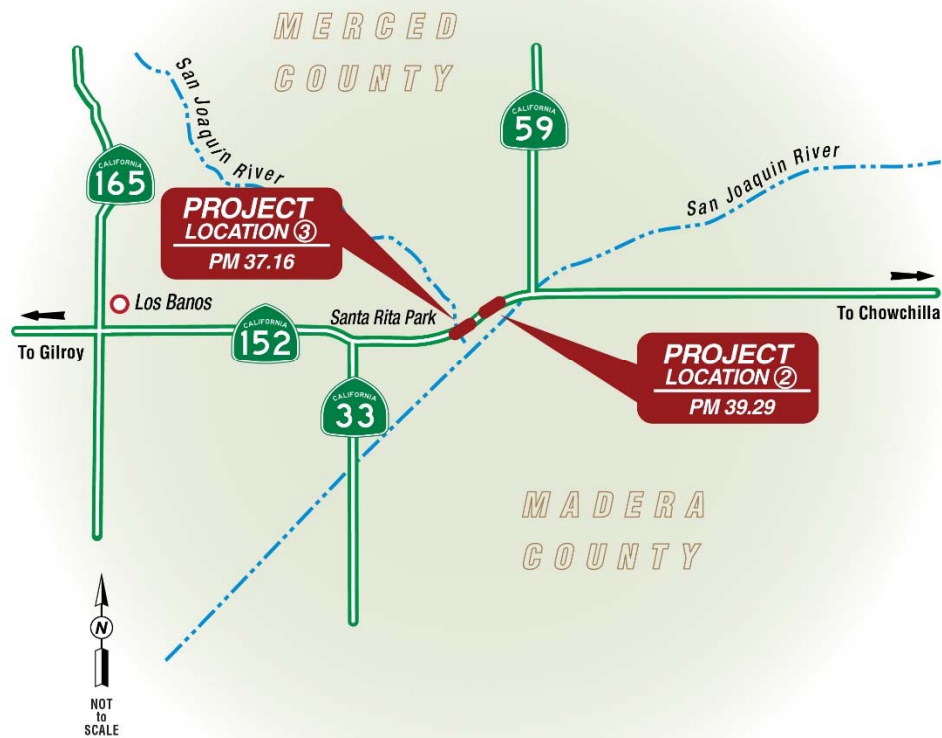


Figure A-1 Project Vicinity Map



**Figure A-2 Project Location Map – State Route 59**



**Figure A-3 Project Location Map – State Route 152**



**Figure A-4 Project Location Map – State Route 140**



## **A1.2 Description of Proposed Project**

The project would seismically retrofit seven bridges on State Routes 59, 140 and 152 in Merced County to increase structural integrity by doing the following:

- Adding steel column casings
- Retrofitting hinges with pipe seat extenders and cable restrainers

The work described above would bring the bridges up to current standards and minimize the risk of collapse and loss of life during a seismic event. The project would also upgrade the bridge railings.

In addition, work on one bridge (Los Banos Creek) would include widening the shoulders to 8 feet to match the approaching roadway; the bridge currently has no shoulders, while the approaching roadway has 8-foot shoulders.

The following section summarizes the purpose and need for the Merced Seismic Retrofit project and briefly describes the build alternative and No-Build Alternative. Full descriptions are in Chapter 1 of the Initial Study/Environmental Assessment.

### ***Purpose for the Proposed Project***

The purpose of the project is to upgrade the following bridges to current Caltrans' seismic standards:

1. Two Bear Creek Bridges, both northbound (Bridge Number, 39-0009 L) and southbound (Bridge Number 39-0009 R) on State Route 59 in the City of Merced. See Figure A-2.
2. San Joaquin River (Santa Rita) Bridge eastbound (Bridge Number, 39-0028 L) on State Route 152 in Merced County. See Figure A-3.
3. Two Eastside Bypass Channel Bridges, both eastbound (Bridge Number No. 39-0034L) and westbound (Bridge Number. No. 39-0034R) on State Route 152 in Merced County. See Figure A-3.
4. Los Banos Creek/West Branch Mud Slough (Bridge Number 039-0090) on State Route 140 in Merced County. See Figure A-3.
5. San Joaquin River Bridge (Bridge Number. 39-0092) on State Route 152 in Merced County. See Figure A-3.

### ***Need for Proposed Project***

The bridges were identified as seismically vulnerable by the Office of Earthquake Engineering. The Office of Structure Maintenance and Investigations also identified a need to upgrade the non-standard bridge railings at each project location.

The identified bridges are vulnerable to collapse during an earthquake if not retrofitted to withstand the maximum credible earthquake event. Also, five of the structures were identified as having obsolete bridge rail.

Under the provisions of Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21), all states are required to use nationally defined performance measures for bridges, which identify a bridge's condition as good, fair or poor. The project bridges have non-standard railings in "poor" condition

This project will bring these bridges up to current Caltrans' standards and minimize the risk of collapse and loss of life during a seismic event. The estimated total cost of construction is \$9,700,000.

## **Alternatives**

### ***Build Alternative***

The build alternative would seismically retrofit seven bridges on State Routes 59, 140 and 152 in Merced County to increase structural integrity by doing the following:

- Adding steel column casings
- Retrofitting hinges with pipe seat extenders and cable restrainers

Work on one of the bridges (location 4) would affect a Section 4(f) property. The remaining locations do not affect Section 4(f) property.

### ***Location 4, Los Banos Creek (West Mud Slough Bridge) (See Figure A-4)***

This structure would be widened to accommodate two 12-foot lanes and 8-foot shoulders to meet current Caltrans' standards and roadway approaches. The project would install approximately 28 additional piles to support the proposed widening.

The two rows of columns closest to each bank of the river would be retrofitted with steel casings. The steel casings consist of lengths of steel pipe split lengthwise into two halves. The halves of casing pipe would be fitted around the existing concrete columns and then welded together. The casings extend 3 feet below the ground and would require a large enough excavation for the welder to have access to the portion below the ground.

For work under the bridge, a water diversion plan would be required for this bridge. The plan would consist of temporary culverts and a trestle system.

A temporary signal system would be used to allow for reverse one-lane traffic control during construction.

### ***No-Build Alternative***

The No-Build Alternative would leave the Los Banos Creek Bridge in its current state. This would leave the bridge at a higher risk for structure collapse. This would also not meet the purpose and need.

### **A1.3 List and Description of Section 4(f) Properties**

Properties subject to the provisions of Section 4(f) are publicly owned parks and recreation areas, wildlife and waterfowl refuges of national, state, or local significance, and historic sites of national, state, or local significance. This project would result in the temporary use of the San Luis National Wildlife Refuge and the North Grasslands Wildlife Management Area, described below.

#### ***San Luis National Wildlife Refuge (See Figure A-6)***

The San Luis National Wildlife Refuge is a U.S. Fish and Wildlife Service-operated wildlife refuge in Merced County. Within the project area, it is located along State Route 140, near the Los Banos Creek and San Joaquin River bridges. It contains over 26,800 acres of wetlands, riparian forests, native grasslands and vernal pools. It provides habitat for numerous species, including many special-status species. The California tiger salamander, long-horned fairy shrimp, and San Joaquin kit fox are some of the special-status species present in the refuge.

In addition to hosting significant numbers of various wildlife species, the refuge provides various recreational opportunities. The refuge offers auto tours, hiking, fishing, and hunting at designated sites.

Main entrances to the refuge are on State Route 165 and State Route 140. The State Route 140 entrance, about 0.2 mile from the Los Banos Creek Bridge, is a hunter check-in station; it also provides auto access to 30 designated hunting areas.

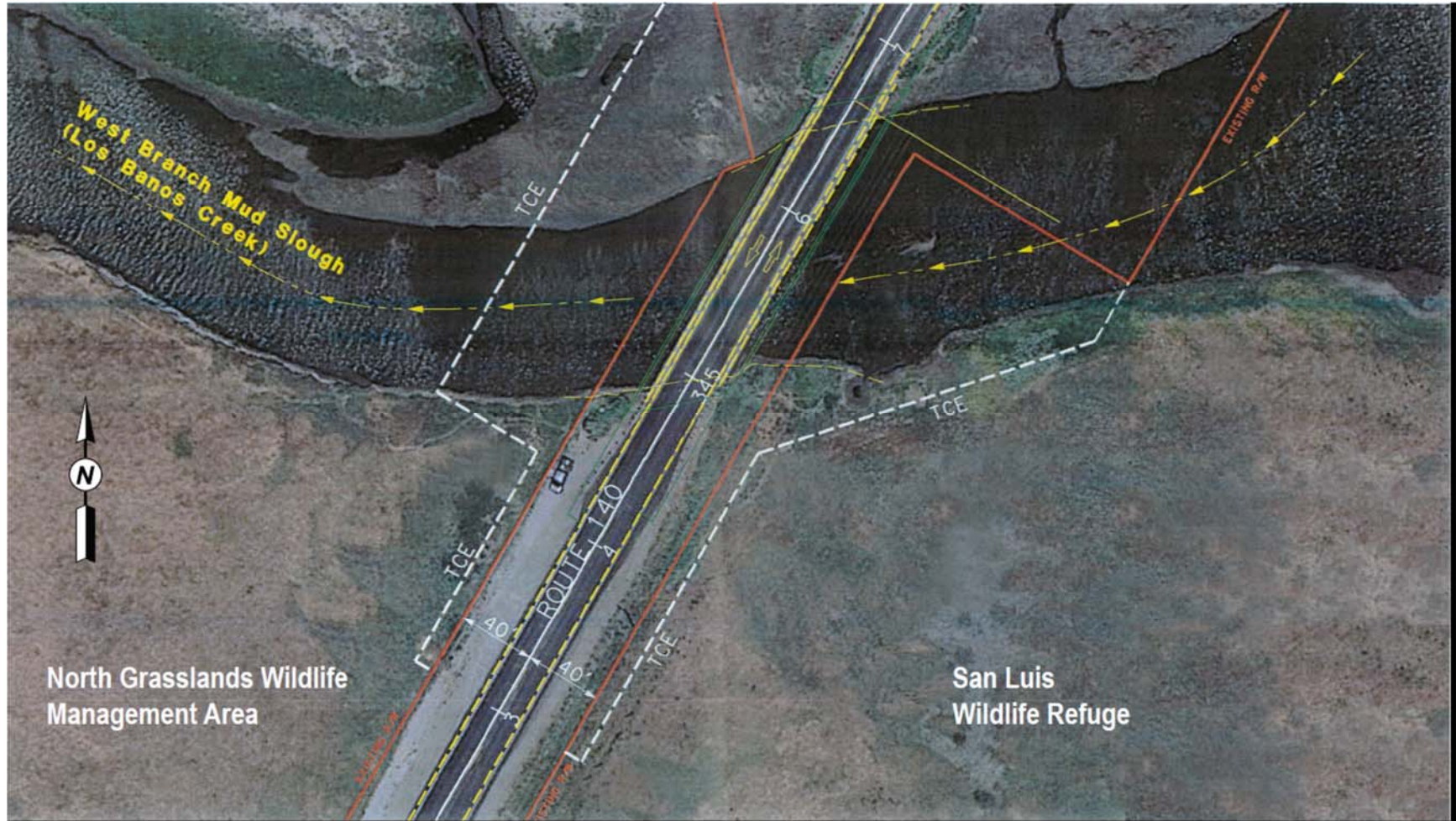
In addition to hunting, the area is used for fishing and wildlife viewing.

The Los Banos Creek Bridge requires temporary construction easements from the San Luis National Wildlife Refuge south of the Los Banos Creek Bridge. See Figure A-5. Approximately 0.56 acre would be needed to construct the improvements needed at this location, which include culverts and a trestle system.

#### ***North Grasslands Wildlife Management Area (See Figure A-7)***

The North Grassland Wildlife Management Area is a California Department of Fish and Wildlife-owned management area. It contains 7,400 acres of wetlands, riparian habitat, and uplands. It includes the China Island, Gadwall, and Sal Slough Units. There are distinct and discontinuous units throughout Merced County. The project is within the China Island Unit.

The China Island Unit is the northernmost segment of the North Grasslands Wildlife Management Area. It lies north of State Route 140 (see Figure A-7). At the North Grasslands Management Area, the main entrance for hunting is on Brazza Road, accessed via Canal School Road and State Route 33 (see Figure A-7).



**Figure A-5 Temporary Construction Easement – Los Banos Creek State Route 140**

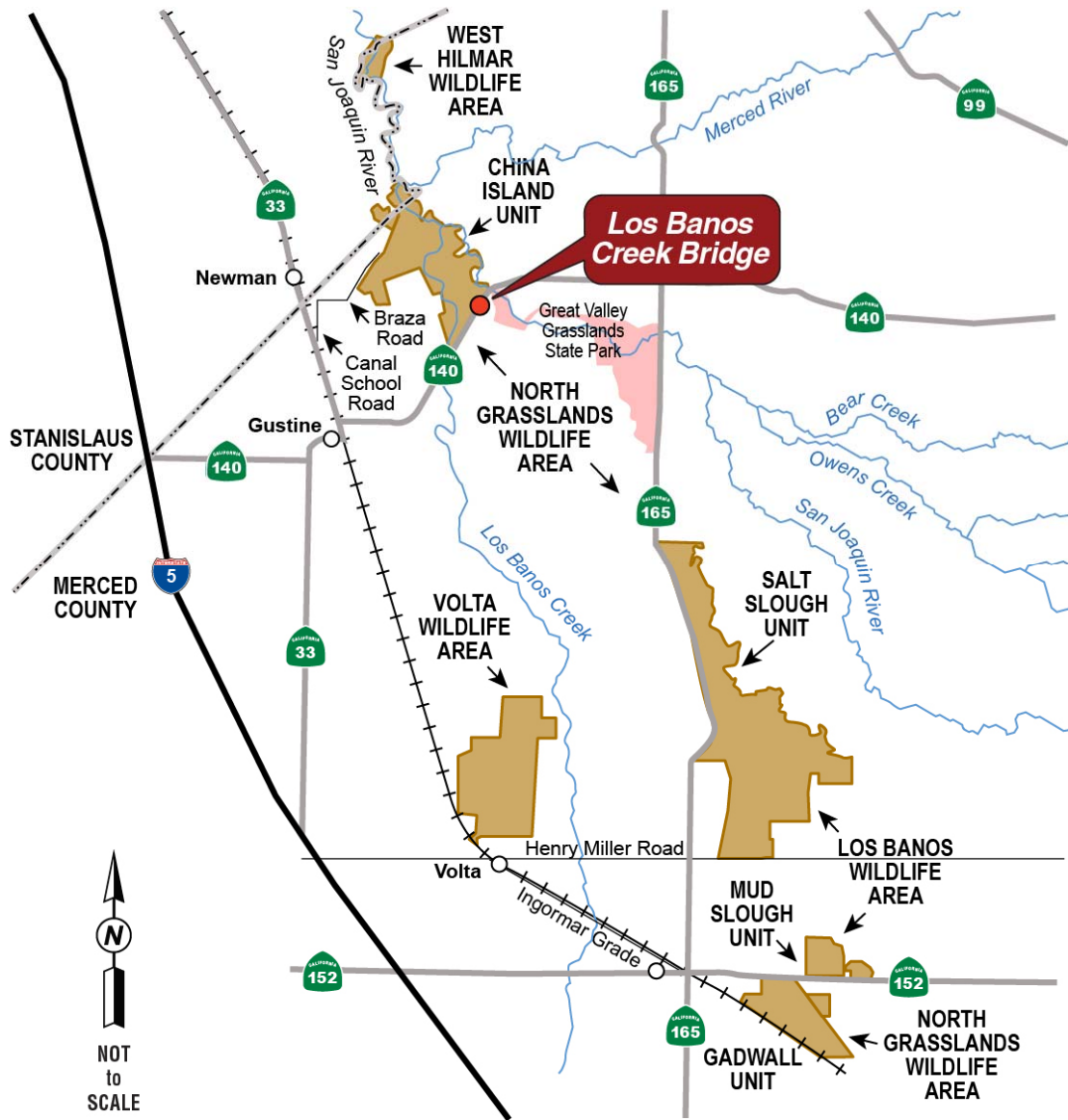


Figure A-6 San Luis National Wildlife Refuge



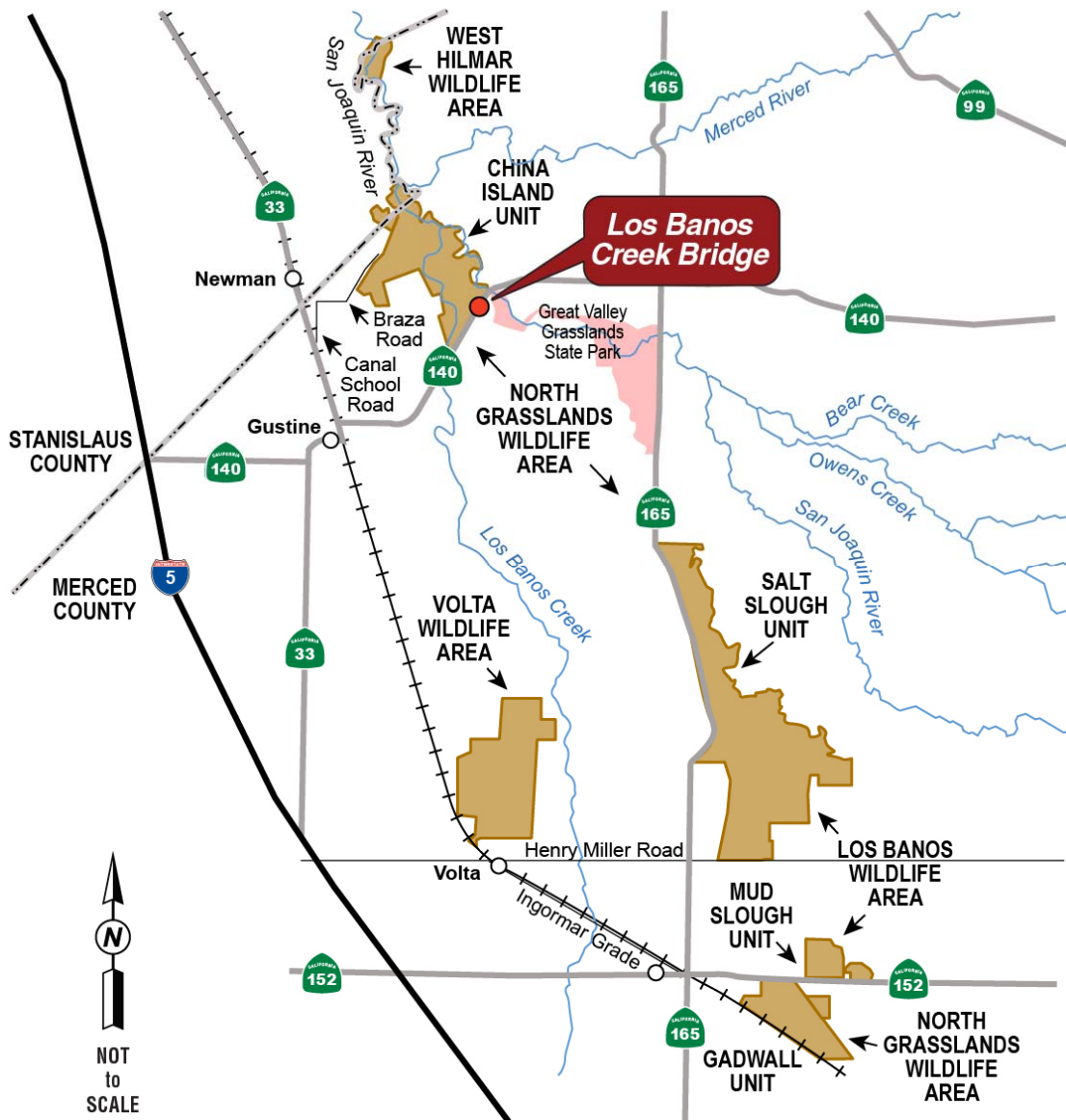


Figure A-7 North Grasslands Wildlife Management Area

In addition to hunting, the area is used for boating, fishing and wildlife viewing.

The North Grasslands Wildlife Management Area is north of Los Banos Creek Bridge. The project would require a temporary construction easement of 0.36 acre to construct the bridge work. The work would include culverts and a trestle system.

### ***Great Valley Grasslands State Park***

Great Valley Grasslands State Park is south of the San Joaquin River Bridge on State Route 140. The park was established in 1986 and spans 2,826 acres. Great Valley Grasslands State Park preserves native grasslands of the Central Valley and is part of the Grasslands Ecological Area. The park attracts visitors for its wildflowers and wildlife viewing and fishing. Next to the San Joaquin River Bridge project area is a boat launch, restrooms, and a parking lot.

## **A1.4 Use of the Section 4(f) Resources**

### ***Build Alternative***

This section describes how the Merced Seismic Retrofit project build alternative would use the Section 4(f) resources, which are publicly owned wildlife refuges offering recreational activities. The Los Banos Creek Bridge has insufficient room to construct the project within the Caltrans right-of-way, so the build alternative would require temporary access to both the San Luis National Wildlife Refuge and the North Grasslands Wildlife Management Area.

A Section 4(f) use occurs when there is a temporary occupancy of land that is adverse in terms of the statute's preservationist purpose. The build alternative would require a temporary construction easement to both Section 4(f) resources to construct the project. A 0.56-acre easement is needed from the 26,800-acre San Luis National Wildlife Refuge, and a 0.42-acre easement is needed from the 7,400-acre North Grasslands Wildlife Management Area. The easements would be used to allow for construction and equipment storage for the project. This would include a trestle and water diversion elements requiring the temporary use of the San Luis National Wildlife Refuge and the North Grasslands Wildlife Management Area. A trestle would be constructed alongside both sides of the Los Banos Creek Bridge. The trestle would be used to work on the bridge joints and bents. It would be a temporary bridge, constructed of wood, adjacent to the Los Banos Creek Bridge.

Once construction is completed, the Section 4(f) properties would be returned to their original state. All material would be removed, graded slopes would be returned to the natural state, and removed vegetation would be replanted. Re-planting would be done in coordination with the National Marine Fisheries Service and the U.S. Department of Fish and Wildlife. There would be no permanent use of either the San Luis National Wildlife Refuge or the North Grasslands Wildlife Management Area.

Recreation at the park would not be affected because recreational activity primarily occurs outside the project area.

### **No-Build Alternative**

The No-Build Alternative and the Avoidance Alternative would not include any of the elements proposed by the build alternative discussed above, and therefore would not result in the temporary occupancy of the Section 4(f) properties.

## **A1.5 Avoidance Alternative Analysis**

This analysis of avoidance alternative used the feasible and prudent standards of Section 4(f). This assessment is based on the definition of “feasible and prudent avoidance alternative” in 23 Code of Federal Regulations 774.17. The regulations state that an avoidance alternative is feasible and prudent if it “does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property.” An alternative is not feasible “if it cannot be built as a matter of sound engineering judgment.”

The regulations do not provide a single clear definition of “prudent.” Instead, they list a series of factors that can support a conclusion that an alternative is imprudent. The definition of “feasible and prudent avoidance alternative” in 23 Code of Federal Regulations 774.17 provides the following direction for determining whether an alternative is prudent:

An alternative is not prudent if:

- i. It compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need;
- ii. It results in unacceptable safety or operational problems;
- iii. After reasonable mitigation, it still causes:
  - a) Severe social, economic, or environmental impacts;
  - b) Severe disruption to established communities;
  - c) Severe disproportionate impacts to minority or low-income populations; or
  - d) Severe impacts to other federally protected resources;
- iv. It results in additional construction, maintenance, or operational costs of an extraordinary magnitude;
- v. It causes other unique problems or unusual factors; or
- vi. It involves multiple factors listed above, that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude.

### **Avoidance Alternative**

#### **No-Build Alternative**

The No-Build Alternative would not require a construction easement because construction would not occur. However, it would not meet the purpose and need. The bridge would still be vulnerable to seismic activity and collapse. This alternative



would be feasible, as it is constructible. But because it would leave the bridge at risk of collapse during a seismic event, it is not prudent.

## **A1.6 Measures to Minimize Harm to Section 4(f) Resources**

The development of the build alternative for the Merced Seismic Retrofit project considered a range of engineering and environmental constraints, particularly Section 4(f) properties in the project area. Avoiding or minimizing use of features of the Section 4(f) properties was a key criterion during the alternative development and refinement processes.

Measures to address project impacts are found within the specific section of the Initial Study/Environmental Assessment.

## **A1.7 Coordination**

### ***California Department of Fish and Wildlife***

On July 16, 2018, Caltrans and staff from the North Grasslands Wildlife Management Area discussed Section 4(f) issues, such as outlining what Section 4(f) is and how the project would affect the North Grasslands Wildlife Management Area. During the meeting, refuge staff indicated that they would not be able to concur with a Section 4(f) De Minimis determination.

### ***U.S. Fish and Wildlife Service***

On June 28, 2018, Caltrans and staff from the San Luis National Wildlife Refuge had a meeting to discuss Section 4(f) issues related to this project and an additional culvert project located on State Route 140. The procedures for getting a Special Use Permit for the construction work was also discussed.

On August 7, 2017, Caltrans obtained a Special Use Permit to conduct studies.

## **A1.8 Resources Evaluated Relative to the Requirements of Section 4(f)**

This section discusses parks, recreational facilities, wildlife refuges, and historic sites found within or next to the project area that do not trigger Section 4(f) protection because either (1) they are not publicly owned, (2) they are not open to the public, (3) they are not National Register-eligible historic properties, (4) the project does not permanently use the property and does not hinder the preservation of the property, or (5) the proximity impacts do not result in a constructive use.

### ***Great Valley Grasslands State Park***

This state park lies south of the San Joaquin River Bridge on State Route 140. The park was established in 1986 and spans 2,826 acres. The park preserves native

grasslands of the Central Valley and is part of the Grasslands Ecological Area. The park attracts visitors for its wildflowers and wildlife viewing and fishing. Next to the San Joaquin River Bridge project area is a boat launch, restrooms and a parking lot. The entrance to the park is just west of the San Joaquin River Bridge.

The project would not have any direct impacts on the Great Valley Grasslands State Park. However, construction would occur on the San Joaquin River Bridge, which borders the park. The park would remain open during construction.

When one-way traffic control is in effect, visitors accessing the parking lot could experience some travel delay, but the parking lot would be accessible at all time.

The project will not result in any temporary or permanent Section 4(f) use of the park.

## Appendix B Title VI Policy Statement

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY

EDMUND G. BROWN Jr., Governor

### DEPARTMENT OF TRANSPORTATION

OFFICE OF THE DIRECTOR  
P.O. BOX 942873, MS-49  
SACRAMENTO, CA 94273-0001  
PHONE (916) 654-6130  
FAX (916) 653-5776  
TTY 711  
www.dot.ca.gov



*Making Conservation  
a California Way of Life.*

April 2018

### NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures *"No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."*

Related federal statutes and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, please visit the following web page:  
[http://www.dot.ca.gov/hq/bep/title\\_vi/t6\\_violated.htm](http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm).

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, 1823 14<sup>th</sup> Street, MS-79, Sacramento, CA 95811. Telephone (916) 324-8379, TTY 711, email [Title.VI@dot.ca.gov](mailto:Title.VI@dot.ca.gov), or visit the website [www.dot.ca.gov](http://www.dot.ca.gov).

A handwritten signature in blue ink, appearing to read "Laurie Berman".

LAURIE BERMAN  
Director

*"Provide a safe, sustainable, integrated and efficient transportation system  
to enhance California's economy and livability"*



## Appendix C Avoidance, Minimization and/or Mitigation Summary

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To be sure that all of the environmental measures identified in this document are executed at the appropriate times, the following mitigation program (as shown on the proposed Environmental Commitments Record [ECR] which follows) would be implemented. During project design, avoidance, minimization, and/or mitigation measures would be incorporated into the project's final plans, specifications, and cost estimates, as appropriate. All permits would be obtained prior to implementation of the project. During construction, environmental and construction/engineering staff would ensure that the commitments contained in the Environmental Commitments Record are fulfilled. Following construction and appropriate phases of project delivery, long-term mitigation maintenance and monitoring would take place, as applicable. As the following Environmental Commitments Record is a draft, some fields have not been completed, and would be filled out as each of the measures is implemented.

Note: Some measures may apply to more than one resource area. Duplicative or redundant measures have not been included in this Environmental Commitments Record.

### ***Cultural Resources***

Within the project Area of Potential Effects, two cultural resources have been determined eligible for the National Register of Historic Places. Both of the historic and pre-historic properties are pre-historic archaeological sites. The project would potentially affect both sites during construction. With the input of relevant stakeholders, Caltrans would develop a Memorandum of Agreement, which would codify all environmental commitments and mitigation responsibilities, for the undertaking, having to do with cultural resources. It is anticipated that the project would have a Finding of Adverse Effect on both archaeological properties. Final consultation would be done prior to completion of the final environmental document. A data recovery plan would be implemented to capture data from damaged property. The data from any affected part of the site would be saved by the data recovery plan to preserve its historic value.

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

If human remains are discovered on non-federal lands, State Health and Safety Code Section 7050.5 states that further disturbances and activities would cease 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 would notify the Native American Heritage Commission, which would then notify the Most Likely Descendent. At this

time, the person who discovered the remains would contact the Resident Engineer so that he or she could work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code 5097.98 are to be followed as applicable.

### ***Hazardous Waste***

Provisions would be included in the contract to ensure any potential hazardous waste is treated accordingly to minimize exposure to the public and construction workers.

### ***Natural Communities***

The following measure would be included in project plans:

Caltrans would retain a qualified biologist(s) to conduct environmental awareness training, covering all listed species and appropriate regulations, for construction crews before project implementation.

### ***Wetlands and Waters of the U.S.***

#### ***Compensatory Impacts***

Temporary impacts to wetlands and other waters would be mitigated through replacement habitat the exact ratio would be negotiated as part of the Jurisdictional Determination and Section 404 permit.

### ***Plant Species***

#### ***Parry's Rough Tarplant***

##### **Avoidance and Minimization Measures**

A pre-construction survey for Parry's rough tarplant would be completed during the appropriate blooming season prior to ground-disturbing activities.

If tarplant is found within the project area and can be avoided, environmentally sensitive area fencing would be placed around the location.

If tarplant is found and cannot be avoided, then appropriate minimization measures would be implemented, such as salvage of topsoil, seed collection and transplanting.

##### **Compensatory Mitigation**

No compensatory mitigation is proposed.

#### ***Delta Button Celery***

##### **Avoidance and Minimization Measures**

A pre-construction survey for the Delta button celery would be completed during the appropriate blooming season prior to ground-disturbing activities.

If the Delta button celery is found within the project area and can be avoided, environmentally sensitive area fencing would be placed around the location.

If the Delta button celery is found and cannot be avoided, then appropriate minimization measures would be implemented, such as salvage of topsoil, seed collection and transplanting.

#### Compensatory Mitigation

No compensatory mitigation is proposed.

#### **Animal Species**

Pre-construction surveys would be conducted within the project area at the Los Banos Creek Bridge and San Joaquin River Bridge on State Route 140 to determine potential presence of the tri-colored blackbird.

During construction activities, a qualified biologist would be present at the construction site in areas that have the potential for nesting tri-colored blackbirds.

Worker Environmental Awareness Training would be performed by a qualified biologist for all work personnel to inform them of the following: special-status species potentially within the work area, protective measures, reporting procedures, and consequences of violating environmental laws and permit requirements.

Bridges would be surveyed prior to construction for the presence of roosting bats. Exclusionary measures would be put in place prior to construction. If bats are present, a qualified biologist would monitor construction activities to determine if bats are being disturbed. If bats are disturbed, work would be suspended and the situation would be evaluated to determine if the installation of bat exclusion methods are practicable, or if the work should be done at night when the bats are not roosting under the bridge.

#### **Threatened and Endangered Species**

Below are measures that would be used to avoid, minimize and mitigate for impacts.

##### ***San Joaquin Kit Fox***

Caltrans would retain a qualified biologist(s) to conduct environmental awareness training, covering all listed species and appropriate regulations, for construction crews before project implementation.

Pre-construction/pre-activity surveys would be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities or any project activity likely to impact the San Joaquin kit fox.

##### ***Giant Garter Snake***

Pre-construction surveys would be conducted by a qualified biologist to identify areas that have potential to encounter a giant garter snake.

Worker Environmental Awareness Training would be performed by a qualified biologist for all work personnel to inform them of the following: special-status

species potentially within the work area, protective measures, reporting procedures, and consequences of violating environmental laws and permit requirements

Temporary silt fencing may be installed where necessary to minimize adverse impacts to water quality and prevent giant garter snakes from entering the work area.

If a live giant garter snake is encountered during construction activities, the biological monitor would do the following: Stop construction activity in the vicinity of the snake. Monitor the giant garter snake and allow the giant garter snake to leave on its own. The monitor would remain in the area for the remainder of the workday to make sure that the snake is not harmed or that it leaves the site and does not return. If the giant garter snake does not leave on its own within one working day, further consultation with U.S. Fish and Wildlife Service would be conducted.

Any disturbed areas would be revegetated with native seed mixture. Seed mixture would be approved by the U.S. Fish and Wildlife Service.

#### Compensatory Mitigation

Caltrans would mitigate for temporary and permanent impacts by purchasing bank credits. The total estimated credits would be 6.9 acres.

#### *California Central Valley Steelhead Trout*

Worker Environmental Awareness Training would be performed by a qualified biologist for all work personnel to inform them of the following: special-status species potentially within the work area, protective measures, reporting procedures, and consequences of violating environmental laws and permit requirements.

The construction contractor would comply with all construction site Best Management Practices specified in the Storm Water Pollution Prevention Plan and any other permit conditions to minimize the introduction of construction-related contaminants and mobilization of sediment in and adjacent to the action areas at all project locations, as necessary. The Best Management Practices would be selected to achieve maximum sediment removal and represent the best available technology that is economically achievable and are subject to review and approval by Caltrans.

Selected Best Management Practices, similar to those discussed as avoidance and minimization measures for Essential Fish Habitat (Section 2.3.1), would be implemented throughout construction to avoid and minimize adverse effects to water quality within the project areas.

If dewatering is determined to be necessary where there is fish potential, then fish rescue would be completed by a designated fisheries biologist, prior to dewatering. Rescued fish would be moved to the nearest appropriate site. A record of the rescues and their new location would be kept.



### *Central Valley Spring-run Chinook Salmon*

The measures in place for steelhead trout would be used to minimize and avoid impacts for Chinook salmon as well.

### *California Tiger Salamander*

Worker Environmental Awareness Training would be performed by a qualified biologist for all work personnel to inform them of the following: special-status species potentially within the work area, protective measures, reporting procedures, and consequences of violating environmental laws and permit requirements

A pre-construction survey would be conducted at Los Banos Creek Bridge by a qualified biologist.

A biological monitor would be present during any activities that could have the potential to encounter California tiger salamanders.

### *Swainson's Hawk*

If construction occurs during the nesting season (February 1–September 30), Swainson's hawk pre-construction surveys would be conducted within 0.5-mile of the project areas. If Swainson's hawks are observed nesting within 0.5-mile of the project, a 600-foot-radius no-work buffer would be designated by an Environmentally Sensitive Area fence around the nest tree wherever the no-work buffer may overlap with project construction limits. The nest tree would be monitored by a qualified biologist during construction activities in proximity to the nest until the birds have fledged (left on their own).



# Appendix D Species Lists

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## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Sacramento Fish And Wildlife Office  
Federal Building  
2800 Cottage Way, Room W-2605  
Sacramento, CA 95825-1846  
Phone: (916) 414-6600 Fax: (916) 414-6713



In Reply Refer To:  
Consultation Code: 08ESMF00-2017-SLI-0245  
Event Code: 08ESMF00-2018-E-05712  
Project Name: 10-OG380 Merced Seismic Retrofit

April 25, 2018

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

### To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

[http://www.nwr.noaa.gov/protected\\_species/species\\_list/species\\_lists.html](http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html)

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

04/25/2018

Event Code: 08ESMF00-2018-E-05712

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Attachment(s):

- Official Species List

04/25/2018

Event Code: 08ESMF00-2018-E-05712

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## Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Sacramento Fish And Wildlife Office**

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

04/25/2018

Event Code: 08ESMF00-2018-E-05712

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## Project Summary

Consultation Code: 08ESMF00-2017-SLI-0245

Event Code: 08ESMF00-2018-E-05712

Project Name: 10-0G380 Merced Seismic Retrofit

Project Type: TRANSPORTATION

Project Description: Bear Creek Bridge

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/37.30819256262923N120.50387349276771W>



Counties: Merced, CA

## Endangered Species Act Species

There is a total of 14 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

### Mammals

NAME	STATUS
San Joaquin Kit Fox <i>Vulpes macrotis mutica</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/2873">https://ecos.fws.gov/ecp/species/2873</a>	Endangered

### Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard <i>Gambelia silus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/625">https://ecos.fws.gov/ecp/species/625</a>	Endangered
Giant Garter Snake <i>Thamnophis gigas</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/4482">https://ecos.fws.gov/ecp/species/4482</a>	Threatened



04/25/2018

Event Code: 08ESMF00-2018-E-05712

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**Amphibians**

NAME	STATUS
<b>California Red-legged Frog</b> <i>Rana draytonii</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/2891">https://ecos.fws.gov/ecp/species/2891</a>	Threatened
<b>California Tiger Salamander</b> <i>Ambystoma californiense</i> Population: U.S.A. (Central CA DPS) There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/2076">https://ecos.fws.gov/ecp/species/2076</a>	Threatened

**Fishes**

NAME	STATUS
<b>Delta Smelt</b> <i>Hypomesus transpacificus</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/321">https://ecos.fws.gov/ecp/species/321</a>	Threatened

**Insects**

NAME	STATUS
<b>Valley Elderberry Longhorn Beetle</b> <i>Desmocerus californicus dimorphus</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/7850">https://ecos.fws.gov/ecp/species/7850</a> Habitat assessment guidelines: <a href="https://ecos.fws.gov/ipac/guideline/assessment/population/436/office/11420.pdf">https://ecos.fws.gov/ipac/guideline/assessment/population/436/office/11420.pdf</a>	Threatened

**Crustaceans**

NAME	STATUS
<b>Conservancy Fairy Shrimp</b> <i>Branchinecta conservatio</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/8246">https://ecos.fws.gov/ecp/species/8246</a>	Endangered
<b>Vernal Pool Fairy Shrimp</b> <i>Branchinecta lynchi</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/498">https://ecos.fws.gov/ecp/species/498</a>	Threatened
<b>Vernal Pool Tadpole Shrimp</b> <i>Lepidurus packardii</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/2246">https://ecos.fws.gov/ecp/species/2246</a>	Endangered

04/25/2018

Event Code: 08ESMF00-2018-E-05712

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## Flowering Plants

NAME	STATUS
<b>Colusa Grass</b> <i>Neostaffia colusana</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/5690">https://ecos.fws.gov/ecp/species/5690</a>	Threatened
<b>Fleshy Owl's-clover</b> <i>Castilleja campestris ssp. succulenta</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/8025">https://ecos.fws.gov/ecp/species/8025</a>	Threatened
<b>Hairy Orcutt Grass</b> <i>Orcuttia pilosa</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/2262">https://ecos.fws.gov/ecp/species/2262</a>	Endangered
<b>San Joaquin Orcutt Grass</b> <i>Orcuttia inaequalis</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/5506">https://ecos.fws.gov/ecp/species/5506</a>	Threatened

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Sacramento Fish And Wildlife Office  
Federal Building  
2800 Cottage Way, Room W-2605  
Sacramento, CA 95825-1846  
Phone: (916) 414-6600 Fax: (916) 414-6713



In Reply Refer To:  
Consultation Code: 08ESMF00-2017-SLI-0246  
Event Code: 08ESMF00-2018-E-05714  
Project Name: 10-0G830 Merced Seismic Retrofit(2)

April 25, 2018

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

### To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

[http://www.nwr.noaa.gov/protected\\_species/species\\_list/species\\_lists.html](http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html)

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

04/25/2018

Event Code: 08ESMF00-2018-E-05714

3

Attachment(s):

- Official Species List

04/25/2018

Event Code: 08ESMF00-2018-E-05714

1

## Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Sacramento Fish And Wildlife Office**

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

04/25/2018

Event Code: 08ESMF00-2018-E-05714

2

## Project Summary

Consultation Code: 08ESMF00-2017-SLI-0246

Event Code: 08ESMF00-2018-E-05714

Project Name: 10-0G830 Merced Seismic Retrofit(2)

Project Type: TRANSPORTATION

Project Description: SR 140 bridge locations

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/37.29958483474839N120.93730144092777W>



Counties: Merced, CA

## Endangered Species Act Species

There is a total of 11 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

### Mammals

NAME	STATUS
<b>Fresno Kangaroo Rat</b> <i>Dipodomys nitratoideis exilis</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/5150">https://ecos.fws.gov/ecp/species/5150</a> Species survey guidelines: <a href="https://ecos.fws.gov/ipac/guideline/survey/population/37/office/11420.pdf">https://ecos.fws.gov/ipac/guideline/survey/population/37/office/11420.pdf</a>	Endangered
<b>San Joaquin Kit Fox</b> <i>Vulpes macrotis mutica</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/2873">https://ecos.fws.gov/ecp/species/2873</a>	Endangered

### Reptiles

NAME	STATUS
<b>Blunt-nosed Leopard Lizard</b> <i>Gambelia silus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/625">https://ecos.fws.gov/ecp/species/625</a>	Endangered
<b>Giant Garter Snake</b> <i>Thamnophis gigas</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/4482">https://ecos.fws.gov/ecp/species/4482</a>	Threatened

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## Amphibians

NAME	STATUS
<b>California Red-legged Frog</b> <i>Rana draytonii</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/2891">https://ecos.fws.gov/ecp/species/2891</a>	Threatened
<b>California Tiger Salamander</b> <i>Ambystoma californiense</i> Population: U.S.A. (Central CA DPS) There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/2076">https://ecos.fws.gov/ecp/species/2076</a>	Threatened

## Fishes

NAME	STATUS
<b>Delta Smelt</b> <i>Hypomesus transpacificus</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/321">https://ecos.fws.gov/ecp/species/321</a>	Threatened

## Insects

NAME	STATUS
<b>Valley Elderberry Longhorn Beetle</b> <i>Desmocerus californicus dimorphus</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/7850">https://ecos.fws.gov/ecp/species/7850</a> Habitat assessment guidelines: <a href="https://ecos.fws.gov/ipac/guideline/assessment/population/436/office/11420.pdf">https://ecos.fws.gov/ipac/guideline/assessment/population/436/office/11420.pdf</a>	Threatened

## Crustaceans

NAME	STATUS
<b>Conservancy Fairy Shrimp</b> <i>Branchinecta conservatio</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/8246">https://ecos.fws.gov/ecp/species/8246</a>	Endangered
<b>Vernal Pool Fairy Shrimp</b> <i>Branchinecta lynchi</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/498">https://ecos.fws.gov/ecp/species/498</a>	Threatened
<b>Vernal Pool Tadpole Shrimp</b> <i>Lepidurus packardii</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/2246">https://ecos.fws.gov/ecp/species/2246</a>	Endangered

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Sacramento Fish And Wildlife Office  
Federal Building  
2800 Cottage Way, Room W-2605  
Sacramento, CA 95825-1846  
Phone: (916) 414-6600 Fax: (916) 414-6713



In Reply Refer To:  
Consultation Code: 08ESMF00-2018-SLI-0927  
Event Code: 08ESMF00-2018-E-05713  
Project Name: EA 10-0G830 152 bridges

April 25, 2018

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

### To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

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New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

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We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

04/25/2018

Event Code: 08ESMF00-2018-E-05713

3

Attachment(s):

- Official Species List

04/25/2018

Event Code: 08ESMF00-2018-E-05713

1

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This species list is provided by:

**Sacramento Fish And Wildlife Office**  
Federal Building  
2800 Cottage Way, Room W-2605  
Sacramento, CA 95825-1846  
(916) 414-6600

04/25/2018

Event Code: 08ESMF00-2018-E-05713

2

## Project Summary

Consultation Code: 08ESMF00-2018-SLI-0927

Event Code: 08ESMF00-2018-E-05713

Project Name: EA 10-0G830 152 bridges

Project Type: TRANSPORTATION

Project Description: 10-0G830 MER 140

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/37.06440810240983N120.5418156639591W>



Counties: Madera, CA | Merced, CA

## Endangered Species Act Species

There is a total of 10 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

### Mammals

NAME	STATUS
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San Joaquin Kit Fox <i>Vulpes macrotis mutica</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/2873">https://ecos.fws.gov/ecp/species/2873</a>	Endangered

### Reptiles

NAME	STATUS
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Giant Garter Snake <i>Thamnophis gigas</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/4482">https://ecos.fws.gov/ecp/species/4482</a>	Threatened

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04/25/2018

Event Code: 08ESMF00-2018-E-05713

4

**Amphibians**

NAME	STATUS
<b>California Red-legged Frog</b> <i>Rana draytonii</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/2891">https://ecos.fws.gov/ecp/species/2891</a>	Threatened
<b>California Tiger Salamander</b> <i>Ambystoma californiense</i> Population: U.S.A. (Central CA DPS) There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/2076">https://ecos.fws.gov/ecp/species/2076</a>	Threatened

**Fishes**

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<b>Delta Smelt</b> <i>Hypomesus transpacificus</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/321">https://ecos.fws.gov/ecp/species/321</a>	Threatened

**Insects**

NAME	STATUS
<b>Valley Elderberry Longhorn Beetle</b> <i>Desmocerus californicus dimorphus</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/7850">https://ecos.fws.gov/ecp/species/7850</a> Habitat assessment guidelines: <a href="https://ecos.fws.gov/ipac/guideline/assessment/population/436/office/11420.pdf">https://ecos.fws.gov/ipac/guideline/assessment/population/436/office/11420.pdf</a>	Threatened

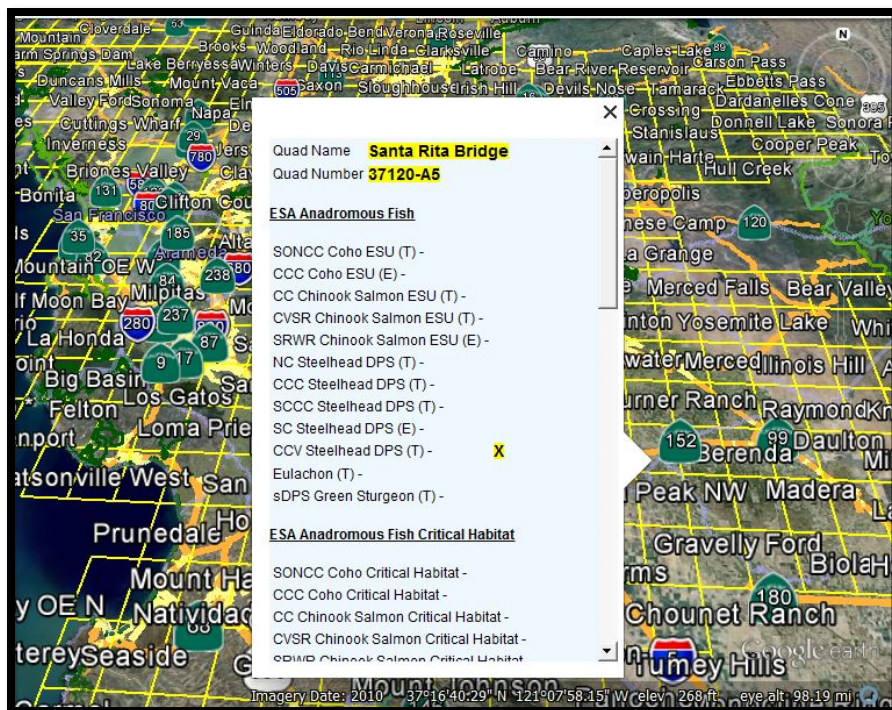
**Crustaceans**

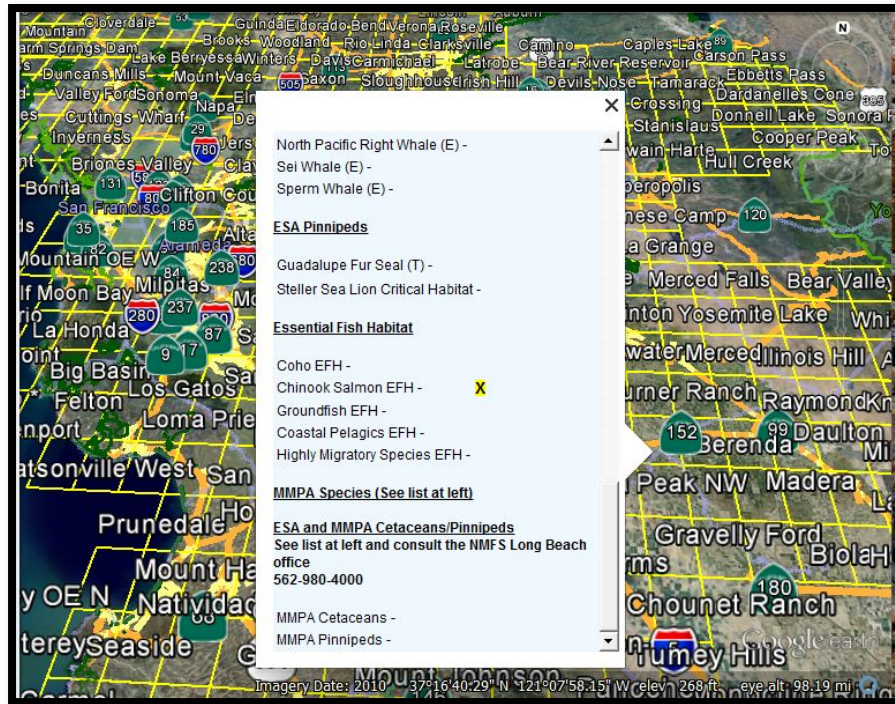
NAME	STATUS
<b>Vernal Pool Fairy Shrimp</b> <i>Branchinecta lynchi</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/498">https://ecos.fws.gov/ecp/species/498</a>	Threatened
<b>Vernal Pool Tadpole Shrimp</b> <i>Lepidurus packardii</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/2246">https://ecos.fws.gov/ecp/species/2246</a>	Endangered

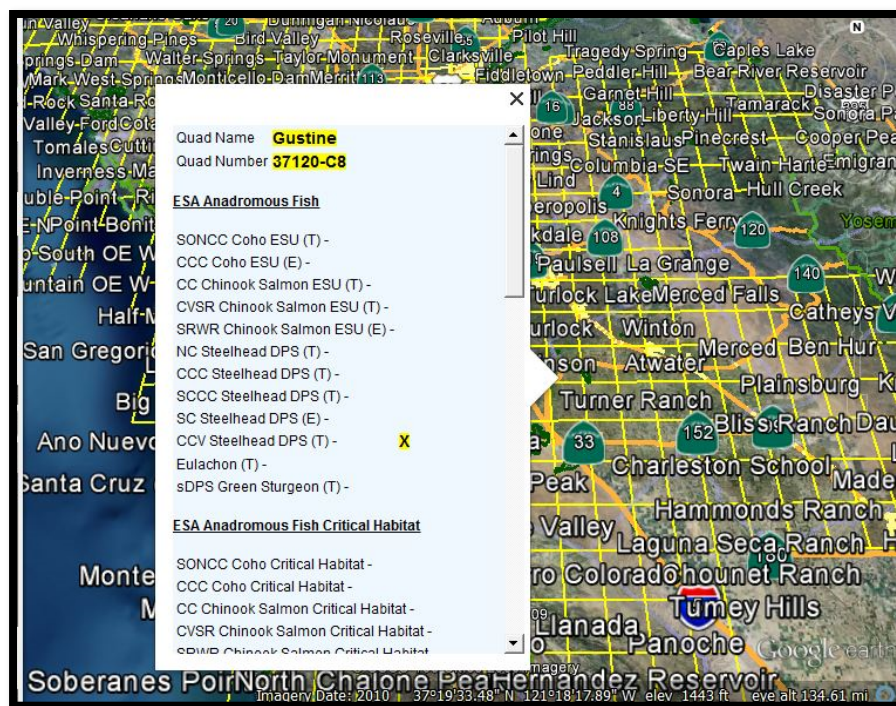
**Critical habitats**

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

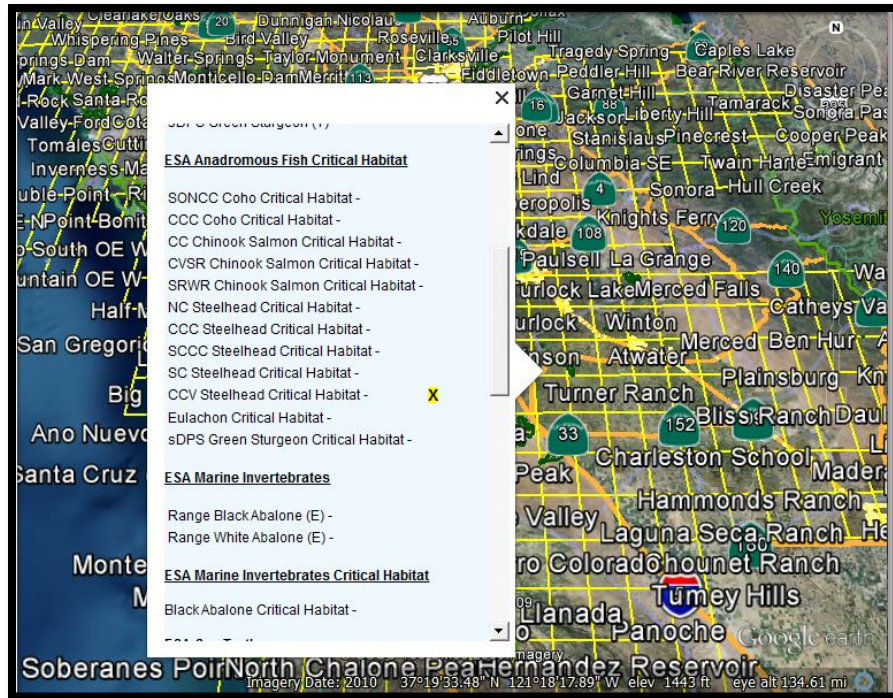


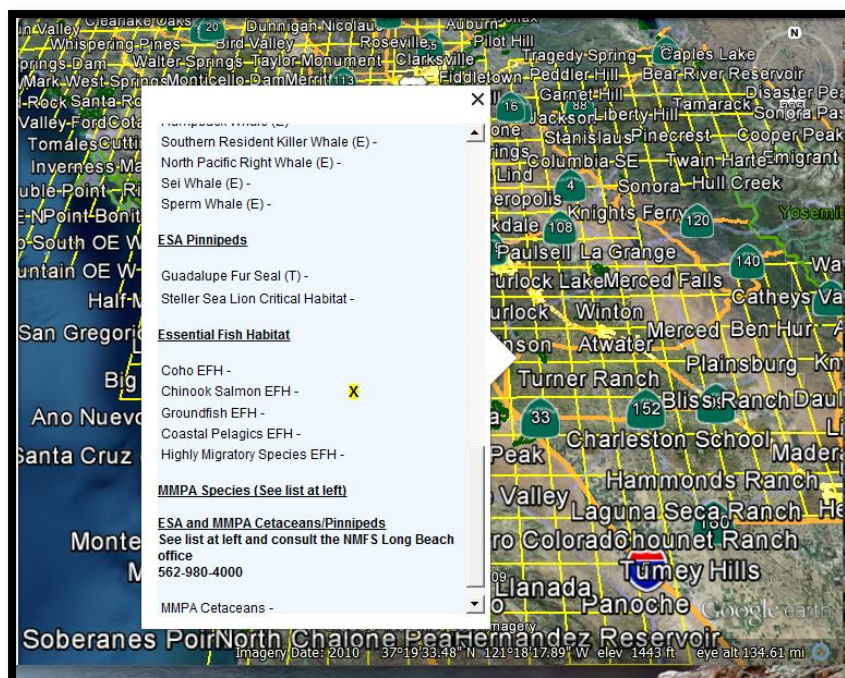


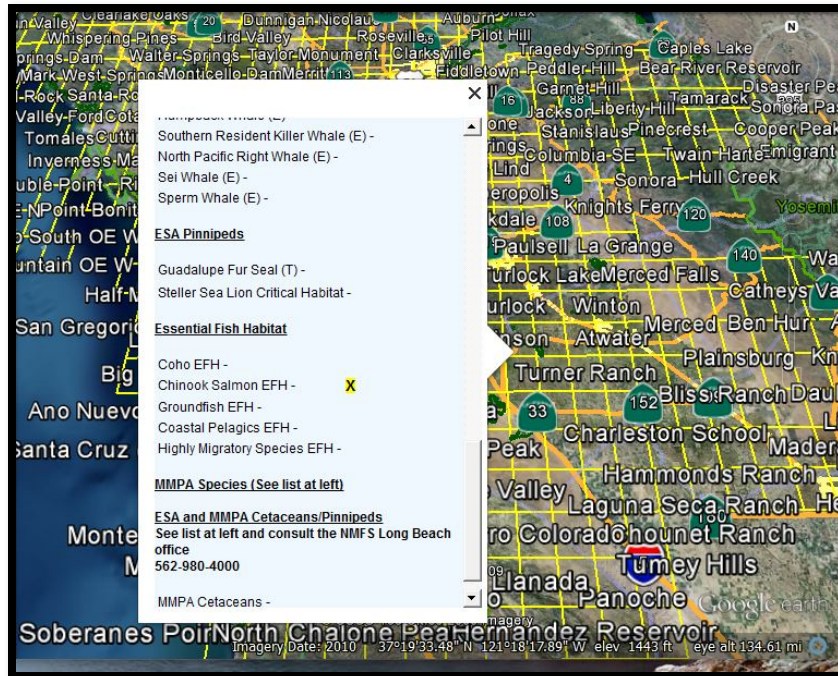




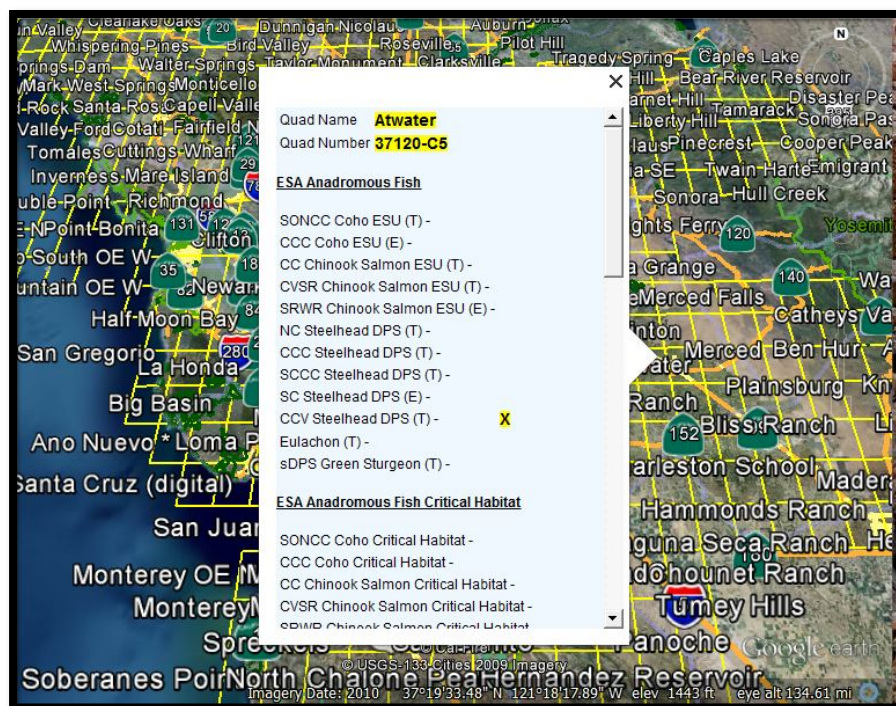


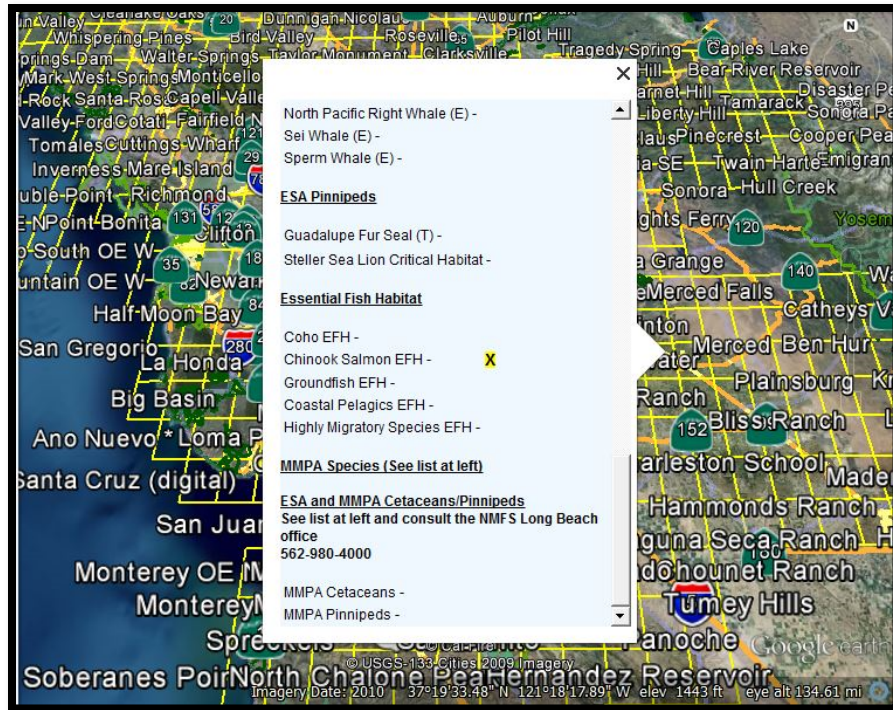














CNPS <i>California Native Plant Society</i>					Inventory of Rare and Endangered Plants	
Home	About the Inventory	CNPS Home	Join CNPS		Simple Search	Advanced Search

## Plant List

13 matches found. [Click on scientific name for details](#)

### Search Criteria

Found in Quads **3712038 3712015** and **3712035**;

[Modify Search Criteria](#)
[Export to Excel](#)
[Modify Columns](#)
[Modify Sort](#)
[Display Photos](#)

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
<a href="#">Astragalus tener var. tener</a>	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	1B.2	S2	G2T2
<a href="#">Atriplex cordulata var. cordulata</a>	heartscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G3T2
<a href="#">Atriplex persistens</a>	vernal pool smallscale	Chenopodiaceae	annual herb	Jun, Aug, Sep, Oct	1B.2	S2	G2
<a href="#">Atriplex subtilis</a>	subtle orache	Chenopodiaceae	annual herb	Jun, Aug, Sep (Oct)	1B.2	S1	G1
<a href="#">Centromadia parryi ssp. rudis</a>	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	4.2	S3	G3T3
<a href="#">Chloropyron molle ssp. hispidum</a>	hispid bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Sep	1B.1	S1	G2T1
<a href="#">Eryngium racemosum</a>	Delta button-celery	Apiaceae	annual / perennial herb	Jun-Oct	1B.1	S1	G1
<a href="#">Eryngium spinosepalum</a>	spiny-sealed button-celery	Apiaceae	annual / perennial herb	Apr-Jun	1B.2	S2	G2
<a href="#">Extriplex joaquinana</a>	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
<a href="#">Myosurus minimus ssp. apus</a>	little mousetail	Ranunculaceae	annual herb	Mar-Jun	3.1	S2	G5T2Q
<a href="#">Navarretia prostrata</a>	prostrate vernal pool navarretia	Polemoniaceae	annual herb	Apr-Jul	1B.1	S2	G2

## Appendix D • Species List

<a href="#">Navarretia prostrata</a>	prostrate vernal pool navarretia	Polemoniaceae	annual herb	Apr-Jul	1B.1	S2	G2
<a href="#">Neostapfia colusana</a>	Colusa grass	Poaceae	annual herb	May-Aug	1B.1	S1	G1
<a href="#">Sagittaria sanfordii</a>	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	1B.2	S3	G3

### Suggested Citation

California Native Plant Society, Rare Plant Program. 2018. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org> [accessed 13 April 2018].

## **List of Technical Studies**

Air Quality Memo

Noise Study Memo

Water Quality Report

Natural Environment Study

Location Hydraulic Study

Historical Property Survey Report

- Historic Resource Evaluation Report
- Historic Architectural Survey Report
- Archaeological Survey Report
- Extended Phase I Archaeology Report
- Phase II Archaeology Report

Hazardous Waste Reports

- Initial Site Assessment
- Preliminary Site Investigation (Geophysical Survey)

Scenic Resource Evaluation/Visual Assessment

Paleontology Memo