

# Mokelumne River Bridge Upgrade

On State Route 49 between Jackson and Mokelumne Hill

10-CAL/AMA-49-30.9-0.0

10-0X752/10-1700-0004

## Initial Study with Proposed Negative Declaration



Prepared by the  
State of California Department of Transportation

December 2019



## **General Information About This Document**

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

The California Department of Transportation (Caltrans) has prepared this Initial Study, which examines the potential environmental impacts of the proposed project at the county line between Calaveras and Amador counties in California. The document explains why the project is being proposed, the alternatives that were 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:***

- Please 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 Dr. Martin Luther King, Jr. Boulevard; the Jackson Main Branch of the Amador County Public Library at 530 Sutter Street, Jackson, CA 95642; and the San Andreas Public Library, at 1299 Gold Hunter Road, San Andreas, CA 95249.
- 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: Guadalupe (Lupe) Jimenez, Senior Environmental Planner, Central Region Environmental, California Department of Transportation, 1976 East Dr. Martin Luther King, Jr. Boulevard, Stockton, CA 95205. Submit comments via email to: [Lupe.Jimenez@dot.ca.gov](mailto:Lupe.Jimenez@dot.ca.gov).
- Submit comments by the deadline: [\[date\]](#).

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

After comments are received from the public and reviewing agencies, Caltrans 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, Attention: Lupe Jimenez, Central Region Environmental, District 10, 1976 East Dr. Martin Luther King, Jr. Boulevard, Stockton, CA 95205; phone (209) 941-1919 (Voice), or use the California Relay Service 1-800-735-2929 (TTY), 1-800-735-2929 (Voice), or 711.

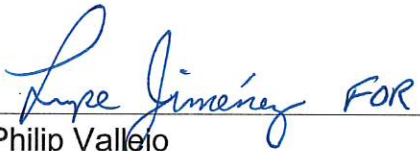
Upgrade bridge rails and widen the deck to provide shoulders on  
Mokelumne River Bridge on State Route 49 between Jackson and Mokelumne Hill

## **Initial Study with Proposed Negative Declaration**

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

THE STATE OF CALIFORNIA  
Department of Transportation

Responsible Agencies: California Transportation Commission

  
Philip Vallejo  
Environmental Office Chief, North  
California Department of Transportation  
CEQA Lead Agency

12-6-2019  
Date

The following person may be contacted for more information about this document:  
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# DRAFT

## Proposed Negative Declaration

Pursuant to: Division 13, Public Resources Code

### ***Project Description***

The California Department of Transportation (Caltrans) proposes to upgrade the Mokelumne River Bridge (Bridge Number 26-0012) on State Route 49 in Amador and Calaveras counties by replacing the non-standard bridge rails with new rails that meet current standards and widening shoulders to 4 feet on either side of the traveled way to enhance the mobility of pedestrians and bicyclists.

### ***Determination***

This proposed Negative Declaration is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt a Negative Declaration for this project. This does not mean that Caltrans' decision on the project is final. This 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 proposed project would not have a significant effect on the environment for the following reasons.

The project would have no effect on: Aesthetics; Agriculture and Forest Resources; Air Quality; Biological Resources; Energy; Geology and Soils; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use and Planning; Mineral Resources; Noise; Population and Housing; Public Services; Recreation; Transportation, Tribal Cultural Resources; Utilities and Service Systems; and Wildfire.

The project would have no significant effect on: Cultural Resources and Greenhouse Gas Emissions.

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Philip Vallejo  
Environmental Office Chief, North  
California Department of Transportation  
CEQA Lead Agency

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Date

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# **Chapter 1**      Proposed Project

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## **1.1 Introduction**

The California Department of Transportation (Caltrans) is the lead agency under the California Environmental Quality Act (known as CEQA).

Caltrans proposes to upgrade the bridge rails and widen the shoulders on both sides of the traveled way on the Mokelumne River Bridge (Bridge Number 26-0012) on State Route 49, spanning the border of Amador and Calaveras counties.

This project is proposed for funding from the HA21 program (Bridge Rail Replacement and Upgrade). The cost of the project is estimated at \$3.914 million.

## **1.2 Purpose and Need**

### **1.2.1 Purpose**

The purpose of the proposed project is to upgrade the bridge rails to meet current crash safety standards, and to enhance the mobility of pedestrian and bicycle traffic crossing the bridge.

### **1.2.2 Need**

A Structure Replacement and Improvement Needs Report, prepared by the Caltrans Office of Structures Maintenance and Investigations, identified the need to upgrade the non-standard concrete baluster bridge rails on the Mokelumne River Bridge on State Route 49 at the Amador/Calaveras county line. Also at this location, the current narrow shoulder width on the bridge does not meet the needs of bicycle and pedestrian traffic traveling through the area.

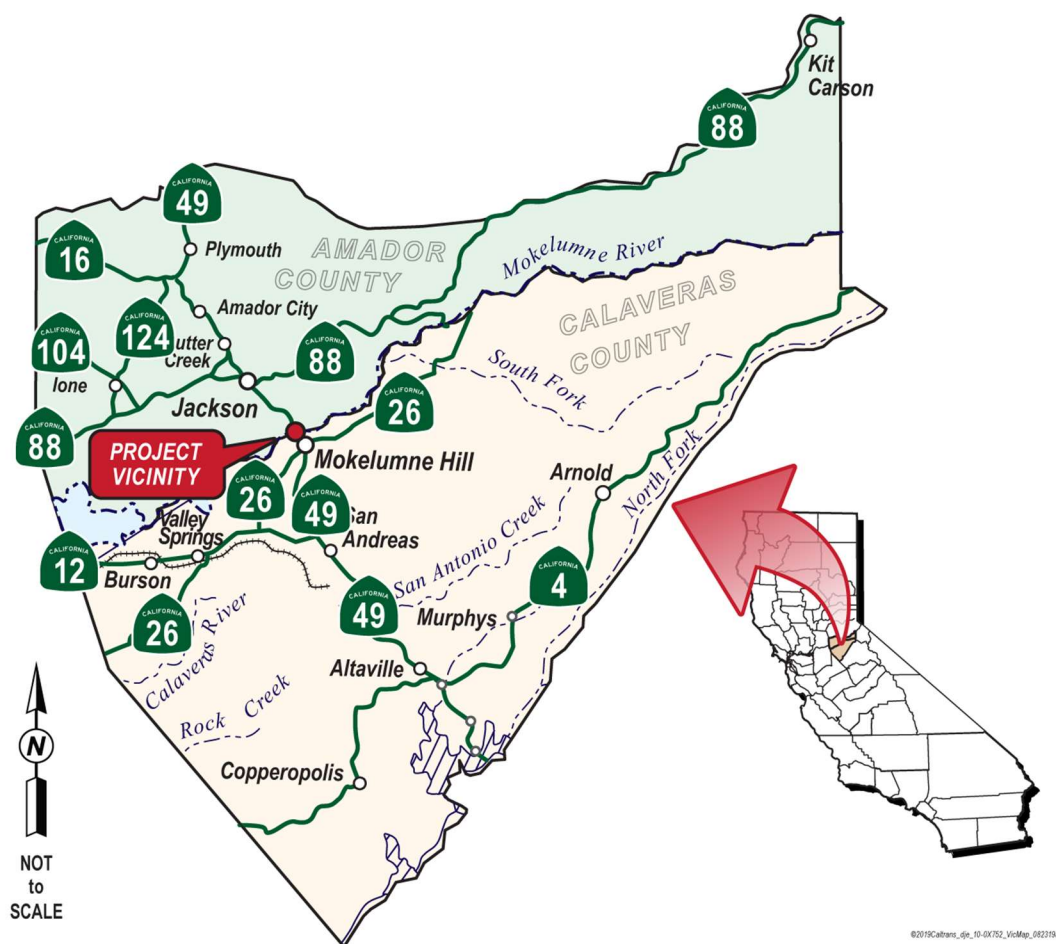
## **1.3 Project Description**

This section describes the project and the alternatives developed to meet the purpose and need of the project, while avoiding or minimizing environmental impacts.

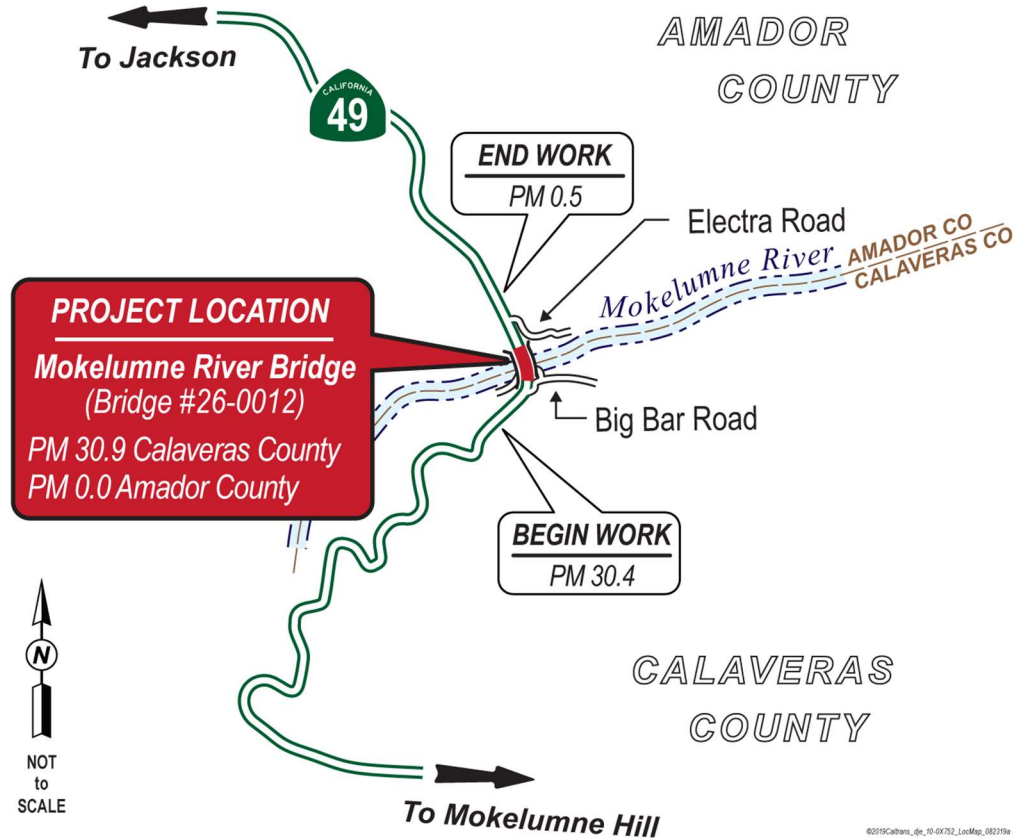
Caltrans proposes to upgrade the bridge rails and widen the shoulders on both sides of the traveled way on the Mokelumne River Bridge (Bridge Number 26-0012) on State Route 49 at the county line between Calaveras

and Amador counties where the bridge spans the Mokelumne River. The work would occur between post mile 30.9 in Calaveras County and post mile 0.0 in Amador County. Figures 1-1 and 1-2 show the project vicinity and location.

**Figure 1-1 Project Vicinity Map**



**Figure 1-2 Project Location Map**



The bridge rails would be upgraded to comply with current standard crash test criteria. The existing bridge rail is composed of non-standard concrete baluster that is now at the end of its service life.

The project would widen the shoulders to 4 feet to enable pedestrians and bicyclists to share the roadway and provide more space for highway maintenance work along the shoulders. Lack of adequate shoulders makes it difficult for pedestrians and bicyclists to cross the bridge and provides maintenance workers insufficient space to service the roadway and bridge structure.

The Mokelumne River Bridge carries State Route 49 traffic across the river between the City of Jackson and the town of Mokelumne Hill. State Route 49 is nicknamed the “Golden Chain Highway” through this region. Locally, it provides access to area businesses and residences; regionally, it is a popular route for tourists visiting California’s famed Gold Country.

The Mokelumne River Bridge, built in 1952, is 365 feet long with 90-foot-long spans. It carries two lanes of traffic. Traffic volume data indicate the average annual daily traffic count for the bridge is about 8,300 vehicles per day.

The Mokelumne River Bridge is in an area known as Big Bar, at roughly 600 feet elevation in the central Sierra Nevada foothills. At this lower elevation of the Sierra, weather patterns continue to match the Mediterranean climate seen throughout the Central Valley, with hot, dry summers and cool, wet winters. Rainfall totals at this elevation average between 20 inches and 30 inches annually. Precipitation in the central Sierra falls almost entirely as rain, similar to any area below 3,500 feet of elevation.

At this elevation, the vegetation has transitioned from the open woodland and grasslands of the California prairie, which extends to about 300 feet above mean sea level, to the gray pine-blue oak woodlands that characterize the Sierra foothills below the snowline. The mild climate led to human habitation in the area, with the most recent pre-European residents being mostly members of the Northern Sierra Miwok, one of five distinct cultural groups of the Eastern Miwok.

Historically, wildlife abounded in the area, including at one time the black-tailed deer, bear (grizzly and black), puma, coyote, bobcat, and gray fox. Rabbits, small mammals, fish, and many types of birds, including raptors, were once abundant, and they continue to be common in the area.

## **1.4 Project Alternatives**

This section describes the proposed action and the alternatives that were developed to meet the identified purpose and need of the project. Alternative selection considered construction effort, environmental impacts, and expenditure of public resources. The alternatives were developed by an interdisciplinary project development team consisting of Caltrans staff from the divisions of Design, Structures Design, Traffic Operations, Environmental Analysis, Maintenance, and Right of Way.

Under consideration are one build alternative and the No-Build Alternative. The alternatives are described in sections 1.4.1 and 1.4.2 below. Two other build alternatives were considered but rejected earlier in the process. They are discussed in section 1.5 below.

### **1.4.1 Build Alternative**

The Build Alternative proposes to remove and replace the existing obsolete concrete baluster railing with standard bridge rails. The two traffic lanes would be 12 feet wide with 4-foot shoulders. The existing 2-foot-wide concrete curb/sidewalls on each side of the bridge would be deconstructed; an

additional 2 feet would be added to each side of the bridge deck to provide the 4-foot-wide shoulders. The wider shoulders would give pedestrians and bicycle traffic more room to travel through the area and alleviate the narrow roadway shoulders approaching the bridge. Though the 4-foot-wide shoulders would not fully meet current standards for shoulder width, they would more closely approach the standards and provide extra space for maintenance workers, pedestrians, and bicyclists.

The proposed work would include strengthening the girder to accommodate the installation of new railing on each side of the bridge. The proposed rail upgrade would include a steel railing attached to the concrete overhang.

Construction would take place entirely from scaffolding cantilevered off the existing bridge deck, and from person-lifts placed on support pads on the ground below. No material or equipment would be placed in the water. The person-lifts would be transported down the bank of the Mokelumne River on rubber-tired equipment, after the existing brush and vegetation have been trimmed to allow access. Temporary support pads would be constructed, one at each corner of the bridge structure, to support the person-lifts in stable state to protect the workers using them.

During construction, one lane of traffic would be closed by the placement of K-rail, and motorists would share use of the open lane through use of a temporary traffic signal. This would allow construction crews to work on one side of the bridge at a time. A debris catchment system would be attached to the bottom of the bridge soffit to catch and prevent objects from falling into the river. No work on the bridge support piers or in the river channel is required. In addition, the project would temporarily relocate East Bay Municipal Utility District measurement devices on the bridge during construction.

Construction of the project would take about 90 working days.

This project contains standardized project measures, included as part of the project description, which 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 standardized or pre-existing measures allow little discretion regarding their implementation and are not specific to the circumstances of a particular project. These measures are addressed in more detail in the Environmental Consequences sections found in Chapter 2 and the Avoidance, Minimization, Mitigation, and Standard Measures Summary found in Appendix B.

**AQ-1** Caltrans' Standard Specifications, Air Quality, Section 14-9.

**AQ-2** Caltrans' Standard Specifications, Dust Control, Section 10-5.

**BIO-1** Restore and Revegetate Temporarily Disturbed Areas Onsite.

- BIO-6** Weed-free Construction Equipment and Vehicles.
- BIO-7** Equipment and Materials Storage, Staging, and Use in Weed-free Areas.
- BIO-8** Weed Control During Construction.
- BIO-9** Weed-free Erosion Control and Revegetation Treatments.
- BIO-13** Migratory Birds and Raptors - Remove Nesting Habitat During Non-Nesting Season.
- BIO-14** Migratory Birds and Raptors - Exclusionary Devices.
- BIO-15** Migratory Birds and Raptors - Pre-Construction Surveys During Nesting Season.
- BIO-16** Migratory Birds and Raptors - Protective Buffers.
- BIO-18** Construction Site Best Practices.
- CR-1** Standard provisions dealing with the discovery of unanticipated cultural materials will be included in the project plans and specifications.
- CR-2** Standard provisions dealing with the discovery of unanticipated human remains will be included in the project plans and specifications.
- HAZ-1** Standard provisions dealing with lead compliance plans.
- HAZ-2** Caltrans Standard Special Provisions concerning lead-based paint abatement.
- HAZ-3** Caltrans Standard Special Provisions concerning asbestos-containing materials abatement.
- NOI-1** Caltrans Standard Specification Section 14-8.02 "Noise Control."
- NOI-2** All equipment will have sound-control devices that are no less effective than those provided on the original equipment. No equipment will have an unmuffled exhaust.
- NOI-3** As directed by Caltrans, the contractor will implement appropriate additional noise minimization measures.
- TRA-1** A Transportation Management Plan will be prepared for the project.



- WQ-1** Caltrans Statewide National Pollutant Discharge Elimination System Permit compliance.
- WQ-2** Water Pollution Control Plan or Stormwater Pollution Prevention Plan.
- WQ-3** Containment Measures/Construction Site Best Management Practices.
- WQ-4** Cast-in-place concrete structures should have enough time to cure prior to the rainy season.
- WQ-5** Concrete-treated permeable base should not be used as a permeable material for underdrain systems that discharge to waterways.
- WQ-6** Some of the work areas could be within the 100-year floodplain zone. All materials (e.g., rock, geotextile fabric) used to stabilize temporary access routes will be completely removed when construction is completed.
- WQ-7** The project would incorporate pollution prevention and design measures consistent with the 2015 Caltrans Stormwater Management Plan (Caltrans 2015) to meet water quality objectives. This plan has been revised to comply with the requirements of the Caltrans Statewide National Pollutant Discharge Elimination System Permit (Order 2012-0011-DWQ). In addition to the Best Management Practices already included, the following permanent stormwater treatment Best Management Practices should be considered where feasible:
- Energy dissipation devices (e.g., rock slope protection, check dams)
  - Bioengineered stream bank stabilization methods (e.g., willow wattles, brush layering)
- WQ-8** Environmentally Sensitive Areas would be designated and clearly delineated on the contract plans during the design phase to avoid potential discharges and unauthorized disturbances to the creeks, streams, channels and protected riparian areas.

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

The No-Build Alternative would leave the bridge rails in their current non-standard condition. The bridge would continue without shoulders, and pedestrians, bicyclists and maintenance staff would continue to have little

room to cross the bridge when vehicle traffic also passes through. This would not meet the purpose and need of the project.

## 1.5 Alternatives Considered but Eliminated from Further Discussion

Three build alternatives were initially considered during the development of the project. The project development team determined Alternatives 2 and 3 were not viable, and they were eliminated from further discussion.

### **Alternative 2**

Alternative 2 would replace the bridge rail and widen the bridge deck 6 feet on each side. While the alternative meets the purpose and need, it would have greatly increased impacts on the wild and scenic and recreational attributes of Mokelumne River during construction. This alternative would construct 12-foot-long reinforced concrete pier extensions on each side of the existing structure that would extend approximately 10 feet below ground, requiring a localized temporary cofferdam system in the channel for water diversion. Because of these impacts, it was dropped from further consideration.

### **Alternative 3**

Alternative 3 would replace the bridge rail only, which would result in two 12-foot-wide lanes with nonstandard 2-foot-wide shoulders. The non-standard shoulder width would require a design exception and would not meet the need of improving road sharing with pedestrians and cyclists or offering maintenance crews a refuge zone. For these reasons, it was dropped from further consideration.

## 1.6 Permits and Approvals Needed

The following permits, licenses, agreements, and certifications are required for project construction:

**Table 1.1 Permits and Approvals Needed**

<b>Agency</b>	<b>Permit/Approval</b>	<b>Status</b>
U.S. Army Corps of Engineers, Sacramento District	Clean Water Act Section 404	Submit application during the project's final design phase
Regional Water Quality Control Board	Clean Water Act Section 401: Water Quality Certification	Submit application during the project's final design phase
California Department of Fish and Wildlife	Lake and Streambed Alteration Agreement	Submit application during the project's final design phase

## **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 would improve an existing bridge. All improvements would take place within the Caltrans right-of-way, and no change in land use is expected. The project is consistent with the Calaveras and Amador County General Plans and does not conflict with the goals or policies of either plan. (Calaveras County Draft General Plan Draft Environmental Impact Report, June 2018; Amador County General Plan, October 2016)
- Consistency with State, Regional, and Local Plans and Programs — The project would improve an existing bridge. The project is consistent with the Calaveras and Amador County General Plans and does not conflict with the goals or policies of either plan. (Calaveras County Draft General Plan Draft Environmental Impact Report, June 2018; Amador County General Plan, October 2016)
- Coastal Zone — The project is in the Sierra Nevada foothills more than 100 miles from the nearest coastal zone.
- Wild and Scenic River — This section of the North Fork of the Mokelumne River is state-listed as a Wild and Scenic River, but not federally listed as such. After reviewing the material provided by the California Natural Resources Agency, the project development team determined the project activities would not impact, even temporarily, the free-flowing nature of the river. After consultation with the California Natural Resources Agency, the team received concurrence from the agency (see Chapter 4 – Comments and Coordination). (Natural Environment Study – Minimal Impacts, August 2019)
- Farmland — There is no farmland near the proposed project site.
- Timberland — There is no timberland near the proposed project site.
- Growth — The project would improve an existing bridge. It would not increase capacity and would not encourage growth in the area.

- Community Character and Cohesion — The project would improve an existing bridge. It would not increase capacity, induce growth, or change access to nearby communities.
- Relocations and Real Property Acquisition — All construction activities associated with the project would take place within the existing state right-of-way. No property would be acquired, and no homes or business would be relocated to accommodate the project.
- Environmental Justice — The project would improve an existing bridge. All construction activities associated with the project would take place within the existing state right-of-way. No property would be acquired, and no homes or businesses would be relocated to accommodate the project. The project would not cause disproportionately high and adverse effects on any minority or low-income populations in accordance with the provisions of Executive Order 12898 because no minority or low-income populations exist within the project area. See Appendix A for the Caltrans Title VI policy statement.
- Utilities and Emergency Services — The project would improve an existing bridge. It would not increase capacity, induce growth, or change access to nearby communities. Except for temporary construction impacts to traffic, the project would not affect emergency services, and no utility relocations are expected as part of construction activities.
- Traffic and Transportation/Pedestrian and Bicycle Facilities — The project would improve an existing bridge. The improvements would modestly increase pedestrian and bicyclist access.
- Visual and Aesthetics — The project would improve an existing bridge. The improvements would not constitute a visual impact in the area.
- Hydrology and Floodplain — The project would improve an existing bridge. The bridge improvements would not impact the hydrology of the area or the river. The project is partially within Zone A, which is subject to a 1% annual chance for flood; however, the project would not create a significant floodplain encroachment. (Location Hydraulic/Floodplain Study, October 2016)
- Water Quality and Stormwater Runoff — The project would have no long-term effect on water quality or on stormwater runoff. There may be temporary, short-term effects on water quality during construction activities. The project has been designed to include best management practices and Caltrans Standard provisions that will result in the contractor protecting the river from runoff. (Water Quality Study and Natural Environment Study – Minimal Impacts, August 2019)
- Geology, Soils, Seismicity, and Topography — The project would have no impact on geology because there would be very minor ground disturbance associated with construction activities, and the project site is not in an

area noted for excessive ground movement. (Alquist-Priolo Earthquake Fault Zoning Map, September 2019)

- **Paleontology** — The project would have no impact on paleontology. There would be very minor ground disturbance associated with construction activities, and there is no evidence of paleontological resources in the area.
- **Hazardous Waste and Materials** — The project is the renovation of an existing bridge. Bridges are known to be constructed with asbestos-containing materials, including concrete, bearing pads, shims and mastic material, so a project-specific survey would be conducted prior to the beginning of construction to ensure that all asbestos-containing materials are identified for safe and appropriate handling during removal and disposal. Painted surfaces on this bridge, including bridge railings, may have lead-based paints, so a project-specific survey for lead-based paints would be conducted prior to the beginning of construction to ensure that all lead-containing materials are identified for safe and appropriate handling during removal and disposal. The contractor will be required to comply with Caltrans' Standard Special Provisions concerning lead-based paint and asbestos-containing materials abatement, and a lead compliance plan will be required. (Initial Site Assessment, August 2019)
- **Air Quality** — The project area is in the Mountain Counties Air Basin. Amador and Calaveras counties are in attainment for all pollutants except ozone, which is considered a regional pollutant. This project is exempt from project-level air quality conformity. (Air Conformity Study, August 2019)
- **Noise** — The project is not a Type 1 project. The project is in a mostly rural area. A few residences sit about 200-300 feet north of the existing bridge. During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Construction noise is regulated by Caltrans Standard Specifications Section 14-8.02 "Noise Control," which states that noise levels generated during construction will comply with applicable local, state, and federal regulations, and that all equipment will be fitted with adequate mufflers according to the manufacturers' specifications. (Noise Study, August 2019)
- **Natural Communities** — The project would have no impact on natural communities. (Natural Environment Study – Minimal Impacts, August 2019)
- **Wetlands** — No potentially jurisdictional wetlands lie in the project area. Other waters do exist and are discussed in the Wetlands and Other Waters section, Section 2.2. (Natural Environment Study – Minimal Impacts, August 2019)

- **Plant Species** — No special-status plant species were seen during surveys by biologists. The project would include only very minor ground disturbance and trimming of vegetation to facilitate the person-lift access at the corners of the bridge structure. The California Native Plant Society lists of possible occurrences in the project vicinity are included in the Natural Environment Study – Minimal Impacts, which is available upon request (Natural Environment Study – Minimal Impacts, August 2019).
- **Threatened and Endangered Species** — No threatened or endangered species were found in the project area during surveys by biologists. A “no effect” determination has been made for all federally listed species, and a “no impact” determination has been made for all state listed species. No Essential Fish Habitat is located within the project areas. California Department of Fish and Wildlife species list is included in the supporting technical study, which is available to the public upon request. (Natural Environment Study – Minimal Impacts, August 2019)
- **Invasive Species** — During biological surveys, both invasive plant (Scotch broom and tree of heaven) and animal (bullfrog) species were found. With the incorporation of Caltrans Standard Specifications or any special conditions under Sections 3-4.03E(3) and NS-08 of Caltrans’ construction best management practices in the construction contract, this project is expected to have no impact on the spread of noxious plant or animal species. (Natural Environment Study – Minimal Impacts, August 2019)
- **Cumulative Impacts** — The project is the renovation of an existing bridge. It would not increase capacity, induce growth, or change access to nearby communities. The project would not contribute to cumulative impacts.

## **2.1 Human Environment**

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

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

The project would rehabilitate an existing bridge structure at Big Bar in Calaveras County. The bridge spans the Mokelumne River at the county line between Amador and Calaveras counties. Next to the southern end of the bridge, Big Bar Road intersects with State Route 49. Big Bar Road provides access to the Big Bar Boat Launch and Recreation Area (Big Bar), which consists of some pit toilets and a paved parking lot, an unstriped, paved space suitable for assembling or disassembling rafts or kayaks. Between the parking lot and the river are informal trails that lead to the shoreline. The area has been in use on every occasion that the environmental team visited it. People were seen panning for gold, fly fishing, picnicking or just enjoying the scenic location.

The site is privately owned, but under lease to the U.S. Bureau of Land Management, which maintains the day use area. The fact that the land is privately owned means Big Bar is not protected by the California Park Preservation Act of 1971, which requires that the “operating entity” own the land on which the park is situated.

The East Bay Municipal Utility District has a small equipment hut just before the parking lot widens out, as well as some water-level and -velocity metering equipment attached to the bridge structure.

The Big Bar Recreation Area is a popular ending spot or halfway point for kayakers and rafters using the Mokelumne River for recreation. Roughly 3 miles upstream of Big Bar is a day use area associated with the Electra Power Plant, owned and maintained by Pacific Gas and Electric Company. The put-in area for river runners is well marked, and there is a large beach for swimmers and boat launches. Within the past several years, another pullout area at Middle Bar, 2 miles farther downstream from Big Bar, has been developed for public use.

While commercial whitewater rafting outfitters are barred from running trips down the river here, the area is known as a training or warm-up run for such water activities.

### ***Environmental Consequences***

Originally, it was thought that the contractor would use the paved area at Big Bar for construction and pre-construction staging. After consultation with the project development team, the environmental and design teams agreed a different staging area was available that would not interfere with public access to and use of the Big Bar Recreation Area.

The design team worked closely with the environmental team to develop a plan for construction activities that would maintain upstream access to the Big Bar amenities throughout construction, except for briefly at the start of construction activities when the person-lifts and cantilever catwalks would be put into place. During those activities, swimmers and boaters would be restricted from passing under the work area. It is likely that vehicle traffic using Big Bar Road to gain access to the parking lot may experience brief delays during times that equipment is being moved into or out of the staging area.

Traffic delays on State Route 49 would be a daily occurrence due to the reduction to one traffic lane and the installation of a temporary traffic signal. Users of the recreation area would experience some restricted access to the river bank and the water during construction and pre-construction activities.

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

Measures would be incorporated into the project itself to prevent impacts to the Big Bar Boat Launch and Recreation Area caused by project activities. Other measures would be included in the construction contract to protect access and safety of the public.

- PAR-1** Limiting contractor access to the riverbank on the south side of the river to maintain launch and take-out access for whitewater users.
- PAR-2** Erecting high visibility, environmentally sensitive area fencing to make clear to both the public and the contractor the limits of the construction zone.
- PAR-3** Adding a unit to normal environmental training to remind construction staff of the likelihood of the public occupying areas immediately adjacent to the active construction zone.
- PAR-4** Providing a flagger during periods that the movement of construction material and equipment into or out of the staging area may delay public access to the Big Bar Recreation Area.
- PAR-5** Requiring the contractor to avoid parking construction vehicles in the recreation area parking lot.
- PAR-6** Prohibiting the contractor from placing construction equipment or materials for even short periods in the parking lot.
- PAR-7** The contractor would be prohibited from using the paved area to stage construction equipment or activities.

## **2.1.2 Cultural Resources**

### **Regulatory Setting**

The term cultural resources as used in this document, refers to the built environment (for example, structures, bridges, railroads, water conveyance systems), 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 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 state register and, therefore, a historical resource. Historical resources are defined in the California Public Resources Code Section 5020.1(j). In 2014, Assembly Bill 52 added the term “tribal cultural resources” to the California Environmental Quality Act, and Assembly Bill 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 the California Public Resources Code Section 21074(a), a tribal cultural resource is a state register or local register eligible site, feature, place, cultural landscape, or object which 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 the California Public Resources Code Section 21083.2.

California Public Resources Code Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the federal register listing criteria. It further requires Caltrans to inventory state-owned structures in its rights-of-way. Procedures for compliance with California Public Resources Code Section 5024 are outlined in a Memorandum of Understanding between Caltrans and the State Historic Preservation Officer, effective January 1, 2015.

### ***Affected Environment***

A cultural evaluation to determine impacts to cultural resources in the project area was done by Caltrans archaeologists. The cultural resources impact analysis was used to produce a Historic Resources Compliance Report and Archaeological Survey Report that were completed in October 2019. These reports document the cultural resource identification efforts within the study area.

### ***Methodology***

Caltrans archaeologists conducted surveys, record searches, and consultation with interested Native American communities and local historical societies and government agencies regarding the project location and study area. From this work, an unevaluated cultural resource known as CA-AMA-944/H (the Big Bar site) was identified. The Mokelumne River Bridge is within this cultural resource limit; however, the bridge itself is ineligible for listing on either the federal or the state registers.

According to the records search, five previous cultural resources studies have been conducted that were associated with the study area of the project. Based on a 1984 site record, 13 recorded archaeological features of CA-AMA-944/H are next to the project area; all but one of the features are located outside of the Area of Direct Impact (the area of direct impact that includes construction activities outlined on the engineering plans of the proposed project).

Consultation letters were sent to Native American tribes and individuals. See Chapter 4 for a detailed list. As of November 15, 2019, no responses have been received from the Buena Vista Rancheria of Me-Wuk Indians; consultation is still ongoing. A field visit was conducted for the Lone Band of Miwok Indians and the Jackson Rancheria Band of Miwok Indians, and another is tentatively scheduled for early December 2019 with the Calaveras Band of Mi-Wuk Indians. Additional documents discussing specifics of the proposed project will be provided to the United Auburn Indian Community of the Auburn Rancheria.

In addition to Native American consultation, inquiry letters were sent to local government and county historical societies in August 2019, but no responses have been received.

### *Study Area*

The study area for cultural resources, referred to in cultural reports as the project area limits, is defined in the Public Resources Code 5024 Memorandum of Understanding as “the area or areas within which a state project or activity may cause changes in the character or use of historical resources, should any be present.” The study area was established to include locations where construction-related activities would take place both within Caltrans’ existing right-of-way and where temporary construction easements would be established for staging construction equipment and materials.

The existing Caltrans right-of-way along State Route 49 between post mile 30.9 in Calaveras County and post mile 0.0 in Amador County is within the approximate 45 acres of the study area. A segment of the Mokelumne River, Mokelumne River bridge, Big Bar Road, and a portion of the Bureau of Land Management-managed Big Bar Recreation Area are also within the study area, which extends 1,300 feet east, 500 feet west, and 1,100 feet north of the bridge. Any cultural resources in the study area were noted, and their ages and integrity were documented. There is no vertical study area because no excavation is proposed.

The elevation of the project site is approximately 580 feet above mean sea level. The site is 4 miles south of Jackson in both Calaveras and Amador counties. The project location has not only scenic and recreational attributes, but also historical/cultural values. The site has been designated California Historical Landmark No. 41 for being a prominent gold discovery site in the Sierra Nevada foothills. The region has been occupied by humans for more than 2,500 years, and many prehistoric and historic-era cultural sites dot the landscape.

The rushing Mokelumne River below the bridge structure separates Amador and Calaveras counties and flows into the Pardee Reservoir a few miles downstream. The Mokelumne River was mined in 1848, and a mining camp known as Big Bar was established along the river. Crossing the river in those

days was made possible by a whaleboat ferry in 1849; it was later swept away in 1852. A toll bridge was built to replace the ferry, and it operated until it too was swept away, by the flood of 1862. In 1952, the Mokelumne River Bridge was built.

The early settlement of Big Bar became unincorporated as miners left for other areas. Remnants of its gold rush heritage such as standing buildings and stone ruins are evident at the north end of the bridge. Another visible cultural site in the area is an early hydroelectric power station built around the turn of the 19<sup>th</sup> century, though the site has been reduced to only its concrete footings.

The surrounding area is also linked to indigenous people of the western Sierra and Great Basin tribes because the river canyon was used as a historic trade route. The river canyon was also home to the Miwok and their ancestors for more than 2,500 years.

### *Archaeological Results*

As reported in the Historic Resources Compliance Report and Archaeological Survey Report, one previously recorded cultural resource was found. The cultural resource CA-AMA-944/H includes historic mining features, such as dwellings, tailings, and bridge abutments within or directly adjacent to the area of direct impact. One previously recorded bedrock mortar was not seen because it was not accessible to surveyors. Other resources found there include prospect pits, pocket mines, ditches, horizontal mine access points, cables and concrete footings, a standing 1940s single-story residence, remains of a late 19<sup>th</sup> century tollhouse structure, and an abandoned historic roadbed segment. CA-AMA-944/H has not been formally evaluated for the National Register of Historic Places.

Figure 2-1 shows some of the cultural resources found within the project area limits. No previously unidentified cultural resources were found.

The determination for the Mokelumne River Bridge continues to be that it is not eligible for listing in the National Register of Historic Places; it is listed as a Category 5 bridge in the Caltrans Historic Bridge Inventory.

**Figure 2-1 Historical and Cultural Resources in the Affected Environment**



### ***Environmental Consequences***

Within the project's project area limits, only one cultural resource was identified. CA-AMA-944/H has been assumed eligible for inclusion in the federal and state registers for the purposes of this project only because evaluation of the resource in its entirety was not possible, in accordance with applicable Public Resources Code 5024 Memorandum of Understanding Stipulation VIII.C.4.

With implementation of avoidance and minimization measures, a Finding of No Adverse Effect Without Standard Conditions for the project is appropriate and will be prepared by a Caltrans Co-Principal Investigator, Prehistoric/Historical Archaeologist, and reviewed by a Principal Architectural Historian. The finding will be submitted to the State Cultural Studies Office for a 15-day review. The project would have no adverse effect on historic properties.

### ***Standard Measures***

The following standard measures have been added to this project:

- CR-1** If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.
- CR-2** If human remains are discovered, California Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage Commission, who, pursuant to Public Resources Code Section 5097.98, will then notify the Most Likely Descendent. At this time, the person who discovered the remains will contact Caltrans archaeologists so that they may 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***

- CR-3** *Establish Environmentally Sensitive Areas:* Additional direct and indirect impacts to sensitive cultural resources throughout the project area will be avoided or minimized by designating these features outside of the construction impact area as “environmentally sensitive areas.” The environmentally sensitive areas information will be shown on contract plans and discussed in the Special Provisions. The provisions may include, but are not necessarily limited to, the use of temporary orange fencing to identify the proposed limit of work in areas adjacent to sensitive resources or to locate and exclude sensitive resources from potential construction impacts. Contractor encroachment into the environmentally sensitive areas will be prohibited (including the staging/operation of heavy equipment or casting of excavated materials). The provisions will be implemented as a first order of work and remain in place until all construction activities are complete.
- CR-4** *Cultural Monitoring:* To ensure that project activities would not change or result in an adverse effect, Caltrans will ensure that an archaeologist will review all construction and design plans as developed and monitor construction activities associated with the Mokelumne River Bridge Upgrade.
- CR-5** Should any significant changes that have the potential to impact the site in an adverse manner be made to the plans before or during construction activities, the State Historic Preservation Officer will be notified immediately and additional documentation, as appropriate, will be completed to assess impacts of said changes.

## **2.2 Biological Environment**

### **2.2.1 Wetlands and Other Waters**

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

Wetlands and other waters are protected under a number of laws and regulations.

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.

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 Engineer's 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 U.S. Environmental Protection Agency'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. Environmental Protection Agency in conjunction with the U.S. Army Corps of Engineers and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The guidelines state that the U.S. Army Corps of Engineers may not issue a permit if there is a "least environmentally damaging practicable alternative" to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (Executive Order 11990) also regulates the activities of federal agencies about 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 mostly 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 will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify the California Department of Fish and Wildlife before beginning construction. If the California Department of Fish and Wildlife determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. 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.

### ***Affected Environment***

#### ***Waters of the State of California—Riparian and Non-Riparian***

Woody riparian vegetation occurs along both sides of the Mokelumne River, mostly in areas between (above) the annual low-flow zone and (below) the ordinary high-water mark of the river. The top of the bank was preliminarily determined to occur at approximately the elevation of the Mokelumne River Bridge abutments. Approximately 0.64 acre of non-federal waters of the State of California occurs within the project area.

### ***Environmental Consequences***

#### ***Waters of the State of California—Riparian and Non-Riparian***

Approximately 0.11 acre of potentially jurisdictional non-federal waters of the State of California between the ordinary high-water mark and the top of the

bank of the Mokelumne River would be temporarily disturbed by construction activities.

Two temporary work pads are proposed on the north side of the Mokelumne River below the top of the bank but above the ordinary high-water mark. Placement and removal of the pads would result in the placement of temporary fill material in 0.02 acre of potentially jurisdictional non-federal waters of the State of California below the top of the bank and above the ordinary high-water mark. Access routes associated with the temporary work pads would require trimming or removal of shrubby or woody riparian vegetation below the top of the bank.

Approximately 0.007 acre of potentially jurisdictional non-federal waters of the State of California would be permanently impacted by permanent fill associated with the modification of the highway embankment. This modification may require removal of two to five mature interior live oak trees.

The potential for the project to cause adverse impacts to jurisdictional waters of the State of California were considered, and all practicable measures to minimize harm were considered during the initial project development process. The potential for the project to cause adverse impacts to potentially jurisdictional waters of the State of California will be further reduced by implementing avoidance and minimization strategies and design features listed below.

### *Standard Measures*

The following standard measures have been added to this project:

**BIO-1** *Restore and Revegetate Temporarily Disturbed Areas Onsite:* All temporary fills will be completely removed from the project area. Disturbed areas within the construction limits will be graded to minimize surface erosion and siltation into receiving waters. Disturbed areas will be re-contoured to as close to pre-project condition as possible and stabilized as soon as feasible (and no later than October 15 of each construction season) to avoid erosion during subsequent storms and runoff. Permanent erosion control seeding will be performed at all disturbed sites by hydro-seeding over the course of construction as each site is completed, with all sites seeded by the completion of construction activities.

**WQ-3** *Containment Measures/Construction Site Best Management Practices:* To contain construction-related material and prevent debris and pollutants from entering receiving waters and to reduce the potential for discharge to receiving waters, the contractor will follow all applicable guidelines and requirements in Section 13 of the Caltrans 2018 Standard Specifications or any Special Provisions in Section 13 regarding water pollution control and general



specifications for preventing, controlling, and abating water pollution in streams, waterways, and other bodies of water. Caltrans staff and the contractor are required to perform routine inspections of the construction area to verify that field Best Management Practices are properly implemented and maintained, and are operating effectively and as designed.

The project design team may specify Best Management Practices to be used during construction in addition to, or in place of, other temporary measures selected by the contractor. Project-specific Best Management Practices will address (among other things):

- Spill Prevention and Control (*Caltrans 2017 BMP Manual WM-4*)
- Material Management (Material Delivery, Use, Storage, and Stockpiles; *Caltrans 2017 BMP Manual WM-1 through WM-4*)
- Waste Management (Solid, Hazardous, Concrete, Sanitary/Septic Wastes, Contaminated Soils; *Caltrans 2017 BMP Manual W-M5 through WM-10*)
- Vehicle and Equipment Cleaning, Fueling, and Maintenance (*Caltrans 2017 BMP Manual NS-8 through NS-10*)
- Material and Equipment Use Over Water (*Caltrans 2017 BMP Manual NS-13*)
- Structure Removal Over or Adjacent to Water (*Caltrans 2017 BMP Manual NS-15*)
- Paving, Sealing, Sawing, Grooving and Grinding Activities (*Caltrans 2017 BMP Manual NS-3*)
- Concrete Curing and Finishing (*Caltrans 2017 BMP Manual NS-12*)
- Temporary Soil Stabilization (*Caltrans 2017 BMP Manual SS-1 through SS-10*)
- Temporary Sediment Control (*Caltrans 2017 BMP Manual SC-1 through SC-10*)
- Temporary Tracking Control (*Caltrans 2017 BMP Manual TC-1 through TC-3*)
- Temporary Concrete Washouts (*Caltrans 2017 BMP Manual WM-8*)
- Illicit Connection/Illegal Discharge Detection and Reporting (*Caltrans 2017 BMP Manual NS-6*)
- Stormwater Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual (Caltrans, 2011)

- Construction Site Best Management Practices Manual (Caltrans, 2017)
- Construction Site Monitoring Program Manual (Caltrans, 2013)

Prior to construction, the contractor would be required to submit either a Water Pollution Control Plan or a Stormwater Pollution Prevention Plan, as appropriate. Caltrans would review and approve the Water Pollution Control Plan or Stormwater Pollution Prevention Plan within 7 to 15 days of contract approval. A Spill Prevention and Control Plan would be developed by the contractor as a component of the Water Pollution Control Plan or Stormwater Pollution Prevention Plan. Specific Best Management Practice options will be considered, evaluated, and dependent on factors such as field conditions, changes to construction strategies, and regulatory requirements to protect the beneficial uses of receiving waters. Best Management Practices options will be based on the best conventional and best available technology.

Caltrans staff and the contractor are required to perform routine inspections of the construction area to verify that field Best Management Practices are properly implemented and maintained, and are operating effectively and as designed.

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

#### ***Waters of the State of California—Riparian and Non-Riparian***

**BIO-2** *Environmentally Sensitive Area Designation:* Additional direct and indirect impacts to sensitive biological resources throughout the project area would be avoided or minimized by designating “environmentally sensitive areas” (ESAs). All areas outside of the proposed construction footprint will be considered as environmentally sensitive areas, as well as any areas determined by a qualified biologist during project planning or during pre-construction surveys to qualify for environmentally sensitive area designation.

Environmentally sensitive area information will be shown on contract plans and discussed in Section 14-1.02 of the Caltrans 2018 Standard Specifications or any Special Provisions in Section 14-1.02. Environmentally sensitive area provisions may include, but are not necessarily limited to, the use of temporary orange fencing or other high-visibility marking to identify the proposed limit of work in areas adjacent to sensitive resources or to locate and exclude sensitive resources from potential construction impacts. Contractor encroachment into environmentally sensitive areas will be prohibited, and immediate work stoppage and notification to the Caltrans Resident Engineer are required if an environmentally sensitive area is breached. Environmentally sensitive area provisions will be

implemented as a first order of work and remain in place until all construction activities have been completed.

**BIO-3** *Designated Biologist:* A designated biologist or biologists will be onsite during any activities that have the potential to affect sensitive biological resources. The designated biologist will monitor regulated species and habitats, ensure that construction activities do not result in the unintended take of regulated species or disturbances to regulated habitats, ensure that construction activities comply with any permits, licenses, agreements, or contracts, immediately notify the Caltrans Resident Engineer of any take of regulated species, disturbances to regulated habitats, or breaches of environmentally sensitive areas, and prepare, submit, and sign notifications and reports. A designated biologist who performs specialized activities must have demonstrated field experience working with the regulated species or performing the specialized task, and regulatory agency approval will be required prior to Caltrans' acceptance of the designated biologist.

The designated biologists for the proposed project may be "Department-supplied" biologists (Caltrans biologists or consultant biologists under Task Order contracts to Caltrans) or may be "contractor-supplied" biologists (CSBs). If contractor-supplied biologists are used as designated biologists, contractor-supplied biologist provisions would be discussed in Section 14-6.03D(1-3) of the Caltrans 2018 Standard Specifications or any Special Provisions in Section 14-6.03D(1-3) that will specify contractor-supplied biologist qualifications, responsibilities, and submittals. Regulatory agency approval will be required prior to Caltrans' acceptance of any contractor-supplied biologist. Prior to project construction, the contractor-supplied biologist would prepare a Natural Resources Protection Program (NRPP) within 7 days of contract approval per Standard or Special Provisions under Section 14-6.03D(2) of the Caltrans 2018 Standard Specifications. The Natural Resources Protection Program would describe the measures and schedules for protecting biological resources and regulatory compliance and must be approved by Caltrans prior to the onset of construction activities.

**BIO-4** *Limited Operation Period – Stream Zone Construction Activities:* It is proposed that construction activities occurring below the top of the bank of the Mokelumne River within the project Action Area will occur between June 1 and October 15 of any construction season, unless earlier or later dates for in-channel construction activities are approved by the California Department of Fish and Wildlife, U.S. Army Corps of Engineers, and Central Valley Regional Water Quality Control Board. By requiring contractors to adhere to these dates for

stream-zone construction, the project proponent will minimize project effects to receiving waters.

**BIO-5** *Worker Environmental Awareness Training for Construction Personnel:* Before any work occurs in the project area, a qualified designated biologist (familiar with the resources to be protected) will conduct a mandatory contractor/worker environmental awareness training (WEAT) for construction personnel. The awareness training will be provided to all construction personnel (contractors and subcontractors) to brief them on the need to avoid and minimize effects to sensitive biological resources (e.g., jurisdictional wetlands and other waters, threatened and endangered species, other special-status species, roosting bats, nesting birds, etc.) within and adjacent to construction areas and the penalties for not complying with applicable state and federal laws and permit requirements. The designated biologist will inform all construction personnel about the life history and habitat requirements of special-status habitats and species known to occur or with potential for occurrence onsite, the importance of maintaining habitat, and the terms and conditions of regulatory requirements.

The worker environmental awareness training also will cover general restrictions and guidelines that must be followed by all construction personnel to reduce or avoid effects on sensitive biological resources during project construction. The training will include identifying the Best Management Practices written into construction specifications for avoiding and minimizing the discharge of construction materials or other contaminants into jurisdictional waters.

Worker environmental awareness training will be required for any construction personnel intending to enter the construction zone for more than 15 minutes. Any designated biologists conducting worker environmental awareness training must meet the qualifications of regulatory agencies, and copies of training sign-in sheets for construction personnel will be provided to regulatory agencies upon their request.

If a contractor-supplied biologist is used, then the contractor-supplied biologist will prepare and submit copies of the worker environmental awareness training and any associated training materials for Caltrans' review and approval prior to the onset of project construction activities per Special Provisions of the Caltrans 2018 Standard Specifications under Section 14-6.03(D) "Biological Resource Information Program." A Biological Resources Information Program submittal will be accepted by Caltrans only if it complies with all regulatory provisions.

### **2.2.2 Animal Species**

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

Many state laws regulate impacts to wildlife. The California Department of Fish and Wildlife is responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the state Endangered Species Act.

Species listed or proposed for listing as threatened or endangered are discussed in the Threatened and Endangered Species Section at the beginning of Chapter 2. All other special-status animal species are discussed here, including California Department of Fish and Wildlife fully protected species and species of special concern.

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***

##### ***Foothill Yellow-Legged Frog***

The foothill yellow-legged frog is a candidate for California Endangered Species Act listing and is considered a “Species of Concern” by the California Department of Fish and Wildlife.

The foothill yellow-legged frog inhabits rocky streams and rivers at low to moderate elevations across a range of vegetation types, including chaparral, oak, woodland, mixed coniferous forest, riparian sycamore and cottonwood forest, and wet meadows. The species lives in streams or is found near water with a rocky bottom and on open, sunny banks. It typically occupies small to mid-sized streams with shallow, flowing water. The species does not populate suitable habitat if aquatic predators such as bullfrogs and bass are present.

No foothill yellow-legged frogs were seen during aquatic wildlife surveys conducted for the project. There have been documented occurrences of foothill yellow-legged frogs as recently as 2009 within the Mokelumne River watershed. Based on the lack of recent occurrences recorded within the project vicinity, managed waterflow, and lack of detection during surveys, the potential to encounter the foothill yellow-legged frog at this segment of the Mokelumne River is low.

##### ***Western Pond Turtle***

The western pond turtle is considered a “Species of Concern” by the California Department of Fish and Wildlife. The species requires basking sites

such as partially submerged logs, rocks, floating vegetation, or open mud banks. In colder areas, western pond turtles hibernate underwater in bottom mud. Nests have been found in many soil types; usually soil must be at least 4 inches deep to nest. Three to 11 eggs are laid between March and August, with an incubation period of 73 to 80 days.

The project area sits within the historic and current range of the western pond turtle, but Pacific Gas and Electric Company manages the water flows on this segment of the Mokelumne River, which likely affects the species' occurrence in the area. No western pond turtles were found during the aquatic wildlife surveys conducted for the project. Four recorded occurrences of the western pond turtle were found near the city of Jackson as recently as 2002. Based on the lack of recent occurrences recorded within the project vicinity, management of waterflows, and lack of detection of this species during surveys, the potential to encounter the western pond turtle in this segment of the Mokelumne River is low.

### *Migratory Birds and Raptors*

The Migratory Bird Treaty Act is a federal law, but the California Department of Fish and Wildlife has adopted its requirements in total. The act makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in Section 50 of the Code of Federal Regulations Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations. Several species of migratory birds could potentially nest on the ground or within shrubs, trees, and/or structures within the project area.

Suitable nesting habitat for migratory birds occurs within the project area, including structures and vegetation. Migratory birds or raptors may try to nest in appropriate habitat between February 1 and September 30. Swallows nests were seen on the soffits of the concrete overhangs of the Mokelumne River Bridge within the project area. The potential to encounter nesting migratory birds between February 1 and September 30 within the project area is high.

### *Bats—Structures-Roosting Species*

Several species of special-status and non-special-status bats have potential to roost in the project area. State laws protect bats and their occupied roosts from harassment and destruction. Several species of bats are known to use bridges and other human-made structures as daytime or nighttime roosts. The Natural Environment Study-Minimal Impacts prepared for this project contains further information regarding species of structures-roosting bats that may occur in the project vicinity.

The Mokelumne River Bridge was inspected to determine if the structures provide roosting features for structures-roosting bats. No bats were seen day-roosting at the Mokelumne River Bridge, and no signs of day-roosting bats were found. The bridge lacks features for day- or maternity-roosts, so the

potential to encounter bats roosting on or within the bridge structure during daytime is very low. However, the bridge structure is suitable for night-roosting bats, and the potential to encounter bats roosting on or within the bridge structure during nighttime is high.

#### ***Bats—Tree-Roosting Species***

Several species of bats require trees as daytime or nighttime roosts. Tree-roosting bats may be found roosting in cavities, under exfoliating bark, and among foliage, and may live in tree foliage or hollows year-round. The Natural Environment Study-Minimal Impacts prepared for the project contains more information regarding species of tree-roosting bats that may occur in the project vicinity.

The project area consists of suitable habitat for tree-roosting bats, but no bats were found day-roosting in mature trees and no signs of day-roosting bats were found during surveys conducted for this project. The potential to encounter bats day-roosting or maternity-roosting in mature trees within the project area is moderate.

#### ***Environmental Consequences***

##### ***Foothill Yellow-Legged Frog and Western Pond Turtle***

Project construction activities are expected to occur below the top of the bank, but above the ordinary high water mark, of the Mokelumne River. This area is considered suitable upland habitat for the foothill yellow-legged frog and western pond turtle. Project activities would result in temporary disturbances to the streambank below the top of bank and below the ordinary high water mark of the Mokelumne River due to temporary construction access and placement and removal of temporary fills described above.

##### ***Migratory Birds and Raptors***

Swallow nests were seen on the soffits of the concrete overhangs of the Mokelumne River Bridge, and swallows could nest in these areas between February 1 and September 30. The project would remove the cantilevered concrete deck overhangs, which may conflict with nesting for these species.

The project area contains suitable nesting habitat for migratory birds and raptors, including trees, shrubs, and ground. Migratory birds and raptors could nest in the habitat between February 1 and September 30. The project would have temporary construction access and slope modification, which may conflict with nesting for these species.

##### ***Bats—Structures- and Tree-Roosting Bats***

The concrete bridge piers and deck soffits are suitable only for nighttime structures roosting. No mature trees capable of supporting day-roosting bats occur within any areas proposed for temporary construction access or within proposed temporary construction staging or storage areas. No mature trees

would be removed for temporary access or staging, but it is likely that mature trees occurring above the top of the bank of the river would be removed to modify the highway embankment slopes near the southwestern abutment.

#### *Standard Measures*

The following standard measures have been added to this project:

- BIO-1** Restore and Revegetate Temporarily Disturbed Areas Onsite
- WQ-3** Containment Measures/Construction Site Best Management Practices

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

- BIO-2** *Environmentally Sensitive Area Designation*
- BIO-3** *Designated Biologist*
- BIO-4** *Limited Operation Period – Stream Zone Construction Activities*
- BIO-5** *Worker Environmental Awareness Training for Construction Personnel*
- BIO-10** *Foothill Yellow-Legged Frog and Western Pond Turtle – Pre-Construction Surveys:* No more than 24 hours prior to any construction activities occurring below the top of the bank of the Mokelumne River, pre-construction surveys will be conducted by a qualified designated biologist for the foothill yellow-legged frog and western pond turtle using California Department of Fish Wildlife-approved survey protocols. These surveys will consist of walking surveys of the project limits and accessible adjacent areas within at least 50 feet of the project limits. The biologist(s) will investigate all potential foothill yellow-legged frog and western pond turtle cover sites. This includes thorough investigation of mammal burrows, appropriately sized soil cracks, loose rocks, and debris. Native vertebrates found in the cover sites will be documented and, if appropriate, relocated to an adequate cover site in the action area vicinity. The entrances and other refuge features within the project limits will be collapsed or removed following investigation and clearance.
- BIO-11** *Foothill Yellow-Legged Frog and Western Pond Turtle - Construction Monitoring:* A qualified designated biologist will be present during all construction-related activities that may affect the foothill yellow-legged frog, western pond turtle or their habitat. The designated biologist will have the authority to halt work through coordination with the Resident Engineer or onsite project manager if a foothill yellow-legged frog or western pond turtle is observed in the project footprint.



The Resident Engineer or onsite project manager will ensure construction activities remain suspended in any area where the biologist has determined that take of the foothill yellow-legged frog or western pond turtle could potentially occur. Work will resume once the animal leaves the site of its own volition, or once it is determined that the species is not being harassed by or in danger due to construction activities. The California Department of Fish and Wildlife would be contacted within 24 hours if a foothill yellow-legged frog or western pond turtle is detected during construction stage surveys.

**BIO-12** *Daily Limited Operation Period – Daytime Construction:* Construction activities will be limited to daytime hours between within one-half hour of sunrise and within one-half hour of sunset during each construction day. Daytime work will avoid or minimize adverse effects to potential bat night-roost sites and will avoid the use of artificial lighting that may have adverse effects on nocturnal wildlife including birds, insects, turtles, fish, amphibians, bats, and other species. Special Provisions under Section 10-1.03 of the Caltrans 2018 Standard Specifications (Time Constraints) would be used to specify any time constraints for specific construction activities.

**BIO-17** *Migratory Birds and Raptors – Construction Monitoring:* If construction or other project-related activities that may potentially cause nest destruction, nest abandonment or forced fledging of migratory birds are necessary, monitoring of the nest site by a designated biologist would be required to ensure that protective radii and any exclusionary devices are maintained and functioning properly.

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## **Chapter 3**      **CEQA Evaluation**

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### **3.1      Determining Significance under CEQA**

The proposed project is a project by the California Department of Transportation (Caltrans) and is subject to state environmental review requirements. Project documentation, therefore, has been prepared in compliance with the California Environmental Quality Act (known as CEQA)

One of the main differences between the National Environmental Policy Act (known as NEPA) and CEQA is the way CEQA requires 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 CEQA 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 NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

### **3.2      CEQA Environmental Checklist**

This checklist identifies physical, biological, social, and economic factors that might be affected by the project. Potential impact determinations include Significant and Unavoidable Impact, Less Than Significant With Mitigation Incorporated, Less Than Significant Impact, and No Impact. In many cases, background studies performed in connection with a project will indicate that there are no impacts to a particular resource. A No Impact answer reflects this determination. The words “significant” and “significance” used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this checklist 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 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.

### 3.2.1 Aesthetics

#### **CEQA Significance Determinations for Aesthetics**

Except as provided in Public Resources Code Section 21099, would the project:

a) Have a substantial adverse effect on a scenic vista?

**No Impact**—The project would improve an existing bridge with new bridge rails and a modest widening of the existing cantilevered structure. Most of the work would be conducted from catwalks and person-lifts; there would be only minimal ground disturbance associated with the project. The improvements would not constitute a visual impact in the area.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

**No Impact**—The project would improve an existing bridge with new bridge rails and a modest widening of the existing cantilevered structure. Most of the work would be conducted from catwalks and person-lifts; there would be only minimal ground disturbance. The improvements would not constitute a visual impact in the area.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

**No Impact**—The project would improve an existing bridge with new bridge rails and a modest widening of the existing cantilevered structure. Most of the work would be conducted from catwalks and person-lifts; there would be only minimal ground disturbance associated with it. The improvements would not constitute a visual impact in the area.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

**No Impact**—The project would improve an existing bridge with new bridge rails and a modest widening of the existing cantilevered structure. There is no lighting on the current structure, and the project would add no source of light or glare.

### 3.2.2 Agriculture and Forest Resources

#### ***CEQA Significance Determinations for Agriculture and Forest Resources***

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project, and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Would the project:

*a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*

**No Impact**—There is no farmland near the project. (Amador County General Plan Land Use Map, 2007; Calaveras County General Plan Land Use Designations Map)

*b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?*

**No Impact**—There is no farmland near the project. (Amador County General Plan Land Use Map, 2007; Calaveras County General Plan Land Use Designations Map)

*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))?*

**No Impact**—There is no identified forest land near the project. (Amador County General Plan Land Use Map, 2007; Calaveras County General Plan Land Use Designations Map)

d) Result in the loss of forest land or conversion of forest land to non-forest use?

**No Impact**—There is no identified forest land near the project. (Amador County General Plan Land Use Map, 2007; Calaveras County General Plan Land Use Designations Map)

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?

**No Impact**—There is no identified forest or farmland near the project. Also, the project would not acquire land or change the zoning or use of any land in the vicinity. (Amador County General Plan Land Use Map, 2007; Calaveras County General Plan Land Use Designations Map, Caltrans Project Initiation Document, April 2017)

### 3.2.3 Air Quality

#### **CEQA Significance Determinations for Air Quality**

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.

Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

**No Impact**—The project site is in the Mountain Counties Air Basin, which is in non-attainment for ozone. Ozone is considered a regional pollutant, so project-level transportation conformity does not apply. The two counties are in attainment for all other federal ambient air standards. (Air, Noise and Water Conformity Studies Report, August 2019)

b) 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?

**No Impact**—The project site is in the Mountain Counties Air Basin, which is in non-attainment for ozone. Ozone is considered a regional pollutant, so project-level transportation conformity does not apply. The two counties are in attainment for all other federal ambient air standards. (Air, Noise and Water Conformity Studies Report, August 2019)

c) Expose sensitive receptors to substantial pollutant concentrations?

**No Impact**—The project site is in the Mountain Counties Air Basin, which is in non-attainment for ozone. Ozone is considered a regional pollutant, so project-level transportation conformity does not apply. The two counties are in

attainment for all other federal ambient air standards. During construction, the project would generate air pollutants, the largest portion of which would consist of windblown dust from clearing and grubbing, demolition, debris hauling and similar construction activities. The implementation of standard measures AQ-1 and AQ-2 (described in Chapter 1) are required in every construction contract and should effectively reduce and control emission impacts during construction. (Air, Noise and Water Conformity Studies Report, August 2019)

*d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

**No Impact**—During construction, the project would generate air pollutants, the largest portion of which would consist of windblown dust from clearing and grubbing, demolition, debris hauling and similar construction activities. The implementation of standard measures AQ-1 and AQ-2 (described in Chapter 1) are required in every construction contract and should effectively reduce and control emission impacts during construction. (Air, Noise and Water Conformity Studies Report, August 2019)

### 3.2.4 Biological Resources

#### **CEQA Significance Determinations for Biological Resources**

Would the project:

*a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

**No Impact**—The project would improve an existing bridge. There would be no work in surface waters; almost all work would be conducted from catwalks cantilevered off the existing structure or supported by person-lifts situated on temporary work platforms on the bank of the Mokelumne River. There would be no “take” of any sensitive species and no change to habitat aside from minor, short-term construction impacts. Standard measures WQ-3, BIO-13 through BIO-18 and measures BIO-2 through BIO-5, BIO-10 through BIO-12, and BIO-17 (as described in Chapter 2) would be implemented. (Natural Environment Study – Minimal Impacts, August 2019)

*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 Wildlife or U.S. Fish and Wildlife Service?*

**No Impact**—The project would improve an existing bridge. There would be no work in surface waters; almost all work would be conducted from catwalks

cantilevered off the existing structure or supported by person-lifts situated on temporary work platforms on the bank of the Mokelumne River. There would be no “take” of any sensitive species and no change to habitat aside from minor, short-term construction impacts. Standard measures WQ-2, WQ-3, BIO-13 through BIO-18 and measures BIO-2 through BIO-5, BIO-10 through BIO-12, and BIO-17 (as described in Chapter 2) would be implemented. (Natural Environment Study – Minimal Impacts, August 2019)

*c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

**No Impact**—No jurisdictional wetlands were identified during biological surveys. (Natural Environment Study – Minimal Impacts, August 2019)

*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?*

**No Impact**—The project would improve an existing bridge. There would be no work in surface waters; almost all work would be conducted from catwalks cantilevered off the existing structure or supported by person-lifts situated on temporary work platforms on the bank of the Mokelumne River. There would be no “take” of any sensitive species and no change to habitat aside from minor, short-term construction impacts. Standard measures WQ-3, BIO-13 through BIO-18 and measures BIO-2 through BIO-5, BIO-10 through BIO-12, and BIO-17 (as described in Chapter 2) would be implemented. (Natural Environment Study – Minimal Impacts, August 2019)

*e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

**No Impact**—No such policies or ordinances are in place in the study area. (Natural Environment Study – Minimal Impacts, August 2019)

*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?*

**No Impact**—No such plans are in place in the study area. (Natural Environment Study – Minimal Impacts, August 2019)

### 3.2.5 Cultural Resources

#### **CEQA Significance Determinations for Cultural Resources**

Would the project:



*a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?*

**Less Than Significant Impact**—Field studies by cultural staff and resulting reports propose a Finding of No Adverse Effect Without Standard Conditions. Implementation of standard measures CR-1 through CR-2 and measures CR-3 through CR-5 (as described in Chapter 2) would prevent any potential impacts to historical resources. (Finding of Effect, September 2019, pending State Historic Preservation Officer concurrence).

*b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

**Less Than Significant Impact**—Field studies by cultural staff and resulting reports propose a Finding of No Adverse Effect Without Standard Conditions. Implementation of standard measures CR-1 through CR-2 and measures CR-3 through CR-5 (as described in Chapter 2) would prevent any potential impacts to archaeological resources. (Finding of Effect, September 2019, pending State Historic Preservation Officer concurrence)

*c) Disturb any human remains, including those interred outside of dedicated cemeteries?*

**No Impact**—The project includes only very minor ground disturbance and no excavation. Standard measure CR-2 (as described in Chapter 2) would be implemented.

### 3.2.6 Energy

#### **CEQA Significance Determinations for Energy**

Would the project:

*a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

**No Impact**—The project would improve an existing bridge. Caltrans standard provisions concerning energy conservation are part of every construction contract.

*b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

**No Impact**—The project would improve an existing bridge. Caltrans standard provisions concerning energy conservation are part of every construction contract.

### 3.2.7 Geology and Soils

#### **CEQA Significance Determinations for Geology and Soils**

Would the project:

*a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:*

*i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*

**No Impact**—The project would improve an existing bridge. The project site is not shown as at risk for earth movement on the Alquist-Priolo Earthquake Fault Zoning Map, September 2019.

*ii) Strong seismic ground shaking?*

**No Impact**—The project would improve an existing bridge. The project site is not shown as at risk for earth movement on the Alquist-Priolo Earthquake Fault Zoning Map, September 2019.

*iii) Seismic-related ground failure, including liquefaction?*

**No Impact**—The project would improve an existing bridge. The project site is not shown as at risk for earth movement on the Alquist-Priolo Earthquake Fault Zoning Map, September 2019.

*iv) Landslides?*

**No Impact**—The project would improve an existing bridge with new bridge rails and a modest widening of the existing cantilevered structure. Most of the work would be conducted from catwalks and person-lifts; there would be only minimal ground disturbance. The project site is not in an area prone to landslides.

*b) Result in substantial soil erosion or the loss of topsoil?*

**No Impact**—The project would improve an existing bridge with new bridge rails and a modest widening of the existing cantilevered structure. Most of the work would be conducted from catwalks and person-lifts; there would be only minimal ground disturbance.

*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 onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?*

**No Impact**—The project would improve an existing bridge with new bridge rails and a modest widening of the existing cantilevered structure. Most of the

work would be conducted from catwalks and person-lifts; there would be only minimal ground disturbance. The project site is not shown as at risk for earth movement on the Alquist-Priolo Earthquake Fault Zoning Map, September 2019.

*d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?*

**No Impact**—The project would improve an existing bridge with new bridge rails and a modest widening of the existing cantilevered structure. Most of the work would be conducted from catwalks and person-lifts; there would be only minimal ground disturbance.

*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?*

**No Impact**—The project would improve an existing bridge with new bridge rails and a modest widening of the existing cantilevered structure. Most of the work would be conducted from catwalks and person-lifts; there would be only minimal ground disturbance.

*f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

**No Impact**—The project would improve an existing bridge with new bridge rails and a modest widening of the existing cantilevered structure. Most of the work would be conducted from catwalks and person-lifts; there would be only minimal ground disturbance.

### 3.2.8 Greenhouse Gas Emissions

#### **CEQA Significance Determinations for Greenhouse Gas Emissions**

Would the project:

*a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

**Less Than Significant Impact**—While the project would result in some greenhouse gas emissions during construction, it is anticipated that the project would not result in any increase in operational greenhouse gas emissions. Standard measures AQ-1 and AQ-2 (as described in Chapter 1), and measures GHG-1 through GHG-5 (as described in Chapter 3) would be implemented.

*b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

**No Impact**—The project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing greenhouse gas emissions.

### 3.2.9 Hazards and Hazardous Materials

#### **CEQA Significance Determinations for Hazards and Hazardous Materials**

Would the project:

*a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

**No Impact**—The project would improve an existing bridge with new bridge rails and a modest widening of the existing cantilevered structure. Bridges are known to be constructed with asbestos-containing materials, including concrete, bearing pads, shims and mastic material, so a project-specific survey would be conducted before construction to ensure that all asbestos-containing materials are identified for safe and appropriate handling during removal and disposal. Painted surfaces on this bridge, including bridge railings, may have lead-based paints, so a project-specific survey for lead-based paints would be conducted before construction to ensure that all lead-containing materials are identified for safe and appropriate handling during removal and disposal. Implementation of standard measures HAZ-1 through HAZ-3 (as described in Chapter 1) would be used to prevent hazardous materials impacts. (Initial Site Assessment, August 2019)

*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?*

**No Impact**—The project would improve an existing bridge with new bridge rails and a modest widening of the existing cantilevered structure. Construction materials are not anticipated to include hazardous substances. Implementation of standard measures HAZ-1 through HAZ-3 (as described in Chapter 1) would prevent hazardous materials impacts.

*c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

**No Impact**—The project would improve an existing bridge with new bridge rails and a modest widening of the existing cantilevered structure. Construction materials are not anticipated to include hazardous substances. Also, the project site sits in a mostly rural area with no school nearby.

*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?*

**No Impact**—The project would improve an existing bridge with new bridge rails and a modest widening of the existing cantilevered structure. The site does not appear on a list of hazardous materials sites. (Initial Site Assessment, August 2019)

*e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

**No Impact**—The project would improve an existing bridge with new bridge rails and a modest widening of the existing cantilevered structure. The site is not within 2 miles of a public airport.

*f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

**No Impact**—While State Route 49 is a regionally important route, it is not the only route for entering or exiting Calaveras or Amador counties. It does not appear on the emergency planning document for either county as a critical or mandatory evacuation route. During construction activities, crews would work on one side of the bridge at a time, reducing traffic to one lane; traffic control would be maintained through use of a temporary traffic signal. Caltrans Traffic Safety staff have been and would continue to be in contact with nearby cities and agencies so they are informed about traffic interruptions or slowdowns and progress of work. Should an emergency requiring mass evacuations occur within the vicinity of the bridge, the contractor and the Resident Engineer would monitor county emergency services and follow their guidance.

*g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?*

**No Impact**—A review of CalFire Fire Hazard Severity Zones maps for Calaveras and Amador counties found that the project area is in a high-risk area for wildfires. The project would improve an existing bridge with new bridge rails and a modest widening of the existing cantilevered structure. Construction activities would not increase risk of wildfires, with implementation of construction site best management practices.

### 3.2.10 Hydrology and Water Quality

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

Would the project:

*a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?*

**No Impact**—The project would have no long-term effect on water quality or stormwater runoff. There may be temporary short-term effects on water quality during construction activities. Implementation of standard measures WQ-1 through WQ-8 (as described in Chapters 1 and 2) would prevent impacts to water quality. (Water Quality Report, August 2019)

*b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

**No Impact**—The project would have no long-term effect on water quality or groundwater supplies. There may be temporary short-term effects on water quality during construction activities. Implementation of standard measures WQ-1 through WQ-8 (as described in Chapters 1 and 2) would prevent impacts to water quality. (Water Quality Report, August 2019)

*c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*

*i) Result in substantial erosion or siltation onsite or offsite;*

**No Impact**—The project includes only very minor ground disturbance and no excavation. There is no evidence of erosion or siltation at the site currently. Implementation of standard measures WQ-2 and WQ-3 (as described in Chapters 1 and 2) would prevent impacts to water quality. (Water Quality Report and Natural Environment Study – Minimal Impacts, August 2019)

*ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite;*

**No Impact**—The project would have no long-term effect on water quality or stormwater runoff. The project is not expected to change existing drainage patterns or volumes. Implementation of standard measures WQ-1 through WQ-8 (as described in Chapters 1 and 2) would prevent impacts to water quality. (Water Quality Report, August 2019)

*iii) 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; or*

**No Impact**—The project would have no long-term effect on water quality or stormwater runoff. The project is not expected to change existing drainage patterns or volumes. Implementation of standard measures WQ-1 through WQ-8 (as described in Chapters 1 and 2) would prevent impacts to water quality. (Water Quality Report, August 2019)

iv) Impede or redirect flood flows?

**No Impact**—The project would have no long-term effect on water quality or stormwater runoff. The project is not expected to change existing drainage patterns or volumes. Implementation of standard measures WQ-1 through WQ-8 (as described in Chapters 1 and 2) would prevent impacts to water quality. (Water Quality Report, August 2019)

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

**No Impact**—The project site is outside a tsunami or seiche risk area. The risk of flood is limited because the river is governed by planned releases from dams both above and below the Mokelumne River Bridge; the releases are controlled by the East Bay Municipal Utility District, which measures the volume and velocity of the river flow several times daily. Also, construction materials are not anticipated to include hazardous substances, and the planned staging areas are well above the elevation of the river. The project is not expected to change existing drainage patterns or volumes. Implementation of standard measures WQ-1 through WQ-8 (as described in Chapters 1 and 2) would prevent impacts to water quality. (Water Quality Report, August 2019)

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

**No Impact**—There is no water quality control plan or groundwater management plan in place for this location. Caltrans has actively consulted with the East Bay Municipal Utility District, including at field visits, to ensure the project plans are consistent with the district's river management goals. (Water Quality Report, August 2019)

### 3.2.11 Land Use and Planning

#### ***CEQA Significance Determinations for Land Use and Planning***

Would the project:

a) Physically divide an established community?

**No Impact**—The project would improve an existing bridge with new bridge rails and a modest widening of the existing cantilevered structure. Most of the work would be conducted from catwalks and person-lifts; there would be only minimal ground disturbance. The improvements would not create a community division or disruption.

*b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?*

**No Impact**—The project would improve an existing bridge with new bridge rails and a modest widening of the existing cantilevered structure. Most of the work would be conducted from catwalks and person-lifts; there would be only minimal ground disturbance. The improvements would not conflict with any existing land use policies or goals.

### 3.2.12 Mineral Resources

#### **CEQA Significance Determinations for Mineral Resources**

Would the project:

*a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*

**No Impact**—The project includes only very minor ground disturbance and no excavation.

*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?*

**No Impact**—The project includes only very minor ground disturbance and no excavation.

### 3.2.13 Noise

#### **CEQA Significance Determinations for Noise**

Would the project result in:

*a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

**No Impact**—During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Implementation of standard measures NOI-1 through NOI-3 (as described in Chapter 2) would prevent noise impacts. (Noise Study, August 2019)



*b) Generation of excessive groundborne vibration or groundborne noise levels?*

**No Impact**—During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Implementation of standard measures NOI-1 through NOI-3 (as described in Chapter 2) would prevent noise impacts. (Noise Study, August 2019)

*c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 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?*

**No Impact**—The project would improve an existing bridge with new bridge rails and a modest widening of the existing cantilevered structure. The site is not within 2 miles of a public or private airport.

### 3.2.14 Population and Housing

#### **CEQA Significance Determinations for Population and Housing**

Would the project:

*a) Induce substantial unplanned 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)?*

**No Impact**—The project would improve an existing bridge. It would not increase capacity or encourage growth in the area.

*b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

**No Impact**—All construction activities for the project would take place within the existing state right-of-way. No property would be acquired, and no homes or businesses would be relocated to accommodate the project.

### 3.2.15 Public Services

#### **CEQA Significance Determinations for 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:

Fire protection?

Police protection?

Schools?

Parks?

Other public facilities?

**No Impact**—The project would improve an existing bridge. It would not increase capacity, induce growth, or change access to nearby communities. Except for temporary construction impacts to traffic, the project would not affect emergency services. No utility relocations are expected as part of construction activities.

### 3.2.16 Recreation

#### **CEQA Significance Determinations for Recreation**

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

**No Impact**—The project would improve an existing bridge. It would not increase capacity, induce growth, or change access to nearby communities. Except for temporary construction impacts to traffic, the project would not affect the use of the existing recreational facilities within the project area.

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?

**No Impact**—The project would improve an existing bridge. It would not increase capacity, induce growth, or change access to nearby communities. Except for temporary construction impacts to traffic, the project would not affect the use of the existing recreational facilities within the project area. Implementation of measures PAR-1 through PAR-7 (as described in Chapter 2) would prevent impacts to recreational facilities.

### 3.2.17 Transportation

#### **CEQA Significance Determinations for Transportation**

Would the project:

*a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?*

**No Impact**—The project would improve an existing bridge. The improvements would modestly increase pedestrian and bicyclist access. It would not conflict with any programs or plans addressing circulation.

*b) Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?*

**No Impact**—The project would not increase vehicle miles traveled.

*c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

**No Impact**—The project would improve an existing bridge. The improvements would modestly increase pedestrian and bicyclist access.

*d) Result in inadequate emergency access?*

**No Impact**—The project would improve an existing bridge. The improvements would modestly increase pedestrian and bicyclist access. The project would not result in inadequate emergency access. Standard measure TRA-1 (as described in Chapter 1) would be implemented.

### 3.2.18 Tribal Cultural Resources

#### ***CEQA Significance Determinations for 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:

*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*

**No Impact**—No resources 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), exist within the project area of potential effects.

If any tribal cultural materials are discovered during project excavation and construction, the implementation of standard measures CR-1 and CR-2 (described in Chapter 2) would prevent any potential impacts to tribal cultural resources.

*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.*

**No Impact**—No resources, significant or otherwise, were identified by consulted Native American tribes. If any tribal cultural materials are discovered during project excavation and construction, the implementation of standard measures CR-1 and CR-2 (described in Chapter 2) would prevent any potential impacts to tribal cultural resources.

### 3.2.19 Utilities and Service Systems

#### **CEQA Significance Determinations for Utilities and Service Systems**

Would the project:

*a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

**No Impact**—Utility relocation and/or construction are not anticipated on this project.

*b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?*

**No Impact**—During construction, water would be required for dust control and minimal wastewater would be generated. The amount of water required and wastewater anticipated to be generated during construction would be minimal and would occur on a temporary basis for the duration of construction activities. Any amount of wastewater generated by construction workers would be hauled and treated offsite.

*c) 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?*

**No Impact**—During construction, water would be required for dust control and minimal wastewater would be generated. The amount of water required and wastewater anticipated to be generated during construction would be minimal and would occur on a temporary basis for the duration of construction

activities. Any amount of wastewater generated by construction workers would be hauled and treated offsite.

*d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

**No Impact**—The demolition of existing bridge rails would result in some solid waste, but not in excess of state or local standards. The contractor would be required to comply with Caltrans Standard Special Provisions concerning lead-based paint and asbestos-containing materials abatement, and a lead compliance plan would be required. (Initial Site Assessment, August 2019)

*e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

**No Impact**—The project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste where applicable.

### 3.2.20 Wildfire

#### **CEQA Significance Determinations for Wildfire**

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

*a) Substantially impair an adopted emergency response plan or emergency evacuation plan?*

**No Impact**—While State Route 49 is a regionally important route, it is not the only route for entering or exiting Calaveras or Amador counties. It does not appear on the Emergency Planning document for either county as a critical or mandatory evacuation route. During construction activities, crews will work on one side of the bridge at a time, reducing traffic to one lane; traffic control would be maintained using a temporary traffic signal. Caltrans Traffic Safety has been and will continue to be in contact with nearby cities and agencies, so they are informed about traffic interruptions or slowdowns and progress of work. Should an emergency requiring mass evacuations occur within the vicinity of the bridge, the contractor and the Resident Engineer would monitor county emergency services and follow their guidance.

*b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

**No Impact**—A review of CalFire Fire Hazard Severity Zones maps for Calaveras and Amador counties indicates the project area is in a high-risk area for wildfires. The project would improve an existing bridge with new

bridge rails and a modest widening of the existing cantilevered structure. Construction activities would not increase risk of wildfires, with implementation of construction site best management practices.

*c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

**No Impact**—The project would not require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities).

*d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

**No Impact**—The project would have no long-term effect on water runoff. The project is not expected to change existing drainage patterns or volumes. The project has been designed to include best management practices and Caltrans standard provisions for runoff. (Water Quality Report, August 2019)

### 3.2.21 Mandatory Findings of Significance

#### **CEQA Significance Determinations for Mandatory Findings of Significance**

*a) Does the project have the potential to substantially 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?*

**No Impact**—The project would improve an existing bridge. There would be no work within surface waters; almost all work would be conducted from catwalks cantilevered off the existing structure or supported by person-lifts situated on temporary work platforms on the bank of the Mokelumne River. There would be no “take” of any sensitive species and no change to habitat aside from minor, short-term construction impacts. (Natural Environment Study – Minimal Impacts, August 2019)

*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.)*

**No Impact**—As discussed in Section 3.2, all environmental impacts that could occur as a result of the project would be less than significant with inclusion of the standard measures recommended throughout this document in the project design. When viewed in conjunction with other closely related past, present, or reasonably foreseeable future projects, development of this project would not cumulatively contribute to impacts.

*c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

**No Impact**—The project would not generate environmental impacts that would directly or indirectly cause substantial adverse effects on human beings. Where potential impacts occur, standard project measures and avoidance and minimization measures have been implemented to ensure direct and indirect impacts to human beings do not occur.

### 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 (also known as GHG) 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 led to increased efforts devoted to greenhouse gas emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of greenhouse gases generated by human activity, including carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF<sub>6</sub>), and various hydrofluorocarbons (HFCs). CO<sub>2</sub> is the most abundant greenhouse gas; while it is a naturally occurring component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO<sub>2</sub>.

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). This analysis will include a discussion of both.

## ***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 (known as NEPA) (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.

The Federal Highway Administration (also known as FHWA) 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. This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—“the triple bottom line of sustainability.” 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.

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 most important of these was the Energy Policy and Conservation Act of 1975 (42 U.S. Code Section 6201) and Corporate Average Fuel Economy (CAFE) 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 program on the basis of each manufacturer’s average fuel economy for the portion of its vehicles produced for sale in the United States.

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) the establishment of the Office of Indian Energy Policy and Programs within the Department of 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.



The U.S. Environmental Protection Agency (EPA)<sup>1</sup> in conjunction with the National Highway Traffic Safety Administration (NHTSA) is responsible for setting greenhouse gas emission standards for new cars and light-duty vehicles to significantly increase the fuel economy of all new passenger cars and light trucks sold in the United States. The current standards require vehicles to meet an average fuel economy of 34.1 miles per gallon by 2016. The EPA and National Highway Traffic Safety Administration are currently considering appropriate mileage and greenhouse gas emissions standards for 2022–2025 light-duty vehicles for future rulemaking.

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 CO<sub>2</sub> emissions by up to 1.1 billion metric tons over the lifetimes of model year 2018–2027 vehicles.

### *State*

California has been innovative and proactive in addressing greenhouse gas emissions and climate change by passing multiple Senate and Assembly bills and executive orders including, but not limited to, the following:

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 (AB) 32 in 2006 and Senate Bill (SB) 32 in 2016.

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 outlined in Executive Order S-3-05, while further mandating that the California Air Resources Board (ARB) 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 [H&SC] Section 38551(b)). The law requires the Air Resources Board to adopt rules and regulations in an open public process to achieve the

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<sup>1</sup> 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 the EPA’s assessment of the scientific evidence that form the basis for EPA’s regulatory actions.

maximum technologically feasible and cost-effective greenhouse gas reductions.

Executive Order S-01-07 (January 18, 2007): This order sets 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.

SB 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires the 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.

SB 391, Chapter 585, 2009, California Transportation Plan: This bill requires the State's long-range transportation plan to identify strategies to address California's climate change goals under AB 32.

Executive Order B-16-12 (March 2012) orders 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) establishes an interim statewide greenhouse gas emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. It further orders 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 directs 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).<sup>2</sup> Finally, it requires the Natural Resources Agency to update the state's climate

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<sup>2</sup> Greenhouse gases differ in how much heat each trap in the atmosphere (global warming potential, or GWP). CO<sub>2</sub> is the most important greenhouse gas, so amounts of other gases are expressed relative to CO<sub>2</sub>, using a metric called "carbon dioxide equivalent" (CO<sub>2</sub>e). The global warming potential of CO<sub>2</sub> is assigned a value of 1, and the global warming potential of other gases is assessed as multiples of CO<sub>2</sub>.

adaptation strategy, *Safeguarding California*, every 3 years, and to ensure that its provisions are fully implemented.

SB 32, Chapter 249, 2016, codifies 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.

SB 1386, Chapter 545, 2016, declared “it to be the policy of the state that the protection and management of natural and working lands ... is an important strategy in meeting the state’s greenhouse gas reduction goals, and would require all state agencies, departments, boards, and commissions to consider this policy when revising, adopting, or establishing policies, regulations, expenditures, or grant criteria relating to the protection and management of natural and working lands.”

AB 134, Chapter 254, 2017, allocates Greenhouse Gas Reduction Funds and other sources to various clean vehicle programs, demonstration/pilot projects, clean vehicle rebates and projects, and other emissions-reduction programs statewide.

Senate Bill 743, Chapter 386 (September 2013): This bill changes the metric of consideration for transportation impacts pursuant to CEQA from a focus on automobile delay to alternative methods focused on vehicle miles traveled, to promote the state’s goals of reducing greenhouse gas emissions and traffic-related air pollution and promoting multimodal transportation while balancing the needs of congestion management and safety.

Senate Bill 150, Chapter 150, 2017, Regional Transportation Plans: This bill requires the Air Resources Board to prepare a report that assesses progress made by each metropolitan planning organization in meeting its established regional greenhouse gas emission reduction targets.

Executive Order B-55-18 (September 2018) sets a new statewide goal to achieve and maintain carbon neutrality no later than 2045. This goal is in addition to existing statewide targets of reducing greenhouse gas emissions.

### ***Environmental Setting***

The proposed project is in a mostly rural area, with just a few nearby residences. The Mokelumne River Bridge carries State Route 49 traffic across the Mokelumne River between the City of Jackson in Amador County and the town of Mokelumne Hill in Calaveras County. Known as the “Golden Chain Highway,” State Route 49 is a major north-south route and a popular tourist route; truck traffic accounts for only about 7% of total traffic in the project area (Calaveras Council of Governments 2017: p. 32). At the southern end of the bridge, State Route 49 intersects Big Bar Road, which provides access to the Big Bar Boat Launch and Recreation Area.

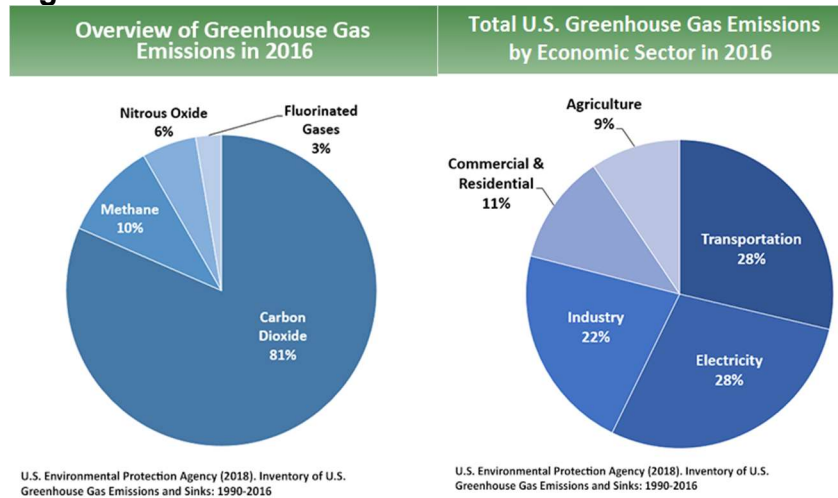
The Calaveras Council of Governments' Regional Transportation Plan (2017) and the Amador County Regional Transportation Plan (2015) guide transportation development in the project area. The 2017 Calaveras County Regional Transportation Plan update classifies State Route 49 as a principal arterial and the Amador County General Plan (2016; Figure CM-1), and the Amador County Regional Transportation Plan (2015) classifies State Route 49 at the project location as an arterial. The Draft Environmental Impact Report analysis of the General Plan Circulation Element (2018) classifies State Route 49 as a minor arterial (Figure 4.13-3 in the Draft Environmental Impact Report) and anticipates maintaining an LOS of C or better in the project area at general plan buildout (beyond 2035) (Figure 4.13-6 in the Draft Environmental Impact Report).

### ***National Greenhouse Gas Inventory***

The U.S. EPA prepares a national greenhouse gas inventory every year and submits it to the United Nations in accordance with the Framework Convention on Climate Change. The inventory provides a comprehensive accounting of all human-produced sources of greenhouse gases in the United States, reporting emissions of CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, perfluorocarbons, SF<sub>6</sub>, and nitrogen trifluoride. It also accounts for emissions of CO<sub>2</sub> that are removed from the atmosphere by “sinks” such as forests, vegetation, and soils that uptake and store CO<sub>2</sub> (carbon sequestration). The 1990–2016 inventory found that of 6,511 MMTCO<sub>2</sub>e greenhouse gas emissions in 2016, 81% consist of CO<sub>2</sub>, 10% are CH<sub>4</sub>, and 6% are N<sub>2</sub>O; the balance consists of fluorinated gases (EPA 2018a).<sup>3</sup> In 2016, greenhouse gas emissions from the transportation sector accounted for nearly 28.5% of U.S. greenhouse gas emissions. See Figure 3-1.

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<sup>3</sup> U.S. Environmental Protection Agency. 2018. Inventory of U.S. Greenhouse Gas Emissions and Sinks. <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks>

**Figure 3-1 U.S. 2016 Greenhouse Gas Emissions**

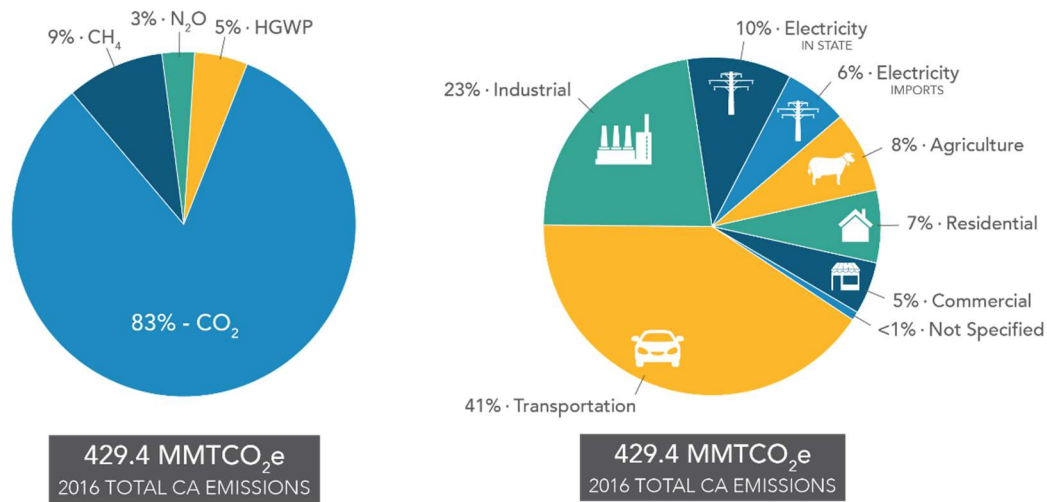
### State Greenhouse Gas Inventory

The Air Resources Board collects greenhouse gas emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its greenhouse gas reduction goals.

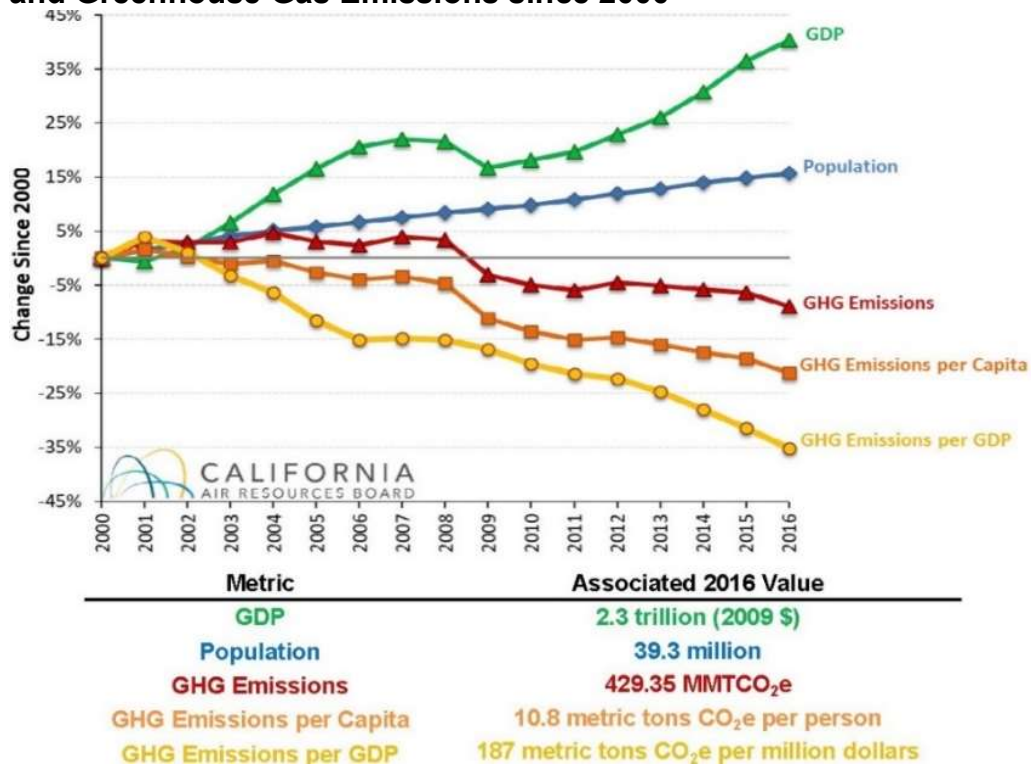
The 2018 edition of the greenhouse gas emissions inventory found total California emissions of 429 MMTCO<sub>2</sub>e for 2016, with the transportation sector responsible for 41% of total greenhouse gases. It also found that overall statewide greenhouse gas emissions have declined from 2000 to 2016 despite growth in population and state economic output.<sup>4</sup> See Figures 3-2 and 3-3.

<sup>4</sup> 2018 Edition of the Greenhouse Gas Emission Inventory (July 2018). <https://www.arb.ca.gov/cc/inventory/data/data.htm>

**Figure 3-2 California 2016 Greenhouse Gas Emissions**



**Figure 3-3 Change in California Gross Domestic Product, Population, and Greenhouse Gas Emissions since 2000**



AB 32 required the Air Resources Board to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing greenhouse gas emissions to 1990 levels by 2020, and to update it every 5 years. The Air Resources Board adopted the first scoping plan in 2008. 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 will use to reduce greenhouse gas emissions.

### ***Regional Plans***

The Air Resources Board sets regional targets for California's 18 Metropolitan Planning Organizations to use in their Regional Transportation Plan/ Sustainable Communities Strategy to plan future projects that will cumulatively achieve greenhouse gas reduction goals. Targets are set at a percent reduction of passenger vehicle greenhouse gas emissions per person from 2005 levels. Calaveras County and Amador County are not Metropolitan Planning Organizations and therefore do not have regional targets established and are not required to produce a Sustainable Communities Strategy under SB 375. However, the Calaveras County Regional Transportation Plan and the updated General Plan (2019) Transportation and Circulation element and Conservation and Open Space element contain goals and policies related to greenhouse gases in the project area. The Amador County General Plan (2016; Figure CM-1) and the Amador County Regional Transportation Plan (2015) also contain goals and policies related to reducing greenhouse gases. To date, neither county has a climate action plan (California Air Resources Board 2019).

### ***Project Analysis***

Greenhouse gas emissions from transportation projects can be divided into those produced during operation of the state highway system and those produced during construction. The main greenhouse gases produced by the transportation sector are CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, and HFCs. CO<sub>2</sub> emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of CH<sub>4</sub> and N<sub>2</sub>O are emitted during fuel combustion. In addition, a small amount of HFC emissions is included in the transportation sector.

The CEQA Guidelines generally address greenhouse gas emissions as a cumulative impact due to the global nature of climate change (Pub. Resources Code, § 21083(b)(2)). As the California Supreme Court explained, "because of the global scale of climate change, any one project's contribution is unlikely to be significant by itself" (Cleveland National Forest Foundation v. San Diego Assn. of Governments (2017) 3 Cal.5th 497, 512.). 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, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects.

Although climate change is ultimately a cumulative impact, not every individual project that emits greenhouse gases must necessarily be found to contribute to a significant cumulative impact on the environment.

### *Operational Emissions*

The purpose of the proposed project is to upgrade the bridge rails to meet current crash safety standards, and to enhance the mobility of pedestrian and bicycle traffic. The project would not increase roadway capacity or service capabilities that would induce growth or increase capacity. Because the project would not increase the number of travel lanes on State Route 49, project implementation would not increase vehicle miles traveled (VMT) in the project area. While some greenhouse gas emissions during the construction period would be unavoidable, no increase in operational greenhouse gas emissions is expected.

### *Construction Emissions*

Construction greenhouse gas emissions would result from material processing, onsite construction equipment, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence would, where possible, 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 would be offset to some degree by longer intervals between maintenance and rehabilitation activities.

Carbon dioxide emissions generated from construction equipment (which are used to gauge impacts to climate change) were estimated using the Caltrans Construction Emissions Tool. The estimated carbon dioxide construction emissions are 197 U.S. tons over a 2-month work period.

All construction contracts include Caltrans Standard Specifications Section 7-1.02A and 7-1.02C, Emissions Reduction, which require contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all ARB emission reduction regulations; and Section 14-9.02, Air Pollution Control, which requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. The project will also implement Caltrans standardized measures (such as construction Best Management Practices) that apply to most or all Caltrans projects. Certain common regulations, such as equipment idling restrictions and implementation of a traffic control plan, that reduce construction vehicle emissions also help reduce greenhouse gas emissions.

The project will also implement Caltrans standardized measures (such as construction best management practice) that apply to most or all Caltrans



projects. Certain common regulations, such as equipment idling restrictions and development and implementation of a traffic control plan that reduce construction vehicle emissions also help reduce greenhouse gas emissions.

### ***CEQA Conclusion***

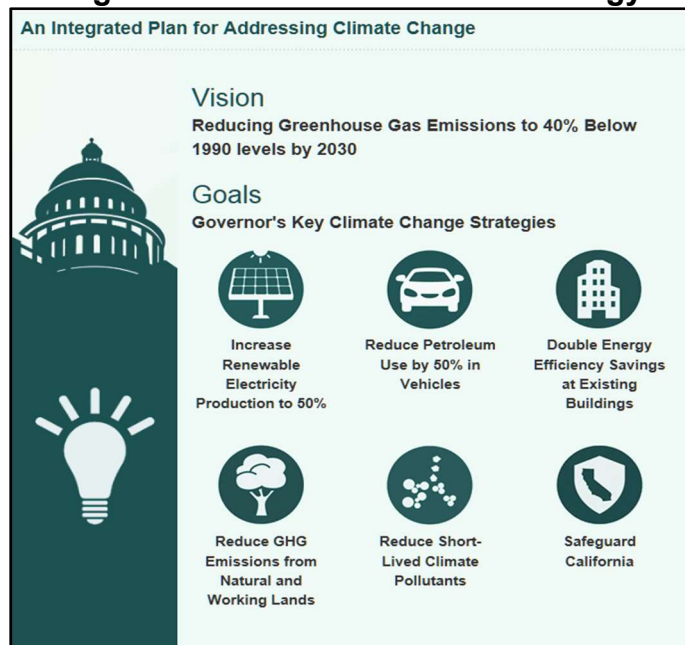
While the proposed project would result in greenhouse gas emissions during construction, it is anticipated that the project would not result in any increase in operational greenhouse gas emissions. The proposed project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. With implementation of construction greenhouse gas-reduction measures, the impact would be less than significant.

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***

Major sectors of the California economy, including transportation, will need to reduce emissions to meet the 2030 and 2050 greenhouse gas emissions targets. Former Governor Edmund G. Brown Jr. promoted greenhouse gas reduction goals that involved (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 farms and rangelands, forests, and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, *Safeguarding California*. See Figure 3-4.

**Figure 3-4 California Climate Strategy**

The transportation sector is integral to the people and economy of California. To achieve greenhouse gas emission reduction goals, it is vital that the state build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. Greenhouse gas emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled (VMT). A key state goal for reducing greenhouse gas emissions is to reduce today's petroleum use in cars and trucks by up to 50 percent by 2030.

In addition, SB 1386 (Wolk 2016) established as state policy the protection and management of natural and working lands and requires state agencies to consider that policy in their own decision making. Trees and vegetation on forest lands, rangelands, farms, and wetlands remove carbon dioxide from the atmosphere through biological processes and sequester the 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 an 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. In 2016, Caltrans completed the *California Transportation Plan 2040*, which establishes a new model for developing ground transportation systems, consistent with CO<sub>2</sub> reduction goals. It serves as an umbrella document for all the other statewide transportation planning documents. Over the next 25 years, California will be working to improve transit and reduce long-run repair and maintenance costs of roadways and developing a comprehensive assessment of climate-related transportation demand management and new technologies rather than continuing to expand capacity on existing roadways.

SB 391 (Liu 2009) requires the California Transportation Plan to meet California's climate change goals under AB 32. Accordingly, the California Transportation Plan 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, the California Transportation Plan 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:

- Increasing percentage of non-auto mode share
- Reducing vehicle miles traveled
- 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 sustainable transportation planning grants. These grants encourage local and regional multimodal transportation, housing, and land use planning that furthers the region's Regional Transportation Plan/Sustainable Communities Strategy; contribute to the State's greenhouse gas reduction targets and advance transportation-related greenhouse gas emission reduction project types/strategies; and support other climate adaptation goals (e.g., *Safeguarding California*).

### Caltrans Policy Directives and Other Initiatives

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 Caltrans' statewide activities 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 staff would enhance the environmental training provided for contractor staff by adding a module on greenhouse gas reduction strategies, including limiting equipment idling time as much as possible.

The contractor will be required to:

- Reduce construction waste and maximize the use of recycled materials wherever possible.
- Incorporate measures to reduce the use of potable water.
- Seek to operate construction equipment with improved fuel efficiency by:
  - Properly tuning and maintaining equipment
  - Limiting equipment idling time
  - Using the right-size equipment for the job
- Caltrans Standard Specification 14-9.02, Air Pollution Control requires contractors to comply with all air-pollution control rules, regulations, ordinances, and statutes. Measures that reduce construction vehicle emissions also help reduce greenhouse gas emissions.

### Adaptation

Reducing greenhouse gas emissions is only one part of an approach to addressing climate change. Caltrans must plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and variability in the frequency and intensity of wildfires. Flooding and erosion can damage or wash out roads; longer periods of intense heat can buckle pavement and railroad tracks; storm surges combined with a rising sea level can inundate highways. Wildfire can directly burn facilities and indirectly cause damage when rain falls on denuded slopes that landslide after a fire. Effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. Accordingly, Caltrans must consider these types of climate

stressors in how highways are planned, designed, built, operated, and maintained.

### *Federal Efforts*

Under National Environmental Policy Act assignment, Caltrans is obligated to comply with all applicable federal environmental laws and Federal Highway Administration National Environmental Policy Act regulations, policies, and guidance.

The U.S. Global Change Research Program delivers a report to Congress and the president every 4 years, in accordance with the Global Change Research Act of 1990 (15 U.S. Code Ch. 56A § 2921 et seq). The *Fourth National Climate Assessment*, published in 2018, presents the foundational science and the “human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways.” Chapter 12, “Transportation,” presents a key discussion of vulnerability assessments. It notes that “asset owners and operators have increasingly conducted more focused studies of particular assets that consider multiple climate hazards and scenarios in the context of asset-specific information, such as design lifetime.”

The U.S. Department of Transportation Policy Statement on Climate Adaptation in June 2011 committed the federal Department of Transportation to “integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of Department of Transportation 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>5</sup>

Federal Highway Administration Order 5520 (*Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events*, December 15, 2014)<sup>6</sup> established 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 has developed guidance and tools for transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels.<sup>7</sup>

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<sup>5</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>6</sup> <https://www.fhwa.dot.gov/legsregs/directives/orders/5520.cfm>

<sup>7</sup> <https://www.fhwa.dot.gov/environment/sustainability/resilience/>

### State Efforts

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. *California's Fourth Climate Change Assessment* (2018) is the state's latest effort to "translate the state of climate science into useful information for action" in a variety of sectors at both statewide and local scales. It adopts the following key terms used widely in climate change analysis and policy documents:

- *Adaptation* to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
- *Adaptive capacity* is the "combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities."
- *Exposure* is the presence of people, infrastructure, natural systems, and economic, cultural, and social resources in areas that are subject to harm.
- Resilience is the "capacity of any entity—an individual, a community, an organization, or a natural system—to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience." Adaptation actions contribute to increasing resilience, which is a desired outcome or state of being.
- *Sensitivity* is the level to which a species, natural system, or community, government, etc., would be affected by changing climate conditions.
- *Vulnerability* is the "susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt." Vulnerability can increase because of physical (built and environmental), social, political, and/or economic factor(s). These factors include, but are not limited to: ethnicity, class, sexual orientation and identification, national origin, and income inequality. Vulnerability is often defined as the combination of sensitivity and adaptive capacity as affected by the level of exposure to changing climate.

Several key state policies have guided climate change adaptation efforts to date. Recent state publications produced in response to these policies draw on these definitions.

Executive Order S-13-08, issued by then-Governor Arnold Schwarzenegger in November 2008, focused on sea-level rise and resulted in the *California Climate Adaptation Strategy* (2009), updated in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan). The Safeguarding California Plan offers policy principles and recommendations

and continues to be revised and augmented with sector-specific adaptation strategies, ongoing actions, and next steps for agencies.

Executive Order S-13-08 also led to the publication of a series of sea-level rise assessment reports and associated guidance and policies. These reports formed the foundation of an interim *State of California Sea-Level Rise Interim Guidance Document* (SLR Guidance) in 2010, with instructions for how state agencies could incorporate “sea-level rise (SLR) projections into planning and decision making for projects in California” in a consistent way across agencies. The guidance was revised and augmented in 2013. *Rising Seas in California – An Update on Sea-Level Rise Science* was published in 2017, and its updated projections of sea-level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance Update* in 2018.<sup>8</sup>

Executive Order B-30-15, signed in April 2015, requires state agencies to factor climate change into all planning and investment decisions. This order recognizes that effects of climate change other than sea-level rise also threaten California’s infrastructure. At the direction of Executive Order B-30-15, the Office of Planning and Research published *Planning and Investing for a Resilient California: A Guidebook for State Agencies* in 2017, to encourage a uniform and systematic approach. Representatives of Caltrans participated in the multi-agency, multidisciplinary technical advisory group that developed this guidance on how to integrate climate change into planning and investment.

AB 2800 (Quirk 2016) created the multidisciplinary Climate-Safe Infrastructure Working Group, which in 2018 released its report, *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California*. The report provides guidance to agencies on how to address the challenges of assessing risk in the face of inherent uncertainties still posed by the best available science on climate change. It also examines how state agencies can use infrastructure planning, design, and implementation processes to address the observed and anticipated climate change impacts.

### *Caltrans Adaptation Efforts*

#### *Caltrans Vulnerability Assessments*

Caltrans is conducting climate change vulnerability assessments to identify segments of the state highway system vulnerable to climate change effects, including precipitation, temperature, wildfire, storm surge, and sea-level rise. The approach to the vulnerability assessments was tailored to the practices of a transportation agency, and involves the following concepts and actions:

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<sup>8</sup> <http://www.opc.ca.gov/updating-californias-sea-level-rise-guidance/>

- *Exposure*—Identify Caltrans assets exposed to damage or reduced service life from expected future conditions.
- *Consequence*—Determine what might occur to system assets in terms of loss of use or costs of repair.
- *Prioritization*—Develop a method for making capital programming decisions to address identified risks, including considerations of system use and/or timing of expected exposure.

The climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, state, and regional organizations at the forefront of climate science. The findings of the vulnerability assessments will guide analysis of at-risk assets and development of adaptation plans to reduce the likelihood of damage to the state highway system, allowing Caltrans to both reduce the costs of storm damage and provide and maintain transportation that meets the needs of all Californians.

### *Project Adaptation Analysis*

#### *Sea Level Rise*

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

#### *Floodplains Analysis*

Most climate scientists predict increased frequency and intensity of rain events related to global climate change, although how frequent and how intense such storms are likely to be is unclear. The bridge spans the Mokelumne River. The project location is partially within Zone A, which is subject to a 1% annual chance for flood. The project's location hydraulic study (Caltrans 2019) notes that annual precipitation averages about 35 inches in Amador County overall, but 20 inches in the western part of the county, where the project is located. The Draft District 10 Caltrans Climate Vulnerability Assessment found that as the climate changes, heavy precipitation events may change and become more frequent over time. The assessment projects a less than 5% increase in 100-year storm precipitation depth in the western portion of the district through 2085, including at the project area.

While the bridge itself is in the floodplain, the proposed project would involve work on only the bridge deck, which is above the floodplain. Most stormwater runoff sheet-flows off the roadway into side storage ditches or vacant land. The proposed project would not interfere with or change drainage patterns. Also, the river is governed by planned releases from dams both above and below the Mokelumne River Bridge, which limits the risk of flooding (Section 3.2.10, Hydrology and Water Quality). Accordingly, the project modifications



to the bridge rails and deck would be protected from potential impacts of future higher precipitation that could occur under climate change conditions during the project's design life.

### Wildfire

CalFire Fire Hazard Severity Zones maps for Calaveras and Amador counties indicate the project area is in a high-risk area for wildfires. Construction site best management practices would avoid or minimize wildfire risk during construction.

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## **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 and tribal consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including interagency coordination meetings, public meetings, public notices, and project development team meetings. This chapter discusses the results of Caltrans' efforts to identify, address, and resolve project-related issues through early and continuing coordination.

### ***Cultural Resources Coordination***

#### ***Native American Coordination***

Interested Native American representatives included individuals and groups identified by the Native American Heritage Commission and local government and county historical societies.

- A request for a search of the Sacred Lands Inventory files was sent to the Native American Heritage Commission, and a response was received on July 29, 2019. The commission responded "negative" to the request for the search and provided a list of potential Native American contacts that Caltrans could consult about the project.
- On July 30, 2019, initial consultation letters were sent to eight representatives with tribal affiliation. The following were contacted: Buena Vista Rancheria of Me-Wuk Indians, Calaveras Band of Mi-Wuk Indians, Lone Band of Miwok Indians, Jackson Rancheria Band of Miwuk Indians, and United Auburn Indian Community of Auburn Rancheria. As of November 15, 2019, no responses have been received from the Buena Vista Rancheria of Me-Wuk Indians and Lone Band of Miwok Indians; however, consultation is still ongoing. A field visit is tentatively scheduled in early December for the Jackson Rancheria Band of Miwuk Indians, and additional documents would be provided for the Calaveras Band of Mi-Wuk Indians, and United Auburn Indian Community of the Auburn Rancheria.

In conjunction with the Native American consultation, letter correspondence was also sent to local government and county historical societies in August 2019; no responses have been received.

#### ***State Historic Preservation Officer Coordination***

A letter of Finding of No Adverse Effect Without Standard Conditions will be sent to the State Clearinghouse for concurrence.

### **Biological Resources Coordination**

Coordination is not required for biological resources because the project would have no effect on any of the following: California endangered species, special-status plants and animal species, and critical habitat. The following consultations would not be required:

- California Endangered Species Act consultation under Section 2080.1 or 2081 of the California Fish and Game Code would not be required.

### **Wild and Scenic River**

- The California Natural Resources Agency has jurisdiction over the segment of the Mokelumne River within the project area. An initial consultation letter was sent to Heather Baugh, Assistant General Counsel for the agency, on March 28, 2019. A phone conference was held with Ms. Baugh on April 22, 2019 to discuss the potential of the proposed project to cause impacts to the river. Ms. Baugh stated that the project would not impact the river; she confirmed her statement via email on June 19, 2019.
- The Bureau of Land Management has jurisdiction over Big Bar Recreation Area. An initial consultation letter was mailed to the Bureau of Land Management Motherlode Office on March 28, 2019. Caltrans' environmental team did not receive a response from the Bureau of Land Management, and a follow-up email was sent to the Motherlode Office on June 19, 2019. Because funding for this project was amended in October 2019 to remove federal funds, the Bureau of Land Management will be notified that their concurrence in 4(f) determination is no longer needed, following circulation of the draft environmental document.

## **Chapter 5**      List of Preparers

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

Allam Alhabaly, Transportation Engineer. B.S., California State University, Fresno, School of Engineering; 17 years of experience in environmental technical studies, with emphasis on noise studies. Contribution: Preparation of air, noise, and water technical studies.

Jaycee Azevedo, Senior Environmental Planner. A.S., Computer Software Applications, Heald College; 7 years of environmental planning experience. Contribution: Senior review of the Initial Study.

Janet Bailey, Associate Environmental Planner. B.S., Business Administration, California State University, Fresno; 9 years of experience at Caltrans. Contribution: Preparation of the Initial Study.

Juliana Bartel, Environmental Planner. B.A., Anthropology, University of California, Davis. Co-Principal Investigator Prehistoric Archaeology; 4 years of professional archaeological experience, including 1 year with Caltrans. Contribution: Preparation of the Archaeological Survey Report.

Raymond Benson, Associate Environmental Planner (Archaeology). M.A., Cultural Resources Management, Sonoma State University; B.A., Anthropology, Minor in Geography, Humboldt State University; more than 25 years of archaeology and 20 years of cultural resources management experience. Contribution: Principal Investigator, Prehistoric and Historic Archaeology, preparation of the Archaeological Survey Report.

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: Preparation of the Historical Properties Survey Report.

Benjamin Broyles, Senior Environmental Planner. B.A., Anthropology, University of California, Santa Cruz; 18 years of cultural resources management experience. Contribution: Senior review of cultural studies.

Laura Cook, Associate Environmental Planner. M.A., Archaeology and Heritage, University of Leicester, United Kingdom. PQS: Co-Principal Investigator, Prehistoric/Historical Archaeology; 10 years professional archaeological experience, including 2 years with Caltrans. Contribution: Finding of No Adverse Effect, Environmentally Sensitive Areas Action Plan.

Brian G. Denham, Associate Environmental Planner. M.A., Cultural Resources Management, Sonoma State University; 12 years of experience. Contribution: GIS mapping and preparation of the Archaeological Survey Report.

James Henke, Senior Environmental Planner (Biologist). B.S., Wildlife Biology, Humboldt State University, Arcata; more than 20 years of biological sciences and permitting experience. Contribution: Biology oversight.

Jason Meigs, Associate Environmental Planner (Natural Sciences). B.A., Environmental Studies, Minor in Biological Sciences, California State University, Sacramento; more than 20 years of environmental planning and biological sciences experience. Contribution: Preparation of the Natural Environment Study-Minimal Impacts.

G. William “Trais” Norris, III, Associate Environmental Planner. B.S., Urban Regional Planning, California State Polytechnic University, Pomona; 18 years of land use, housing, redevelopment, and environmental planning experience. Contribution: Quality Assurance/Quality Control content review of the Initial Study.

Ken J. Romero, Senior Transportation Engineer. B.S., Civil Engineering, California State University, Fresno; 13 years of environmental technical studies experience. Contribution: Senior review of air, noise, and water studies.

Michaela Shelton, Environmental Planner. B.A., Environmental Studies, University of California, Santa Cruz; 1 year of environmental planning experience. Contribution: Preparation of the Initial Study.

Harvey Tran, Associate Environmental Planner (Natural Sciences). M.A., Biological Sciences – Ecology focus, San Jose State University; more than 10 years of environmental planning and biological sciences experience. Contribution: Assistance in biological studies and peer review of biological reports.

Philip Vallejo, Senior Environmental Planner. B.A., History, California State University, Fresno; 11 years of experience in architectural history field. Contribution: Office Chief review of the Initial Study.

Divine Yang, Environmental Planner. B.S., Pharmaceutical Chemistry, University of California, Davis; 1 year of environmental planning experience. Contribution: Preparation of the Initial Study.

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## **Chapter 6**      Distribution List

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State Clearinghouse

California Department of Fish and Wildlife (North Central-Region 2)

Amador Council of Governments

Calaveras Council of Governments

California Highway Patrol (Valley Division Sacramento-201)

Pacific Gas and Electric Company

East Bay Municipal District

Foothill Conservancy

American Whitewater

California Natural Resources Agency

Loma Prieta Paddlers

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# Appendix A 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  
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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"*

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## **Appendix B** Avoidance, Minimization, Mitigation, and/or Standard Measures Summary

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To ensure that all environmental measures identified in this document are executed at the appropriate times, the following mitigation program (as articulated in the proposed Environmental Commitments Record that follows) would be implemented. During project design, avoidance, minimization, mitigation and/or standard measures will be incorporated into the project's final plans, specifications, and cost estimates, as appropriate. All permits will be obtained prior to implementation of the project. During construction, environmental and construction/engineering staff will 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 will take place, as applicable.

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

### ***Standard Measures***

- AQ-1** The construction contractor must comply with Caltrans' Standard Specifications, regarding Air Quality, in Section 14.
- AQ-2** The construction contractor must comply with Caltrans' Standard Specifications, Dust Control, Section 10-5.
- BIO-1** *Restore and Revegetate Temporarily Disturbed Areas Onsite:* All temporary fills will be completely removed from the project area. Disturbed areas within the construction limits will be graded to minimize surface erosion and siltation into receiving waters. Disturbed areas will be re-contoured to as close to pre-project condition as possible and will be stabilized as soon as feasible as (and no later than October 15 of each construction season) to avoid erosion during subsequent storms and runoff. Permanent erosion control seeding will be performed at all disturbed sites by hydro-seeding over the course of construction as each site is completed, with all sites seeded by the completion of construction activities.
- BIO-6** *Weed-Free Construction Equipment and Vehicles:* To minimize the potential for the transport of weed propagules to the Action Area from sources outside of the project area, construction equipment and vehicles are recommended to be cleaned and washed at the

contractor's facilities prior to arrival to the construction site. Any vehicle or equipment cleaning that occurs onsite during construction activities will conform with Caltrans 2018 Standard Specifications or any Special Conditions under Section 13-4.03E(3) and NS-08 (Vehicle and Equipment Cleaning) of the Caltrans 2017 Construction Site Best Management Practices Manual that require the contractor to contain and dispose of any waste resulting from vehicle or equipment cleaning.

- BIO-7** *Equipment and Materials Storage, Staging, and Use in Weed-Free Areas:* To minimize the potential for spreading weed propagules originating from within the project study limits, staging and storage of equipment should only be done in weed-free areas. Infestations of noxious and/or highly invasive weeds were mapped as part of the project planning effort to determine if hand, mechanical, or chemical eradication treatments are feasible, or if it is feasible to designate these areas as excluded from contractor's use. Environmentally Sensitive Areas Provisions Section 14-1.02 of the Caltrans 2018 Standard Specifications or Special Provisions may be used to specify areas restricted from contractor's use.

Dense stands of Scotch broom occur next to the north side of the Big Bar vehicle access and parking lot on the south side of the Mokelumne River west of the Mokelumne River Bridge. Also, the areas proposed for use as equipment staging areas and person-lift access to the southwest side of the Mokelumne River Bridge are occupied by Scotch broom, tree of heaven, yellow star thistle, and Italian plume-less thistle.

It is highly recommended that the proposed staging/storage area on the southwest side of the Mokelumne River Bridge be dropped from consideration as a staging/storage area. Scotch broom is spread mainly by prolific seed dispersal, and seeds may be viable for up to 80 years. Preventing the use of vehicles and equipment in areas infested by Scotch broom and tree of heaven would prevent or reduce the potential to spread these species. Long-term control of Scotch broom and tree of heaven within the project action area is beyond the purpose and scope of the proposed project, and the use of herbicides for weed control activities within the stream zone would be discouraged.

- BIO-8** *Weed Control During Construction:* To minimize the potential for spreading weed propagules originating from within the project action area during the course of construction activities, including initial vegetation clearing and at onsite revegetation areas, weed control would be accomplished in accordance with Caltrans 2018 Standard Specifications or Special Provisions under Section 20-1.03C(3).

Special Provisions may be required to address the removal or control of Scotch broom and tree of heaven from proposed project construction areas, including the proposed staging/storage area on the southwest side of the Mokelumne River Bridge.

- BIO-9** *Weed-Free Erosion Control and Revegetation Treatments:* To minimize the risk of introducing weed propagules to the action area from sources outside of the project area, only locally adapted plant species appropriate for the project area will be used in any erosion control or revegetation seed mix or stock. The Caltrans Biologist will consult with the Caltrans Landscape Architect to develop appropriate seed and planting palettes for use in revegetation and/or erosion control applications. Any compost, mulch, tackifier, fiber, straw, duff, topsoil, erosion control products, or seed must meet Caltrans 2018 Standard Specification or any Special Provisions under Section 21-2.02 for these materials. Any hydro-seed used for revegetation activities must also be certified weed-free per Caltrans 2018 Standard Specifications Section 21-2.02F.
- BIO-13** *Migratory Birds and Raptors - Remove Nesting Habitat During Non-Nesting Season:* Performing structures work on the Mokelumne River Bridge, woody vegetation removal or other construction activities within nesting bird habitat during the non-nesting season (between October 1 and January 31) would not require pre-construction surveys or the use of nest-exclusion devices for migratory birds.
- BIO-14** *Migratory Birds and Raptors - Exclusionary Devices:* If work potentially interfering with bird nesting sites is proposed or is likely to occur between February 1 and September 30, then devices such as netting or other means may be used to block access to bird nesting sites where work will be performed. Exclusionary devices must be installed after September 30, but before February 1 of any construction season, or may be installed during the nesting season in areas not occupied by nesting birds, as determined by the designated biologist, and will be maintained and left in place between February 1 and September 30 of any construction season. Exclusionary devices for migratory birds may be removed when a designated biologist determines that work will not interfere with bird nesting sites or until all construction activities in bird nesting areas are completed. Exclusionary devices for migratory birds will be specified under Caltrans 2018 Standard Specification and/or Standard Special Provisions under Section 14-6.03A (Species Protection) and/or 14-6.03(B) (Bird Protection).
- BIO-15** *Migratory Birds and Raptors - Pre-Construction Surveys During Nesting Season:* If woody vegetation removal, structures construction, ground-disturbing activities, or other project-related

activities are scheduled during the nesting season of protected raptors and migratory birds (February 1 to September 30), a focused survey for active nests of such birds will be conducted by a designated biologist within 15 days prior to the beginning of project-related activities. If active nests are found, a protective no-work buffer will be established (see BIO-16) and Caltrans will consult with the U.S. Fish and Wildlife Service regarding appropriate action to comply with the Migratory Bird Treaty Act of 1918 and with the California Department of Fish and Wildlife to comply with provisions of the Fish and Game Code of California. If a lapse in project-related work of 15 days or longer occurs, another survey and, if required, consultation with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife, will be required before the work can be reinitiated.

Pre-construction surveys for nesting migratory birds and raptors will be specified under Caltrans 2018 Standard Specification and/or Standard Special Provision 14-6.03A (Species Protection) and/or 14-6.03(B) (Bird Protection).

**BIO-16** *Migratory Birds and Raptors - Protective Buffers:* If nesting migratory birds or nesting raptors are detected by the designated biologist during the pre-construction survey, the appropriate no-work buffer will need be established around the nest. No work will commence within the buffer until authorization is received from the Resident Engineer. Appropriate no-work buffer distances for specific bird species are listed below.

Stop all work within a 100-foot radius of any active migratory bird nest, except as noted below:

- Recommended species protective buffer radius for raptors is 300 feet.
- Recommended species protective buffer radius for other migratory birds is 100 feet.

Protective buffer radii for nesting migratory birds and raptors will be specified under Caltrans 2018 Standard Specification and/or Standard Special Provision 14-6.03A (Species Protection) and/or 14-6.03(B) (Bird Protection).

**BIO-18** *Construction Site Best Practices:* During construction operations, stockpiling of construction materials, portable equipment, vehicles, and supplies will be restricted to the designated construction staging areas and all operations will be confined to the minimal area necessary.



- Project-related vehicle traffic will be restricted to established roads and construction areas. Project vehicles will observe a 20-mile-per-hour speed limit while in the Action Area.
- Dust control measures will be implemented if necessary.
- Plastic mono-filament netting (erosion control matting) or similar material will not be used at the project site. Acceptable substitutes include coconut coir matting or tackified hydro-seeding compounds.
- Use of rodenticides and herbicides, including fumigation, the use of poison bait, or other means of poisoning nuisance animals in project areas will be restricted.
- All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in securely closed containers and removed at least once a week from a construction or project site.
- No firearms will be allowed on the project site.
- No pets, such as dogs or cats, should be permitted on the project site.

**CR-1** If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

**CR-2** If human remains are discovered, California Health and Safety Code Section 7050.5 states that further disturbances and activities will stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage Commission, who, pursuant to Public Resources Code Section 5097.98, will then notify the Most Likely Descendent. At this time, the person who discovered the remains will contact Caltrans Archaeologists so that they may 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.

**HAZ-1** *Lead Compliance Plan:* A lead compliance plan will be prepared under Section 7- 1.02K(6)(j)(iii) of Caltrans' Standard Specifications. The lead compliance plan will include provisions regarding use of earth material.

**HAZ-2** *Lead-Based Paint Abatement:* Painted surfaces such as railings and graffiti abatement may be present on the bridge. A project-specific

survey for lead-based paint will be conducted prior to construction activities. In the event that the scope of work changes, or additional information is required regarding hazardous waste issues, please contact Jonathan Schlee at (209) 942-6011 or by email at Jonathan.Schlee@dot.ca.gov.

- HAZ-3** *Asbestos-Containing Material Abatement:* Asbestos-containing materials are known to occur in bridge baring pad, shims, mastic material, and/or concrete. The scope of work for this project will require major renovation of the existing bridge. Therefore, a project-specific survey for asbestos-containing materials will be conducted prior to construction activities.
- NOI-1** Construction noise is regulated by Caltrans Standard Specifications Section 14-8.02 "Noise Control," which states that noise levels generated during construction will comply with applicable local, state, and federal regulations, and that all equipment will be fitted with adequate mufflers according to the manufacturers' specifications.
- NOI-2** All equipment will have sound-control devices that are no less effective than those provided on the original equipment. No equipment will have an unmuffled exhaust.
- NOI-3** As directed by Caltrans, the contractor will implement appropriate additional noise minimization measures, including changing the location of stationary construction equipment, turning off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, and installing acoustic barriers around stationary construction noise sources.
- TRA-1** A Transportation Management Plan will be prepared for the project.
- WQ-1** The project would comply with the Provisions of the Caltrans Statewide National Pollutant Discharge Elimination System Permit (Order 2012-0011-DWQ), which became effective July 1, 2013, and if applicable, the Construction General Permit (Order 2009-0009-DWQ).
- WQ-2** Before any ground-disturbing activities, the contractor will be required to prepare a Water Pollution Control Program or Stormwater Pollution Prevention Plan (per the Construction General Permit Order 2009-0009-DWQ) that includes erosion-control measures and construction waste containment measures so that waters of the State are protected during and after project construction.
- WQ-3** *Containment Measures/Construction Site Best Management Practices:* To contain construction-related material and prevent debris and pollutants from entering receiving waters and to reduce the potential for discharge to receiving waters, the contractor will

follow all applicable guidelines and requirements in Section 13 of the Caltrans 2018 Standard Specifications or any Special Provisions in Section 13 regarding water pollution control and general specifications for preventing, controlling, and abating water pollution in streams, waterways, and other bodies of water. Caltrans staff and the contractor are required to perform routine inspections of the construction area to verify that field Best Management Practices are properly implemented, maintained, and operating effectively and as designed.

The project design team may specify “best management practices” to be used during construction in addition to, or in place of, other temporary measures selected by the contractor. Project-specific “best management practices” will address (among other things):

- Spill Prevention and Control (*Caltrans 2017 BMP Manual WM-4*)
- Material Management (Material Delivery, Use, Storage, and Stockpiles; *Caltrans 2017 BMP Manual WM-1 through WM-4*)
- Waste Management (Solid, Hazardous, Concrete, Sanitary/Septic Wastes, Contaminated Soils; *Caltrans 2017 BMP Manual W-M5 through WM-10*)
- Vehicle and Equipment Cleaning, Fueling, and Maintenance (*Caltrans 2017 BMP Manual NS-8 through NS-10*)
- Material and Equipment Use Over Water (*Caltrans 2017 BMP Manual NS-13*)
- Structure Removal Over or Adjacent to Water (*Caltrans 2017 BMP Manual NS-15*)
- Paving, Sealing, Sawing, Grooving and Grinding Activities (*Caltrans 2017 BMP Manual NS-3*)
- Concrete Curing and Finishing (*Caltrans 2017 BMP Manual NS-12*)
- Temporary Soil Stabilization (*Caltrans 2017 BMP Manual SS-1 through SS-10*)
- Temporary Sediment Control (*Caltrans 2017 BMP Manual SC-1 through SC-10*)
- Temporary Tracking Control (*Caltrans 2017 BMP Manual TC-1 through TC-3*)
- Temporary Concrete Washouts (*Caltrans 2017 BMP Manual WM-8*)
- Illicit Connection/Illegal Discharge Detection and Reporting (*Caltrans 2017 BMP Manual NS-6*)

- Stormwater Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual (Caltrans, 2011)
- Construction Site Best Management Practices Manual (Caltrans, 2017)
- Construction Site Monitoring Program Manual (Caltrans, 2013)

- WQ-4** Cast-in-place concrete structures should have enough time to cure prior to the rainy season.
- WQ-5** Concrete-treated permeable base should not be used as a permeable material for underdrain systems that discharge to waterways.
- WQ-6** Some of the work areas could be within the 100-year floodplain zone. All materials (e.g., rock, geotextile fabric) used to stabilize temporary access routes will be completely removed when construction is completed.
- WQ-7** The project would incorporate pollution prevention and design measures consistent with the 2015 Caltrans Stormwater Management Plan (Caltrans 2015) to meet water quality objectives. The plan has been revised to comply with the requirements of the Caltrans Statewide National Pollution Discharge Elimination System Permit (Order 2012-0011-DWQ). In addition to the Best Management Practices already included, the following permanent stormwater treatment Best Management Practices should be considered where feasible:
- Energy dissipation devices (e.g., rock slope protection, check dams)
  - Bioengineered stream bank stabilization methods (e.g., willow wattles, brush layering)
- WQ-8** Environmentally sensitive areas would be designated and clearly delineated on the contract plans during the design phase to avoid potential discharges and unauthorized disturbances to the creeks, streams, channels and protected riparian areas.

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

#### ***Parks and Recreation***

- PAR-1** Limiting contractor access to the riverbank on the south side of the river to maintain launch and take-out access for whitewater users.

- PAR-2** Erecting high visibility, environmentally sensitive area fencing to make clear to both the public and the contractor the limits of the construction zone.
- PAR-3** Adding a unit to normal environmental training to remind construction staff of the likelihood of the public occupying areas immediately adjacent to the active construction zone.
- PAR-4** Providing a flagger during periods that the movement of construction material and equipment into or out of the staging area may delay public access to the Big Bar Recreation Area.
- PAR-5** Requiring the contractor to avoid parking construction vehicles in the recreation area parking lot.
- PAR-6** Prohibiting the contractor from placing construction equipment or materials for even short periods in the parking lot.
- PAR-7** The contractor would be prohibited from using the paved area to stage construction equipment or activities.

#### *Cultural Resources*

- CR-3** *Establish Environmentally Sensitive Areas:* Additional direct and indirect impacts to sensitive cultural resources throughout the project area will be avoided or minimized by designating these features outside of the construction impact area as “environmentally sensitive areas.” The environmentally sensitive areas information will be shown on contract plans and discussed in the Special Provisions. The provisions may include, but are not necessarily limited to, the use of temporary orange fencing to identify the proposed limit of work in areas adjacent to sensitive resources or to locate and exclude sensitive resources from potential construction impacts. Contractor encroachment into the environmentally sensitive areas will be prohibited (including the staging/operation of heavy equipment or casting of excavated materials). The provisions will be implemented as a first order of work and remain in place until all construction activities are complete.
- CR-4** *Cultural Monitoring:* To ensure that project activities would not change or result in an adverse effect, Caltrans will ensure that a Caltrans Principal Architectural Historian will review all construction and design plans as developed and monitor construction activities associated with the Mokelumne River Bridge Upgrade project.
- CR-5** Should any significant changes that have the potential to impact the site in an adverse manner be made to the plans before or during construction activities, the State Historic Preservation Officer will be

notified immediately and additional documentation, as appropriate, will be completed to assess impacts of said changes.

#### *Waters of the U.S. – Other Waters*

**BIO-2** *Environmentally Sensitive Area Designation:* Additional direct and indirect impacts to sensitive biological resources throughout the project area would be avoided or minimized by designating “environmentally sensitive areas.” All areas outside of the proposed construction footprint will be considered as environmentally sensitive areas, as well as any areas determined by a qualified biologist during project planning or during pre-construction surveys to qualify for environmentally sensitive area designation.

Environmentally sensitive area information will be shown on contract plans and discussed in Section 14-1.02 of the Caltrans 2018 Standard Specifications or any Special Provisions in Section 14-1.02. Environmentally sensitive area provisions may include, but are not necessarily limited to, the use of temporary orange fencing or other high-visibility marking to identify the proposed limit of work in areas adjacent to sensitive resources or to locate and exclude sensitive resources from potential construction impacts. Contractor encroachment into environmentally sensitive areas will be prohibited, and immediate work stoppage and notification to the Caltrans Resident Engineer are required if an environmentally sensitive area is breached. Environmentally sensitive area provisions will be implemented as a first order of work and remain in place until all construction activities are complete.

**BIO-3** *Designated Biologist:* A designated biologist or biologists will be onsite during any activities that have the potential to affect sensitive biological resources. The designated biologist will monitor regulated species and habitats, ensure that construction activities do not result in the un-intended take of regulated species or disturbances to regulated habitats, will ensure that construction activities comply with any permits, licenses, agreements, or contracts, will immediately notify the Caltrans Resident Engineer of any take of regulated species, disturbances to regulated habitats, or breaches of environmentally sensitive areas, and would prepare, submit, and sign notifications and reports. A designated biologist who performs specialized activities must have demonstrated field experience working with the regulated species or performing the specialized task, and regulatory agency approval will be required prior to Caltrans’ acceptance of the designated biologist.

The designated biologists for the proposed project may be “Department-supplied” biologists (Caltrans biologists or consultant

biologists under Task Order contracts to Caltrans) or may be contractor-supplied biologists. If contractor-supplied biologists are used as designated biologists, contractor-supplied biologist provisions would be discussed in Section 14-6.03D(1-3) of the Caltrans 2018 Standard Specifications or any Special Provisions in Section 14-6.03D(1-3) that will specify contractor-supplied biologist qualifications, responsibilities, and submittals. Regulatory agency approval will be required prior to Caltrans' acceptance of any contractor-supplied biologist. Prior to project construction, the contractor-supplied biologist would prepare a Natural Resources Protection Program within 7 days of contract approval per Standard or Special Provisions under Section 14-6.03D(2) of the Caltrans 2018 Standard Specifications. The Natural Resources Protection Program would describe the measures and schedules for protecting biological resources and regulatory compliance and must be approved by Caltrans prior to the onset of construction activities.

**BIO-4** *Limited Operation Period – Stream Zone Construction Activities:* It is proposed that construction activities occurring below the top of the bank of the Mokelumne River within the project Action Area will occur between June 1 and October 15 of any construction season, unless earlier or later dates for in-channel construction activities are approved by the California Department of Fish and Wildlife, U.S. Army Corps of Engineers, and the Central Valley Regional Water Quality Control Board (CVRWQCB). By requiring contractors to adhere to these dates for stream-zone construction, the project proponent will minimize project effects to receiving waters.

**BIO-5** *Worker Environmental Awareness Training for Construction Personnel:* Before any work occurs in the project area, a qualified designated biologist (familiar with the resources to be protected) will conduct a mandatory contractor/worker environmental awareness training (WEAT) for construction personnel. The awareness training will be provided to all construction personnel (contractors and subcontractors) to brief them on the need to avoid and minimize effects to sensitive biological resources (e.g., jurisdictional wetlands and other waters, threatened and endangered species, other special-status species, roosting bats, nesting birds, etc.) within and adjacent to construction areas and the penalties for not complying with applicable state and federal laws and permit requirements. The designated biologist will inform all construction personnel about the life history and habitat requirements of special-status habitats and species known to occur or with potential for occurrence onsite, the importance of maintaining habitat, and the terms and conditions of regulatory requirements.

The worker environmental awareness training will also cover general restrictions and guidelines that must be followed by all construction personnel to reduce or avoid effects on sensitive biological resources during project construction. The training will include identifying the Best Management Practices written into construction specifications for avoiding and minimizing the discharge of construction materials or other contaminants into jurisdictional waters.

Worker environmental awareness training will be required for any construction personnel intending to enter the construction zone for more than 15 minutes. Any designated biologists conducting worker environmental awareness training must meet the qualifications of regulatory agencies, and copies of training sign-in sheets for construction personnel will be provided to regulatory agencies upon their request.

If a contractor-supplied biologist is used, then the contractor-supplied biologist will prepare and submit copies of the worker environmental awareness training and any associated training materials for Caltrans' review and approval prior to the onset of project construction activities per Special Provisions of the Caltrans 2018 Standard Specifications under Section 14-6.03(D) "Biological Resource Information Program." A Biological Resources Information Program submittal will be accepted by Caltrans only if it complies with all regulatory provisions.

*Waters of the State of California—Riparian and Non-Riparian*

**BIO-2** *Environmentally Sensitive Area Designation*

**BIO-3** *Designated Biologist*

**BIO-4** *Limited Operation Period – Stream Zone Construction Activities*

**BIO-5** *Worker Environmental Awareness Training for Construction Personnel*

*Wild and Scenic Rivers*

**BIO-2** *Environmentally Sensitive Area Designation*

**BIO-3** *Designated Biologist*

**BIO-4** *Limited Operation Period – Stream Zone Construction Activities*

**BIO-5** *Worker Environmental Awareness Training for Construction Personnel*



*Animal Species*

**BIO-2** *Environmentally Sensitive Area Designation*

**BIO-3** *Designated Biologist*

**BIO-4** *Limited Operation Period – Stream Zone Construction Activities*

**BIO-5** *Worker Environmental Awareness Training for Construction Personnel*

**BIO-10** *Foothill Yellow-Legged Frog and Western Pond Turtle – Pre-Construction Surveys:* No more than 24 hours prior to any construction activities occurring below the top of the bank of the Mokelumne River, pre-construction surveys will be conducted by a qualified designated biologist for the foothill yellow-legged frog and western pond turtle using California Department of Fish Wildlife-approved survey protocols. These surveys will consist of walking surveys of the project limits and accessible adjacent areas within at least 50 feet of the project limits. The biologist(s) will investigate all potential foothill yellow-legged frog and western pond turtle cover sites. This includes thorough investigation of mammal burrows, appropriately sized soil cracks, loose rocks, and debris. Native vertebrates found in the cover sites will be documented and, if appropriate, relocated to an adequate cover site in the action area vicinity. The entrances and other refuge features within the project limits will be collapsed or removed following investigation and clearance.

**BIO-11** *Foothill Yellow-Legged Frog and Western Pond Turtle – Construction Monitoring:* A qualified designated biologist will be present during all construction-related activities that may affect the foothill yellow-legged frog, western pond turtle or their habitats. The designated biologist will have the authority to halt work through coordination with the Resident Engineer or onsite project manager if a foothill yellow-legged frog or western pond turtle is observed on the project footprint. The Resident Engineer or onsite project manager will ensure construction activities remain suspended in any area where the biologist has determined that take of the foothill yellow-legged frog or western pond turtle could potentially occur. Work will resume once the animal leaves the site of its own volition, or once it is determined that the species is not being harassed by or in danger due to construction activities. The California Department of Fish and Wildlife will be contacted within 24 hours if a foothill yellow-legged frog or western pond turtle is detected during construction stage surveys.

To prevent inadvertent entrapment of a foothill yellow-legged frog or western pond turtle during construction, all excavated, steep-walled holes or trenches more than 6 inches deep will be covered at the end of each working day with plywood or similar material. At the beginning of each working day and before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. If at any time a trapped native amphibian or reptile is discovered in these situations, the qualified designated biologist will have the authority to halt activities in these locations through coordination with the Resident Engineer or onsite project manager and will immediately place escape ramps or other appropriate structures to allow the animal to escape. Work will resume once the animal leaves the site of its own volition, or once it is determined that the species is not being harassed by or in danger due to construction activities. The California Department of Fish and Wildlife would be contacted within 24 hours if a foothill yellow-legged frog or western pond turtle is detected during construction stage surveys.

New sightings of a foothill yellow-legged frog or western pond turtle observed during pre-construction surveys or during construction monitoring will be reported to the California Natural Diversity Database.

**BIO-12** *Daily Limited Operation Period – Daytime Construction:* Construction activities will be limited to daytime hours between within one-half hour of sunrise and within one-half hour of sunset during each construction day. Daytime work will avoid or minimize adverse effects to potential bat night-roost sites and will avoid the use of artificial lighting that may have adverse effects on nocturnal wildlife including birds, insects, turtles, fish, amphibians, bats, and other species. Special Provisions under Section 10-1.03 of the Caltrans 2018 Standard Specifications (Time Constraints) would be used to specify any time constraints for specific construction activities.

**BIO-17** *Migratory Birds and Raptors – Construction Monitoring:* If construction or other project-related activities that may potentially cause nest destruction, nest abandonment or forced fledging of migratory birds are necessary, monitoring of the nest site by a designated biologist would be required to ensure that protective radii and any exclusionary devices are maintained and functioning properly.

#### *Greenhouse Gas Emissions*

**GHG-1** Reduce construction waste, and maximize the use of recycled materials wherever possible.

**GHG-2** Incorporate measures to reduce the use of potable water.

**GHG-3** Encourage improved fuel efficiency of construction equipment by:

Properly tuning and maintaining equipment

Using the right-size equipment for the job

**GHG-4** Enhance the environmental training provided for contractor staff by adding a module on greenhouse gas reduction strategies, including limiting equipment idling time as much as possible.

**GHG-5** Caltrans Standard Specification 14-9.02, Air Pollution Control, requires contractors to comply with all air-pollution control rules, regulations, ordinances, and statutes. Measures that reduce construction vehicle emissions also help reduce greenhouse gas emissions.

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## **List of Technical Studies**

Air Quality Memorandum (August 2019)

- Air Quality Conformity Checklist (August 2019)

Noise Memorandum (August 2019)

Water Quality Memorandum (August 2019)

Natural Environment Study—Minimal Impacts (August 2019)

Location Hydraulic Study (October 2016)

Historical Property Survey Report (August 2019)

- Archaeological Survey Report (August 2019)

Hazardous Waste—Initial Site Assessment (August 2019)

To obtain a copy of one or more of these technical studies/reports or the Initial Study, please send your request to the following email address:  
[District10PublicAffairs@dot.ca.gov](mailto:District10PublicAffairs@dot.ca.gov)

Please indicate the project name and project identifying code (under the project name on the cover of this document) and specify the technical report or document you would like a copy of. Provide your name and email address or U.S. postal service mailing address (street address, city, state and zip code).