

THREE LAKE BRIDGE – REPLACE BRIDGE AND UPGRADE BRIDGE RAIL PROJECT

**LAKE COUNTY, CALIFORNIA
DISTRICT 1 – LAK – 20, 29, 175 (Post Miles VAR)
0E081 / 0118000172**



Initial Study with Proposed Mitigated Negative Declaration

**Prepared by the
State of California Department of Transportation**



April 2020



General Information about this Document

What's in this document?

The California Department of Transportation (Caltrans) has prepared this Initial Study with proposed Mitigated Negative Declaration (IS/MND) which examines the potential environmental effects of a proposed project on State Route 20, 29, and 175 in Lake County, California. Caltrans is the lead agency under the California Environmental Quality Act (CEQA). This document tells you why the project is being proposed, how the existing environment could be affected by the project, the potential impacts of the project, and proposed avoidance, minimization, and/or mitigation measures.

What should you do?

- Please read this document.
- Additional copies of this document and related technical studies are available for review at the following locations:
 - Caltrans District 3 Office at 703 B Street, Marysville, CA 95901
 - Caltrans District 1 Office at 1656 Union St, Eureka, CA, 95501
- This document is also available online at the following address:
<https://dot.ca.gov/caltrans-near-me/district-3/d3-programs/d3-environmental-planning/d3-environmental-docs>
- We'd like to hear what you think. If you have any comments about the proposed project, please send your written comments to Caltrans by the deadline.
- Please send comments via U.S. mail to:
Attention: Danielle Ruiz
North Region Environmental–RM-1 Branch
703 B Street
Marysville, CA 95901
- Send comments via e-mail to: danielle.rui@dot.ca.gov
- Be sure to send comments by the deadline: May 18, 2020

What happens after this?

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 obtained, Caltrans could complete the design and construct all or part of the project.

For individuals with sensory disabilities, this document is 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: Bonnie Kuhn, Public Information Officer, PO Box 3700, Eureka, CA 95502-3700; (707) 441-4678 Voice, or use the California Relay Service TTY number, 711 or 1-800-735-2929.



THREE LAKE BRIDGE – REPLACE BRIDGE AND UPGRADE BRIDGE RAIL PROJECT

01-0E081/0118000172

Upgrade bridge rails and shoulder widths on State Route (SR) 20 post mile (PM) 16.81 in Lucerne and SR 29 PM 50.82 in Upper Lake, and replace bridge on SR 175 PM 19.48 in Cobb in Lake County.

INITIAL STUDY WITH PROPOSED MITIGATED NEGATIVE DECLARATION

Submitted Pursuant to: Division 13, California Public Resources Code

THE STATE OF CALIFORNIA

Department of Transportation

Date of Approval

Wesley Stroud, Office Chief - Redding
North Region Environmental Management
California Department of Transportation

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**Proposed Mitigated Negative Declaration
Pursuant to: Division 13, California Public Resources Code**

SCH Number: Pending

Project Description

Caltrans proposes to upgrade the bridge rails and shoulder widths at Morrison Creek and Robinson Creek, and to replace the bridge at Kelsey Creek in order to support the widening and new rails, in Lake County on SR 20 PM 16.81 in Lucerne, SR 29 PM 50.82 in Upper Lake, and SR 175 PM 19.48 in Cobb. If existing structure(s) could not have supported the new railings and bridge widening, then the structure(s) would be replaced.

Determination

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

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

The proposed project would have no effect with regard to agriculture and forest resources, land use and planning, mineral resources, population and housing, public services, recreation, tribal cultural resources, and utilities and service systems.

The proposed project would have less-than-significant impacts with regard to aesthetics, air quality, cultural resources, geology and soils, greenhouse gases, hazards and hazardous materials, hydrology and water quality, noise, and transportation and traffic.

With mitigation measures incorporated, the proposed project would have less than significant impacts with regard to biological resources.

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1 Chapter 1. Proposed Project

1.1 Project History

The Department of Transportation (Caltrans) is the lead agency under the California Environmental Quality Act (CEQA). Caltrans proposes bring the bridge rails and shoulders up to current standards by widening State Route 20, 29, and 175 near the town of Lucerne, Upper Lake, and Cobb, respectively. Figures 1 and 2 indicate the proposed project location and vicinity maps.

The proposed project would bring all three locations up to current standards by replacing the bridge rails and widening Morrison Creek, Robinson, and Kelsey Creek Bridges to accommodate two 12 foot lanes and two eight foot paved shoulders. Initially it was assumed that Robinson Creek Bridge would need replacing due to settling, that both Morrison and Kelsey Creek Bridge would support the widenings, and that two sidewalks would be built on Morrison Creek Bridge. Upon further analysis it was found that Robinson Creek Bridge was structurally sound and capable of withstanding the widening but that the structure at Kelsey Creek Bridge would not be able to support the widening. Due to this it was decided that Robinson Creek Bridge would not be replaced, and that Kelsey Creek Bridge would be replaced. It was decided that only the existing sidewalk on the north side of Morrison Creek Bridge would be replaced due to the cost of creating a new sidewalk on the south side of the structure.

1.2 Project Description

Caltrans proposes to upgrade the bridge rails and shoulder widths at Morrison Creek and Robinson Creek, and to replace the bridge at Kelsey Creek in order to support the widening and new rails, in Lake County on SR 20 PM 16.81 in Lucerne, SR 29 PM 50.82 in Upper Lake, and SR 175 PM 19.48 in Cobb. If existing structure(s) could not have supported the new railings and bridge widening, then the structure(s) would be replaced.

Project Objectives

The purpose of this project is to upgrade the bridge rails and shoulder widths of the three bridges to current design standards. The project is necessary because the railings on these bridges do not meet current standards and the shoulders are narrower than the standard eight-foot width. They would be widened to meet current shoulder width standards, and if the existing structure cannot support the new railings and bridge widening the structure would be replaced.

The Office of Structure Maintenance and Investigations (SM&I) has identified the railings on these bridges as needing replacement in the Structure Replacement and Improvement Needs (STRAIN) Report and Bridge Needs Report.

Currently there are no existing bicycle facilities (paths, lanes or routes) at any of the proposed project's three locations. Bicyclists passing through the project limits currently use the shoulder area and at locations where the shoulder isn't sufficiently wide, riders will take the traveled lane. Like bicyclists, pedestrians are not prohibited from using the shoulder area to travel through the project limits at all three bridge locations. Morrison Creek Bridge is located in the community of Lucerne and is the only one of the three bridges that has an existing sidewalk, but the width of the extant sidewalk on the bridge is non-standard and has irregular features which inhibit its use. There are public facilities and residential areas along SR 20 within walking distance of this location, with a crosswalk just east of the bridge, that necessitate a higher need for a pedestrian facility over the bridge. Robinson Creek Bridge is located north of Lakeport and the facility is a rural two-lane conventional highway that may see pedestrians traveling along the shoulders. Kelsey Creek Bridge is in the community of Cobb and is located near a small shopping center and Cobb Mountain Elementary School, and although the specific number of pedestrians is unknown, their presence is likely.

The upgraded bridge rails on all three structures would consist of concrete barriers equipped with tubular bicycle railings to accommodate the bicyclists and pedestrians that share the corridor with other modes of traffic, which would provide all route users with a safer mobility experience.

Proposed Project

Caltrans proposes to bring the bridge rails and shoulder widths to current standards on SR 20, 29, and 175 in Lake County near the towns of Lucerne, Upper Lake, and Cobb. The project description includes a discussion of the preferred alternative, construction methodology, other alternatives that were considered but have been eliminated from further discussion, and the existing facilities, general plan description, zoning, and surrounding land use.

Introduction to Project Alternatives

There is one build alternative, one "No Build" alternative, and eliminated alternatives for this project listed below.

Alternative 1: Build Alternative

This alternative proposes a project to upgrade bridge rails and shoulder widths in Lake County on SR 20 PM 16.81, SR 29 PM 50.82, and SR 175 PM 19.48. The proposed project would bring all three bridges to current design standards and would construct standard transitions to and from improved structures. The upgraded bridge rails on all three structures would consist of concrete barriers modified with architectural treatment and equipped with tubular bicycle railings to accommodate the bicyclists and pedestrians that share the corridor with other modes of traffic. A standard Midwest Guardrail System (MGS) would be installed at both the approaches and departures of all three bridges, and vegetation control pads for the

new MGS would be constructed to limit future vegetation control maintenance activities.

The structures would be widened or replaced to accommodate the upgraded rails and shoulder widths, and the approach and departure shoulders would be widened to meet the new bridge shoulder width if needed. To incorporate the shoulder widening local or imported borrow would be used to construct new embankments, a new structural section would be constructed, and the new shoulders would be paved. Roadway work may include cold plane asphalt concrete, paving, striping, and shoulder backing.

It is anticipated that overhead, buried, and bridge suspended utilities would be affected at Morrison and Kelsey Creek Bridges. Temporary Construction Easements (TCEs) for staging areas and ten-foot-wide access roads would be required below the structures at the Morrison and Robinson bridge locations. It is anticipated that the Kelsey Creek Bridge location would be built from the existing roadway.

The proposed scope of work includes:

Morrison Creek Bridge: Bridge Replacement and Bridge Widening

- Widen both sides of the existing structure to provide standard eight-foot shoulders.
- Foundation work would be required at the abutments and pier locations to support the widening, with spread footing foundations or Steel H-Piles being considered for foundational support of structure.
- Replace existing barrier with concrete bridge barrier rail modified with architectural treatment the ends of which would be shielded with crash cushions.
- Replace existing bridge approach and departure guard rail system with the current standard railing system.
- Replace the nonstandard sidewalk with a six-foot-wide sidewalk on north side of the bridge.
- Creek channel would be graded to improve the hydraulic characteristics.
- Three TCEs would be required for staging area and regrading of the channel.

Robinson Creek Bridge: Bridge Replacement and Bridge Widening

- Widen both sides of the existing structure to provide standard eight-foot shoulders.

- Foundation work would be required at the pier locations to sustain the widening, with Steel H-Piles, Open-Ended Steel Pipe Piles, or Cast-In-Drilled-Hole Piles being considered for foundational support of structure.
- Rock Slope Protection (RSP) would be placed around the abutments as required.
- Replace the existing barrier with concrete bridge barrier rail modified with architectural treatment.
- Replace existing bridge approach and departure guard rail system with the current standard railing system.

Kelsey Creek Bridge: Bridge Replacement and Retaining Wall

- Replace existing bridge with a new 40-foot-wide standard bridge comprised of standard 12-foot lanes, eight-foot shoulders, and a concrete barrier modified with architectural treatment.
- Bridge structure would be lengthened from its existing 20-foot length to a new length of 30 feet
- Foundation work would be required at the abutments for the new bridge, with spread footing foundations or Steel H Piles being considered for foundational support of new structure.
- Replace existing bridge approach and departure guard rail system with the current standard railing system.
- Construct retaining structure of approximately 220 feet in length to support widening of the roadway ten-feet towards Houghton Creek, with the centerline alignment shifting five feet to the east.
- Permanently realign Houghton Creek a maximum of ten feet to the east from its current location to accommodate retaining wall structure and shoulder widening.
- RSP would be placed around the abutments as required.
- Half-width construction of new bridge and installation of signalized one-way traffic control would permit traffic on bridge during construction.
- Six TCE's would be required to pave private driveways and tie the new alignment with the existing concrete sidewalks on the west side.

Construction Methodology

Construction Staging and Access Roads

Stage construction would be necessary for this proposed project at all three locations. The first stage of construction would be conducted within a single lane of SR 20, 29, and 175 respectively, while the second stage of construction would be conducted within the opposite traffic lane. Construction activities may include: bridge rail removal and reconstruction, bridge structure removal and reconstruction, shoulder widening, driveway approach reconstruction, utility poles/equipment relocation, pavement overlays, placement of traffic striping and rumble strips, and MGS installation.

To accommodate the traffic on all three structures through each construction stage, one-way reversing lane closure by flagger or signal system would be utilized. A traffic control system would be implemented to allow the public to travel safely through the work zone. Temporary K-rail would be placed to separate the work area from the traffic lane and establish a secure work zone for the contractor. Flagging would be used when construction equipment encroaches in the traveled lane and temporary flashing beacons may be installed to provide advance warning to the traveling public. The contractor would prepare a contingency plan for reopening closures to public traffic for unanticipated delays, emergencies, etc. Stage construction plans would be further developed and finalized during the design phase.

Ten staging areas have been identified for the proposed project:

- Three outside the right-of-way on Morrison Creek Bridge requiring TCEs.
- One within the right-of-way on Robinson Creek Bridge requiring no TCEs.
- Six outside the right-of-way on Kelsey Creek Bridge requiring six TCEs.

Potential access road sites at Morrison Creek, Robinson Creek and Kelsey Creek Bridge project locations would be within their respective Environmental Study Limit (ESL).

Drainage

The proposed project would not require additional drainage and there are no existing culverts in the project limits.

Traffic Management

Stage construction would be necessary for this proposed project at all three locations. To accommodate the traffic on all three structures through each construction stage, one-way reversing lane closure by flagger or signal system would be utilized. A traffic control system would be implemented to allow the public

to travel safely through the work zone. Temporary K-rail would be placed to separate the work area from the traffic lane and establish a secure work zone for the contractor. Flagging would be used when construction equipment encroaches in the traveled lane and temporary flashing beacons may be installed to provide advance warning to the traveling public. The contractor would prepare a contingency plan for reopening closures to public traffic for unanticipated delays, emergencies, etc. Stage construction plans would be further developed and finalized during the design phase.

The proposed project would take steps to minimize traffic impacts to the local area. Any emergency service agency whose ability to respond to incidents may be affected by traffic control would be notified prior to any closure. The local busing system would be notified to minimize impacts to their schedule. The Resident Engineer would provide information to residents and businesses before and during project work that could have a negative impact on commerce and travel. Bicyclists would be accommodated through the work zone, and during reversing traffic control, bicyclists would be instructed to join the vehicle queue. A pedestrian detour is required when sidewalks at the Morrison Creek Bridge are not available. Work that requires a pedestrian detour due to a sidewalk closure must be in conformance with the Caltrans Standard Plan T30, "Temporary Pedestrian Access Routes Typical Sidewalk Closure and Pedestrian Detour."

Utilities

The utility investigation of the project areas included site visits and review of utility locations from plans obtained from utility owners such as PG&E, AT&T, Lake County Sanitation District, and Cobb Water. Utilities include aerial cables, telephone poles, aerial fiber-optic lines, and sewer lines. Based on current information, utility relocation is a possibility on Morrison Creek Bridge and Kelsey Creek Bridge, however, verification of utilities would be required during the next phase of the project.

Construction Equipment

The likely equipment may include excavator or similar excavating equipment, cranes, drilling rigs, hoe rams, impact pile driving hammers, guardrail post driver, pavement grinders, graders, backhoes, haul and dump trucks, loaders, air compressors, boom trucks, jack hammers, storage containers, pavement saws, generators, compacting equipment, paving equipment, vibratory rollers, and concrete trucks. Additional equipment such as concrete pavement saw, grinders, a conveyer system to remove debris from bridge deck to a dump truck, power brooms, hot mix asphalt pavers, and vibratory rollers would also be used for grinding asphalt and placing asphalt concrete at conforms. A signal system may be required for one-way reversing lane closure.

Right-of-Way Impacts

The proposed project would require nine TCEs, six for Kelsey Creek Bridge and three for Morrison Creek Bridge. Additional right-of-way is not anticipated for Robinson Creek Bridge at this time.

Complete Streets

Caltrans' complete streets directive promotes a transportation system that safely accommodates bicyclists, pedestrians and transit users. In the project vicinity, SR 20, 29, and 175 serve a variety of traffic including local traffic, commuters, interregional freight, seasonal tourism, bicycles, pedestrians and transit services. All modes of transportation have been included in the proposed design to the extent feasible. The existing facilities have shoulders that are narrower than the eight-foot standard width. Bringing the shoulders up to standards would improve the functionality of the roadway for motorists, bicyclists, and pedestrians. The increased shoulder width would also provide greater separation from vehicular traffic for both bicyclists and pedestrians; increasing safety for all users.

The proposed improvements account for the needs of everyone using the road, and the project funding, planning, design, maintenance, and operations are aligned with the goals of the Caltrans Complete Streets policy.

General Plan Description, Zoning, and Surrounding Land Uses

Lake County consists largely of mountainous terrain and resource lands surrounding Clear Lake within the coastal mountain range approximately 100 miles north of San Francisco and includes the mountainous area between the Sacramento-San Joaquin Valley and the Pacific Ocean. Clear Lake is the county's primary geographic feature and covers approximately five percent of the land area including a majority of the county's population centers along its shores. Much of the northern third of the county is unoccupied and lies within the Mendocino National Forest, while the rural southern portions are made up of sparsely populated communities divided among agricultural and other resource lands.

Due to its prominence many of the communities in Lake County are located along the shores of Clear Lake. The existing corridors consist of the lands immediately adjacent to both sides of SR 20, 29 and 175, which are largely characterized by rural development with large open space lands and views including the surrounding mountains, rolling hills, and Clear Lake. All three routes provide regional and interregional access to boating and fishing; golf courses; wineries; resorts and spas; mineral hot springs; national, state, and regional parks; camping and hiking; and historical points of interest. There are many opportunities for boating, fishing, and swimming due to Clear Lake, as well as many other smaller lakes and waterways in the vicinity. Several golf courses, wineries, and spas attract local and interregional travelers, and tourists visiting these locations would benefit from the abundance of resorts and Inns located along all three SR. These lodgings would also be used by

visitors of several of the historic downtowns, Mendocino National Forest, Boggs State Forest, or Anderson Marsh State Historic Park, as well. Land uses within the existing corridor are primarily undeveloped land, with some urban/suburban residential, scattered rural residential, commercial developments, agricultural, resource conservation, and recreational use.

Morrison Creek Bridge (Bridge No. 14-0004) 01-LAK-20-PM: 16.81

SR 20 at the proposed project location is classified as a Two-Lane Conventional Highway located in the town of Lucerne. The existing roadway consists of two 12-foot-wide lanes (one in each direction) with two-foot shoulders. Located along the north Shore of Clear Lake, SR 20 functions as “Main Street” for the communities of Nice, Lucerne, Glenhaven and Clearlake Oaks, and includes pedestrians, cyclists and public transit riders as well as motorists. SR 20 is not only important to local Lake County traffic, but also regional traffic traveling to and from Lake County and interregional traffic traveling between US 101 and Interstate-5. Lucerne is nestled between the lake and the hills, and attracts tourist to the parks and boating opportunities along SR 20’s lake front promenade. The land use adjacent to the project location reflects the diversity of the route and is classified as rural and low density residential, agricultural, commercial, and resource conservation land.

Zoning within and adjacent to the proposed project location is designated as follows:

- Urban: Low, Medium, and High Density Residential
- Commercial: Local, Resort, and Community Commercial
- Public: Public Facilities
- Rural Residential and Agriculture: Rural Residential, Rural Lands, and Agriculture
- Resource Conservation: Resource Conservation

Robinson Creek Bridge (Bridge No.14-0030) 01-LAK-29-PM: 50.82

SR 29 at the proposed project location is classified as a Two-Lane Conventional Highway located in the rural unincorporated town of Upper Lake. The existing roadway consists of two 12-foot-wide lanes (one in each direction) with one-foot shoulders. State Route 29 connects the cities of Lakeport and Upper Lake, and along with SR 175 carries traffic to and from the west side of Clear Lake west to US 101 in Hopland, and south to Napa and Sonoma Counties. The town of Upper Lake is currently being revitalized, and offers several historic buildings and easy access to Mendocino National State Forest. Users include motorists, pedestrians, cyclists and public transit riders. SR 29 would be included in bus and bike routes that connect many of the communities along the route, while offering interregional mobility options

as well. The land use adjacent to the project reflects the role of SR 29 as a link between rural communities, and is rural, agriculture, and resource conservation land.

Zoning within and adjacent to the proposed project location is designated as follows:

- Rural Residential and Agriculture: Rural Residential, Rural Lands, and Agriculture
- Resource Conservation: Resource Conservation

Kelsey Creek Bridge (Bridge No.14-0044) 01-LAK-175-PM: 19.48

SR 175 at the proposed project location is classified as a Two-Lane Conventional Highway located in a rural area of the town of Cobb. The existing roadway consists of two 12-foot-wide lanes (one in each direction) with two-foot shoulders. SR 175 is a rural conventional highway that runs from US 101 in Hopland to SR 29 near Lakeport. From Lakeport to just south of the community of Kelseyville there is a break in SR 175. At SR 29 just south of the community of Kelseyville, SR 175 resumes and continues southeast through rural farmlands, mountainous terrain, scattered rural residential, and forested land to Middletown. The town of Cobb attracts visitors to its golf courses, resorts, hot springs, and Boggs State Forest. SR 175 accommodates pedestrians and bicyclists as well as motorists, at this location. The land use adjacent to this project matches this diversity, and is primarily undeveloped land, with some scattered rural and low density residential, commercial developments, agricultural, and recreational use.

Zoning within and adjacent to the proposed project location is designated as follows:

- Urban: Low Density Residential
- Commercial: Resort and Community Commercial
- Rural Residential and Agriculture: Rural Residential, Rural Lands, and Agriculture
- Resource Conservation: Resource Conservation.

Alternatives Considered but Eliminated from Further Consideration

No Build Alternative:

This alternative would not address the purpose and need of the project. By not replacing the railings on these structures, the condition of the railing would continue to deteriorate and the recommendation from the Area Bridge Maintenance Engineer (ABME) would not be addressed.

1.3 Project Maps

Figures 1 and 2 depict the project vicinity and location maps. Project layouts can be found in Appendix C.

Figure 1. Project Vicinity Map

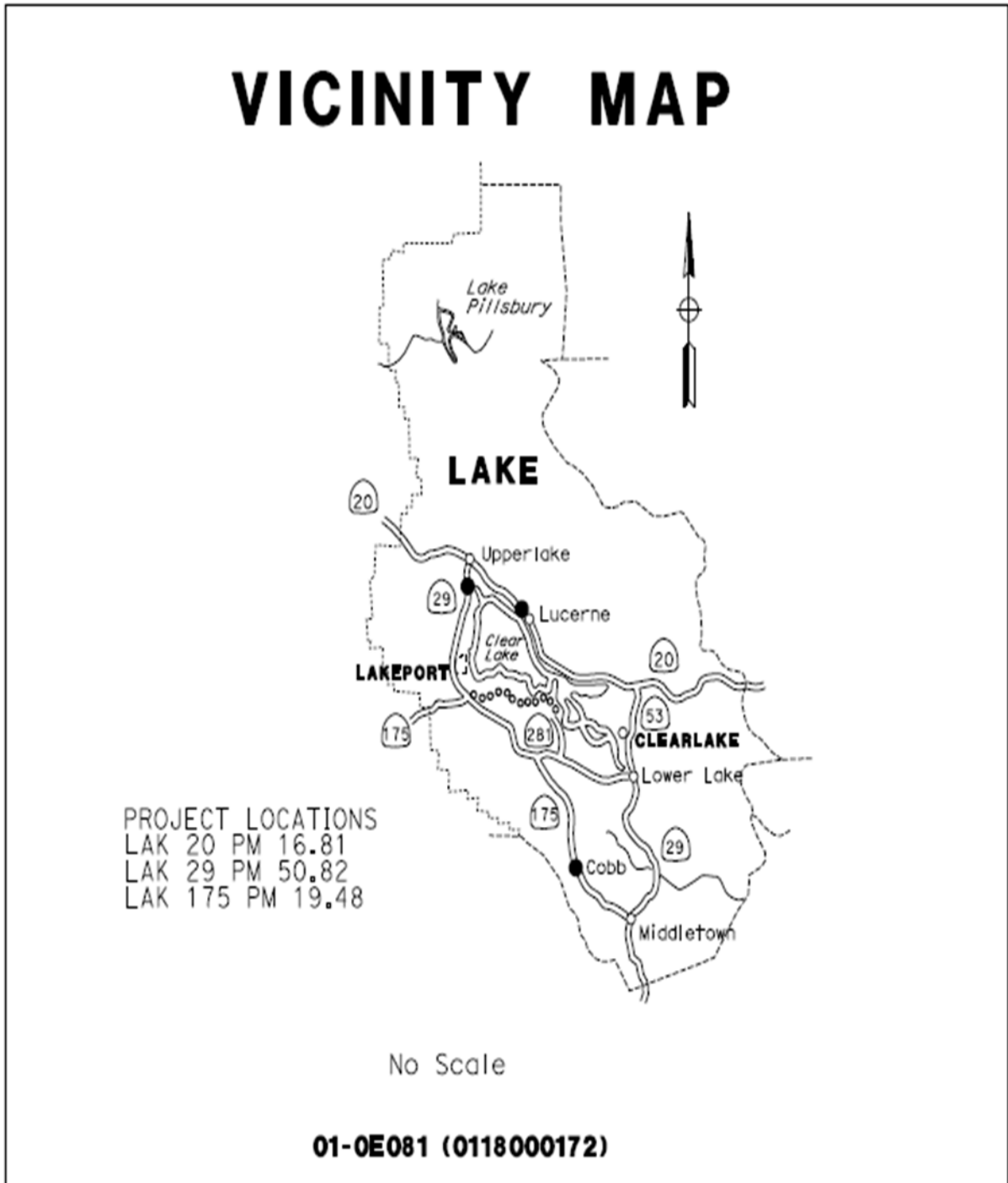
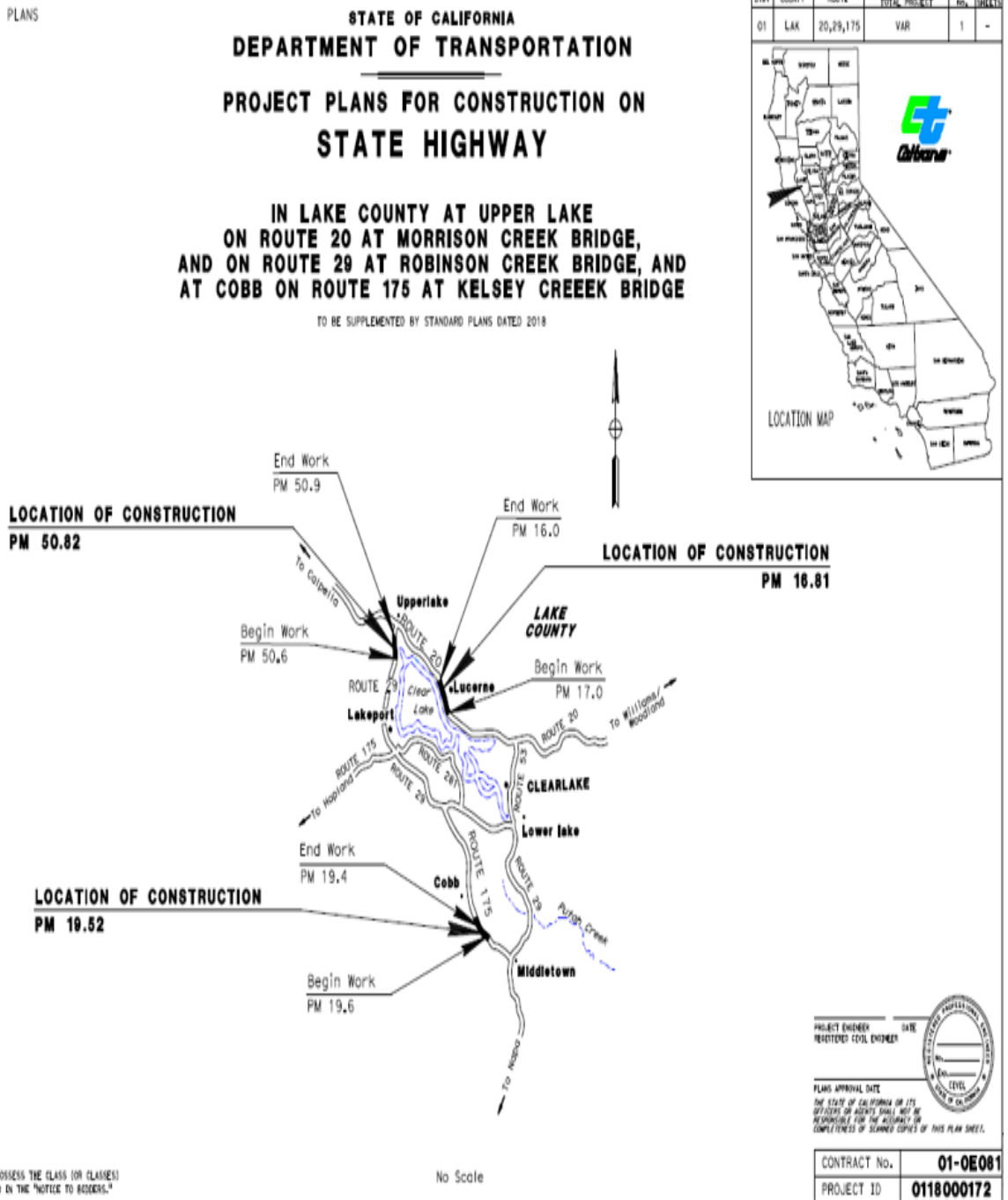


Figure 2. Project Location Map

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1.4 Permits and Approvals Needed

The proposed project would require the following permits, licenses, agreements, and certifications, as listed in Table 1.

Table 1. Agency Approvals

Agency	Permit/Approval	Status
California Department of Fish and Wildlife (CDFW)	1602 Lake and Streambed Alteration Agreement	Would be completed in the next project phase
North Coast Regional Water Quality Control Board (RWQCB)	Section 401 Water Quality Certification	Would be completed in the next project phase
U.S. Army Corps of Engineers (USACE)	Section 404 Nationwide 14	Would be completed in the next project phase

1.5 Standard Measures and Best Management Practices

Utilities and Emergency Services

UE-1: All emergency response agencies in the project area would be notified of the project construction schedule and would have access to SR 20, 29, and 175 throughout the construction period.

UE-2: Caltrans would coordinate with the utility providers before relocation of any utilities to ensure potentially affected utility customers would be notified of potential service disruptions before relocations.

Traffic and Transportation

TT-1: Pedestrian and bicycle access would be maintained during construction.

TT-2: The Contractor would be required to reduce any access delays to driveways or public roadways within or near the work zones.

TT-3: A Traffic Management Plan (TMP) would be applied to project.

Visual Aesthetics

VA-1: Grading areas that were previously vegetated would be re-vegetated with appropriate native vegetation.

VA-2: Temporary access roads, construction easements, and staging areas that were previously vegetated would be restored to a natural contour and re-vegetated with regionally appropriate native vegetation.

VA-3: The removal of established trees and vegetation would be minimized and avoided where feasible. Environmentally sensitive areas would have Temporary High Visibility Fencing (THVF) installed to demarcate areas where vegetation is being preserved and tree root systems protected.

Cultural Resources

CR-1: Native American consultation was initiated by Caltrans with Robinson Rancheria, Middletown Rancheria, and Big Valley Rancheria. Caltrans sent requests for consultation on August 14, 2017 and began consultation with the Middletown Rancheria on August 26, 2017 and with Big Valley Rancheria on July 3, 2018; Robinson Rancheria responded on July 6, 2018 with no specific concern regarding the Morrison Creek Bridge location. Caltrans would incorporate measures to protect tribal resources.

CR-2: An archeological monitor and a Tribal monitor would be used for ground-disturbing activities at previously identified locations.

CR-3: If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area would be diverted until a qualified archaeologist can assess the nature and significance of the find in consultation with the State Historic Preservation Officer.

CR-4: If human remains were discovered, State Health and Safety Code § 7050.5 states that further disturbances and activities would cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to CA Public Resources Code (PRC) § 5097.98, if the remains were thought to be Native American, the coroner would notify the Native American Heritage Commission (NAHC) who would then notify the Most Likely Descendent (MLD).

At this time, the person who discovered the remains would contact the Environmental Senior and Professionally Qualified Staff so they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC § 5097.98 would be followed as applicable

Hydrology and Floodplain

HF-1: Bridge soffit elevation at Morrison Creek and Robinson Creek Bridges locations would not be altered, and would not be lowered than the existing conditions at Kelsey Creek Bridge to maintain the same freeboard previously provided. Hydrology would be positively altered at Morrison Creek Bridge, since the freeboard would increase due to the proposed regrading of the channel, and at Kelsey Creek Bridge through the lengthening of the structure which would better accommodate the stream. Robinson Creek Bridge hydrology would not be altered.

Water Quality and Stormwater Runoff

WQ-1: The project would comply with the provisions of the Caltrans Statewide National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit (Order 2012-0011-DWQ) which became effective July 1, 2013, and the NPDES Construction General Permit (Order 2009-0009-DWQ) which became effective July 1, 2010.

Before any ground-disturbing activities, the contractor would prepare a Stormwater Pollution Prevention Plan (SWPPP) (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.

The SWPPP would identify all potential sources of pollutants that may affect the quality of stormwater; include construction site Best Management Practices (BMPs) to control sedimentation, erosion, and potential chemical pollutants; provide for construction materials management; include non-stormwater BMPs; and include routine inspections and a monitoring and reporting plan. All construction site BMPs would follow the latest edition of the Caltrans' *Stormwater Quality Handbooks: Construction Site BMPs Manual* to control and reduce the impacts of construction-related activities, materials, and pollutants on the watershed.

The project SWPPP would be continuously updated to adapt to changing site conditions during the construction phase.

Construction would likely require the following temporary construction site BMPs:

- Any spills or leaks from construction equipment (i.e., fuel, oil, hydraulic fluid, and grease) shall be cleaned up in accordance with applicable local, state, and/or federal regulations.
- Water generated from the dewatering operations would be trucked off-site to an appropriate facility, treated and used on-site for dust control and/or discharged to an infiltration basin or used to irrigate agricultural lands.
- Fiber rolls or silt fences would be installed.
- Existing vegetated areas would be maintained to the maximum extent practicable.
- Clearing, grubbing, and excavation would be limited to specific locations, as delineated on the plans, to maximize the preservation of existing vegetation.
- Vegetation reestablishment or other stabilization measures would be implemented on disturbed soil areas, per the Erosion Control Plans.
- Soil disturbing work would be limited during the rainy season.

WQ-2: The project would incorporate pollution prevention and design measures consistent with the 2016 Caltrans Statewide Stormwater Management Plan to meet Water Quality Objectives. This plan complies with the requirements of the Caltrans Statewide NPDES MS4 Permit (Order 2012-0011-DWQ).

The project design would likely include the following permanent stormwater treatment BMPs:

- Vegetated surfaces would feature native plants and revegetation would use a seed mixture, mulch, tackifier, and fertilizer combination recommended in the Erosion Control Plan prepared for the project.
- Existing roadway drainage systems currently discharge stormwater to receiving waters through bridge deck drains and/or discharge to vegetated slopes adjacent to the highway facility. The current design for stormwater management, post construction, is to perpetuate existing drainage patterns. Stormwater would continue to sheet flow to vegetated slopes providing stormwater treatment in accordance with Caltrans NPDES MS4 Permit.

Hazardous Waste and Material

HW-1: Per Caltrans requirements, the contractor(s) would prepare a project-specific Lead Compliance Plan (per CCR Title 8, § 1532.1, the “Lead in Construction” standard) to reduce worker exposure to lead-impacted soil. The plan would include protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other health and safety protocols and procedures for the handling of lead-impacted soil.

HW-2: Low levels of aerially deposited lead from the historic use of leaded gasoline exist along roadways throughout California. The project would adhere to Caltrans’ Standard Special Provision (SSP) Section 7-1.02K(6)(j)(iii) “Earth Material Containing Lead.”

HW-3: Lead containing paint (LCP) and asbestos containing construction material (ACCM) on the bridges at all three locations. A bridge survey would be conducted on all three bridges to confirm if any ACCM and/or LCP are present within the bridge system and to determine appropriate abatement and construction worker safety, if needed.

HW-4: Thermoplastic paint may contain lead of varying concentrations depending upon color, type, and year of manufacture. Traffic stripes would be removed and disposed of in accordance with Caltrans’ SSP Section 36-4 “Residue Containing Lead from Paint and Thermoplastic”.

HW-5: Paint on the structure sampled during the limited survey is considered both a California and Federal (RCRA) hazardous waste based on lead content. The use of NSSP 14-11.17 REMOVAL AND MANAGEMENT OF LEAD PAINT ON

UNOCCUPIED STRUCTURES would be required for the demolition of the surveyed structure.

HW-6: Treated Wood Waste may be generated from sign post and guardrail removal/reconstruction. This can be addressed with SSP 14-11.14 TREATED WOOD WASTE management in the construction contract.

Geology and Seismic/Topography

GS-1: The project would be designed to minimize slope failure, settlement, and erosion using recommended construction techniques and BMPS. New slopes would be revegetated to reduce erosion potential.

GS-2: In the unlikely event that fossils were encountered during project excavations, Caltrans Standard Specification 14-7 would be followed. This standard specification states that if unanticipated paleontological resources were discovered, all work within 60 ft. would stop, the area around the fossil would be protected, and the Resident Engineer would be notified.

Wetlands and Other Waters

WW-1: The contractor would be required to place temporary barrier fencing along the boundaries of all riparian, wetland or other environmentally sensitive areas adjacent to the project footprint.

WW-2: Impacts to waters and riparian vegetation would be reduced with incorporation of the measures identified in Section 2.6.

WW-3: Caltrans would be required to restore wetland and riparian areas temporarily impacted by construction to pre-existing conditions prior to completion of construction.

Threatened and Endangered Species

TS-1: The pre-construction meeting with the contractor would consist of a briefing on environmental permit conditions and requirements relative to each stage of the proposed project, including, but not limited to, work windows, construction site management, and how to identify and report regulated species within the project areas.

Plant Species

PS-1: After all construction materials are removed, the project area would be revegetated. Replanting would be subject to a plant establishment period as defined by project permits, which would require Caltrans to adequately water plants, replace unsuitable plants, and control pests. Caltrans would implement a program of invasive weed control in all areas of soil disturbance caused by construction to

improve habitat for native species in and adjacent to disturbed soil areas within the project limits.

PS-2: The contractor would be required to place temporary barrier fencing along the boundaries of all environmentally sensitive areas to avoid impacts to sensitive habitats that occur adjacent to the project footprint.

Animal Species

AS-1: If feasible, removal of vegetation would be conducted in the fall and winter (between October 1 and January 31) after bird fledging and before the initiation of breeding activities. If vegetation removal during the non-nesting season is determined unfeasible, then pre-construction bird nest surveys would be performed to determine the location of nest sites within and adjacent to the project limits. If no active bird nests are found during pre-construction surveys, then vegetation would be removed within five (5) days. Pre-construction surveys would be conducted by a Caltrans biologist or qualified biologist. If active bird nests are found, Caltrans would coordinate with the United States Fish and Wildlife Service (USFWS) regarding appropriate action to comply with the Migratory Bird Treaty Act of 1918, and with the CDFW to comply with provisions of the Fish and Game Code of California. If a lapse in project related work of fifteen (15) days or longer occurs, another survey and, if required, coordination with USFWS and CDFW would occur before work can be reinitiated.

AS-2: Partially constructed and unoccupied nests within the construction area would be removed and disposed of on a regular basis throughout the breeding season (February 1 to October 30) to prevent their occupation. Nest removal would be repeated weekly under guidance of a qualified biologist to ensure nests are inactive prior to removal.

AS-3: Pre-construction surveys for active raptor nests within one-fourth mile of the project area would be conducted by a qualified biologist within 15 days prior to the initiation of construction activities. Areas to be surveyed would be limited to those areas subject to increased disturbance because of construction activities (i.e., areas where existing traffic or human activity is greater than or equal to construction-related disturbance need not be surveyed). If any active raptor nests were identified, appropriate conservation measures (as determined by a qualified biologist) would be implemented. These measures may include, but are not limited to, establishing a construction-free buffer zone around the active nest site, biological monitoring of the active nest site, and delaying construction activities near the active nest site until the young have fledged.

Invasive Species

The standard measures described in the Plant Species PS-1 section above to restore the project site post-construction are also appropriate for the control of invasive species.

1.6 Discussion of the NEPA Categorical Exclusion

This document contains information regarding compliance with the CEQA and other state laws and regulations. Separate environmental documentation, supporting a Categorical Exclusion determination, would be prepared in accordance with the National Environmental Policy Act. When needed for clarity, or as required by CEQA, this document may contain references to federal laws and/or regulations (CEQA, for example, requires consideration of adverse effects on species identified as a candidate, sensitive, or special-status species by the United States National Marine Fisheries Service and the United States Fish and Wildlife Service—in other words, species protected by the Federal Endangered Species Act).

2 Chapter 2. CEQA Environmental Checklist

2.1 Environmental Factors Potentially Affected

The environmental factors noted below would be potentially affected by this proposed project. Please see the CEQA checklist on the following pages for additional information.

Potential Impact Area	Impacted: Yes / No
Aesthetics	Yes
Agriculture and Forestry	No
Air Quality	Yes
Biological Resources	Yes
Cultural Resources	Yes
Energy	No
Geology/Soils	Yes
Greenhouse Gas Emissions	Yes
Hazards and Hazardous Materials	Yes
Hydrology/Water Quality	Yes
Land Use/Planning	No
Mineral Resources	No
Noise	No
Population/Housing	No
Public Services	No
Recreation	No
Transportation/Traffic	No
Tribal Cultural Resources	No
Utilities/Service Systems	Yes
Wildfire	No
Mandatory Findings of Significance	Yes

The CEQA Environmental Checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the proposed project will indicate there are no impacts to a particular resource. A NO IMPACT answer in the last column of the checklist reflects this determination. The words “significant” and “significance” used throughout the checklist and this document are only related to potential impacts

pursuant to CEQA. The questions in the CEQA 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 as well as standard measures that are applied to all or most Caltrans projects (such as BMPs and measures included in the Standard Plans and Specifications or as Standard Special Provisions) are considered to be an integral part of the project and have been considered prior to any significance determinations documented in the checklist or document.

2.2 Project Impact Analysis Under CEQA for Initial Study

CEQA broadly defines “project” to include “the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment” (14 CCR § 15378). Under CEQA, normally the baseline for environmental impact analysis consists of the existing conditions at the time the environmental studies began. However, it is important to choose the baseline that most meaningfully informs decision-makers and the public of the project’s possible impacts. Where existing conditions change or fluctuate over time, and where necessary to provide the most accurate picture practically possible of the project’s impacts, a lead agency may define existing conditions by referencing historic conditions, or conditions expected when the project becomes operational, or both, that are supported with substantial evidence. In addition, a lead agency may also use baselines consisting of both existing conditions and projected future conditions that are supported by reliable projections based on substantial evidence in the record. The CEQA Guidelines require a “statement of objectives sought by the proposed project” (14 CCR § 15124(b)).

CEQA requires the identification of each potentially “significant effect on the environment” resulting from the action, and ways to mitigate each significant effect. Significance is defined as “*Substantial or potentially substantial adverse change to any of the physical conditions within the area affected by the project*” (14 CCR § 15382). CEQA determinations are made prior to and separate from the development of mitigation measures for the project.

The legal standard for determining the significance of impacts is whether a “fair argument” can be made that a “substantial adverse change in physical conditions” would occur. The fair argument must be backed by substantial evidence including facts, reasonable assumption predicated upon fact, or expert opinion supported by facts. Generally, an environmental professional with specific training in a particular area of environmental review can make this determination.

Though not required, CEQA suggests Lead Agencies adopt ***thresholds of significance***, which define the level of effect above which the Lead Agency will consider impacts to be significant, and below which it will consider impacts to be less than significant. Given the size of California and its varied, diverse, and complex ecosystems, as a Lead Agency that encompasses the entire State, developing ***thresholds of significance*** on a state-wide basis has not been pursued by Caltrans.

Rather, to ensure each resource is evaluated objectively, Caltrans analyzes potential resource impacts based on their location and the effect of the potential impact on the resource as a whole in the project area. For example, if a project has the potential to impact 0.10 acres of wetland in a watershed that has minimal development and contains thousands of acres of wetland, then a “less than significant” determination would be considered appropriate. In comparison, if 0.10 acres of wetland would be impacted that is located within a park in a city that only has 1.00 acre of total wetland, then the 0.10 acres of wetland impact could be considered “significant.”

If the action may have a potentially significant effect on any environmental resource (even with mitigation measures implemented), then an Environmental Impact Report (EIR) must be prepared. Under CEQA, the lead agency may adopt a negative declaration (ND) if there is no substantial evidence that the project may have a potentially significant effect on the environment (14 CCR § 15070(a)). A proposed negative declaration must be circulated for public review, along with a document known as an Initial Study. CEQA allows for a “mitigated negative declaration” in which mitigation measures are proposed to reduce potentially significant effects to less than significant (14 CCR § 15369.5).

Although the formulation of mitigation measures shall not be deferred until some future time, the specific details of a mitigation measure may be developed after project approval when it is impractical or infeasible to include those details during the project’s environmental review. The lead agency must (1) commit itself to the mitigation, (2) adopt specific performance standards the mitigation will achieve, and (3) identify the type(s) of potential action(s) that can feasibly achieve that performance standard and that will be considered, analyzed, and potentially incorporated in the mitigation measure. Compliance with a regulatory permit or other similar process may be identified as mitigation if compliance would result in implementation of measures that would be reasonably expected, based on substantial evidence in the record, to reduce the significant impact to the specified performance standards (§15126.4(a)(1)(B)). Per CEQA, measures may also be adopted, but are not required, for environmental impacts that are not found to be significant (14 CCR § 15126.4(a)(3)). Under CEQA, mitigation is defined as avoiding, minimizing, rectifying, reducing, and compensating for any potential impacts (CEQA 15370).

Regulatory agencies may require additional measures beyond those required for compliance with CEQA. Though not considered “mitigation” under CEQA, these measures are often referred to in an Initial Study as “mitigation”, Good Stewardship or Best Management Practices. These measures can also be identified after the Initial Study/Negative Declaration is approved.

CEQA documents must consider direct and indirect impacts of a project (CAL. PUB. RES. CODE § 21065.3). They are to focus on significant impacts (14 CCR § 15126.2(a)). Impacts that are less than significant need only be briefly described (14 CCR § 15128). All potentially significant effects must be addressed.

2.3 Aesthetics

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Have a substantial adverse effect on a scenic vista?	No	No	No	Yes
Would the project: b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	No	No	Yes	No
Would the project: 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	No	Yes	No
Would the project: d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	No	No	No	Yes

“No Impact” and “Less Than Significant” determinations in this section are based on the scope, description, and location of the proposed project, as well as the Visual Impact Assessment dated February 26, 2020.

REGULATORY SETTING

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

ENVIRONMENTAL SETTING

SR 175 is not currently an official, or eligible for designation as a, California State Scenic Highway. SR 20 and 29 are listed as eligible for designation as State Scenic Highways. The existing corridor consists of the lands immediately adjacent to both sides of SR 20, 29 and 175 and is largely characterized by rural development with large open space lands and views of the surrounding mountains and rolling hills. Many of the

communities in Lake County, including the town of Lucerne where Morrison Creek Bridge is located, are situated along the shores of Clear Lake which is the most prominent geographical feature of Lake County. SR 20, 29, and 175 are all classified as Two-Lane Conventional Highways at the three project locations. The region is characterized by a Mediterranean climate of hot, dry summers and cool, moist winters.

DISCUSSION OF ENVIRONMENTAL EVALUATION QUESTION 2.3—AESTHETICS

- a) SR 175 is not currently an official, or eligible for designation as a, California State Scenic Highway. SR 20 and 29 are listed as eligible for designation as State Scenic Highways. However, Caltrans has not officially designated a scenic vista within the proposed project corridor. Therefore, there is no impact.
- b) SR 20 and 29 are listed as eligible for designation as State Scenic Highways; SR 175 is not yet listed as eligible. Although the roadway improvements would require some earthwork and herbaceous plant, shrub, and young tree removal for the shoulder widening at all three locations, the overall vividness, intactness, and unity of all three of the existing corridors would not be adversely affected. Visibility of the surrounding mountains would still be a background view for route users. Therefore, this impact would be less than significant.
- c) The proposed project corridor consists of the lands immediately adjacent to both sides of SR 20, 29 and 175 and is largely characterized by rural development with large open space lands and views of the surrounding mountains and rolling hills. Many of the communities in Lake County, including the town of Lucerne where Morrison Creek Bridge is located, are situated along the shores of Clear Lake which is the most prominent geographical feature of Lake County. This view can be memorable and would not be obstructed or diminished by the proposed project. The construction of this proposed project would have potential temporary visual impacts due to staging or dust release, however, the level of these impacts would be less than significant. Therefore, this impact would be less than significant.

The most visually prominent components of this proposed project are the road widening on all three bridges and the retaining wall on the east side of Kelsey Creek Bridge. The visual character of the proposed project would be compatible with that of all three existing corridors, and the forms, lines, and colors comparable to the current visual characteristics. The bridge widening at all three locations would be noticeable, and the visual quality of the existing corridors would be slightly altered by the proposed project. To accommodate the widening of all three bridges, foundation work and supplemental paving would be required, necessitating the removal of herbaceous plants, shrubs, and trees. However, a large portion of the vegetation would remain at all three locations and no unique trees would be removed. Any loss of vegetation and addition of new paved surfaces due to the widenings would not compromise the visual quality or character of the three locations. Additionally, the rails on all three bridges would be architecturally treated to ensure their visual compatibility with the existing corridor. Therefore, this impact would be less than significant.

The proposed retaining wall at Kelsey Creek Bridge would range in height from eight to ten feet and would stretch approximately 220 feet in length. The top of the proposed retaining wall would range from being flush to the roadway to reaching three feet above the roadway. The scale of the retaining wall would be a new and unique aspect to the existing corridor, making it the most noticeable visual change. However, the widened highway and retaining wall would occur on a small portion of the existing corridor, and the visual changes are anticipated to be minimal and would not increase the level of exposure of route users. Adjacent residents and recreational visitors to the golf course east of the Kelsey Creek Bridge would likely have the greatest sensitivity to the change, as the proposed retaining wall is anticipated to be visible from the golf course and surrounding area. Architectural treatment would be utilized on both the retaining wall and bridge rails, which would employ textures, patterns, and/or colors to help minimize their potential impact. This would minimize any potential visual disruption and ensure visual compatibility with the existing corridor and surrounding community. Therefore, this impact would be less than significant.

d) The proposed project is expected to be completed during normal working daylight hours as to not necessitate nighttime illumination sources. Any potential for light and glare would be temporary and all temporary construction activities that require nighttime illumination sources for staging, access, or other construction activities shall comply with Caltrans Standard Specification 7-1.04, "Public Safety". No substantial new source of lighting or glare is proposed as part of the project. Therefore, there is no impact.

AVOIDANCE AND MINIMIZATION EFFORTS

Based on the determinations made in the CEQA Checklist, avoidance and minimization measures have not been proposed for the project.

MITIGATION MEASURES

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for the project.

NO BUILD ALTERNATIVE

The existing condition would remain; therefore, per CEQA, "*No Impact*" would occur.

2.4 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.

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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	No	No	Yes
Would the project: b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No	No	No	Yes
Would the project: c) Conflict with existing zoning, 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	No	No	Yes
Would the project: d) Result in the loss of forest land or conversion of forest land to non-forest use?	No	No	No	Yes
Would the project: 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	No	No	Yes

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the California Department of Conservation Farmland Maps, and Natural Resources Conservation Service Soil Survey. Potential impacts to Agriculture and Forest Resources are not anticipated due to the following:

- a) Land classified as farmland of local importance, irrigated pasture, or non-irrigated crops and, grazing land are located near or adjacent to the proposed project limits on SR 29 at the Robinson Creek Bridge location. However, no temporary or permanent acquisition of land is anticipated at any of the project locations, therefore no farmland or grazing land would be acquired. The proposed project would not convert any land currently used for agriculture to non-agricultural use. Therefore, there is no impact.
- b) There are no parcels under a Williamson Act contract within the project limits. Therefore, there is no impact.
- c) No forest land, timberland, or timberland zoned Timberland Production was identified within the project limits. Therefore, there is no impact.
- d) No forest land was identified within the project limits, and no conversion of forest land to non-forest use is associated with this project. Therefore, there is no impact.
- e) There would be no other changes to farmland or forest land. Therefore, there is no impact.

NO BUILD ALTERNATIVE

The existing condition would remain; therefore, per CEQA, “No Impact” would occur.

2.5 Air Quality

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

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Conflict with or obstruct implementation of the applicable air quality plan?	No	No	No	Yes
Would the project: 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	No	No	Yes
Would the project: c) Expose sensitive receptors to substantial pollutant concentrations?	No	No	No	Yes
Would the project: d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	No	No	Yes	No

“No Impact” and “Less Than Significant” determinations in this section are based on the scope, description, and location of the proposed project, as well as the Noise & Air Quality Analysis dated September 30, 2019. There would be temporary construction emissions associated with the project. Please see Section 2.7 – Greenhouse Gas Emissions for more information.

REGULATORY SETTING

The Federal Clean Air Act (CAA), as amended, is the primary federal law that governs air quality, while the California Clean Air Act is its corresponding state law. These laws, and related regulations by the United States Environmental Protection Agency (U.S. EPA) and California Air Resources Board (ARB), set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and state ambient air quality standards (CAAQS) have been established for six transportation-related criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM), which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM₁₀) and particles of 2.5 micrometers and smaller (PM_{2.5}), and sulfur dioxide (SO₂). In addition, national and

state standards exist for lead (Pb) and state standards exist for visibility-reducing particles, sulfates, hydrogen sulfide (H₂S), and vinyl chloride. The NAAQS and CAAQS are set at levels that protect public health with a margin of safety and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under NEPA. In addition to this environmental analysis, a parallel “conformity” requirement under the CAA also applies.

ENVIRONMENTAL SETTING

Lake County is designated as in attainment of all federal and state criteria air pollutant standards.

DISCUSSION OF ENVIRONMENTAL EVALUATION QUESTION 2.5—AIR QUALITY

a - c) Lake County is designated as in attainment of all federal and state criteria air pollutant standards. The proposed project would not result in changes to the traffic volume, fleet mix, vehicle speed, location of the existing facility, or any other factor that would cause an increase in operational emissions. Therefore, there is no impact.

d) The proposed project may result in the generation of short-term construction-related air emissions, including fugitive dust and exhaust emissions from construction equipment. Fugitive dust, sometimes referred to as windblown dust or PM₁₀, would be the primary short-term construction impact, which may be generated during excavation, grading and hauling activities. However, both fugitive dust and construction equipment exhaust emissions would be temporary and transitory in nature. Caltrans Standard Specifications, a required part of all construction contracts, would effectively reduce and control emission impacts during construction. The provisions of Section 14-9.02, Air Pollution Control, and Section 14-9.03 Dust Control require the contractor to comply with all pertinent rules, regulations, ordinances, and statutes of the local air district. Therefore, this impact would be less than significant.

AVOIDANCE AND MINIMIZATION EFFORTS

Based on the determinations made in the CEQA Checklist, avoidance and minimization measures have not been proposed for the project.

MITIGATION MEASURES

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for the project.

NO BUILD ALTERNATIVE

The existing condition would remain; therefore, per CEQA, “No Impact” would occur.

2.6 Biological Resources

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p>Would the project:</p> <p>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, U.S. Fish and Wildlife Service, or NOAA Fisheries?</p>	No	No	Yes	No
<p>Would the project:</p> <p>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?</p>	No	Yes	No	No
<p>Would the project:</p> <p>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?</p>	No	Yes	No	No
<p>Would the project:</p> <p>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?</p>	No	No	Yes	No
<p>Would the project:</p> <p>e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</p>	No	No	No	Yes
<p>Would the project:</p> <p>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?</p>	No	No	No	Yes

“No Impact,” “Less Than Significant Impact,” and “Less Than Significant with Mitigation,” determinations in this section are based on the scope, description, and location of the proposed project, as well as the Natural Environment Study.

REGULATORY SETTING

Natural Communities

CDFW has jurisdiction over the conservation, protection, and management of wildlife, native plants, and habitat necessary to maintain biologically sustainable populations (Fish & Game Code, § 1802). CDFW, as a trustee agency under CEQA Guidelines Section 15386, provides expertise in reviewing and commenting on environmental documents and provides protocols regarding potential negative impacts to those resources held in trust for the people of California.

CDFW maintains records of sensitive natural communities in the California Natural Diversity Database (CNDDDB). Natural Communities of Special Concern (NCSC) are those natural communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. These communities may or may not contain special-status taxa and their habitat. High priority NCSC are globally (G) and state (S) ranked 1 to 3, where 1 is critically imperiled, 2 is imperiled, and 3 is vulnerable. Global and state ranks of 4 and 5 are considered apparently secure and demonstrably secure, respectively. Natural communities with ranks of S1-S3 are to be addressed in the environmental review processes of CEQA and its equivalents.

Wetlands and waters of the U.S. are also considered sensitive by both federal and state agencies, which are discussed in more detail below.

Wetlands and Other Waters

Federal

Waters of the United States (including wetlands) are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA) (33 United States Code [USC] 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. The lateral limits of jurisdiction over non-tidal water bodies extend to the OHWM, in the absence of adjacent wetlands. When adjacent wetlands are present, CWA jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. Include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA 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 USACE with oversight by the U.S. EPA.

The USACE 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 USACE's Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (40 Code of Federal Regulations [CFR] 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE 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 USACE 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 (EO) for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, EO 11990 states that a federal agency, such as the Federal Highway Administration (FHWA) 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.

State

At the state level, wetlands and waters are regulated primarily by the State Water Resources Control Board (SWRCB), the RWQCBs, and CDFW. In certain circumstances, the Coastal Commission, Bay Conservation and Development Commission, or the Tahoe Regional Planning Agency may also be involved.

Sections 1600–1607 of the California Fish and Game Code require any agency that proposes a project that would substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFW before beginning construction. If CDFW determines the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement would be required. CDFW 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 USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

The RWQCBs 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 (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA. In compliance with Section 401 of the CWA, the RWQCBs also issue water quality certifications for activities which may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request. Please see the Hydrology and Water Quality section for additional details.

Plant Species

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

This section of the document discusses all the other special-status plant species, including CDFW species of special concern, USFWS candidate species, and California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at USC 16, Section 1531, et seq. See also 50 CFR Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Caltrans projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Sections 1900–1913, and CEQA, found at California Public Resources Code, Sections 21000–21177.

Animal Species

Many state and federal laws regulate impacts to wildlife. The USFWS, National Oceanic and Atmospheric Administration’s National Marine Fisheries Service (NOAA Fisheries Service [NMFS]), and CDFW are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Acts. Species listed or proposed for listing as threatened or endangered are discussed in the following section. All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NMFS candidate species.

Federal laws and regulations pertaining to wildlife include the following:

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

State laws and regulations pertaining to wildlife include the following:

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

Threatened and Endangered Species

The primary federal law protecting threatened and endangered species is FESA: 16 USC Section 1531, et seq. See also 50 CFR Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as FHWA (and Caltrans, as assigned), are required to consult with the USFWS and NMFS to ensure they are not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a BO with an Incidental Take statement, a Letter of Concurrence, and/or documentation of a no effect finding. Section 3 of FESA defines take as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct.”

California has enacted a similar law at the state level, CESA, California Fish and Game Code Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. CDFW is the agency responsible for implementing CESA. Section 2080 of the California Fish and Game Code prohibits “take” of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the California Fish and Game Code as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” CESA allows for take incidental to otherwise lawful development projects; for these actions an Incidental Take Permit is issued by CDFW. For species listed under both FESA and CESA requiring a BO under Section 7 of FESA, the CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast,

as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

Invasive Species

On February 3, 1999, President William J. Clinton signed EO 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health.” FHWA guidance issued August 10, 1999, directs the use of the State’s invasive species list, maintained by the California Invasive Species Council to define the invasive species that must be considered as part of the NEPA analysis for a proposed project.

ENVIRONMENTAL SETTING

Morrison Creek Bridge

This proposed project location is situated in the town of Lucerne on the northeast shore of Clear Lake. The elevation in the project area is approximately 1330 ft. above mean sea level. SR 20 is classified as a Two-Lane Conventional Highway throughout the project location. The project vicinity experiences cool, wet winters and hot, dry summers with a mean annual precipitation of 54.1 inches. The average annual temperature in the Clear Lake vicinity is 56.9 °F, with an annual average low of 41.0 °F and an annual average high of 72.8 °F.

A soil report was generated from the United States Department of Agriculture (USDA) Web Soil Survey. The soil type present within the project limits is Still gravely loam.

The surrounding area is mostly the urban town of Lucerne which is nestled between the lake and the sporadically forested hills to the east, with residential and business use. SR 20 runs through several cities on this corridor as it makes its way north along the shores of Clear Lake. The land use adjacent to this proposed project is primarily undeveloped land, with some scattered rural and low density residential, commercial developments, agricultural, and recreational use.

The Morrison Creek Bridge spans over Morrison Creek, which is an ephemeral creek that drains into Clear Lake, approximately 600 feet downstream. Due to the surrounding area being urban, there is a high level of fragmentation in the riparian vegetation community around Morrison Creek bridge, and is mostly invasive and disturbed (cut back/mowed downstream of bridge), and includes Bermuda grass (*Cynodon dactylon*), cherry (*Prunus sp.*), Himalayan blackberry (*Rubus armeniacus*), mustard (*Brassica sp.*), Northern California black walnut (*Juglans hindsii*), periwinkle (*vinca major*), and tree of

heaven (*Ailanthus altissima*). The channel of Morrison Creek displays a large amount of sedimentation, which restricts the natural channel morphology. People may live under the bridge or disturb it on a regular basis, based on findings of belongings in the area.

Robinson Creek Bridge

This proposed project location is situated in the unincorporated town of Upper Lake on the northwest of Clear Lake. The elevation in the project area is approximately 1,350 ft. above mean sea level. SR 29 is classified as a Two-Lane Conventional Highway throughout the project location. The project vicinity experiences cool, wet winters and hot, dry summers with a mean annual precipitation of 37.3 inches. The average annual temperature in the Clear Lake vicinity is 56.9 °F, with an annual average low of 41.0 °F and an annual average high of 72.8 °F.

A soil report was generated from the United States Department of Agriculture (USDA) Web Soil Survey. The soil type present within the project limits is Manzanita Gravelly Loam (8-25% slopes), Still Loam (stratified substratum), and Tulelake silty clay loam soils (protected).

The surrounding area is primarily oak woodlands, with some agricultural and limited rural residential use. The adjacent area is bordered to the west by grassy hills devoted to grazing and some agricultural use. The Robinson Creek Bridge spans over Robinson Creek, an ephemeral creek that drains into Clear Lake approximately two miles downstream. The banks of Robinson Creek within the ESL are lined with sac concrete, and there is an approximate one-foot drop in the channel due to scour issues. Riparian shading is sparse within the ESL, as the riparian zone is primarily composed of herbaceous cover with few trees.

Kelsey Creek Bridge

This proposed project location is situated in the town of Cobb south of Clear Lake. The elevation in the project area is approximately 2,500 ft. above mean sea level. SR 175 is classified as a Two-Lane Conventional Highway throughout the project location. The project vicinity experiences cool, wet winters and hot, dry summers with a mean annual precipitation of 56.4 inches. The average annual temperature in the Clear Lake vicinity is 56.9°F, with an annual average low of 41.0°F and an annual average high of 72.8°F.

A soil report was generated from the United States Department of Agriculture (USDA) Web Soil Survey. The soil type present within the project limits is Collayomi-Aiken-Whispering complex soils (5-30% slopes).

The surrounding area is mixed conifer and hardwood forest, with developments such as small business and adjacent small businesses. The land use adjacent to this project matches this diversity, and is primarily undeveloped land, with some scattered rural and low density residential, commercial developments, agricultural, and recreational use. The Kelsey Creek Bridge crosses Kelsey Creek immediately downstream of the confluence of Houghton Creek on the north bank, and a small unnamed drainage that enters through a culvert on the south bank. Kelsey Creek and Houghton Creek are both

narrow perennial creeks with a cobble/boulder substrate and steep-sided banks. Kelsey Creek is a tributary to Clear Lake, and the project location is approximately 19 miles upstream of the confluence of Kelsey Creek and Clear Lake. Kelsey Creek and Houghton Creek support a riparian zone of mature trees such as big-leaf maple (*Acer macrophyllum*), white alder (*Alnus rhombifolia*), Pacific dogwood (*Cornus nuttallii*), California ash (*Fraxinus dipetala*), California bay (*Umbellularia californica*), and black cottonwood (*Populus balsamifera ssp. trichocarpa*), with herbaceous species such as English ivy (*Hedera helix*), blackberry (*Rubus discolor* and *R. ursinus*), and various grasses.

Natural Communities

Riparian Habitat

Riparian habitat consists of vegetation that occurs at the transition zone between land and a river or stream. Riparian habitats have unique ecological functions and are important for many different wildlife species, stream bank stabilization, water filtration, stream shading, and water current conveyed inputs to stream habitats. Overstory canopies help shade waterways which regulates water temperature and humidity levels. Riparian vegetation is often unique to riparian zones and includes a variety of species that thrive in moist environments and tolerate seasonal flooding. Overstory species that commonly occur in riparian habitat in Lake County include but are not limited to ash (*Fraxinus* spp.), cottonwood (*Populus* spp.), valley oak (*Q. lobata*), and willow (*Salix* spp.). Shrub and understory species include but are not limited to; blackberry (*Rubus* spp.), California rose (*Rosa californica*), coyote brush (*Baccharis pilularis*), and poison oak (*T. diversilobum*).

Morrison Creek

There is a high level of fragmentation in the riparian vegetative community along the banks of Morrison Creek, and is composed mostly of non-native invasive species possibly due to disturbance by the observed mowing and trimming downstream of bridge. The species observed include Bermuda grass (*Cynodon dactylon*), cherry (*Prunus* sp.), Himalayan blackberry (*Rubus armeniacus*), mustard (*Brassica* sp.), Northern California black walnut (*Juglans hindsii*), periwinkle (*vinca major*), and tree of heaven (*Ailanthus altissima*).

Robinson Creek

The riparian vegetation of Robinson Creek around the bridge is sparse and is composed of primarily valley oak (*Quercus lobata*), Oregon ash (*Fraxinus latifolia*), willows (*Salix* sp.), and Himalayan blackberry (*Rubus armeniacus*). The banks of Robinson Creek within the ESL are lined with sac concrete and riparian shading is sparse within the ESL due to the riparian zone is primarily composed of herbaceous cover with few trees.

Kelsey and Houghton Creeks

Kelsey Creek and Houghton Creek support a riparian zone which is composed of mature trees such as bigleaf maple (*Acer macrophyllum*), white alder (*Alnus rhombifolia*), Pacific dogwood (*Cornus nuttallii*), California ash (*Fraxinus dipetala*), California bay (*Umbellularia californica*), and black cottonwood (*Populus balsamifera* ssp. *trichocarpa*), with herbaceous species such as English ivy (*Hedera helix*), blackberry (*Rubus discolor* and *R. ursinus*), and various grasses.

Clear Lake Drainage Resident Trout Stream

Clear Lake Drainage Resident Trout Stream refers to “streams that are part of the Clear Lake basin, and these particular reaches are historically inhabited by resident trout. While the community is not afforded any legal protections per se, the species found within it may be (e.g., Clear Lake hitch is state-listed, Western brook lamprey & Clear Lake roach are both Species of Special Concern). At the Kelsey Creek Bridge location, Kelsey and Houghton Creek have been mapped as Clear Lake Drainage Resident Trout Streams.

Oak Woodland

Senate Concurrent Resolution No. 17 defines oak woodlands as a five-acre circular area containing five or more oak trees per acre. Robinson Creek Bridge is surrounded by valley oak woodlands, and there are valley oaks within the ESL, in both the riparian and upland areas. There are no oak woodlands present at Morrison Creek Bridge or Kelsey Creek Bridge

Wetlands and Other Waters

Wetlands

Based on biological surveys, no wetlands were found within the ESL at the Morrison Creek, Robinson Creek, or Kelsey Creek Bridge locations.

Other Waters

Morrison Creek and Robinson Creek are ephemeral creeks that exhibit OHWMs with bed, bank, and channels. Kelsey Creek is a perennial creek that exhibits an OHWM with a bed, bank, and channel. Both Robinson and Kelsey Creek have an unnamed drainage and/or tributary entering into their channels. Therefore, potentially jurisdictional other waters of the U.S. and State are present all three locations.

Plant Species

The plants listed in Table 2 are considered to be of special concern based on (1) federal, state, or local laws regulating their development; (2) limited distributions; and/or (3) the presence of habitat required by the special-status plants occurring on site. Northern California black walnut (*Juglans hindsii*) was found to be present within the ESL.

Northern California Black Walnut

Northern California black walnut (*Juglans hindsii*) is not currently listed by state or federal laws, but it is listed as 1B.1 by the CNPS. This tree can reach 30 to 60 feet in height with a diameter of 5 to 6 feet. Northern California black walnut produces a smooth, brown, thick shelled nut with a small edible nutmeal. This species is commonly used as root stock for the English walnut as well as cultivated for woodworking. This large tree is believed to be endemic from Fresno to San Francisco and is generally thought to be a subspecies of the Southern California black walnut (*J. californica*). Recent genetic research performed on samples collected from wild *J. hindsii* in southern Oregon as well as northern and southern California revealed that two-thirds of the samples collected were pure *J. hindsii* with the remainder showing evidence of previous hybridization with one or more North American black walnut species. These findings indicate that *J. hindsii* may not be as rare as previously believed.

Four Northern California black walnuts were noted within the ESL upstream and downstream of the Morrison Creek Bridge. Three of these trees, located downstream, are small in stature and appear to be growing in existing RSP. Upstream, one mature black walnut was identified within the creek channel. These trees are located outside their natural extent and appear to come from grafts from an abandoned walnut orchard located next to Morrison Creek.

Table 2 – Special Status Plants Potentially Occurring or Known to Occur in the Project Area

Scientific Name	Common Name	Federal/ State/ CNPS	Habitat	Present/ Absent	Rationale
<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	-/-1B.2	Cismontane woodland, valley and foothill grassland, coastal bluff scrub.	Present	No impact. Species not found during seasonal
<i>Antirrhinum subcordatum</i>	dimorphic snapdragon	-/-4.3	Chaparral, lower montane coniferous forest.	Absent	No impact. Species not found during seasonal surveys.
<i>Antirrhinum virga</i>	twig-like snapdragon	-/-4.3	Chaparral, lower montane coniferous forest.	Absent	No impact. Species not found during seasonal surveys.
<i>Arabis blepharophylla</i>	coast rockcress	-/-4.3	Broadleafed upland forest, coastal prairie, coastal scrub, coastal bluff scrub.	Absent	No impact. Species not found during seasonal surveys.
<i>Arctostaphylos manzanita</i> ssp. <i>elegans</i>	Konocti manzanita	-/-1B.3	Chaparral, cismontane woodland, lower montane coniferous forest.	Present	No impact. Species not found during botanical surveys. CNDDDB occurrence mapped approximately 0.5 mile away from Kelsey Creek ESL in 2007.
<i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i>	Raiche's manzanita	-/-1B.1	Chaparral, lower montane coniferous forest.	Absent	No impact. Species not found during seasonal surveys.
<i>Asclepias solanoana</i>	serpentine milkweed	-/-4.2	Chaparral, cismontane woodland, lower montane coniferous forest.	Present	No impact. Species not found during seasonal surveys.

<i>Astragalus breweri</i>	Brewer's milk-vetch	-/-/4.2	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland.	Present	No impact. Species not found during seasonal surveys.
<i>Astragalus clevelandii</i>	Cleveland's milk-vetch	-/-/4.3	Chaparral, cismontane woodland, riparian forest.	Present	No impact. Species not found during seasonal surveys.
<i>Astragalus rattanii</i> var. <i>jepsonianus</i>	Jepson's milk-vetch	-/-/1B.2	Cismontane woodland, valley and foothill grassland, chaparral.	Present	No impact. Species not found during seasonal surveys.
<i>Brasenia schreberi</i>	watershield	-/-/2B.3	Freshwater marshes and swamps.	Absent	No impact. No suitable
<i>Brodiaea rosea</i> ssp. <i>rosea</i>	Indian Valley brodiaea	-/SE/3.1	Closed-cone coniferous forest, chaparral, cismontane woodland, valley and foothill grassland.	Present	No impact. Species not found during seasonal surveys.
<i>Calamagrostis ophitidis</i>	serpentine reed grass	-/-/4.3	Chaparral, lower montane coniferous forest, meadows and seeps, valley and foothill grassland.	Present	No impact. Species not found during seasonal surveys.

<i>Calycadenia micrantha</i>	small-flowered calycadenia	-/-1B.2	Chaparral, valley and foothill grassland, meadows and seeps.	Present	No impact. Species not found during seasonal surveys.
<i>Calyptridium quadripetalum</i>	four-petaled pussypaws	-/-4.3	Chaparral, lower montane coniferous forest.	Absent	No impact. Species not found during seasonal surveys.
<i>Calystegia collina ssp. oxyphylla</i>	Mt. Saint Helena morning-glory	-/-4.3	Chaparral, lower montane coniferous forest, valley and foothill grassland.	Present	No impact. Species not found during seasonal surveys.
<i>Carex comosa</i>	bristly sedge	-/-2B.1	Marshes and swamps, coastal prairie, valley and foothill grassland.	Present	No impact. Species not found during seasonal surveys.
<i>Carex praticola</i>	northern meadow sedge	-/-2B.2	Meadows and seeps.	Absent	No impact. No suitable habitat in ESL. Species not found during
<i>Ceanothus confusus</i>	Rincon Ridge ceanothus	-/-1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland.	Present	No impact. Species not found during seasonal surveys.
<i>Ceanothus divergens</i>	Calistoga ceanothus	-/-1B.2	Chaparral	Absent	No impact. Species not found during seasonal surveys.

<i>Chlorogalum pomeridianum</i> var. <i>minus</i>	dwarf soaproot	-/-1B.2	Chaparral.	Absent	No impact. No suitable habitat in ESL. Species not found during seasonal surveys.
<i>Collomia diversifolia</i>	serpentine collomia	-/-4.3	Chaparral, cismontane woodland.	Present	No impact. Species not found during seasonal surveys.
<i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>	serpentine bird's-beak	-/-4.3	Chaparral, closed-cone coniferous forest, cismontane woodland.	Present	No impact. Species not found during seasonal surveys.
<i>Cryptantha dissita</i>	serpentine cryptantha	-/-1B.2	Chaparral.	Absent	No impact. No suitable habitat in ESL. Species not found during seasonal surveys.
<i>Delphinium uliginosum</i>	swamp larkspur	-/-4.2	Chaparral, valley and foothill grassland.	Present	No impact. Species not found during seasonal surveys.
<i>Downingia willamettensis</i>	Cascade downingia	-/-2B.2	Cismontane woodland, valley and foothill grasslands, vernal pools.	Present	No impact. Species not found during seasonal surveys.
<i>Erigeron greenei</i>	Greene's narrow-leaved daisy	-/-1B.2	Chaparral.	Absent	No impact. No suitable habitat in ESL. Species not found during seasonal surveys.
<i>Eriogonum nervulosum</i>	Snow Mountain buckwheat	-/-1B.2	Chaparral.	Absent	No impact. No suitable habitat in ESL.

<i>Eryngium constancei</i>	Loch Lomond coyote thistle	FE/SE/1B.1	Vernal pools.	Absent	No impact. No suitable habitat in ESL. Species not found during seasonal surveys.
<i>Grimmia torenii</i>	Toren's grimmia	-/-1B.3	Cismontane woodland, lower montane coniferous forest, chaparral.	Present	No impact. Species not found during seasonal surveys.
<i>Hesperolinon adenophyllum</i>	glandular western flax	-/-1B.2	Chaparral, cismontane woodland, valley and foothill grassland.	Present	No impact. Species not found during seasonal surveys.
<i>Hesperolinon bicarpellatum</i>	two-carpellate western flax	-/-1B.2	Chaparral.	Absent	No impact. No suitable habitat in ESL. Species not found during seasonal surveys.
<i>Hesperolinon didymocarpum</i>	Lake County western flax	-/SE/1B.2	Chaparral, cismontane woodland, valley and foothill grassland.	Present	No impact. Species not found during seasonal surveys.
<i>Horkelia bolanderi</i>	Bolander's horkelia	-/-1B.2	Lower montane coniferous forest, chaparral, meadows and seeps, valley and foothill grassland.	Present	No impact. Species not found during seasonal surveys.
<i>Imperata brevifolia</i>	California satintail	-/-2B.1	Coastal scrub, chaparral, riparian scrub, mojavean desert scrub, meadows and seeps (alkali), riparian scrub.	Absent	No impact. Species not found during seasonal surveys.
<i>Lasthenia burkei</i>	Burke's goldfields	FE/SE/1B.1	Vernal pools, meadows and seeps.	Absent	No impact. Species not found during seasonal surveys.

<i>Layia septentrionalis</i>	Colusa layia	-/-1B.2	Chaparral, cismontane woodland, valley and foothill grassland.	Present	No impact. Species not found during seasonal surveys.
<i>Legenere limosa</i>	legenere	-/-1B.1	Vernal pools.	Absent	No impact. No suitable habitat in ESL. Species not found during seasonal surveys.
<i>Leptosiphon jepsonii</i>	Jepson's leptosiphon	-/-1B.2	Chaparral, cismontane woodland, valley and foothill grassland.	Present	No impact. Species not found during seasonal surveys.
<i>Lupinus antoninus</i>	Anthony Peak lupine	-/-1B.2	Upper montane coniferous forest, lower montane coniferous forest.	Absent	No impact. Species not found during seasonal surveys.
<i>Lupinus sericatus</i>	Cobb Mountain lupine	-/-1B.2	Chaparral, cismontane woodland, lower montane coniferous forest, broadleafed upland forest.	Present	No impact. Species not found during seasonal surveys.
<i>Micropus amphibolus</i>	Mt. Diablo cottonweed	-/-3.2	Valley and foothill grassland, cismontane woodland, chaparral, broadleafed upland forest.	Present	No impact. Species not found during seasonal surveys.
<i>Mielichhoferia elongata</i>	elongate copper moss	-/-4.3	Cismontane woodland.	Present	No impact. Species not found during seasonal surveys.
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	Baker's navarretia	-/-1B.1	Cismontane woodland, meadows and seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest.	Present	No impact. Species not found during seasonal surveys.

<i>Navarretia leucocephala</i> ssp. <i>pauciflora</i>	few-flowered navarretia	FE/ST/1B.1	Vernal pools.	Absent	No impact. No suitable habitat in ESL. Species not found during seasonal surveys.
<i>Navarretia leucocephala</i> ssp. <i>plieantha</i>	many-flowered navarretia	FE/SE/1B.2	Vernal pools.	Absent	No impact. No suitable habitat in ESL. Species not found during seasonal surveys. CNDDDB occurrence mapped approximately 0.6 miles away from Kelsey Creek ESL in 2015.
<i>Orcuttia tenuis</i>	slender orcutt grass	FT/SE/1B.1	Vernal pools.	Absent	No impact. No suitable habitat in ESL. Species not found during seasonal surveys.
<i>Panicum acuminatum</i> var. <i>thermale</i>	Geysers panicum	-/SE/1B.2	Closed-cone coniferous forest, riparian forest, valley and foothill grassland.	Present	No impact. Species not found during seasonal surveys.
<i>Penstemon newberryi</i> var. <i>sonomensis</i>	Sonoma beardtongue	-/-/1B.3	Chaparral.	Absent	No impact. No suitable habitat in ESL. Species not found during seasonal surveys.
<i>Potamogeton zosteriformis</i>	eel-grass pondweed	-/-/2B.2	Marshes and swamps.	Absent	No impact. No suitable habitat in ESL. Species not found during seasonal surveys.
<i>Sedella leiocarpa</i>	Lake County stonecrop	FE/SE/1B.1	Valley and foothill grassland, vernal pools, cismontane woodland.	Present	No impact. Species not found during seasonal surveys.
<i>Sidalcea oregana</i> ssp. <i>hydrophila</i>	marsh checkerbloom	FE/SE/1B.1	Meadows and seeps, riparian forest.	Present	No impact. Species not found during seasonal surveys.

<i>Streptanthus brachiatus</i> ssp. <i>brachiatus</i>	Socrates Mine jewelflower	-/-1B.2	Chaparral, closed-cone coniferous forest.	Absent	No impact. Species not found during seasonal surveys.
<i>Streptanthus hesperidis</i>	Freed's jewelflower	-/-1B.2	Chaparral, cismontane woodland.	Present	No impact. Species not found during seasonal surveys.
<i>Streptanthus morrisonii</i> ssp. <i>kruckebergii</i>	green jewelflower	-/-1B.2	Chaparral, cismontane woodland.	Present	No impact. Species not found during seasonal surveys.

¹Status Explanations:

Federal Status (pursuant to the Federal Endangered Species Act of 1973, as amended)

E = endangered. Listed as being in danger of extinction.

T = threatened. Listed as likely to become endangered within the foreseeable future.

P = proposed. Proposed for listing as threatened or endangered, or for delisting.

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Endangered Species Act of 1984) of the Fish and Game Code)

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WL = Watch List. Species that do not meet the criteria of SC, but for which there is concern and a need for additional information to clarify status.

California Native Plant Society (CNPS)

List 1A = Presumed extinct in California.

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List 3 species = More information is needed about the plant species.

List 4 species = Limited distribution (Watch List).

.1 = seriously endangered in California.

.2 = fairly endangered in California.

.3 = Not very endangered in California

Animal and Threatened/Endangered Species

Animals listed in Table 3 are considered to be of special concern based on (1) federal, state, or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of special-status animals occurring on site. Clear Lake hitch (*Lavinia exilicauda chi*), foothill yellow-legged frog (*Rana boylei*), Western pond turtle (*Emys marmorata*) (WPT), Northern spotted owl (*Strix occidentalis caurina*) (NSO), Tricolored blackbird (*Agelaius tricolor*), were found to potentially be present within the ESL.

Clear Lake Hitch

Clear Lake hitch (*Lavinia exilicauda chi*) is not federally listed; however it is listed as threatened under CESA. The hitch is endemic to Clear Lake and its tributaries. Spawning migrations resemble salmon runs but on a much smaller scale and occur in low-gradient tributaries to Clear Lake usually in response to heavy spring rains from mid-February through June. Eggs are deposited along the margins of streams and in very shallow riffles over clean fine-medium sized gravel. Hitch have been observed spawning along the shores of Clear Lake over clean gravel in water approximately one to ten centimeters, or 0.4 to four inches, deep. Eggs are non-adhesive and sink to the bottom after fertilization and become lodged among the gravel. After a three to seven-day incubation period, embryos hatch and the larvae move downstream to Clear Lake. Threats to the Clear Lake hitch include loss of spawning habitat, loss of nursery habitat and predation/competition from non-native fishes.

Morrison Creek, Robinson Creek, and Kelsey Creek are all streams with historic hitch spawning habitat, and hitch have been observed by Chi Council surveys within these streams at various locations. No hitch were observed during project field surveys within the ESL at any of the bridge locations. Observational data from the Chi Council for the hitch was reviewed to determine observations near project locations. Scientific abundance data is very limited, and much of the monitoring that has been completed has been observational and qualitative in nature.

Morrison Creek

According to the petition to list the hitch by the Center for Biological Diversity (CBD), Morrison Creek was identified as a historic spawning stream for the hitch. However, according to the CBD, no hitch were observed in Morrison Creek during 2005-2007 and 2009-2012 field surveys. In a review of surveys conducted by the Chi Council for the hitch, no observations were recorded at Morrison Creek from 2013-2018. Morrison Creek is an ephemeral creek, and has been dry for most project related surveys except for the February 2019 survey.

Robinson Creek

Hitch were recorded at Robinson Creek at SR 29 within the proposed project limits in 2008 by the Chi Council. Robinson Creek is an ephemeral creek, and was documented in seasonal project surveys as dry in the late spring and early summer.

Kelsey Creek

Historic documents from the 1800s noted that Kelsey Creek was important spawning habitat, and in 1992 CDFW documented that Kelsey Creek was still supporting spawning hitch. However, the project site is approximately 19 miles upstream of the confluence of Kelsey Creek and Clear Lake and is around 2,500 feet elevation, near the Kelsey Creek headwaters. Kelsey Creek likely only has hitch spawn at lower elevation reaches closer to the confluence of Clear Lake, though quantitative data seems to be limited.

Western Pond Turtle

Western pond turtle (*Emys marmorata*) (WPT) is a state species of special concern, and is found in permanent or nearly permanent water, such as ponds, lakes, streams, and irrigation ditches in many different habitats in California. Western pond turtles require basking areas within their habitat such as partially submerged logs or rocks. Upland nesting sites must have permanent water nearby for survival of hatchlings, which are vulnerable to desiccation.

No WPT were found during any of the multiple biological surveys conducted by Caltrans from May 2017 until March 2020.

Morrison Creek

Morrison Creek is an ephemeral creek and is dry for most of the year within the ESL during a typical rainfall year. There is no suitable nesting habitat adjacent to the creek within the ESL, as it is composed of pavement, mowed grass, residences, and a highly disturbed and cut back riparian area.

Robinson Creek

Robinson Creek is an ephemeral creek, and subsequently unlikely for WPT to use for permanent habitat. Due to the lack of permanent water, the surrounding upland habitat is unlikely suitable for nesting as hatchlings are vulnerable to desiccation without a permanent water source.

Kelsey Creek

Kelsey Creek and Houghton Creek appear to be perennial, but they are narrow streams and lack basking sites within the ESL. These creeks could be used as migratory corridors but are unlikely to be permanent habitat. There does not appear to be suitable

nesting habitats in the adjacent upland areas within the ESL, as these areas have been converted into residential land, paved parking lots, and a mowed golf course.

Foothill Yellow-Legged Frog

Foothill yellow-legged frogs (*Rana boylei*) (FYLF) are currently listed as a state species of special concern (SSC). FYLF are often found in stream or rivers within woodland, chaparral, and forest habitats, near riffles with rocks and sunny banks. The FYLF is a stream-breeding species typically found in small to mid-sized streams and rivers from the Pacific Coast to the western slope of the Sierra Nevada. In California, FYLF were historically found in most Pacific drainages from the Coast Ranges of the Western Sierra Nevada and San Gabriel mountain foothills, but the current range has contracted considerably. The FYLF's decline is likely due in part to alteration of seasonal water flows resulting from barriers such as dams. Shallow stream riffles with cobble-sized rocks and slow water flows are necessary components of breeding habitat for the species, while open, sunny banks surrounding breeding locations provide foraging habitat. Breeding occurs during the spring in California, typically from April to June, although rainfall during the breeding season can cause females to delay oviposition. Egg masses are anchored to cobble in the streambed and hatch within 1 to 4 weeks after oviposition.

CDFW recommended separating the listing of FYLF into different clades, due to genetic divergence, geographic isolation, and differing levels of imperilment between populations. In December 2019, the California Fish and Game Commission made a listing decision under CESA to not list the North Coast clade, which includes areas north of San Francisco Bay in the Coast Ranges and east into Tehama County; this includes all three project locations.

No FYLF or egg masses were observed during field surveys. Suitable spawning habitat was not observed at any of the project sites locations during field visits. Excessive siltation and absence of water was noted at Morrison Creek for many of the field site visits

Northern Spotted Owl

Northern spotted owl (*Strix occidentalis caurina*) (NSO) is a state and federally threatened species and can be found in old growth or mixed stands of trees with multistory canopy, broken tops, cavities, and woody debris. NSO is known to be sensitive to noise, and the USFWS has provided agencies with noise guidance which was used in this analysis to determine if construction noise could reach levels of harassment.

There is no suitable habitat within 0.25 mile of any of the project locations, which is a harassment buffer distance used for extreme noise levels from some construction equipment. There were documented NSO occurrences within the general vicinity of two project locations:

Morrison Creek

The closest NSO occurrence to Morrison Creek Bridge is approximately two miles northeast of the project location and is associated with an NSO activity center 2.7 miles away from the project location.

Robinson Creek

No NSO activity was recorded within the general vicinity of this location.

Kelsey Creek

The closest NSO occurrence to Kelsey Creek Bridge is approximately two miles east of the project location and is associated with a nest located 2.6 miles east of the project location in Boggs Mountain Demonstration State Forest.

Tricolored Blackbird

The tricolored blackbird (*Agelaius tricolor*) is a state threatened species and occurs primarily in California's Central Valley. Tricolored blackbirds are a highly colonial species that requires open water such as marshes, swamps, or wetlands, protected nesting substrate, and a foraging area close to the colony habitat; often using cattail marsh habitat for nesting. However, they will also use active agricultural land for nesting and for foraging, and have been observed nesting in annual grasses and Himalayan blackberry. Tricolored blackbirds arrive at breeding grounds mid-March through mid-July and depart from breeding grounds to form post-breeding roosts in the Sacramento Valley in late June through late August.

Potential habitat is Himalayan blackberry, which is present within the ESL at all three locations, however no tricolored blackbirds were observed during surveys. Sightings of tricolored blackbirds have been documented in close vicinity of only two of the proposed project locations:

Morrison Creek

Observations of tricolored blackbirds were reported in Nice, California in June 2017, approximately three and a half linear miles from the Morrison Creek project location.

Robinson Creek

Observations of tricolored blackbirds in 2014 were recorded in the vicinity of Upper Lake, approximately two linear miles from Robinson Creek project location.

Migratory and Nongame Birds

Migratory and nongame birds are protected under the federal Migratory Bird Treaty Act and the California Fish and Game Code. Generally, Caltrans anticipates the nesting season for birds in California to occur from February 1 - September 30 every year. Birds

can nest in a variety of habitats, including but not limited to buildings, bridges, trees, shrubs, herbaceous vegetation, and cliffs.

Morrison Creek

Due to the heavy siltation and limited clearance between the superstructure of Morrison Creek Bridge and the channel of Morrison Creek, there is no suitable nesting habitat on Morrison Creek Bridge. No active nests or nest remnants have been observed during field surveys. There is suitable nesting habitat in the surrounding riparian and upland vegetation.

Robinson Creek

Remnants of swallow nests were observed on Robinson Creek Bridge during surveys in December 2019. There is also suitable nesting habitat in the surrounding riparian and upland vegetation.

Kelsey Creek

Remnants of swallow nests were observed on Kelsey Creek Bridge during surveys in December 2019. There is also suitable nesting habitat in the surrounding riparian and upland vegetation.

Bats

Of the 25 total bat species identified in California, 16 of them use bridges and/or culverts as habitat, which may be as a result of destroyed or degraded natural habitats. Bats are classified as non-game mammals by CDFW. Bats are afforded protection under various Fish and Game Code sections, including Sections 86, 2000, 2014, 3007, and 4150.

Morrison Creek

Due to the heavy siltation, and the subsequent limited clearance of approximately 3-4 feet between the superstructure of Morrison Creek Bridge and the channel of Morrison Creek, there is no suitable roosting habitat on Morrison Creek Bridge. There was no evidence of bat guano found during any of the project surveys. There are no openings that would provide habitat for day roosting or maternity colonies.

Robinson Creek

Robinson Creek Bridge does not have any openings that would provide habitat for day roosting or maternity colonies. However, Robinson Creek Bridge is likely used by some bats for night roosting. A small amount of bat guano was found directly below old swallow nests. Bats may also use surrounding riparian trees in the proposed project area as roosting habitat. Focused surveys have not yet been completed to identify trees that may be used by bats.

Kelsey Creek

Kelsey Creek Bridge does not have any openings that would provide habitat for day roosting or maternity colonies. However, the bridge may be used as night roost habitat. Signs of bat use, such as guano and staining, were observed during surveys at Kelsey Creek Bridge for a previous Caltrans project in 2014/2015. However no obvious signs of bats were found on the structure during surveys in December 2019. There is potential for bats to use the surrounding riparian trees in the proposed project area as roosting habitat as well. Focused surveys have not yet been completed to identify trees that may be used by bats.

Table 3 – Special-Status Animals and Critical Habitat Potentially Occurring or Known to Occur in the Project Area***Amphibians List***

Scientific Name	Common Name	Federal/State Other/CNPS	Habitat	Present/ Absent	Rationale
<i>Dicamptodon ensatus</i>	California giant salamander	-/SSC	Wet coastal forests near streams and seeps from Mendocino County south to Monterey County, and east to Napa County.	Absent	No impact. No suitable habitat in ESL.
<i>Rana boylei</i>	foothill yellow-legged frog	-/SC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats.	Present	Minimal impact. Species not found during seasonal surveys but is within species range. Avoidance and minimization measures will be implemented to avoid 'take' of the species.
<i>Rana draytonii</i>	California red-legged frog	FT/-	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	Absent	No effect. Lake county is considered historic range, but not current range.
<i>Taricha rivularis</i>	red-bellied newt	-/SSC	Coastal drainages from Humboldt County south to Sonoma County, inland to Lake County. Isolated population of uncertain origin in Santa Clara County.	Absent	No impact. Species not found during seasonal surveys.

Birds List

Scientific Name	Common Name	Federal/State Other/CNPS	Habitat	Present/ Absent	Rationale
<i>Agelaius tricolor</i>	tricolored blackbird	-/ST	Highly colonial species, most numerous in Central Valley & vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	Absent	No effect. No suitable habitat in ESL. Outside of species range.
<i>Ardea herodias</i>	great blue heron	-/-	Colonial nester in tall trees, cliffsides, and sequestered spots on marshes.	Present	No impact. Species not observed during surveys. Avoidance and minimization measures will be implemented to avoid 'take' of the species.
<i>Pandion haliaetus</i>	osprey	-/WL	Ocean shore, bays, freshwater lakes, and larger streams.	Birds	
<i>Phalacrocorax auritus</i>	double-crested cormorant	-/WL	Colonial nester on coastal cliffs, offshore islands, and along lake margins in the interior of the state.	Present	No effect. Suitable habitat present at all three project locations. Species not observed during surveys. Avoidance and minimization measures for nongame and migratory birds will avoid 'take' of the species.

<i>Progne subis</i>	purple martin	-/SSC	Inhabits woodlands, low elevation coniferous forest of Douglas-fir, ponderosa pine, and Monterey pine.	Present	No impact. Suitable habitat present at all three project locations. Species not observed within ESL. Avoidance and minimization measures for nongame and migratory birds will avoid 'take' of the species.
<i>Strix occidentalis caurina</i>	Northern spotted owl	FT/ST	Old-growth forests or mixed stands of old-growth and mature trees. Occasionally in younger forests with patches of big trees.	Present	No impact. Suitable habitat present along shore of Clear Lake at Morrison Creek Bridge. Species not observed within ESL. Avoidance and minimization measures for nongame and migratory birds will avoid 'take' of the species.

Fish List

Scientific Name	Common Name	Federal/State Other/CNPS	Habitat	Present/ Absent	Rationale
<i>Archoplites interruptus</i>	Sacramento perch	-/-	Historically found in the sloughs, slow-moving rivers, and lakes of the Central Valley.	Absent	No impact. Outside of current distribution.
<i>Hypomesus transpacificus</i>	Delta smelt	FT/SE	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait & San Pablo Bay.	Absent	No impact. ESL is located outside of species distribution.
<i>Hysterocarpus traskii lagunae</i>	Clear Lake tule perch	-/SSC	Clear Lake	Absent	No impact. Project ESL is not in Clear Lake, and project construction BMPs will prevent any runoff impacts into Clear Lake from Morrison Creek.
<i>Lavinia exilicauda chi</i>	Clear Lake hitch	-/ST	Found only in Clear Lake, Lake County, and associated ponds. Spawns in streams flowing into Clear Lake.	Present	Minimal impact. ESL includes potential spawning habitat for Clear Lake hitch. Avoidance and minimization measures will avoid 'take' of the species.

<i>Oncorhynchus kisutch</i>	CCC coho salmon ESU	FE/SE	Federal listing = populations between Punta Gorda & San Lorenzo River. State listing = populations south of Punta Gorda.	Absent	No effect. ESL is located outside of species distribution.
<i>Oncorhynchus mykiss</i>	CCC steelhead DPS	FT/-	The DPS includes all naturally spawned populations of steelhead (and their progeny) in streams from the Russian River to Aptos Creek, Santa Cruz County, California (inclusive). The DPS also includes the drainages of San Francisco and San Pablo Bays.	Absent	No effect. ESL is located outside of species distribution.
<i>Oncorhynchus tshawytscha</i>	CC Chinook salmon ESU	FT/-	This ESU includes naturally spawned Chinook salmon originating from rivers south of the Klamath River to and including the Russian River.	Absent	No effect. ESL is located outside of species distribution.

Invertebrate List

Scientific Name	Common Name	Federal/State Other/CNPS	Habitat	Present/ Absent	Rationale
<i>Andrena blennospermatis</i>	Blennosperma vernal pool andrenid bee	-/-	This bee is oligolectic on vernal pool blennosperma.	Absent	No impact. No suitable habitat in ESL. Species not found during surveys.
<i>Bombus occidentalis</i>	western bumble bee	-/SC	Once common & widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease.	Present	No impact. Species not found during surveys.
<i>Dubiraphia brunnescens</i>	brownish dubiraphian riffle beetle	-/-	Aquatic; known only from the NE shore of Clear Lake, Lake County.	Absent	No impact. No suitable habitat in ESL. Morrison Creek Bridge is approximately 500 feet away from NE shore of Clear Lake.
<i>Syncaris pacifica</i>	California freshwater shrimp	FE/SE	Endemic to Marin, Napa, and Sonoma counties. Found in low elevation, low gradient streams where riparian cover is moderate to heavy.	Absent	No effect. Project is outside of species range.

Mammal List

Scientific Name	Common Name	Federal/State Other/CNPS	Habitat	Present/ Absent	Rationale
<i>Antrozous pallidus</i>	pallid bat	-/-	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Present	Minimal impact. Night roosting habitat is present at Robinson Creek Bridge and Kelsey Creek Bridge. Avoidance and minimization measures will be implemented to avoid 'take' of the species.
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	-/-	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	Present	Minimal impact. Night roosting habitat is present at Robinson Creek Bridge and Kelsey Creek Bridge. Avoidance and minimization measures will be implemented to avoid 'take' of the species.

<i>Lasionycteris noctivagans</i>	silver-haired bat	-/-	Primarily a coastal and montane forest dweller, feeding over streams, ponds & open brushy areas. Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes, and rarely under rocks. Needs drinking water.	Present	Minimal impact. Night roosting habitat is present at Robinson Creek Bridge and Kelsey Creek Bridge. Avoidance and minimization measures will be implemented to avoid 'take' of the species.
<i>Lasiurus blossevillii</i>	western red bat	-/-	Roosts primarily in trees, 2-40 ft above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	Present	Minimal impact. Night roosting habitat is present at Robinson Creek Bridge and Kelsey Creek Bridge. Avoidance and minimization measures will be implemented to avoid 'take' of the species.
<i>Lasiurus cinereus</i>	hoary bat	-/-	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Present	Minimal impact. Night roosting habitat is present at Robinson Creek Bridge and Kelsey Creek Bridge. Avoidance and minimization measures will be implemented to avoid 'take' of the species.

<i>Myotis evotis</i>	long-eared myotis	-/-	Found in all brush, woodland and forest habitats from sea level to about 9000 ft. Prefers coniferous woodlands and forests. Nursery colonies in buildings, crevices, spaces under bark, and snags. Caves used primarily as night roosts.	Present	Minimal impact. Night roosting habitat is present at Robinson Creek Bridge and Kelsey Creek Bridge. Avoidance and minimization measures will be implemented to avoid 'take' of the species.
<i>Myotis thysanodes</i>	fringed myotis	-/-	In a wide variety of habitats, optimal habitats are pinyon-juniper, valley foothill hardwood & hardwood-conifer. Uses caves, mines, buildings or crevices for maternity colonies and roosts.	Present	Minimal impact. Night roosting habitat is present at Robinson Creek Bridge and Kelsey Creek Bridge. Avoidance and minimization measures will be implemented to avoid 'take' of the species.
<i>Taxidea taxus</i>	American badger	-/-	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	Present	No impact. Species not observed during surveys. Low quality habitat available within ESL.

Reptile List

Scientific Name	Common Name	Federal/State Other/CNPS	Habitat	Present/ Absent	Rationale
<i>Chelonia mydas</i>	green sea turtle	FT/-	Marine.	Absent	No effect. No suitable habitat in ESL. Outside of species range.
<i>Emys marmorata</i>	western pond turtle	-/SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation.	Present	No impact. Species not observed during surveys. Avoidance and minimization measures will be implemented to avoid 'take' of the species.

Habitat List

Habitat Name	Present/ Absent	Rationale
CCC coho critical habitat	Absent	No effect. No suitable habitat in ESL.
Central Valley Drainage Rainbow Trout/Cyprinid Stream	Absent	No impact. No suitable habitat in ESL.
Chinook salmon EFH	Absent	No effect. No suitable habitat in ESL.
Clear Lake Drainage Cyprinid/Catostomid Stream	Absent	No impact. No suitable habitat in ESL.
Clear Lake Drainage Resident Trout Stream	Present	Project will impact. Houghton Creek and Kelsey Creek are mapped as suitable habitat within project ESL on CNDDDB. See section 4.1.3 for discussion.
Clear Lake Drainage Seasonal Lakefish Spawning Stream	Absent	No impact. No suitable habitat in ESL.
Coastal and Valley Freshwater Marsh	Absent	No impact. No suitable habitat in ESL.
coho salmon EFH	Absent	No effect. No suitable habitat in ESL.

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T = threatened. Listed as likely to become endangered within the foreseeable future.

P = proposed. Proposed for listing as threatened or endangered, or for delisting.

C = candidate. Candidate that may become a proposed species.

D = delisted.

- = no listing under the Federal Endangered Species Act.

State Status (pursuant to §1904 (Native Plant Protection Act of 1977) and §2074.2 and §2075.5 (California Endangered Species Act of 1984) of the Fish and Game Code)

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D = delisted.

- = no listing.

State Status (other listings)

SC = species of special concern. Animals not listed under the Federal Endangered Species Act or the California Endangered Species Act, but which are declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist.

FP = Fully Protected. Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

WL = Watch List. Species that do not meet the criteria of SC, but for which there is concern and a need for additional information to clarify status.

California Native Plant Society (CNPS)

List 1A = Presumed extinct in California.

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List 3 species = More information is needed about the plant species.

List 4 species = Limited distribution (Watch List).

.1 = seriously endangered in California.

.2 = fairly endangered in California.

.3 = Not very endangered in California

Invasive Species

Various invasive species including, but not limited to, Bermuda grass (*Cynodon dactylon*), Himalayan blackberry (*Rubus armeniacus*), mustard (*Brassica sp.*), English ivy (*Hedera helix periwinkle (vinca major)*), and tree of heaven (*Ailanthus altissima*) were identified during the botanical surveys. The majority of equipment would be confined to the area where invasive species are currently present and would not be moved off-site prior to vegetation removal. Vegetation removal would be required; however, most of the herbaceous vegetation to be removed is non-native and the spread or introduction of invasive species is not expected to occur.

Discussion of Environmental Evaluation Questions 2.6—Biological Resources

The following discusses questions A through F of the CEQA Checklist - Biological Resources section. Each question is discussed individually; however, it should be noted that some resources (e.g., riparian) fall under more than one question. As such, where necessary, those resources are discussed multiple times throughout this section.

DISCUSSION OF CEQA CHECKLIST QUESTION A

The following CEQA Checklist item was used to evaluate the impacts of the proposed project on species in the project area:

- Would the project 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, U.S. Fish and Wildlife Service, or NOAA Fisheries?

Plant Species

Northern California Black Walnut

Four Northern California black walnuts were noted within the ESL upstream and downstream of the Morrison Creek Bridge. Three of these trees, located downstream, are small in stature and appear to be growing in existing RSP. Upstream, one mature black walnut was identified within the creek channel. These trees are located outside their natural extent and appear to come from grafts from an abandoned walnut orchard located next to Morrison Creek. These four trees are scheduled for removal to allow for improvement of the hydraulic characteristic of Morrison Creek.

CEQA CONCLUSION

Due to their location outside of their natural extent and the likelihood that they are grafts from an abandoned walnut orchard located next to Morrison Creek, the proposed project would result in a less than significant impact to the northern California black walnut. Therefore, this impact would be less than significant.

Avoidance and Minimization Efforts

Trees and other vegetation would be prioritized to be removed outside of the nesting bird season, February 1 - September 30. If tree/vegetation removal cannot be completed outside of the bird nesting season, a biologist must conduct nesting bird surveys within five days prior to scheduled removal.

MITIGATION MEASURES

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for Northern California black walnuts for this project.

Animal Species

Clear Lake Hitch

Morrison Creek, Robinson Creek, and Kelsey Creek Bridges all include potential spawning habitat for Clear Lake hitch as all three are historic Clear Lake hitch habitat, although the project location in Kelsey Creek may be too far upstream to be considered suitable hitch spawning habitat. Impacts would be minimal, and Caltrans does not anticipate “take” at any of the proposed project locations with the avoidance and minimization measures listed in the appropriate section below.

CEQA CONCLUSION

The proposed project would result in a less than significant impact to Clear Lake hitch with the avoidance and minimization measures outlined below. Therefore, this impact would be less than significant

AVOIDANCE AND MINIMIZATION EFFORTS

The following measures would be implemented at all project locations:

- Avoidance and minimization measures listed under sections 4.1.1. (Waters of the US/State) and 4.1.2. (Riparian habitat) would benefit Clear Lake hitch as well.
- A work window from approximately July 1 to October 15 or when the stream is dry, whichever occurs first, may be required by CDFW to avoid hitch during construction. Based on normal historic conditions, it is anticipated Morrison Creek and Robinson Creek would be dry during that time period and hitch would not be present within the creek at the time of construction. Kelsey Creek would likely still have flowing water and would require a water diversion. Caltrans would discuss required work windows with CDFW during permitting for the project and adjust if necessary.
- A contractor supplied biologist would relocate aquatic species during dewatering or water diversions. Note: with July 1 - October 15 work window should avoid take of hitch.

MITIGATION MEASURES

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for Clear Lake hitch for this project.

Western Pond Turtle

No impacts to WPT are anticipated since none were found during any of the multiple biological surveys conducted by Caltrans from May 2017 until March 2020 . The potential to encounter WPT at the Kelsey Creek Bridge location is greater than the other two locations due to the permanent water source. However, no suitable nesting habitat is present at this location.

CEQA CONCLUSION

The proposed project would result in a less than significant impact to WPT with the avoidance and minimization measures outlined below. Therefore, this impact would be less than significant.

AVOIDANCE AND MINIMIZATION EFFORTS

The following measures would be implemented at all project locations:

- If turtles are observed during water diversion installation, they would be relocated by a qualified biologist outside of the construction area to appropriate aquatic habitat.
- If water pumps are used for dewatering, the pump intakes shall be completely screened with wire mesh no larger than 0.2 inch (5mm) to prevent WPT subadults and adults from entering the pump system. Even if no WPT were seen during diversion installation, this measure is to ensure that turtles that were unobserved are not harmed or killed by water pumps.
- If WPT are encountered during project activities the qualified biologist would notify the Resident Engineer and CDFW would be contacted within 24 hours.

MITIGATION MEASURES

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for WPT for this project.

Foothill Yellow-Legged Frog

No impacts to FYLF are anticipated. FYLF or egg masses were not observed during field surveys. Suitable spawning habitat was not observed at any of the project sites locations during field visits. Excessive siltation and absence of water was noted at Morrison Creek for many of the field site visits. Though each project location would require instream work, the locations do not appear to provide suitable spawning,

foraging, or dispersal habitat. In-water work at any location would not begin until June 15 at the earliest; therefore, the likelihood that eggs would be present is low. FYLF adults are active during the day and are expected to move away from construction crews and equipment. Caltrans is not anticipating take of FYLF as a result of this project.

CEQA CONCLUSION

The proposed project would result in a less than significant impact to FYLF with the avoidance and minimization measures outlined below. Therefore, this impact would be less than significant.

AVOIDANCE AND MINIMIZATION EFFORTS

The following measures would be implemented at all project locations:

- A Pre-Construction Survey would be conducted: Within 3-5 days prior to entering or working at the project site, a qualified biologist shall examine the project site to determine the presence/absence of standing or flowing water, and the presence and/or the potential for presence of FYLF adults, juveniles, tadpoles, or egg masses within the project area.
- If water pumps are used for dewatering, the pump intakes would be screened with 0.2-inch mesh to prevent frogs from entering the pump system. Even if no FYLF were seen during diversion installation, this measure is to ensure that frogs that were unobserved are not harmed or killed by water pumps.
- If FYLF are observed during water diversion installation, they would be relocated by a qualified biologist outside of the construction area to appropriate aquatic habitat.

MITIGATION MEASURES

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for FYLF for this project.

Northern Spotted Owl

Though there is tree removal proposed at all three bridge locations, none of the ESL locations contain suitable nesting trees as NSO requires old growth or mixed stands of trees with multistory canopy, broken tops, cavities, woody debris. Noise levels generated from the project locations are also not expected to reach harassment level to any suitable habitat in the general vicinity. The largest harassment buffer of 0.25 mile, provided in USFWS 2016 noise guidance, was used to assess whether the project could affect suitable habitat. Due to lack of suitable habitat within 0.25 mile and the closest documented NSO observations being two miles or greater away, Caltrans has determined that the project would have “no effect” to NSO.

CEQA CONCLUSION

The proposed project would result in no impact to NSO. Therefore, there is no impact.

AVOIDANCE AND MINIMIZATION EFFORTS

No avoidance and minimization measures are proposed. Caltrans has determined that the project would have no impact to NSO and would not result in “take.”

MITIGATION MEASURES

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for NSO for this project.

Tricolored Blackbird

Vegetation removal, including the removal of Himalayan blackberry within the ESL of all three locations, would be a necessary component of the project, though the amount and extent of vegetation to be removed is minimal and directly adjacent to the roadway. Himalayan blackberry could provide suitable nesting and foraging habitat for tricolored blackbirds, though no nesting has been observed in the project limits and the habitat is poor quality due to its proximity to the roadway. Although the proposed project would remove Himalayan blackberry, Caltrans does not anticipate the project activities to result in “take” of the species due to restrictions on vegetation removal and required bird nesting surveys.

CEQA CONCLUSION

The proposed project would result in a less than significant impact to tricolored blackbird with the avoidance and minimization measures outlined below. Therefore, this impact would be less than significant.

AVOIDANCE AND MINIMIZATION EFFORTS

If feasible, trees and other vegetation would be prioritized to be removed would be conducted in the fall and winter (between October 1 and January 31) after fledging and before the initiation of breeding activities at all three bridge locations. If vegetation removal during the non-nesting season is determined unfeasible, then pre-construction bird nest surveys would be performed to determine the location of nest sites within and adjacent to the project limits. If no active bird nests are found during pre-construction surveys, then vegetation would be removed within five (5) days. Pre-construction surveys would be conducted by a Caltrans Biologist or qualified biologist. If active bird nests are found, Caltrans would coordinate with the USFWS regarding appropriate action to comply with the Migratory Bird Treaty Act of 1918, and with the CDFW to comply with provisions of the Fish and Game Code of California. If a lapse in project related work of fifteen (15) days or longer occurs, another survey and, if required, coordination with USFWS and CDFW would occur before work can be reinitiated.

MITIGATION MEASURES

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for tricolored blackbird for this project.

Migratory and Nongame Birds

The proposed project would have temporary and permanent impacts to available bird nesting habitat at all three project locations. Caltrans would install exclusion devices prior to construction on Robinson Creek Bridge and Kelsey Creek Bridge which would result in a temporary loss of nesting habitat on the structures.

CEQA CONCLUSION

The proposed project would result in a less than significant impact to migratory or nongame birds with the avoidance and minimization measures outlined below. Therefore, this impact would be less than significant.

AVOIDANCE AND MINIMIZATION EFFORTS

- Caltrans would install exclusion devices prior to construction on Robinson Creek and Morrison Creek Bridges due to the history of nesting birds on the bridge structures at Robinson Creek Bridge and Kelsey Creek Bridge. Approved exclusion devices would be installed prior to the nesting bird window of February 1 - September 30, and inspected regularly by a qualified contractor supplied biologist.
- Trees and other vegetation would be prioritized to be removed outside of the nesting bird season, February 1 - September 30 at all three bridge locations. If tree and/or vegetation removal cannot be completed outside of the bird nesting season, a biologist must conduct nesting bird surveys within five days prior to scheduled removal.

MITIGATION MEASURES

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for migratory or nongame birds for this project.

Bats

The project would cause temporary loss of night roost habitat on the bridge structures of Robinson Creek and Kelsey Creek, due to the planned construction activities and exclusion measures (see next section for details). There would also be potential temporary and permanent loss of tree roosting habitat at all three bridge locations. Once construction is completed, exclusion material would be removed and the bridge habitat at Robinson Creek and Kelsey Creek would be available again to bats. With the avoidance and minimization measures listed below, Caltrans does not anticipate “take” of any species of bats.

CEQA CONCLUSION

The proposed project would result in a less than significant impact to bats with the avoidance and minimization measures listed below. Therefore, this impact would be less than significant.

AVOIDANCE AND MINIMIZATION EFFORTS

Bridge Exclusion on Robinson Creek and Kelsey Creek and Demolition on Kelsey Creek

- **Work Window:** To avoid impacts on the maternity colonies and hibernating bats, the bridge would be demolished following the maternity season and prior to hibernation, generally between September 15 and October 31, unless exclusionary devices are first installed (as described below). If any bats are roosting on the bridge during the pre-installation surveys (described below), exclusion devices would be installed to preclude these bats. If bats can be successfully excluded between September 15 and October 31, the bridge may be demolished after the devices are installed and as long as exclusion devices are monitored and maintained.
- **Installation of Exclusion Devices:** Installation of exclusion devices would occur after the maternity season and prior to hibernation (between September 15 and October 31), and only when night temps are above 45 degrees F, to preclude bats from occupying a roost site during demolition. When it is not feasible to establish recommended buffer zones, bats should be excluded from work areas between March 1 to April 15 of the construction year. Exclusion should be done selectively, and only to the extent necessary. Exclusionary devices would only be installed by or under the supervision of a bat biologist with experience installing exclusion devices on bridges. The bat biologist would develop a bat exclusion plan consistent with requirements of contract to be approved by the Engineer.
- **Pre-installation Surveys:** If exclusion devices would be installed, a minimum of two daytime surveys and two evening emergence surveys would be conducted prior to installation of exclusion devices to confirm known roosting sites and identify additional roosting sites. These surveys should be no more than one week prior to exclusion installation.
- **Monitoring of Exclusion Devices:** If exclusion devices are installed, they would be checked every two weeks and maintained such that they do not allow bats to re-enter known roosting sites before demolition.
- **Other Deterrence Measures:** Other measures to deter bat roosting, such as using lights or acoustic disturbance, may be used if developed in coordination with and approved by CDFW.

Tree Removal

- Potential Habitat Trees: Potential bat habitat trees, as identified by a qualified bat biologist, shall be removed only between September 1 through about October 15, or prior to evening temperatures dropping below 45°F and onset of rainfall greater than 0.5 inches in 24 hours.

MITIGATION MEASURES

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for bats for this project.

DISCUSSION OF CEQA CHECKLIST QUESTION B

The following CEQA Checklist item was used to evaluate the impacts of the proposed project on natural communities:

- Would the project 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?

Riparian Habitat

Riparian vegetation would be removed surrounding Morrison Creek, Robinson Creek, and Kelsey Creek Bridges. Permanent impacts of approximately 0.63 acres and temporary impacts of approximately 0.21 acres of riparian habitat are anticipated due to the proposed project activities at all three bridge locations (*please see Table 4: Impacts to OWUS and State below*).

Temporary impacts riparian habitats are anticipated at all three project locations during construction; however, the disturbed areas would be restored to original or near original conditions post construction when feasible. Permanent impacts would be less than significant at all three locations with incorporation of the mitigation measures below.

CEQA CONCLUSION

The proposed project would result in less than significant impacts to riparian habitat with the avoidance and minimization and mitigation measures outlined below. Therefore, this impact would be less than significant.

AVOIDANCE AND MINIMIZATION EFFORTS

The following project features would be implemented during construction:

- Removal of riparian vegetation shall not exceed the minimum amount necessary for construction activities. Riparian areas to be avoided will be marked as ESAs with high visibility fencing.

- Upon completion of the project, areas of disturbance on streambanks shall be stabilized with a hydroseed mixture of native species.
- Hay and/or straw used in erosion control application shall be certified weed-free or weed-seed free.
- Revegetation planting would be implemented onsite to the greatest extent feasible to riparian areas under the jurisdiction of natural resource permitting agencies, and all other areas would be addressed through landscape architecture using only native species from regionally appropriate seed sources.

MITIGATION MEASURES

Mitigation would be proposed and permanent impacts to jurisdictional areas that would not be able to be addressed onsite would need to be addressed through purchasing agency-approved mitigation bank credits or mitigating off-site at an agency approved location.

Clear Lake Residential Trout Stream Habitat

Potential Clear Lake Residential Trout Stream habitat would be removed surrounding Kelsey Creek Bridge. The same impacts listed under impacts to Waters of the U.S./State at the Kelsey Creek Bridge location apply to this resource designation as well. Caltrans anticipates 0.13 acres of temporary impacts and 0.24 acres of permanent impacts to these streams and associated riparian habitat (*please see Table 4: Impacts to OWUS and State below*).

Temporary impacts are anticipated at Kelsey Creek Bridge during construction; however, the disturbed areas would be restored to original or near original conditions post construction when feasible. Permanent impacts would be less than significant with incorporation of the mitigation measures below.

CEQA CONCLUSION

The proposed project would result in less than significant impacts to Clear Lake Residential Trout Stream habitat with the avoidance and minimization and mitigation measures outlined below. Therefore, this impact would be less than significant.

AVOIDANCE AND MINIMIZATION EFFORTS

The following project features would be implemented during construction:

- Removal of riparian vegetation shall not exceed the minimum amount necessary for construction activities. Riparian areas to be avoided will be marked as ESAs with high visibility fencing.
- Upon completion of the project, areas of disturbance on streambanks shall be stabilized with a hydroseed mixture of native species.

- Hay and/or straw used in erosion control application shall be certified weed-free or weed-seed free.
- Revegetation planting would be implemented onsite to the greatest extent feasible to riparian areas under the jurisdiction of natural resource permitting agencies, and all other areas would be addressed through landscape architecture using only native species from regionally appropriate seed sources.

MITIGATION MEASURES

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for Clear Lake Residential Trout Stream habitat for this project.

Oak Woodland Habitat

Approximately 0.093 acres of oak woodland would be impacted surrounding Robinson Creek for access roads.

CEQA CONCLUSION

The proposed project would result in less than significant impacts to oak woodland habitat with the avoidance and minimization measures outlined below. Therefore, this impact would be less than significant

AVOIDANCE AND MINIMIZATION EFFORTS

The following project features would be implemented during construction:

- If feasible, oaks and other trees or areas would be avoided by delineating those areas as ESAs with high visibility fencing.
- Upon completion of the project, areas of disturbance on streambanks shall be stabilized with a hydroseed mixture of native species.
- Hay and/or straw used in erosion control application shall be certified weed-free or weed-seed free.
- Revegetation planting would be implemented onsite to the greatest extent feasible to riparian areas under the jurisdiction of natural resource permitting agencies, and all other areas would be addressed through landscape architecture.

MITIGATION MEASURES

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for Oakwoodland habitat for this project.

DISCUSSION OF CEQA CHECKLIST QUESTION C

The following CEQA Checklist item was used to evaluate the impacts of the proposed project on wetlands and waters:

- Would the project 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?

Wetlands and Other Waters

This proposed project would have no impact on federally protected wetlands as no wetlands were identified within the ESL at the Morrison Creek, Robinson Creek, or Kelsey Creek Bridge locations during biological surveys. Therefore, there would be no impact.

Other waters of the U.S. (OWUS) include ephemeral, intermittent, and perennial drainages that have an “ordinary high-water mark” (OHWM) but do not meet the criteria to be a wetland. The drainages are directly or indirectly connected to traditional navigable water. Morrison Creek and Robinson Creek are ephemeral creeks that exhibit OHWMs with bed, bank, and channels. Kelsey Creek is a perennial creek that exhibits an OHWM with a bed, bank, and channel. Both Robinson and Kelsey Creek have an unnamed drainage and/or tributary entering into their channels. Therefore, potentially jurisdictional other waters of the U.S. and State are present all three locations.

Table 4 details the impacts to OWUS and waters of the State at the three bridge locations. Temporary impacts are anticipated at all three project locations during construction; however, the disturbed areas would be restored to original or near original conditions post construction when feasible. Permanent impacts would be less than significant at all three locations with incorporation of the mitigation measures above.

CEQA CONCLUSION

The proposed project would result in less than significant impacts to OWUS with the avoidance and minimization measures listed below. Therefore, this impact would be less than significant.

Table 4: Impacts to OWUS and State.**Morrison Creek Bridge Impacts to OWUS and water of the State**

Project Feature	Impact Type	Temporary Impacts (acres)	Permanent Impacts (acres)	Total Temporary and Permanent Impacts (acres)
Regrading and vegetation removal (upstream)	U.S./State	0	0.06	
Regrading and vegetation removal (downstream)	U.S./State	0	0.05	
Regrading and vegetation removal (under bridge)	U.S./State	0	0.09	
Widening of bridge piers	U.S./State	0	0.0007	
Total		0	0.2007	0.2007
Project Feature	Impact Type	Temporary Impacts (acres)	Permanent Impacts (acres)	Total Temporary and Permanent Impacts (acres)
Access road	U.S./State	0.03	0	
Temporary access under bridge (assumes impact to stream channel below bridge)	U.S./State	0.05	0	

New piers (assumes 24” piles all below OHWM)	U.S./State	0	0.04	
RSP in channel (approximation)	U.S./State	0	0.10	
Bridge widening (could be considered a benefit from increased shading)	U.S./State	0	0.011	
Total		0.08	0.151	0.231

Project Feature	Impact Type	Temporary Impacts (acres)	Permanent Impacts (acres)	Total Temporary and Permanent Impacts (acres)
Access Road (area previously disturbed by Caltrans project 01-0A470 in 2017.	U.S./State	0.01	0	
Temporary work area in Kelsey Creek	U.S./State	0.12	0	
Retaining wall and realignment of Houghton Creek	U.S./State	0	0.22	

Bridge widening (Assumes bridge width of 55' and widening of eastbound land by 10' and westbound lane by 3')	U.S./State	0	0.02	
Total		0.13	0.24	0.37

AVOIDANCE AND MINIMIZATION EFFORTS

The following project features would be implemented during construction:

- Work in the channel would likely be limited to the driest/low flow season, approximate dates of June 15 - October 15, by environmental permits (1602, 404, 401), or likely from July 1 - October 15 in streams with occurrence of Clear Lake hitch.
- Caltrans Standard BMPs would be implemented, including but not limited to:
 - The Contractor shall implement measures to contain construction related material, in manageable locations, and prevent debris from entering surface waters during in-water work and for construction operations outside of receiving waters.
 - BMPs utilized for erosion control would be implemented and in place prior to, during, and after construction to ensure that no silt or sediment enters receiving waters.
 - BMPs for spill containment measures (plastic sheeting, absorbent pads and/or other containment devices) would be utilized during all over water construction activities. BMPs would be deployed around and beneath all over-water construction equipment. Supplemental equipment would be on-site to collect and remove any spills
- Riparian areas to be avoided would be marked as environmentally sensitive areas (ESAs) with high visibility fencing.
- Revegetation planting would be implemented onsite to the greatest extent feasible to riparian areas under the jurisdiction of natural resource permitting agencies, and all other areas would be addressed through landscape architecture using only native species from regionally appropriate seed sources.

- Upon completion of project, areas of disturbance on streambanks shall be stabilized with a hydroseed mixture of native species.
- Hay and/or straw used in erosion control application shall be certified weed-free or weed-seed free.
- A contractor supplied biologist would relocate aquatic species if necessary, during dewatering or water diversions.
- **Permits:** Caltrans would include a copy of all relevant permits within the construction bid package of the proposed Project. The Resident Engineer or their designee would be responsible for implementing the Terms and Conditions of all other permits.
- **Storm water pollution prevention plan (SWPPP):** The SWPPP is a document that addresses water pollution control for a construction project. The contractor would be required to prepare and implement a SWPPP that includes erosion control BMPs and construction waste containment measures to ensure that waters of the U.S. and state are protected during and after project construction. The SWPPP would include sedimentation, siltation, turbidity, and non-visual pollutant monitoring, and outline a sampling and analysis strategy, monitoring and reporting schedule, and inspection schedule (Caltrans 2016).
- **Spill prevention control and countermeasure plan (SPCCP):** To minimize the potential for accidental spills of materials hazardous to the aquatic environment, a SPCCP would be prepared.
- **Water diversion structures:** If water diversion structures are necessary, the contractor would submit a water diversion plan to Caltrans to send to appropriate regulatory agencies prior to construction.

MITIGATION MEASURES

Mitigation for OWUS would be proposed and permanent impacts to jurisdictional areas that would not be able to be addressed onsite would need to be addressed through purchasing agency-approved mitigation bank credits or mitigating off-site at an agency approved location.

DISCUSSION OF CEQA CHECKLIST QUESTION D

The following CEQA Checklist item was used to evaluate the impacts of the proposed project on any plant and animal species:

- Would the project 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?

Northern California Black Walnut

Please reference Section 2.6 “Discussion of Environmental Evaluation Questions 2.6 – Biological Resources – Question A.” Based on the discussion of Northern California black walnut in Question A, a determination was made that the project would have a “Less Than Significant Impact” on Northern California black walnut.

Clear Lake Hitch

Please reference Section 2.6 “Discussion of Environmental Evaluation Questions 2.6 – Biological Resources – Question A.” Based on the discussion of Clear Lake hitch in Question A, a determination was made that the project would have a “Less Than Significant Impact” on Clear Lake hitch.

Western Pond Turtle

Please reference Section 2.6 “Discussion of Environmental Evaluation Questions 2.6 – Biological Resources – Question A.” Based on the discussion of WPT in Question A, a determination was made that the project would have a “Less Than Significant Impact” on WPT.

Foothill Yellow-Legged Frog

Please reference Section 2.6 “Discussion of Environmental Evaluation Questions 2.6 – Biological Resources – Question A.” Based on the discussion of FYLF in Question A, a determination was made that the project would have a “Less Than Significant Impact” impact on FYLF.

Northern Spotted Owl

Please reference Section 2.6 “Discussion of Environmental Evaluation Questions 2.6 – Biological Resources – Question A.” Based on the discussion of NSO in Question A, a determination was made that the project would have “No Impact” on NSO.

Tricolored Blackbird

Please reference Section 2.6 “Discussion of Environmental Evaluation Questions 2.6 – Biological Resources – Question A.” Based on the discussion of tricolored blackbird in Question A, a determination was made that the project would have a “Less Than Significant Impact” on tricolored blackbird.

Migratory and Nongame Birds

Please reference Section 2.6 “Discussion of Environmental Evaluation Questions 2.6 – Biological Resources – Question A.” Based on the discussion of bats in Question A, a determination was made that the project would have a “Less Than Significant Impact” on bats.

Bats

Please reference Section 2.6 “Discussion of Environmental Evaluation Questions 2.6 – Biological Resources – Question A.” Based on the discussion of bats in Question A, a determination was made that the project would have a “Less Than Significant Impact” on bats.

DISCUSSION OF CEQA CHECKLIST QUESTION E

The following CEQA Checklist item was used to evaluate conflicts with any local policies or ordinances:

- Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

A “No Impact” determination in this section is based on the location and description of the proposed project. Therefore, there is no impact.

CEQA CONCLUSION

The proposed project does not conflict with any local policies or ordinances protecting biological resources. Therefore, there is no impact.

DISCUSSION OF CEQA CHECKLIST QUESTION F

The following CEQA Checklist item was used to evaluate conflicts with the provisions of an adopted Conservation Plan:

- Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

A “No Impact” determination in this section is based on the location of the proposed project.

CEQA CONCLUSION

The proposed project is not located within any habitat or community conservation locations; therefore, it would not conflict with provisions of any Habitat or Natural Community Conservation Plans. Therefore, there is no impact.

List of Proposed Biological Mitigation Measures

Northern California Black Walnut

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for the project.

Clear Lake Hitch

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for the project.

Western Pond Turtle

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for the project.

Foothill Yellow-Legged Frog

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for the project.

Northern Spotted Owl

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for the project.

Tricolored Blackbird

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for the project.

Migratory and Nongame Birds

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for the project.

Bats

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for the project.

Riparian Habitat

Mitigation would be proposed and permanent impacts to jurisdictional areas that would not be able to be addressed onsite would need to be addressed through purchasing agency-approved mitigation bank credits or mitigating off-site at an agency approved location.

Wetlands

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for the project.

Other Waters

Mitigation would be proposed and permanent impacts to jurisdictional areas that would not be able to be addressed onsite would need to be addressed through purchasing agency-approved mitigation bank credits or mitigating off-site at an agency approved location.

NO BUILD ALTERNATIVE

The existing condition would remain; therefore, per CEQA, “No Impact” would occur.

2.7 Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	No	No	Yes	No
Would the project: b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	No	No	Yes	No
Would the project: c) Disturb any human remains, including those interred outside of dedicated cemeteries?	No	No	No	Yes

“No Impact” and “Less Than Significant” determinations in this section are based on the scope, description, and location of the proposed project, as well as the results presented in the Historic Property Survey Report

REGULATORY SETTING

The term “cultural resources,” as used in this document, refers to the “built environment” (e.g., structures, bridges, railroads, water conveyance systems, etc.), places of traditional or cultural importance, and archaeological sites (both prehistoric and historic), regardless of significance. Under federal and state laws, cultural resources that meet certain criteria of significance are referred to by various terms including “historic properties,” “historic sites,” “historical resources,” and “tribal cultural resources.” Laws and regulations dealing with cultural resources include:

The National Historic Preservation Act (NHPA) of 1966, as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the National Register of Historic Places (NRHP). Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation (ACHP) the opportunity to comment on those undertakings, following regulations issued by the ACHP (36 Code of Federal Regulations [CFR] 800). On January 1, 2014, the First Amended Section 106 Programmatic Agreement (PA) among the Federal Highway Administration (FHWA), the ACHP, the California State Historic Preservation Officer (SHPO), and the Department went into effect for Department projects, both state and local, with FHWA involvement. The PA implements the ACHP’s regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to the Department. The FHWA’s

responsibilities under the PA have been assigned to the Department as part of the Surface Transportation Project Delivery Program (23 United States Code [USC] 327).

The California Environmental Quality Act (CEQA) requires the consideration of cultural resources that are historical resources and tribal cultural resources, as well as “unique” archaeological resources. California Public Resources Code (PRC) Section 5024.1 established the California Register of Historical Resources (CRHR) and outlined the necessary criteria for a cultural resource to be considered eligible for listing in the CRHR and, therefore, a historical resource. Historical resources are defined in PRC Section 5020.1(j). In 2014, Assembly Bill 52 (AB 52) added the term “tribal cultural resources” to CEQA, and AB 52 is commonly referenced instead of CEQA when discussing the process to identify tribal cultural resources (as well as identifying measures to avoid, preserve, or mitigate effects to them). Defined in PRC Section 21074(a), a tribal cultural resource is a CRHR 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 PRC Section 21083.2.

PRC Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the NRHP listing criteria. It further requires the Department to inventory state-owned structures in its rights-of-way. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer (SHPO) before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the NRHP or are registered or eligible for registration as California Historical Landmarks. Procedures for compliance with PRC Section 5024 are outlined in a Memorandum of Understanding (MOU)¹ between the Department and SHPO, effective January 1, 2015. For most Federal-aid projects on the State Highway System, compliance with the Section 106 PA will satisfy the requirements of PRC Section 5024.

ENVIRONMENTAL SETTING

Record searches, literature reviews, consultation, and survey identified two cultural resources within the proposed project’s study limits were identified as prehistoric resources. The sites were not formally evaluated due to restricted access and large property size and were assumed eligible for the NRHP as they could potentially yield important information about prehistory. The assumptions were made for the purposes of only this project in accordance with the January 2014 First Revised Programmatic Agreement between Caltrans, the Federal Highway Administration, the State Historic Preservation Officer, and the Advisory Council on Historic Preservation.

¹ The MOU is located on the SER at http://www.dot.ca.gov/ser/vol2/5024mou_15.pdf

DISCUSSION OF ENVIRONMENTAL EVALUATION QUESTION 2.7—CULTURAL RESOURCES

a - b) Studies identified two cultural resources within the proposed project's study limits as prehistoric resources. The sites were not formally evaluated due to restricted access and large property size, but were assumed eligible for the NRHP as they could potentially yield important information about prehistory. The assumptions were made for the purposes of only this project in accordance with the January 2014 First Revised Programmatic Agreement between Caltrans, the Federal Highway Administration, the State Historic Preservation Officer, and the Advisory Council on Historic Preservation.

Extended Phase I testing and a Phase II evaluation of the portions of the sites within the Area of Direct Impact at each work location were conducted to identify the boundaries of the sites and determine whether respective deposits contained significant data and retained integrity necessary for inclusion on the NRHP. It was determined that neither site demonstrated the ability to answer important research questions as both lacked significant data and their integrity had been lost. Therefore, the site would not undergo a substantial adverse change because of the project impacts. An archaeological and a tribal monitor would be present for ground-disturbing activities that occur within the proposed work areas. The rest of this resource would be avoided by establishing it as an ESA during construction. This avoidance measure would prevent adverse effects to this site. The SHPO is currently reviewing this finding. Therefore, this impact would be less than significant.

c) No indicators of human remains were observed within the project limits. If human remains are identified during the construction activity, they would be treated in accordance with the requirements of California Health and Safety Code section 7050.5 and Public Resources Code section 5097.98. If, pursuant to §7050.5(c) of the California Health and Safety Code, the county coroner/medical examiner determines that the human remains are or may be of Native American origin, then the discovery shall be treated in accordance with the provisions of §5097.98 (a)-(d) of the California Public Resources Code.

AVOIDANCE AND MINIMIZATION EFFORTS

An archaeological and a tribal monitor would be present for ground-disturbing activities that occur within the proposed work areas.

MITIGATION MEASURES

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for the project.

NO BUILD ALTERNATIVE

The existing condition would remain; therefore, per CEQA, "No Impact" would occur.

2.8 Energy

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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	No	No	Yes
Would the project: b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	No	No	No	Yes

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the Noise, Air Quality, Greenhouse Gas, and Energy Analysis dated July 23, 2019. Potential impacts to energy are not anticipated due to the following:

- a - b) The proposed project would not increase capacity or provide congestion relief when compared to the no-build alternative. It may contribute to roadway improvement that would improve vehicles’ fuel economies and thus affecting project energy consumption.

The basic procedure for analyzing direct energy consumption from construction activities is to obtain fuel consumption projections in gallons from the CAL-CET2018, version 1.2. CAL-CET outputs fuel consumption based on project-specific construction information.

The proposed project does not include maintenance activities which would result in long-term indirect energy consumption by equipment required to operate and maintain in the roadway. Thus, it is unlikely to increase indirect energy consumption though increased fuel usage.

The proposed project construction would primarily consume diesel and gasoline through operation of heavy-duty construction equipment, material deliveries, and debris hauling. As indicated above, energy use associated with project construction is estimated to result in the total short-term consumption of 8,540 gallons from diesel-powered equipment and 6,674 gallons from gasoline-powered equipment. This demand would cease once construction is complete.

Moreover, construction-related energy consumption would be temporary and not a permanent new source of energy demand, and demand for fuel would have no noticeable effect on peak or baseline demands for energy. Therefore, the project would not result in an inefficient, wasteful, and unnecessary consumption of energy. Therefore, there is no impact.

NO BUILD ALTERNATIVE

The existing condition would remain; therefore, per CEQA, “No Impact” would occur.

2.9 Geology and Soils

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p>Would the project:</p> <p>a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:</p> <p style="padding-left: 40px;">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.</p>	No	No	No	Yes
<p>Would the project:</p> <p>a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:</p> <p style="padding-left: 40px;">ii) Strong seismic ground shaking?</p>	No	No	Yes	No
<p>Would the project:</p> <p>a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:</p> <p style="padding-left: 40px;">iii) Seismic-related ground failure, including liquefaction?</p>	No	No	Yes	No
<p>Would the project:</p> <p>a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:</p> <p style="padding-left: 40px;">iv) Landslides?</p>	No	No	Yes	No
<p>Would the project:</p> <p>b) Result in substantial soil erosion or the loss of topsoil?</p>	No	No	Yes	No
<p>Would the project:</p> <p>c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?</p>	No	No	Yes	No

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	No	No	Yes	No
Would the project: 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	No	No	Yes
Would the project: f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	No	No	No	Yes

“No Impact” and “Less Than Significant” determinations in this section are based on the scope, description, and location of the proposed project, as well as the California Geological Survey Regulatory Maps, the United States Department of Agriculture (USDA) Soil Conservation Service Soil Survey of Lake County, the Probabilistic Seismic Hazard Map for the North Coast from the California Seismic Safety Commission, and USDA Natural Resources Conservation Service Web Soil Survey.

REGULATORY SETTING—GEOLOGY AND SOILS

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

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. Caltrans’ Office of Earthquake Engineering is responsible for assessing the seismic hazard for Caltrans projects. Structures are designed using Caltrans’ Seismic Design Criteria (SDC). The SDC provides the minimum seismic requirements for highway bridges designed in California. A bridge’s category and classification will determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities. For more information, please see Caltrans’ Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria.

ENVIRONMENTAL SETTING—GEOLOGY AND SOILS

The proposed project areas of Morrison Creek and Robinson Creek Bridges are within the Clover Valley Fault Zone and Kelsey Creek Bridge is within the Collayomi and Childers Peak Fault. The project areas have not been identified for liquefiable soils however, the areas are shown to consist of unconsolidated alluvium deposits which could hold potential for liquefaction. No active faults cross the project site and the project is not located in an area at high risk of landslides.

DISCUSSION OF ENVIRONMENTAL EVALUATION QUESTIONS 2.9A-E— GEOLOGY AND SOILS

a) i: Though the project location areas of Morrison Creek and Robinson Creek Bridges are within the Clover Valley Fault Zone and Kelsey Creek Bridge appears to be along the Collayomi Fault, both faults have not been active since the Quaternary period. Therefore, no active faults cross the project site and none of the three project locations fall within an earthquake zone of required investigation. Therefore, the project would not rupture a known earthquake fault, and there would be no impact.

ii-iii: The Clover Valley Fault Zone and the Collayomi Fault have not historically produced earthquakes in the project area, so there would be no impact. This area has not been evaluated for liquefaction hazards, however the general composition of some of the soils within or adjacent to the project areas consist of unconsolidated and semi-consolidated alluvium deposits which could hold potential for liquefaction at Kelsey Creek Bridge. A final foundation report would outline the required design measures to reduce the risks from liquefaction, settlement, and lateral spreading, thus minimizing impacts to be less than significant. Therefore, this impact would be less than significant.

iv: According to the California Geologic Survey's Landslide Inventory, there is no data on landslides in the project areas. However, the proposed project is not located in an area that is at a high risk of landslides. Therefore, this impact would be less than significant.

b) Considerable earth-moving activities would be necessary to construct the project. Construction would include the construction of access roads and staging areas, placing of fill prisms, excavation of cut material, excavation of existing pavement, and excavation for drainage work. Earth-moving activities have the potential to cause soil erosion and loss of topsoil. Temporary construction site BMPs would be implemented as necessary to reduce the amount of erosion and topsoil loss. In addition to temporary BMPs, permanent BMPs would be implemented after construction. The project would have a less than significant impact from soil erosion and the loss of topsoil. Therefore, this impact would be less than significant.

c - d) Based on preliminary review of existing published geologic maps of the area, the project area consists of Cretaceous and Jurassic sandstone with smaller

amounts of shale, chert, limestone, and conglomerate which is categorized as gravelly loamy (sand, silt, and clay) mixed soil at Morrison Creek and Kelsey Creek Bridges. Morrison Creek contains Still gravelly loam, while Kelsey Creek Bridge contains Collayomi-Aiken-Whispering complex soils. The project area at Robinson Creek Bridge contains Pleistocene-Holocene alluvium, lake, playa, and terrace deposits, and some unconsolidated and semi-consolidated which is categorized as gravelly sandy clay loam (mixture of sand, silt, and clay) mixed soils. Manzanita Gravelly Loam, Still Loam, and Tulelake silty clay loam soils specifically are found at the bridge location. These soils may be susceptible to liquefaction and expansion under certain conditions. The primary scope of work would occur on engineered soils consisting of silty sand and gravel material used for pavement subgrade and existing culvert trench backfill. If future geotechnical investigations determine susceptible soils to be present, it would be addressed appropriately through design features. The project would be constructed to meet Caltrans safety and seismic standards, which would reduce the risk from unstable soils to people and structures, minimizing impacts to less than significant. Therefore, this impact would be less than significant.

- e) The proposed project does not include the use of septic tanks or alternative waste water disposal systems. Therefore, there would be no impact.

AVOIDANCE AND MINIMIZATION EFFORTS—GEOLOGY AND SOILS

Based on the determinations made in the CEQA Checklist, avoidance and minimization measures have not been proposed for the project.

MITIGATION MEASURES—GEOLOGY AND SOILS

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for the project.

NO BUILD ALTERNATIVE—GEOLOGY AND SOILS

The existing condition would remain; therefore, per CEQA, “No Impact” would occur.

REGULATORY SETTING—PALEONTOLOGICAL RESOURCES

Several sections of the California Public Resources Code protect paleontological resources. Section 5097.5 prohibits “knowing and willful” excavation, removal, destruction, injury, and defacement of any paleontological feature on public lands (lands under state, county, city, district, or public authority jurisdiction, or the jurisdiction of a public corporation), except where the agency with jurisdiction has granted express permission. Section 30244 requires reasonable mitigation for impacts on paleontological resources that occur as a result of development on public lands.

ENVIRONMENTAL SETTING—PALEONTOLOGICAL RESOURCES

The proposed project location at Robinson Creek Bridge contains Quaternary alluvium associated with the Pleistocene-Holocene epoch and is not located in an area that would contain unique geologic features. The proposed project locations at Morrison Creek and Kelsey Creek Bridges project area consist of Mesozoic sandstone, is thus associated with the Cretaceous and Jurassic geological periods. Geology in the Kelsey Creek project area consists of and is thus associated with the Pleistocene geologic epoch, while geology in the Morrison and Kelsey Creek project area consists of Mesozoic and is thus associated with the Cretaceous and Jurassic period.

All three locations are situated around Clear Lake. The southern portion of the lake resides in the Clear Lake Volcanic field. Therefore, the project locations are in an area that may potentially contain unique geologic features.

DISCUSSION OF ENVIRONMENTAL EVALUATION QUESTION 2.9F— PALEONTOLOGICAL RESOURCES

f) The project is potentially located in an area that may contain unique geologic features. Geology in the Morrison and Kelsey Creek project area consists of Mesozoic sandstone and is thus associated with the Cretaceous and Jurassic geological periods, while Geology in the Kelsey Creek project area consists of Quaternary alluvium and is thus associated with the Pleistocene-Holocene geologic epoch. Geology from these eras could contain paleontological resources. All three locations are situated around Clear Lake, the southern portion of which resides in the Clear Lake Volcanic field. Therefore, the project locations are in an area that may contain unique geologic features. However, there are no construction activities that would disturb any paleontological resources or unique geological features. Although improbable, any unanticipated find of a paleontological resource would follow Caltrans standard specifications for paleontological resources. No impact is anticipated to paleontological resources or unique geological features due to project activities. Therefore, there would be no impact.

AVOIDANCE AND MINIMIZATION EFFORTS—PALEONTOLOGICAL RESOURCES

Based on the determinations made in the CEQA Checklist, avoidance and minimization measures have not been proposed for the project.

MITIGATION MEASURES—PALEONTOLOGICAL RESOURCES

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for the project.

NO BUILD ALTERNATIVE—PALEONTOLOGICAL RESOURCES

The existing condition would remain; therefore, per CEQA, “No Impact” would occur.

2.10 Greenhouse Gas Emissions

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p>Would the project:</p> <p>a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?</p>	No	No	Yes	No
<p>Would the project:</p> <p>b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?</p>	No	No	No	Yes

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 (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 GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF₆), and various hydrofluorocarbons (HFCs). CO₂ is the most abundant GHG; while it is a naturally occurring component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO₂.

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 GHG 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 GHG emissions from transportation sources

Federal

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

The National Environmental Policy Act (NEPA) (42 United States Code [USC] 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 (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. FHWA 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 (FHWA 2019). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values— “the triple bottom line of sustainability” (FHWA n.d.). 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 promulgated 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 USC 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 CAFE program based on 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. EPA in conjunction with the National Highway Traffic Safety Administration (NHTSA) is responsible for setting GHG 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. Fuel efficiency standards directly influence GHG emissions.

State

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

EO S-3-05 (June 1, 2005): The goal of this EO is to reduce California's GHG 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.

Assembly Bill (AB) 32, Chapter 488, 2006, Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 codified the 2020 GHG emissions reduction goals outlined in EO 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 GHG emissions limit continue in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020 (Health and Safety Code [H&SC] Section 38551(b)). The law requires ARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

EO S-01-07 (January 18, 2007): This order sets forth the low carbon fuel standard (LCFS) for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by the year 2020. ARB re-adopted the LCFS 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 GHG reduction goals.

Senate Bill (SB) 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires ARB 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.

EO B-16-12 (March 2012) orders State entities under the direction of the Governor, including ARB, 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.

EO B-30-15 (April 2015) establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It further orders all

state agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. It also directs ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO₂e).² Finally, it requires the Natural Resources Agency to update the state's climate adaptation strategy, *Safeguarding California*, every 3 years, and to ensure that its provisions are fully implemented.

SB 32, Chapter 249, 2016, codifies the GHG reduction targets established in EO 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.

SB 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 travelled, 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.

SB 150, Chapter 150, 2017, Regional Transportation Plans: This bill requires ARB to prepare a report that assesses progress made by each metropolitan planning organization in meeting their established regional greenhouse gas emission reduction targets.

EO 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 GHG emissions.

EO N-19-19 (September 2019) advances California's climate goals in part by directing the California State Transportation Agency to leverage annual transportation spending to reverse the trend of increased fuel consumption and reduce GHG emissions from the

² GHGs differ in how much heat each trap in the atmosphere (global warming potential, or GWP). CO₂ is the most important GHG, so amounts of other gases are expressed relative to CO₂, using a metric called "carbon dioxide equivalent" (CO₂e). The global warming potential of CO₂ is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO₂.

transportation sector. It orders a focus on transportation investments near housing, managing congestion, and encouraging alternatives to driving. This EO also directs ARB to encourage automakers to produce more clean vehicles, formulate ways to help Californians purchase them, and propose strategies to increase demand for zero-emission vehicles.

ENVIRONMENTAL SETTING

The proposed project has three locations: the town of Lucerne (Morrison Creek Bridge at LAK-20-PM 16.81), unincorporated town of Upper Lake (Robinson Creek Bridge at LAK-29-PM 50.82), and the town of Cobb (Kelsey Creek Bridge at LAK-175-PM 19.48). Land use near the proposed project locations is designated in the *Lake County General Plan* as agriculture, rural lands, and resource conservation.

Lucerne is designated as an urban area of Lake County that serves the community with a well-developed road and street network. The location area is mainly residential, with some light industrial and commercial buildings. Traffic congestion during peak hours is not uncommon in the project vicinity. The *2017 Lake County Regional Transportation Plan* prepared for the Lake Area Planning Council guides transportation and the *Lake County General Plan* guides housing development, in the project area. The *Lake County General Plan* does not address GHGs in the project area.

Upper Lake and Cobb are designated as rural areas, with a primarily natural-resources based agricultural and tourism economy. SR 29 and 175 are main transportation routes to and through the area for both passenger and commercial vehicles. Traffic counts are low, and SR 29 and SR 175 are rarely congested. The *2017 Lake County Regional Transportation Plan* guides transportation development and the *Lake County General Plan* guides housing development, in the project area. The *Lake County General Plan* does not address GHGs in the project area.

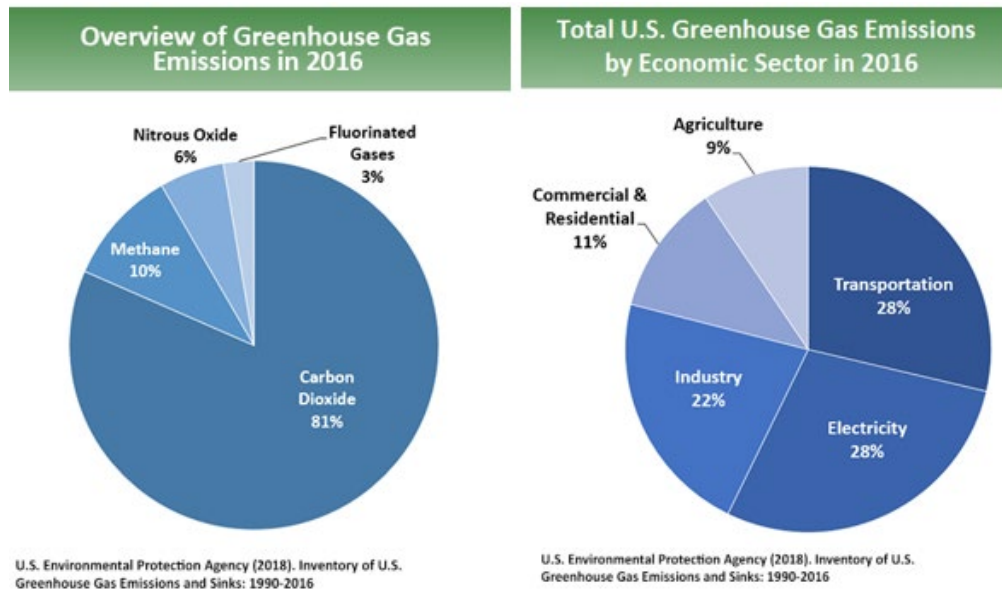
A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time, such as a calendar year. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. U.S. EPA is responsible for documenting GHG emissions nationwide, and the ARB does so for the state, as required by Health and Safety Code Section 39607.4.

National GHG Inventory

The U.S. EPA prepares a national GHG 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 GHGs in the United States, reporting emissions of CO₂, CH₄, N₂O, HFCs, perfluorocarbons, SF₆, and nitrogen trifluoride. It also accounts for emissions of CO₂ that are removed from the atmosphere by “sinks” such as forests, vegetation, and soils that uptake and store CO₂ (carbon sequestration). The 1990–2016 inventory found that of 6,511 MMTCO₂e GHG emissions in 2016, 81% consist of CO₂, 10% are CH₄, and 6%

are N₂O; the balance consists of fluorinated gases (EPA 2018a). In 2016, GHG emissions from the transportation sector accounted for nearly 28.5% of U.S. GHG emissions.

Figure 3. U.S. 2016 Greenhouse Gas Emissions



State GHG Inventory

ARB collects GHG 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 GHG reduction goals. The 2019 edition of the GHG emissions inventory found total California emissions of 424.1 MMTCO_{2e} for 2017, with the transportation sector responsible for 41% of total GHGs. It also found that overall statewide GHG emissions declined from 2000 to 2017 despite growth in population and state economic output (ARB 2019a).

Figure 4: California 2017 Greenhouse Gas Emissions

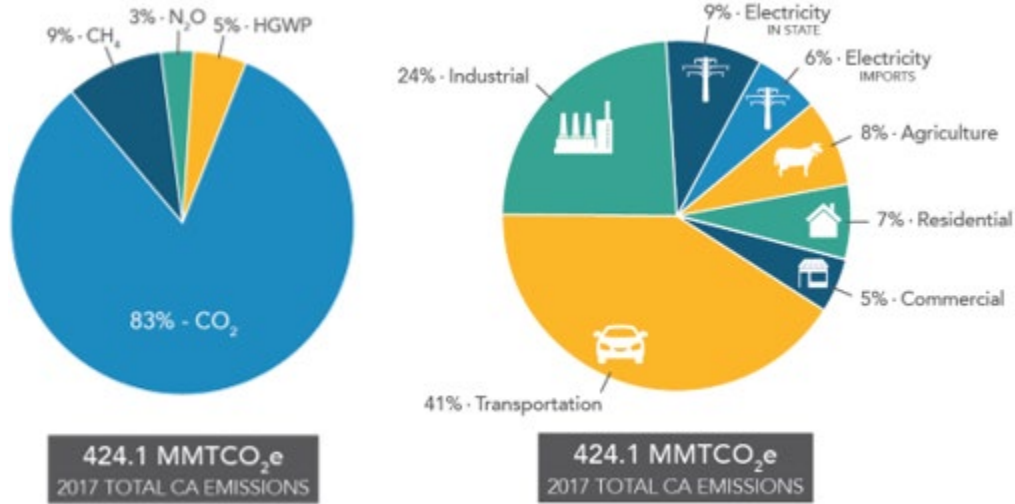
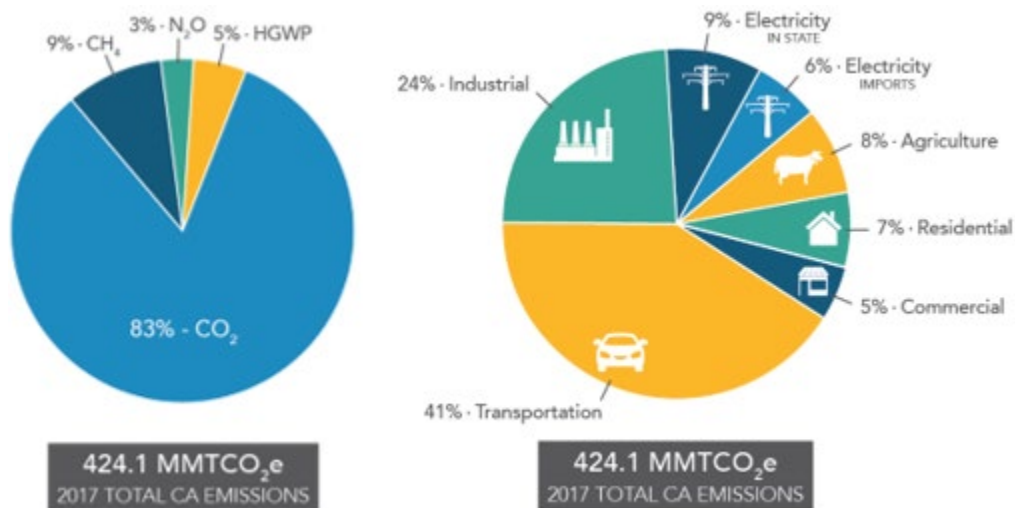


Figure 5: Change In California GDP, Population and GHG Emissions Since 2000



AB 32 required ARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. ARB 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 EO B-30-15 and SB 32. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions.

Regional Plans

The proposed project is within the jurisdiction of the Lake County Regional Transportation Planning Agency (RTPA). The *2017 Lake County Regional Transportation Plan* identifies policies on GHG emissions and accompanying reduction targets. ARB does not set GHG reduction targets for Lake County because the Lake County RTPA is not a metropolitan planning organization and is not required to produce a sustainable community strategy. However, because the transportation sector accounts for nearly 50 percent of GHG emissions in California, long-range transportation planning plays an important role at all levels in helping the State to reach its overall reduction goals. Reducing the number of vehicle trips and vehicle miles traveled is key to reducing GHG emissions, whether it is from a regional perspective or a global perspective. Ongoing efforts within the Lake County region to provide a variety of transportation choices will continue to assist larger societal goals in this area. The RTP includes policies and goals to reduce greenhouse gases and encourage active transportation, increase the number of local and regional trips accomplished by bicycling and walking, and increase safety and mobility for non-motorized modes of travel. The proposed project is listed as a Metal Beam Guardrail, widening, and rumble strip safety project in the State Highway Project List-Financially Constrained in the RTP.

DISCUSSION OF ENVIRONMENTAL EVALUATION QUESTION 2.10— GREENHOUSE GAS EMISSIONS

GHG emissions from transportation projects can be divided into those produced during operation of the SHS and those produced during construction. The primary GHGs produced by the transportation sector are CO₂, CH₄, N₂O, and HFCs. CO₂ emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of CH₄ and N₂O are emitted during fuel combustion. In addition, a small amount of HFC emissions are included in the transportation sector.

The CEQA Guidelines generally address GHG 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 GHGs 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 bridge rails on three bridges to current safety standards. The bridges would be widened or replaced as needed to accommodate new railings and widened shoulders. The new bridge would not add travel lanes or increase capacity and would not change travel demands or traffic patterns when compared to existing conditions and the no-build alternative. Therefore, an increase in operational GHG emissions is not anticipated.

Construction Emissions

Construction GHG emissions would result from material processing, on-site construction equipment, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

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

The Caltrans Construction Emission Tool (CAL-CET2018 version 1.2) was used to estimate average carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and hydrofluorocarbons (HFCs) emissions from construction activities. Table 1 summarizes estimates of GHG emissions during the proposed construction periods for the project. The carbon dioxide equivalent (CO_{2e}^{*}) produced during construction is estimated to be 169 metric tons.

Table 5: GHG Emissions from Construction of the Three Lake Bridges-Replace Bridge and Upgrade Rail Project

Construction Year	CO₂	CH₄	N₂O	HFCs	CO_{2e}
2021	71	0.002	0.004	0.003	117
2022	39	0.001	0.003	0.002	70
Total	110	0.003	0.007	0.005	186

* A quantity of GHG is expressed as carbon dioxide equivalent (CO_{2e}) that can be estimated by the sum after multiplying each amount of CO₂, CH₄, N₂O, and HFCs by its global warming potential (GWP).

Implementation of the following measures, some of which may also be required for other purposes such as air pollution control, would reduce GHG emissions resulting from construction activities. Please note that although these measures are anticipated

to reduce construction-related emissions, these reductions cannot be quantified at this time.

- The construction contractor must comply with the Caltrans Standard Specifications Section 14-9. Section 14-9.02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce GHG emissions.
- Compliance with Title 13 of the California Code of Regulations, which includes restricting idling of construction vehicles and equipment to no more than 5 minutes.
- Caltrans Standard Specification 7-1.02C “Emissions Reduction” ensures that construction activities adhere to the most recent emissions reduction regulations mandated by the California Air Resource Board.
- Utilize a traffic management plan to minimize vehicle delays and idling emissions.
- To the extent feasible, construction traffic would be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.

CEQA CONCLUSION

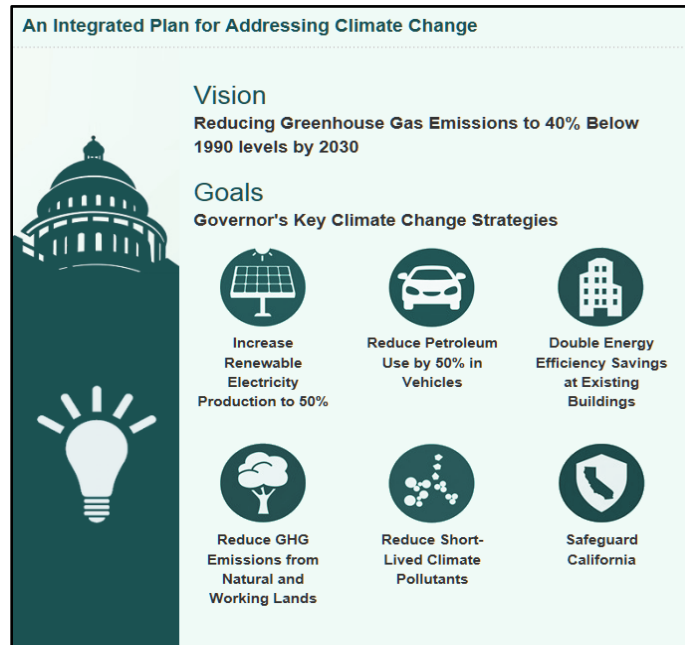
While the proposed project would result in GHG emissions during construction, it is anticipated that the project would not result in any increase in operational GHG emissions. The proposed project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the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

Caltrans is firmly committed to implementing measures to help reduce GHG 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 GHG emissions targets. Former Governor Edmund G. Brown promoted GHG 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*.

Figure 6. California Climate Strategy

The transportation sector is integral to the people and economy of California. To achieve GHG 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. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled (VMT). A key state goal for reducing GHG emissions is to reduce today's petroleum use in cars and trucks by up to 50 percent by 2030 (State of California 2019).

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 forests, 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 ARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. EO B-30-15, issued in April 2015, and SB 32 (2016), set an interim target to cut GHG 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 GHG emissions. In 2016, Caltrans completed the *California Transportation Plan 2040*, which establishes a new model for developing ground transportation systems, consistent with CO₂ 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 CTP to meet California's climate change goals under AB 32. Accordingly, the CTP 2040 identifies the statewide transportation system needed to achieve maximum feasible GHG emission reductions while meeting the state's transportation needs. While MPOs have primary responsibility for identifying land use patterns to help reduce GHG emissions, CTP 2040 identifies additional strategies in Pricing, Transportation Alternatives, Mode Shift, and Operational Efficiency.

CALTRANS STRATEGIC MANAGEMENT PLAN

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

- Increasing percentage of non-auto mode share
- Reducing VMT
- Reducing Caltrans' internal operational (buildings, facilities, and fuel) GHG emissions

FUNDING AND TECHNICAL ASSISTANCE PROGRAMS

In addition to developing plans and performance targets to reduce GHG 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 RTP/SCS; contribute to the State's GHG reduction targets and advance transportation-related GHG 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 GHG emissions resulting from agency operations.

Project-Level GHG Reduction Strategies

The following measures would also be implemented in the project to reduce GHG emissions and potential climate change impacts from the project.

- The construction contractor must comply with the Caltrans Standard Specifications Section 14-9. Section 14-9.02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce GHG emissions.
- Compliance with Title 13 of the California Code of Regulations, which includes restricting idling of construction vehicles and equipment to no more than 5 minutes.
- During K-rail placement and tie-in construction operations, public traffic may be stopped in both directions for periods not to exceed 5 minutes. After each closure, all accumulated traffic must be allowed to pass through the work zone before another closure is made.
- Caltrans Standard Specification 7-1.02C “Emissions Reduction” ensures that construction activities adhere to the most recent emissions reduction regulations mandated by the California Air Resource Board.
- Utilize a traffic management plan to minimize vehicle delays and idling emissions.
- Construction traffic would be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.
- The project includes upgrading shoulders and sidewalks and installing bicycle railing to more safely accommodate bicyclists and pedestrians, to encourage these non-motorized modes of transportation.

ADAPTATION

Reducing GHG 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 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 NEPA assignment, Caltrans is obligated to comply with all applicable federal environmental laws and FHWA NEPA regulations, policies, and guidance.

The U.S. Global Change Research Program (USGCRP) delivers a report to Congress and the president every 4 years, in accordance with the Global Change Research Act of 1990 (15 U.S.C. 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” (USGCRP 2018).

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

FHWA order 5520 (*Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events*, December 15, 2014) established FHWA policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. FHWA has developed guidance and tools for transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels (FHWA 2019).

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 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.

EO 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.

EO 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.

EO B-30-15, signed in April 2015, requires state agencies to factor climate change into all planning and investment decisions. This EO recognizes that effects of climate change other than sea-level rise also threaten California’s infrastructure. At the direction of EO 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:

- *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 to 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

Climate change is expected to bring fewer but potentially heavier individual precipitation events in the project region. The Caltrans August 2017 Preliminary Hydraulic Recommendation memo cites NOAA Atlas 14 data on historic 100-year rainfall intensity at Morrison Creek Bridge as 4.36 inches per hour (in/h), and two-year 24-hour rainfall depth as 3.72 inches; at Robinson Creek Bridge as 3.79 in/h, and two-year 24-hour rainfall depth as 3.21 inches; and at Kelsey Creek Bridge as 6.59 in/h, and two-year 24-hour rainfall depth as 6.18 inches. The Caltrans District 1 Climate Change Pilot Study (2014) estimated the potential increase in average daily precipitation in the project region could be more than 10% by 2099 under a wet global climate model, compared to the 1970–1999 historic period (Caltrans and Humboldt County Association of Governments 2014). However, different models produce different results, ranging from increasing to decreasing rainfall. The report explains that “Rainfall and runoff changes varied depending upon models. Models predicting increased rainfall were used as a conservative measure to assess asset exposure.” Adding to the uncertainty, many other factors (such as riverbed geology, geography, and slopes) influence the potential effects of higher rainfall on a river and how it interacts with roadway infrastructure.

The Morrison Creek Bridge (Bridge No. 14-0004) carries SR 20 across the creek at PM 16.81. The project area receives an average of about 54.1 inches of precipitation annually, mostly from November to March. The roadway at the project location is approximately 1,330 feet above mean sea level in a Federal Emergency Management Agency (FEMA) Zone AE-Base floodplain with base flood elevations determined. The Zone AE floodplain is defined as a Special Flood Hazard Area subject to inundation by the 1% annual chance flood in a 100-year floodplain. Morrison Creek drains a watershed area of approximately 2.1 square miles with a maximum basin elevation of 3802 feet and a minimum basin elevation of 1327 feet at the bridge

The existing bridge elevation is at Morrison Creek’s 100-year-storm water elevation, with no available freeboard. Therefore, there is inadequate freeboard to pass 100-year storm flows. The proposed grading of the channel would remove the heavy overgrowth of vegetation and siltation in the channel, improve the hydraulic characteristics of the channel, and provide an adequate waterway for the 100-year discharge. This regrading of the channel would exceed the minimum freeboard of two feet as required in the Highway Design Manual. The bridge substructure elements are designed to be stable for scour caused by 100-year flows. Temporary and permanent BMPs such as streambank stabilization and climate-appropriate landscaping would reduce runoff and promote surface infiltration of runoff.

Considering the protective features included in the project, the widened bridge at Morrison Creek is likely to withstand hydrologic changes that may occur under climate change through design year 2043.

The Robinson Creek Bridge (Bridge No. 14-0030) carries SR 29 across the creek at PM 50.82. The project area receives an average of about 37.3 inches of precipitation annually, mostly from November to March. The roadway at the project location is approximately 1,350 feet above mean sea level in a FEMA Zone X floodplain. The Zone

X floodplain is defined as an area of minimal flood hazard determined to be outside the 0.2% annual chance in a 100-year floodplain. Robinson Creek drains a watershed area of approximately 3.3 square miles with a maximum basin elevation of 2353 feet and a minimum basin elevation of 1330 feet at the bridge site.

The bridge elevation is 12.9 feet above the river's surface at 100-year storm flows, so there is adequate freeboard for the proposed bridge widening.

Temporary and permanent BMPs such as streambank stabilization and climate-appropriate landscaping would reduce runoff and promote surface infiltration of runoff and RSP would be placed around the abutments to further protect them from potential scour as required. Considering its elevation above the river and the protective features included in the project, the new bridge is likely to withstand hydrologic changes that may occur under climate change through design year 2043.

The Kelsey Creek Bridge (Bridge No. 14-0044) carries SR 175 across the creek at PM 19.48. The project area receives an average of about 56.4 inches of precipitation annually, mostly from November to March. The roadway at the project location is approximately 2,500 feet above mean sea level in a FEMA Zone A- floodplain, with no base flood elevations determined. The Zone A floodplain is defined as a Special Flood Hazard Area subject to inundation by the 1% annual chance flood in a 100-year floodplain. The watershed has a maximum basin elevation of 4698 feet and a minimum basin elevation of 2484 feet at the bridge site. Houghton Creek joins Kelsey Creek immediately upstream at the bridge

The existing bridge elevation is 7.92 feet above the river's surface at 100-year storm flows, and the proposed replacement bridge at its lowest point would also be 7.92 feet above the 100-year storm flows water surface elevation.

The proposed replacement bridge would be designed to exceed the minimum freeboard of two feet as required in the Highway Design Manual. The bridge structure would be lengthened from its existing 20-foot length to a new length of 30 feet, which would allow a higher water flow capacity than it currently possesses. The bridge substructure elements would be designed to be stable for scour caused by 100-year flows, and RSP would be placed around the abutments to further protect them from potential scour as required. Additionally, Houghton Creek would be realigned to accommodate the proposed bridge and would no longer flow into Kelsey Creek at the location of the Abutment 2 footing, further reducing the likelihood of scour. Temporary and permanent BMPs such as streambank stabilization and climate-appropriate landscaping would reduce runoff and promote surface infiltration of runoff.

Considering its elevation above the river and protective features included in the project, the new bridge is likely to withstand hydrologic changes that may occur under climate change through design year 2043.

WILDFIRE

The proposed project is located in state and local responsibility areas of moderate to very high fire hazard severity. Design features that would help prevent spread of wildfire and protect the asset from harm include steel guardrail posts (instead of wood) and concrete weed mats for guardrail.

2.11 Hazards and Hazardous Materials

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p>Would the project: a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?</p>	No	No	Yes	No
<p>Would the project: 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?</p>	No	No	Yes	No
<p>Would the project: c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?</p>	No	No	No	Yes
<p>Would the project: 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?</p>	No	No	No	Yes
<p>Would the project: e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?</p>	No	No	No	Yes
<p>Would the project: f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?</p>	No	No	No	Yes
<p>Would the project: g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?</p>	No	No	No	Yes

“No Impact” and “Less Than Significant” determinations in this section are based on the scope, description, and location of the proposed project, as well as the Initial Site Assessment prepared September 17, 2019

REGULATORY SETTING

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

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous material is vital if it is found, disturbed, or generated during project construction.

ENVIRONMENTAL SETTING

The proposed project, which is not located within or impacting any sites on the Cortese List, is located in an area where there is a likelihood of contamination within the ESL from railway ballasts that intersect the project limits, a former lumber mill with an active logging yard, and from aeri ally deposited lead. This project includes demolition of an existing structure which is painted with lead containing paint.

DISCUSSION OF ENVIRONMENTAL EVALUATION QUESTION 2.11—HAZARDS AND HAZARDOUS MATERIALS

- a - b) This project would not create a significant hazard to the public. Hazardous waste issues that may be or are confirmed at the project location are aeri ally deposited lead, thermoplastic paint, treated wood waste, LCP and ACCM on the bridges at all three locations.

Low levels of aeri ally deposited lead from the historic use of leaded gasoline exist along roadways throughout California. The project would adhere to Caltrans Standard Special Provision Section 7-1.02K(6)(j)(iii) “Earth Material Containing Lead.”

Thermoplastic paint may contain lead of varying concentrations depending upon color, type and year of manufacture. Traffic stripes would be removed and disposed of in accordance with Caltrans Standard Special Provision Section 36-4 “Residue Containing Lead from Paint and Thermoplastic.”

Treated wood waste comes from old wood that has been treated with chemical preservatives to prevent fungal decay and insect attacks. Potential sources of treated wood waste within the project area are sign posts. If treated wood waste is generated during this project, it would be disposed of in accordance with Standard Special Provision 14-11.14 "Treated Wood Waste."

A bridge survey would be conducted on all three bridges to confirm if any ACCM and/or LCP are present within the bridge system and to determine appropriate abatement and construction worker safety, if needed.

The proposed project would have a less than significant impact on public exposure to hazards. The project features mentioned above would be implemented if appropriate, and impacts would be further reduced. Therefore, this impact would be less than significant.

- c) No existing or proposed schools are present within one-quarter mile of the project area; therefore, there would be no impact to schools from hazardous emissions or hazardous or acutely hazardous materials. Therefore, there is no impact.
- d) This project is not located on a site which is included on a list of hazardous material sites pursuant to Government Code Section 65962.5, so there would be no impact from such sites. Therefore, there is no impact.
- e - f) This project is not located within an airport land use plan, within 2 miles of a public airport, or within the vicinity of a private airstrip. The project would not result in a safety hazard for people residing or working in the project area due to airport hazards. Therefore, there is no impact.
- g) This project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, there is no impact.

AVOIDANCE AND MINIMIZATION EFFORTS

Based on the determinations made in the CEQA Checklist, avoidance and minimization measures have not been proposed for the project.

MITIGATION MEASURES

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for the project.

NO BUILD ALTERNATIVE

The existing condition would remain; therefore, per CEQA, "No Impact" would occur.

2.12 Hydrology and Water Quality

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	No	No	No	Yes
Would the project: b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	No	No	Yes	No
Would the project: 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:	No	No	Yes	No
(i) result in substantial erosion or siltation on- or off-site;	No	No	Yes	No
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	No	No	Yes	No
(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	No	Yes	No
(iv) impede or redirect flood flows?	No	No	Yes	No
Would the project: d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	No	No	No	Yes
Would the project: e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	No	No	No	Yes

“No Impact” and “Less Than Significant” determinations in this section are based on the scope, description, and location of the proposed project, as well as the Water Quality Assessment Report dated October 2018 and the Floodplain Evaluation Report Summary prepared March 17, 2020.

REGULATORY SETTING

Federal

Clean Water Act

In 1972, Congress amended the federal Water Pollution Control Act, making the addition of pollutants to waters of the United States from any point source³ unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of stormwater from municipal and industrial/construction point sources to comply with the NPDES permit program. The following are important CWA sections.

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the United States to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the United States. RWQCBs administer this permitting program in California. Section 402(p) requires permits for discharges of stormwater from industrial/construction and municipal separate storm sewer systems (MS4s).
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by USACE.

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

³ A *point source* is any discrete conveyance such as a pipe or a human-made ditch.

USACE issues two types of 404 permits: General and Standard Permits. There are two types of General Permits: Regional Permits and Nationwide Permits. Regional permits are issued for a general category of activities when they are similar 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 Nationwide Permit may be permitted under one of USACE's Standard Permits. There are two types of Standard Permits: Individual Permits and Letters of Permission. For Standard Permits, the USACE decision to approve is based on compliance with EPA's Section 404 (b)(1) Guidelines (40 CFR § 230), and whether the permit approval is in the public interest. The Guidelines were developed by EPA in conjunction with USACE and allow the discharge of dredged or fill material into the aquatic system (waters of the United States) only if no practicable alternative exists that would have less adverse effects. The Guidelines state that USACE may not issue a permit if there is a least environmentally damaging practicable alternative to the proposed discharge that would have lesser effects to waters of the United States and not cause any other significant adverse environmental consequences.

According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent⁴ standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the United States. In addition, every permit from the USACE, even if not subject to the Guidelines, must meet general requirements. See 33 CFR Part 320.4.

State

Porter-Cologne Water Quality Control Act

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

⁴ The EPA defines *effluent* as "wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall."

The SWRCB and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA, and for regulating discharges to ensure compliance with the water quality standards. Details about water quality standards in a project area are included in the applicable RWQCB Basin Plan. In California, the RWQCBs designate beneficial uses for all water body segments and then set the criteria necessary to protect these uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and that the standards cannot be met through point source or non-point source controls (NPDES permits or WDRs), the CWA requires establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB administers water rights, sets water pollution control policy, issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWQCBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

National Pollutant Discharge Elimination System Program

Municipal Separate Storm Sewer Systems

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

Caltrans’ MS4 Permit (Order No. 2012-0011-DWQ) was adopted on September 19, 2012, and became effective on July 1, 2013. The permit has three basic requirements.

1. Caltrans must comply with the requirements of the Construction General Permit (see below);
2. Caltrans must implement a year-round program in all parts of the state to effectively control stormwater and non-stormwater discharges; and

3. Caltrans' stormwater discharges must meet water quality standards through implementation of permanent and temporary (construction) BMPs, to the maximum extent practicable, and other measures the SWRCB determines necessary to meet the water quality standards.

To comply with the permit, Caltrans developed the statewide Storm Water Management Plan (SWMP) to address stormwater pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within Caltrans for implementing stormwater management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices Caltrans uses to reduce pollutants in stormwater and non-stormwater discharges. It outlines procedures and responsibilities for protecting water quality, including selection and implementation of BMPs. Further, in recent years, hydromodification control requirements and measures to encourage low impact development have been included as a component of new development permit requirements. The proposed project will be programmed to follow the guidelines and procedures outlined in the latest SWMP to address stormwater runoff.

Construction General Permit

Construction General Permit (CGP) (Order No. 2009-009-DWQ), adopted on September 2, 2009, became effective on July 1, 2010. The CGP was amended by 2010-0014-DWQ and 2012-0006-DWQ on February 14, 2011, and July 17, 2012, respectively. The permit regulates stormwater discharges from construction sites that result in a disturbed soil area (DSA) of 1 acre or greater and/or are smaller sites that are part of a larger common plan of development. By law, all stormwater discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least 1 acre must comply with the provisions of the CGP. Operators of regulated construction sites are required to develop Storm Water Pollution Prevention Plans (SWPPPs); to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the CGP.

The 2009 CGP separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters and whether the receiving water has been designated by the SWRCB as sediment-sensitive. SWPPP requirements vary according to the risk level. For example, a Risk Level 3 (highest risk) project would require compulsory stormwater runoff pH and turbidity monitoring and certain BMPs, and, in some cases, before-construction and after-construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective SWPPP. In accordance with Caltrans' Standard Specifications, a Water Pollution Control Program rather than a SWPPP is necessary for projects with a DSA of less than 1 acre.

Section 401 Permitting

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

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

ENVIRONMENTAL SETTING

The proposed project is located along SR 20 at Morrison Creek Bridge in the town of Lucerne, SR 29 at Robinson Creek Bridge in the unincorporated town of Upper Lake, and SR 175 at Kelsey Creek Bridge in the town of Cobb, circling Clear Lake in Lake County. All three bridges are within the Cache Creek Hydrologic Unit, Upper Cache Creek Hydrologic Area. Morrison Creek being in the Lucerne Hydrologic Subarea (HSA) (513.53), Robinson Creek in the Upper Lake HSA (513.54) and Kelsey Creek in the Lakeport HSA (513.55); with all three creeks draining into Clear Lake.

The average annual precipitation in nearby Upper Lake is 34.09 inches, with approximately 2 inches of snowfall. The majority of precipitation occurs November through March. The average annual maximum temperature is 72.8 degrees and the average annual minimum temperature is 41.0 degrees Fahrenheit.

DISCUSSION OF ENVIRONMENTAL EVALUATION QUESTION 2.12—HYDROLOGY AND WATER QUALITY

- a) This project would not violate any water quality standards or waste discharge requirements. The proposed project would comply with the conditions of the California State Water Resources Control Board (SWRCB) Construction General Permit (NPDES No. CAS000002, SWRCB Order No. 2009-0009-DWQ which was adopted on September 2, 2009, became effective on July 1, 2010, and was amended by Order No. 2010-0014-DWQ and Order No. 2012-0006-DWQ. For all projects subject to the Construction General Permit (CGP), applicants are required to develop and implement an effective Stormwater Pollution Prevention Plan (SWPPP) which identifies temporary construction site best management practices (BMPs) to reduce construction impacts on receiving water quality based on potential pollutants and pollutant sources. The Clear Lake is listed as

impaired for mercury and nutrients. Potential temporary impacts to water quality could result from active construction areas, which could lead to the release of fluids, concrete material, construction debris, sediment, and litter beyond the perimeter of the site. This project would not violate any water quality standards or waste discharge requirements. The proposed project would comply with the conditions of the California State Water Resources Control Board CGP. The CGP requires that the construction contractor prepare a project specific SWPPP, which identifies temporary construction site BMPs to reduce construction impacts on receiving water quality based on potential pollutants and pollutant sources. Therefore, there would be no impact.

- b) Due to construction activities which could potentially require dewatering, temporary impacts to groundwater levels may occur, but no permanent impacts are anticipated. Temporary construction BMPs would be implemented that would minimize or completely avoid any potential impacts from dewatering. Any temporary impacts would be insignificant in comparison to the overall groundwater area and the highly variable nature of the existing groundwater flow paths. Additionally, construction would take place during the summer and fall months when there is not likely to be any water flowing through culverts. No potential impacts would be severe enough to reduce the groundwater table. No permanent impacts are anticipated. Therefore, this impact would be less than significant.
- c)
- i. The proposed project would involve cut and fill, permanent grading of slopes, and alterations of existing drainage features, which may affect natural erosion and sedimentation patterns on- or off-site. The primary pollutant of concern for the proposed project would be temporary sediment and siltation from areas disturbed during construction, therefore BMPs would be deployed during construction activities to avoid and reduce the potential for temporary water quality impacts such as erosion or siltation on- or off-site. Permanent impacts are anticipated to be minimal with implementation of standard erosion control practices. Potential impacts would be less than significant with the implementation of standard erosion control practices. Therefore, this impact would be less than significant.
- ii. The proposed project would involve cut and fill, permanent grading of slopes, and alterations of existing drainage features, which may affect natural erosion and sedimentation patterns on- or off-site. The project scope also proposes to enhance the existing capacity of Morrison Creek Bridge by regrading and of Kelsey Creek Bridge through the lengthening of the structure to better accommodate the creek, and would not change the capacity of Robinson Creek Bridge or the existing stormwater systems of the roadways. Therefore it is not anticipated that the project would substantially alter the existing drainage pattern in a manner that would result in flooding on- or off-site, create runoff water that would exceed the capacity of existing stormwater drainage systems. Therefore, this impact would be less than significant.

- iii. The proposed project would increase the amount of impervious surface area, which would increase the amount of runoff water. It is not anticipated that the amount of runoff water created would exceed the capacities of the planned stormwater system. Both the decrease in infiltration to groundwater that seeps into surface waters and the runoff from impervious surfaces that discharges into nearby waters would be addressed by post-construction stormwater treatment controls. The treatment controls would reduce pollutant loads in runoff prior to reaching any downstream receiving waters and would be located and sized in accordance with Caltrans design guidance and the Caltrans Municipal Separate Storm Sewer System Permit. Treatment types that infiltrate, harvest, reuse, and allow the evapotranspiration of stormwater runoff would be prioritized. Therefore, this impact would be less than significant.
- iv. Potential permanent impacts related to increased turbidity within receiving waters may result from roadway and shoulder widening. These permanent impacts would be minimal and would be addressed by implementing standard erosion control practices. Potential temporary impacts due to construction would be minimized with regulatory and Caltrans requirements. Therefore, this impact would be less than significant. Potential permanent impacts related to increased turbidity within receiving waters may result from roadway and shoulder widening. These permanent impacts would be minimal and would be addressed by implementing standard erosion control practices. Potential temporary impacts due to construction would be minimized with regulatory and Caltrans requirements. Therefore, this impact would be less than significant.
- d) The proposed project is not in an area that is at risk of seiches or tsunamis. In the event of a catastrophic flood, the project area could be at risk of inundation. However, the proposed project would not store pollutants and would not be constructed with hazardous materials that would pose a threat to the public if disturbed by a flood event. Therefore, there would be no impact.
- e) The proposed project would not conflict with or obstruct the implementation of any water pollution control plan or sustainable groundwater management plan. Therefore, no impact is expected. Therefore, there would be no impact.

AVOIDANCE AND MINIMIZATION EFFORTS

Based on the determinations made in the CEQA Checklist, avoidance and minimization measures have not been proposed for the project.

MITIGATION MEASURES

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for the project.

NO BUILD ALTERNATIVE

The existing condition would remain; therefore, per CEQA, “No Impact” would occur.

2.13 Land Use and Planning

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Physically divide an established community?	No	No	No	Yes
Would the project: 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	No	No	Yes

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to land use and planning are not anticipated due to the following:

- a) During the construction, the highway would remain open to two-way traffic, and no community division is anticipated. There would be no impact from physically dividing an established community. Therefore, there would be no impact.
- b) The project complies with the stated goals of the Lake County Regional Transportation Plan and the Lake County General Plan which includes goals for transportation, pedestrian access and safety, and Freight Rail. Therefore, there would be no impact.

NO BUILD ALTERNATIVE

The existing condition would remain; therefore, per CEQA, “No Impact” would occur.

2.14 Mineral Resources

Question:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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	No	No	Yes
Would the project: 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	No	No	Yes

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the mineral resource maps from the California Department of Conservation. Potential impacts to mineral resources are not anticipated due to the following:

- a - b) No mineral resources were identified within the project limits or would be affected by the proposed project. Therefore, there would be no impact.

NO BUILD ALTERNATIVE

The existing condition would remain; therefore, per CEQA, “No Impact” would occur.

2.15 Noise

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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	No	No	Yes
Would the project result in: b) Generation of excessive groundborne vibration or groundborne noise levels?	No	No	No	Yes
Would the project result in: 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 two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	No	No	No	Yes

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the Air Quality and Noise Analysis dated September 30, 2019.

- a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies is not anticipated. Based on the scope of work, this project is considered a Type III project. Traffic noise impact is not predicted to occur from the proposed project; therefore, noise abatement is not considered. During construction, noise may be generated from the contractors’ equipment and vehicles. Caltrans requires the Contractor to conform to the provisions of Standard Specification, Section 14-8.02 “Noise Control” which states “Control and monitor noise from work activities.” And “Do not exceed 86 dBA LMax at 50 ft. from the job site activities from 9 p.m. to 6 a.m.” Therefore, there would be no impact.

- b) The project is not expected to generate excessive groundborne vibration or groundborne noise. Vibration levels could be perceptible and cause disturbances at residences near the project area during operation of heavy equipment. However, these effects would be short-term and intermittent and would cease once construction is completed. Therefore, there would be no impact.
- c) The project is not located within the vicinity of a private, public, or public use airport. There would be no impact from airport noise. Therefore, there would be no impact.

NO BUILD ALTERNATIVE

The existing condition would remain; therefore, per CEQA, “No Impact” would occur.

2.16 Population and Housing

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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	No	No	Yes
Would the project: b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No	No	No	Yes

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to the population and housing are not anticipated due to the following:

- a) The proposed project would not increase capacity or access; therefore, the proposed project would not directly or indirectly induce population growth in the area. The project would not add new homes or businesses and would not extend any roads or other infrastructure. Therefore, there would be no impact.
- b) Although some of the areas surrounding the project are rural residential communities, there are no residences within the project area, and no replacement housing would be necessary. Therefore, there would be no impact.

NO BUILD ALTERNATIVE

The existing condition would remain; therefore, per CEQA, “No Impact” would occur.

2.17 Public Services

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p>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:</p> <p>Fire protection?</p>	No	No	No	Yes
Police protection?	No	No	No	Yes
Schools?	No	No	No	Yes
Parks?	No	No	No	Yes
Other public facilities?	No	No	No	Yes

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to public resources are not anticipated due to the following:

- a) During construction any emergency service agency whose ability to respond to incidents may be affected by traffic control would be notified prior to any closure. All emergency vehicles would be accommodated through the work area. There would be no impact to emergency services resulting from the project. Therefore, there would be no impact.

NO BUILD ALTERNATIVE

The existing condition would remain; therefore, per CEQA, “No Impact” would occur.

2.18 Recreation

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	No	No	No	Yes
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	No	No	Yes

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to recreation are not anticipated due to the following:

- a) The project would not increase the use of existing neighborhood parks, regional parks, or other recreational facilities. No neighborhood parks, regional parks, or other recreational facilities are present within the project limits. There would be no impact to neighborhood or regional parks. Therefore, there would be no impact.
- b) The project does not include recreational facilities or require the construction or expansion of recreational facilities. No neighborhood parks, regional parks, or other recreational facilities are present within the project limits. There would be no impact from the construction of recreational facilities. Therefore, there would be no impact.

NO BUILD ALTERNATIVE

The existing condition would remain; therefore, per CEQA, “No Impact” would occur.

2.19 Transportation/Traffic

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	No	No	No	Yes
Would the project: b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? NOTE: While public agencies may immediately apply Section 15064.3 of the updated Guidelines, statewide application is not required until July 1, 2020. In addition, uniform statewide guidance for Caltrans projects is still under development. The PDT may determine the appropriate metric to use to analyze traffic impacts pursuant to section 15064.3(b). Projects for which an NOP will be issued any time after December 28, 2018, should consider including an analysis of VMT/induced demand if the project has the potential to increase VMT (see page 20 of OPR's updated SB 743 Technical Advisory), particularly if the project will be approved after July 2020.	No	No	No	Yes
Would the project: 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	No	No	Yes
Would the project: d) Result in inadequate emergency access?	No	No	No	Yes

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the Transportation Management Plan dated January 7, 2020. Potential impacts to transportation/traffic are not anticipated due to the following:

- a) The project is not anticipated to conflict with a program, plan, ordinance, or policy addressing the circulation system. Therefore, there would be no impact.
- b) The proposed project would not conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b). Therefore, there would be no impact.

- c) The proposed project is a bridge rail upgrade that would bring the rails on all three bridges up to current standards. Additionally, the shoulders on these three bridges would be widened to meet current shoulder width standards. Upgrading the structure to current standards would positively affect traffic safety and mobility on the bridge, as well as through the existing corridor. Therefore, the project is not anticipated to substantially increase hazards due to a design feature or incompatible uses. Therefore, there would be no impact.

- d) Two-way traffic would be maintained during most construction activities. However, for some activities reversing traffic control, intermittent closure (no longer than 10 minutes), temporary ramp closure, and shoulder closure could be necessary for SR 20, 29, and 175. Emergency vehicles would be notified in advance of any closures. Access for emergency vehicles would be maintained throughout the duration of construction; therefore, the project would have no impact on emergency access. Therefore, there would be no impact.

NO BUILD ALTERNATIVE

The existing condition would remain; therefore, per CEQA, “No Impact” would occur.

2.20 Tribal Cultural Resources

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p>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:</p> <p>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</p>	No	No	No	Yes
<p>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.</p>	No	No	No	Yes

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the results of cultural studies prepared in March 2019. Potential impacts to tribal resources are not anticipated due to the following:

- a - b) The California Native American Heritage Commission (NAHC) was contacted to request a search of the sacred lands file and an updated list of Native American contacts for the project area. Consultation letters were mailed to Robinson Rancheria, Middletown Rancheria, and Big Valley Rancheria. The Middletown Rancheria responded to letters regarding consultation from the Caltrans archaeologist on August 26, 2017. The project archaeologist met with the Middletown Rancheria at the Kelsey Creek Bridge site on November 2, 2017 and discussed possible cultural resources in the project limits. Big Valley Rancheria responded to Caltrans on July 3, 2018 with concerns about the Kelsey Creek

Location as well. Robinson Rancheria responded to the latter request for consultation on July 6, 2018 with no specific concerns about the Morrison Creek Bridge location. All three tribes were present to monitor archaeological field work at their respective areas of concern. Through consultation, no tribal cultural resources were identified within the project study limits. Therefore, there would be no impact.

NO BUILD ALTERNATIVE

The existing condition would remain; therefore, per CEQA, “No Impact” would occur.

2.21 Utilities and Service Systems

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities—the construction or relocation of which could cause significant environmental effects?	No	No	Yes	No
Would the project: b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	No	No	No	Yes
Would the project: 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	No	No	Yes
Would the project: 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	No	No	Yes
Would the project: e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	No	No	No	Yes

ENVIRONMENTAL SETTING

Utilities expected to be encountered are described in Section 1 of this document.

DISCUSSION OF ENVIRONMENTAL EVALUATION QUESTION 2.23—MANDATORY FINDINGS OF SIGNIFICANCE

- a) Due to the nature of the project, an increase in service population for any utilities or service systems is not anticipated.

Utilities expected to be encountered are described in Section 1 of this document. Any potential utility poles or underground gas or waterlines lines anticipated to be in conflict with the proposed work would be relocated, modified or protected in place during construction. Caltrans would verify the location of any underground gas, electric, water, or sewer lines within the project area. Caltrans would coordinate with utility owners to relocate or protect utilities prior to construction. Utility relocation plans would be finalized in the design phase of the project. A less than significant impact to the environment is anticipated from utility relocations. Therefore, this impact would be less than significant.

- b) The project would have sufficient water supplies during construction and would not have an effect on water supplies for future developments. Therefore, there would be no impact.
- c) The project would not have a demand for wastewater treatment. Therefore, there would be no impact.
- d - e) The project would comply with all statutes and regulations related to the disposal of solid waste generated during construction. Therefore, there would be no impact.

AVOIDANCE AND MINIMIZATION EFFORTS

Based on the determinations made in the CEQA Checklist, avoidance and minimization measures have not been proposed for the project.

MITIGATION MEASURES

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for the project.

NO BUILD ALTERNATIVE

The existing condition would remain; therefore, per CEQA, “No Impact” would occur.

2.22 Wildfire

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:</p> <p>a) Substantially impair an adopted emergency response plan or emergency evacuation plan?</p>	No	No	No	Yes
<p>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:</p> <p>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?</p>	No	No	No	Yes
<p>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:</p> <p>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?</p>	No	No	No	Yes
<p>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:</p> <p>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?</p>	No	No	No	Yes

“No Impact” determinations in this section are based on the scope, description, location, and CalFire Fire Hazard Severity Zone Maps of the proposed project. Potential impacts to wildfire are not anticipated due to the following:

- a) The proposed project is located in state and local responsibility areas of moderate to very high fire hazard severity. The Lake County Emergency Operations Plan was approved by the County of Lake Board of Supervisors in May 2018. The project would not substantially impair this plan since the existing structures and roadway would remain open to two-way traffic during construction. Therefore, there would be no impact.

- b) The proposed project would incorporate design features to prevent the uncontrolled spread of a wildfire within the project area. Design features that would help prevent spread of wildfire and protect the asset from harm include steel guardrail posts (instead of wood) and concrete weed mats for guardrail. Therefore, there would be no impact.
- c) The proposed project work consists of bridge widening and upgraded bridge rails and MGS and would not exacerbate wildfire risk. In addition, the utility relocation in the area would not result in temporary or ongoing impacts to the environment. Therefore, there would be no impact.
- d) The project is not located in an area that has a high landslide risk, so no impact is anticipated from fire related landslides. Although the project would place fill and structures in a 100-year floodplain, the project would comply with all pertinent regulations, and the project would not expose people or structures to fire related flooding. Therefore, there would be no impact.

NO BUILD ALTERNATIVE

The existing condition would remain; therefore, per CEQA, “No Impact” would occur.

2.23 Mandatory Findings of Significance

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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	No	Yes	No
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	No	No	Yes
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	No	No	No	Yes

DISCUSSION OF ENVIRONMENTAL EVALUATION QUESTION 2.23—MANDATORY FINDINGS OF SIGNIFICANCE

- a) The proposed project does not have the potential to degrade the quality of the environment. The project may have potential impacts to riparian habitat and OWUS. These impacts have been reduced to “less than significant” with the implementation of project features. Therefore, this impact would be less than significant.
- b) The proposed project would not result in any adverse effects that, when considered in connection with other projects, would be considered cumulatively considerable. Therefore, there is no impact.
- c) Based on the description of the proposed project and consideration of potential effects, the project would not cause substantial adverse effects on human beings, either directly or indirectly. Therefore, there is no impact.

Cumulative Impacts

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of this proposed project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

CEQA Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under CEQA can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts under NEPA can be found in 40 CFR Section 1508.7 of the Council on Environmental Quality (CEQ) Regulations.

Aesthetics

Given that the project would result in low visual impacts and those impacts would be addressed by the implementation of standard measures, the project would not be expected to have a cumulative impact on aesthetics.

Agriculture and Forest Resources

Given that the project would result in no impacts on agriculture and forest resources, the project would not be expected to have a cumulative impact on agricultural or forest resources.

Air Quality

Given that the project would result in low air quality impacts and those impacts would be addressed by the implementation of standard measures, the project would not be expected to have a cumulative impact on air quality.

Biological Resources

Records were searched on the California State Clearinghouse website for activities near the proposed project. There were no projects listed within the project vicinity for future construction. Records were also searched on the Caltrans' North Region Data Library for past and future projects that could occur within the near the project limits. Caltrans

does not anticipate cumulative effects on any of the species or habitats as a result of the proposed actions.

Cultural Resources

Given that the project would result in low impacts to cultural resources and those impacts would be addressed by the implementation of standard measures, the project would not be expected to have a cumulative impact on cultural resources.

Energy

Given that the project would result in no impacts to energy, the project would not be expected to have a cumulative impact on energy.

Geology and Soils

Given that the project would result in low impacts to geology and soils and those impacts would be addressed by the implementation of standard measures, the project would not be expected to have a cumulative impact on geology and soils. Given that the project would result in no impacts to paleontological resources the project would not be expected to have a cumulative impact on geology and soils.

Greenhouse Gas Emissions

Please see Greenhouse Gas Emissions, Section 2.7.

Hazards and Hazardous Materials

Given that the project would result in low impacts to hazards and hazardous materials and those impacts would be addressed by the implementation of standard measures, the project would not be expected to have a cumulative impact on hazards and hazardous materials.

Hydrology and Water Quality

Given the small scale of potential effects and the design features and standard measures to offset these effects, the proposed project would not be expected to result in a cumulative impact on hydrology or water quality.

Land Use and Planning

Given that the project would result in no impacts on land use and planning, the project would not be expected to have a cumulative impact on land use and planning.

Mineral Resources

Given that the project would result in no impacts on mineral resources, the project would not be expected to have a cumulative impact on mineral resources.

Noise

Given that the project would result in no impacts on noise, the project would not be expected to have a cumulative impact on noise.

Population and Housing

Given that the project would result in no impacts on population and housing, the project would not be expected to have a cumulative impact on population and housing.

Public Services

Given that the project would result in no impacts on public services, the project would not be expected to have a cumulative impact on public services.

Recreation

Given that the project would result in no impacts on recreation, the project would not be expected to have a cumulative impact on recreation.

Transportation/Traffic

Given that the project would result in no impacts on transportation/traffic, the project would not be expected to have a cumulative impact on transportation/traffic.

Tribal Cultural Resources

Given that the project would result in no impacts on tribal resources, the project would not be expected to have a cumulative impact on tribal resources.

Utilities and Service Systems

Given that the project would result in low impacts to utilities and service systems and those impacts would be addressed by the implementation of standard measures, the project would not be expected to have a cumulative impact on utilities and service systems.

Wildfire

Given that the project would result in no impacts on wildfire, the project would not be expected to have a cumulative impact on wildfire.

3 Chapter 3. Coordination and Comments

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

The following agencies, organizations, and individuals were consulted in the preparation of this environmental document.

3.1 Coordination with Resource Agencies

- Consultation letters were mailed to representatives of the Robinson Rancheria, Middletown Rancheria, and Big Valley Rancheria. Caltrans sent requests for consultation on August 14, 2017, and began consultation with the Middletown Rancheria on August 26, 2017 and with Big Valley Rancheria on July 3, 2018; Robinson Rancheria responded on July 6, 2018 with no specific concern regarding the Morrison Creek Bridge location.
- CDFW was contacted to discuss impacts to waters under CDFW's jurisdiction. CDFW Senior Environmental Scientist Suzanne Gilmore declined a field review at the time of request (March 2019) due to project delivery conflicts. Caltrans would schedule future meetings and field reviews with CDFW prior to submitting a 1602 Lake and Streambed Alteration Agreement application. CDFW was also contacted to discuss Clear Lake hitch (*Lavinia exilicauda chi*). CDFW Environmental Scientist Ben Ewing provided background information on the distribution of Clear Lake Hitch within the project vicinity. CDFW lead scientist for CNDDDB, Misty Nelson, gave Caltrans some background information on the "Clear Lake Drainage Resident Trout Stream" mapped within the ESL.

4 Chapter 4. List of Preparers

The following individuals performed the work on the project:

4.1 California Department of Transportation, District 1

Neal Alie	Transportation Engineer Contribution: Preliminary Hydraulic Report
Alex Arevalo	Transportation Engineer/NPDES Coordinator Contribution: Water Quality Assessment Report
Hannah Clark	Associate Environmental Planner (Natural Sciences) Contribution: Natural Environment Study
Youngil Cho	Associate Environmental Planner (Air Quality Specialist) Contribution: Air Quality and Noise Analysis & Operational Green House Gas (GHG) and Construction GHG Analysis
Joan Fine	Associate Environmental Planner (Architectural History) Contribution: Built Environment Evaluation
Brenda Harwell	Transportation Engineer Contribution: Project Design
Brian James	Associate Environmental Planner (Archaeology) Contribution: Cultural Studies
Kathyrn Lugo	Landscape Architect Contribution: Visual Impact Assessment
Mark Melani	Engineering Geologist (Hazardous Waste) Contribution: Initial Site Assessment
Cathy McKeon	Project Manager Contribution: Project Management
Adele Pommerenck	Environmental Branch Chief Contribution: Senior Environmental Planner
Celeste Redner	Transportation Engineer

	Contribution: Floodplain Evaluation Summary Report
Sheri Rodriguez	TMP Coordinator
	Contribution: Transportation Management Plan
Danielle Ruiz	Environmental Planner (Project Coordinator)
	Contribution: Project Coordinator and Document Preparer
Wesley Stroud	Environmental Office Chief
	Contribution: Supervising Environmental Planner

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Appendix A. Title VI Policy Statement

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY

Gavin Newsom, Governor

DEPARTMENT OF TRANSPORTATION

OFFICE OF THE DIRECTOR
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Making Conservation
a California Way of Life.

November 2019

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, remedies, 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, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 324-8379 or visit the following web page:
<https://dot.ca.gov/programs/business-and-economic-opportunity/title-vi>.

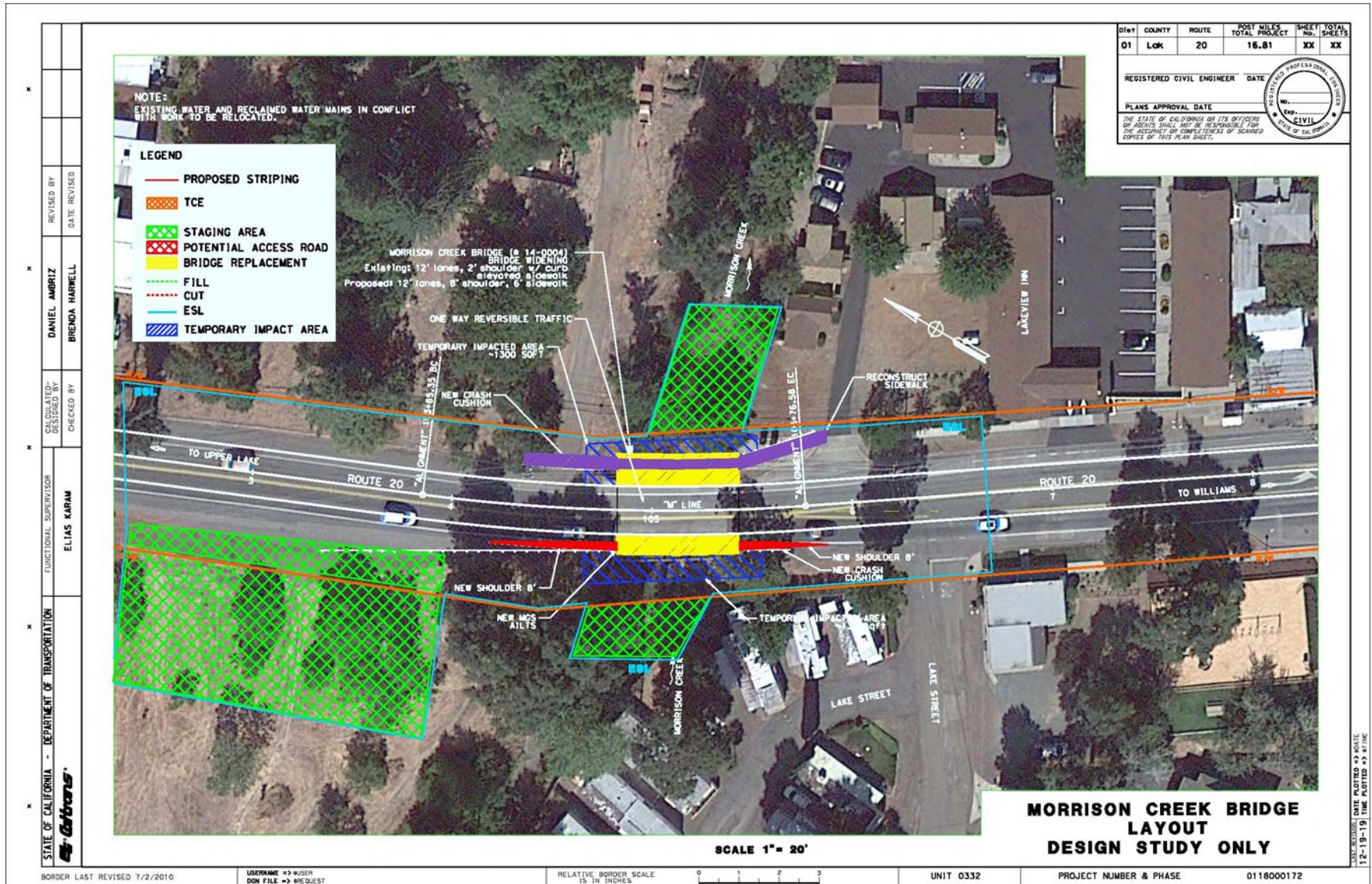
To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, at 1823 14th Street, MS-79, Sacramento, CA 95811; (916) 324-8379 (TTY 711); or at Title.VI@dot.ca.gov.

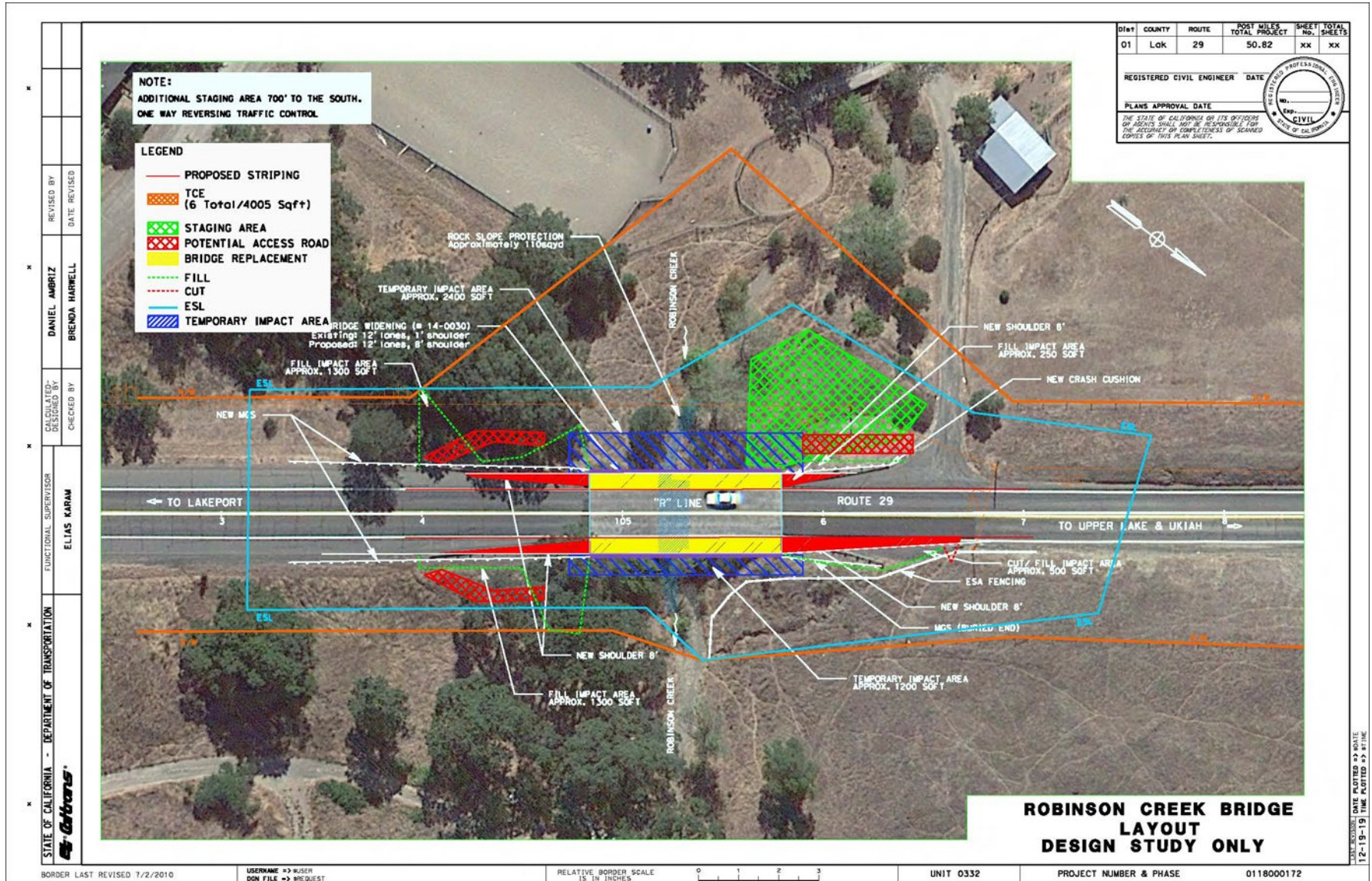
A handwritten signature in blue ink, appearing to read "Toks Omishakin".

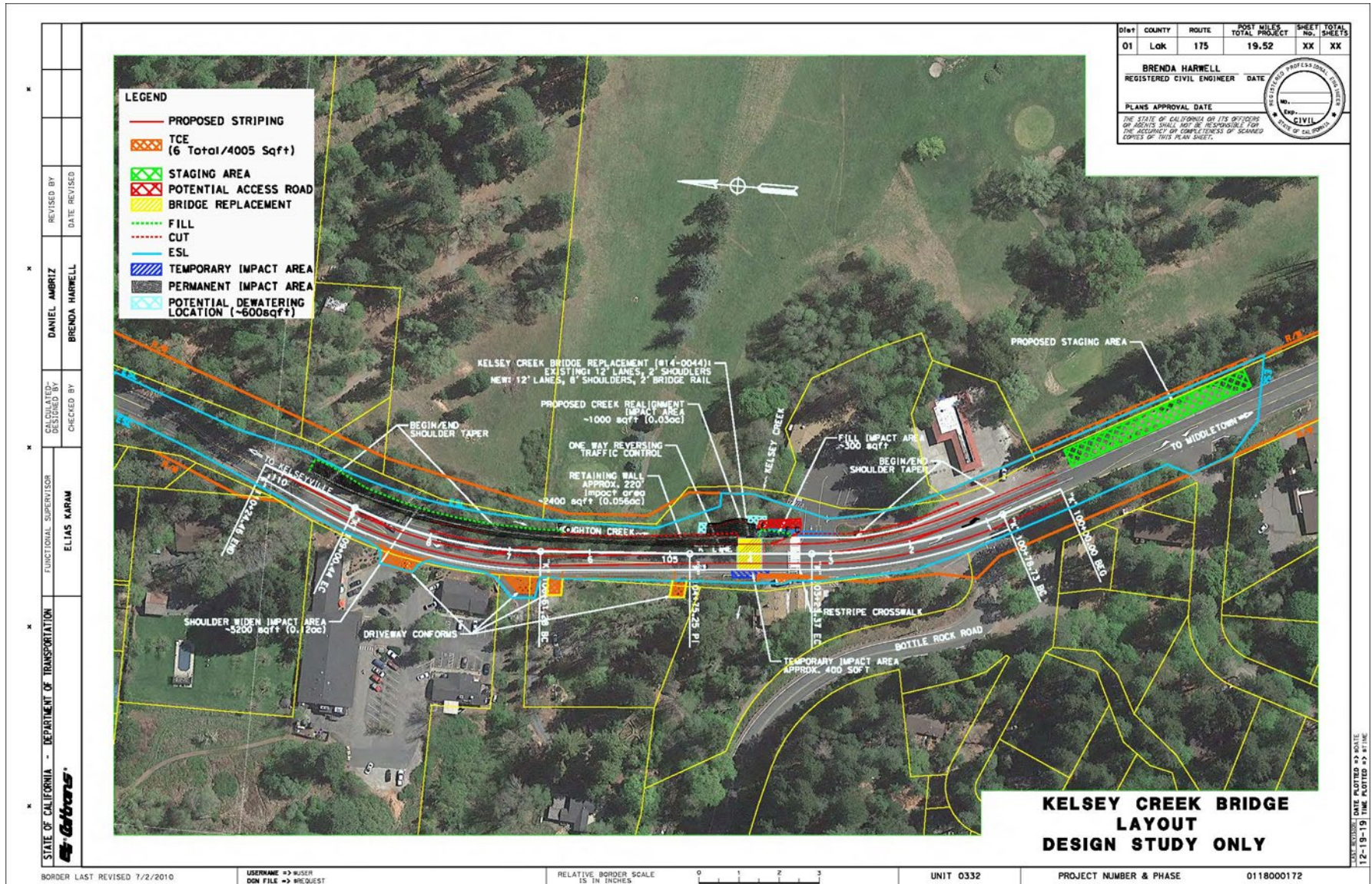
Toks Omishakin
Director

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

Appendix B. Layouts of Proposed Work









Appendix C. USFWS, NMFS, CNDDDB, CNPS Species Lists

Table 3-1: Listed and Proposed Species and Associated Critical Habitat Potentially Occurring or Known to Occur in the Project Area

Common Name	Scientific Name	Status**	General Habitat Description	Habitat Present/ Absent	Rationale
		Federal/State/			
		CRPR			
Amphibians					
California giant salamander	<i>Dicamptodon ensatus</i>	-/SSC	Wet coastal forests near streams and seeps from Mendocino County south to Monterey County, and east to Napa County.	Absent	No impact. No suitable habitat in ESL.
California red-legged frog	<i>Rana draytonii</i>	FT/-	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	Absent	No effect. Lake County is considered historic range, but not current range.
foothill yellow-legged frog	<i>Rana boylei</i>	-/SSC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats.	Present	No impact. Species not found during seasonal surveys but is within species range. Avoidance and minimization measures will be implemented to avoid 'take' of the species.
red-bellied newt	<i>Taricha rivularis</i>	-/SSC	Coastal drainages from Humboldt County south to Sonoma County, inland to Lake County. Isolated population of uncertain origin in Santa Clara County.	Absent	No impact. Species not found during seasonal surveys.
Reptiles					
green sea turtle	<i>Chelonia mydas</i>	FT/-	Marine.	Absent	No effect. No suitable habitat in ESL. Outside of species range.
western pond turtle	<i>Emys marmorata</i>	-/SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation.	Present	No impact. Species not observed during surveys. Avoidance and minimization measures will be implemented to avoid 'take' of the species.

Birds					
double-crested cormorant	<i>Phalacrocorax auritus</i>	-/WL	Colonial nester on coastal cliffs, offshore islands, and along lake margins in the interior of the state.	Present	No impact. Suitable habitat present along shore of Clear Lake. Species not observed within ESL. Avoidance and minimization measures for nongame and migratory birds will avoid 'take' of the species.
great blue heron	<i>Ardea herodias</i>	-/-	Colonial nester in tall trees, cliffsides, and sequestered spots on marshes.	Present	No impact. Suitable habitat present at all three project locations. Species not observed within ESL. Avoidance and minimization measures for nongame and migratory birds will avoid 'take' of the species.
Northern spotted owl	<i>Strix occidentalis caurina</i>	FT/ST	Old-growth forests or mixed stands of old-growth and mature trees. Occasionally in younger forests with patches of big trees.	Absent	No effect. No suitable habitat in ESL or within 0.25 mile of ESL.
osprey	<i>Pandion haliaetus</i>	-/WL	Ocean shore, bays, freshwater lakes, and larger streams.	Present	No impact. Suitable habitat present along shore of Clear Lake. Species not observed within ESL. Avoidance and minimization measures for nongame and migratory birds will avoid 'take' of the species.
purple martin	<i>Progne subis</i>	-/SSC	Inhabits woodlands, low elevation coniferous forest of Douglas-fir, ponderosa pine, and Monterey pine.	Absent	No impact. Species not observed within ESL. Avoidance and minimization measures for nongame and migratory birds will avoid 'take' of the species.
tricolored blackbird	<i>Agelaius tricolor</i>	-/ST	Highly colonial species, most numerous in Central Valley & vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging	Present	No effect. Suitable habitat present at all three project locations. Species not observed during surveys. Avoidance and minimization measures for

			area with insect prey within a few km of the colony.		nongame and migratory birds will avoid 'take' of the species.
Fish					
CC Chinook salmon ESU	<i>Oncorhynchus tshawytscha</i>	FT/-	This ESU includes naturally spawned Chinook salmon originating from rivers south of the Klamath River to and including the Russian River.	Absent	No effect. ESL is located outside of species distribution.
CCC coho salmon ESU	<i>Oncorhynchus kisutch</i>	FE/SE	Federal listing = populations between Punta Gorda & San Lorenzo River. State listing = populations south of Punta Gorda.	Absent	No effect. ESL is located outside of species distribution.
CCC steelhead DPS	<i>Oncorhynchus mykiss</i>	FT/-	The DPS includes all naturally spawned populations of steelhead (and their progeny) in streams from the Russian River to Aptos Creek, Santa Cruz County, California (inclusive). The DPS also includes the drainages of San Francisco and San Pablo Bays.	Absent	No effect. ESL is located outside of species distribution.
Clear Lake hitch	<i>Lavinia exilicauda chi</i>	-/ST	Found only in Clear Lake, Lake County, and associated ponds. Spawns in streams flowing into Clear Lake.	Present	Minimal impact. ESL includes potential spawning habitat for Clear Lake hitch. Avoidance and minimization measures will avoid 'take' of the species.
Clear Lake tule perch	<i>Hysterocarpus traskii lagunae</i>	-/SSC	Clear Lake	Absent	No impact. Project ESL is not in Clear Lake, and project construction BMPs will prevent any runoff impacts into Clear Lake from Morrison Creek.
Delta smelt	<i>Hypomesus transpacificus</i>	FT/SE	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait & San Pablo Bay.	Absent	No impact. ESL is located outside of species distribution.

Sacramento perch	<i>Archoplites interruptus</i>	-/-	Historically found in the sloughs, slow-moving rivers, and lakes of the Central Valley.	Absent	No impact. ESL is outside of current distribution.
Mammals					
American badger	<i>Taxidea taxus</i>	-/-	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	Present	No impact. Species not observed during surveys. Low quality habitat available within ESL.
fringed myotis	<i>Myotis thysanodes</i>	-/-	In a wide variety of habitats, optimal habitats are pinyon-juniper, valley foothill hardwood & hardwood-conifer. Uses caves, mines, buildings or crevices for maternity colonies and roosts.	Present	Minimal impact. Night roosting habitat is present at Robinson Creek Bridge and Kelsey Creek Bridge. Avoidance and minimization measures will be implemented to avoid 'take' of the species.
hoary bat	<i>Lasiurus cinereus</i>	-/-	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Present	Minimal impact. Night roosting habitat is present at Robinson Creek Bridge and Kelsey Creek Bridge. Avoidance and minimization measures will be implemented to avoid 'take' of the species.
long-eared myotis	<i>Myotis evotis</i>	-/-	Found in all brush, woodland and forest habitats from sea level to about 9000 ft. Prefers coniferous woodlands and forests. Nursery colonies in buildings, crevices, spaces under bark, and snags. Caves used primarily as night roosts.	Present	Minimal impact. Night roosting habitat is present at Robinson Creek Bridge and Kelsey Creek Bridge. Avoidance and minimization measures will be implemented to avoid 'take' of the species.
pallid bat	<i>Antrozous pallidus</i>	-/-	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Present	Minimal impact. Night roosting habitat is present at Robinson Creek Bridge and Kelsey Creek Bridge. Avoidance and minimization measures will be

					implemented to avoid 'take' of the species.
silver-haired bat	<i>Lasionycter noctivagans</i>	-/-	Primarily a coastal and montane forest dweller, feeding over streams, ponds & open brushy areas. Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes, and rarely under rocks. Needs drinking water.	Present	Minimal impact. Night roosting habitat is present at Robinson Creek Bridge and Kelsey Creek Bridge. Avoidance and minimization measures will be implemented to avoid 'take' of the species.
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	-/-	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	Present	Minimal impact. Night roosting habitat is present at Robinson Creek Bridge and Kelsey Creek Bridge. Avoidance and minimization measures will be implemented to avoid 'take' of the species.
western red bat	<i>Lasiurus blossevillii</i>	-/-	Roosts primarily in trees, 2-40 ft above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	Present	Minimal impact. Night roosting habitat is present at Robinson Creek Bridge and Kelsey Creek Bridge. Avoidance and minimization measures will be implemented to avoid 'take' of the species.
Invertebrates					
Blennosperma vernal pool andrenid bee	<i>Andrena blennospermatis</i>	-/-	This bee is oligolectic on vernal pool blennosperma.	Absent	No impact. No suitable habitat in ESL. Species not found during surveys.
brownish dubiraphian riffle beetle	<i>Dubiraphia brunnescens</i>	-/-	Aquatic; known only from the NE shore of Clear Lake, Lake County.	Absent	No impact. No suitable habitat in ESL. Morrison Creek Bridge is approximately 500 feet away from NE shore of Clear Lake.

California freshwater shrimp	<i>Syncaris pacifica</i>	FE/SE	Endemic to Marin, Napa, and Sonoma counties. Found in low elevation, low gradient streams where riparian cover is moderate to heavy.	Absent	No effect. Project is outside of species range.
western bumble bee	<i>Bombus occidentalis</i>	-/SC	Once common & widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease.	Present	No impact. Species not found during surveys.
Plants					
Anthony Peak lupine	<i>Lupinus antoninus</i>	-/1B.2	Upper montane coniferous forest, lower montane coniferous forest.	Absent	No impact. Species not found during seasonal surveys.
Baker's navarretia	<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	-/1B.1	Cismontane woodland, meadows and seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest.	Present	No impact. Species not found during seasonal surveys.
bent-flowered fiddleneck	<i>Amsinckia lunaris</i>	-/1B.2	Cismontane woodland, valley and foothill grassland, coastal bluff scrub.	Present	No impact. Species not found during seasonal surveys.
Bolander's horkelia	<i>Horkelia bolanderi</i>	-/1B.2	Lower montane coniferous forest, chaparral, meadows and seeps, valley and foothill grassland.	Present	No impact. Species not found during seasonal surveys.
Brewer's milk-vetch	<i>Astragalus breweri</i>	-/4.2	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland.	Present	No impact. Species not found during seasonal surveys.
bristly sedge	<i>Carex comosa</i>	-/2B.1	Marshes and swamps, coastal prairie, valley and foothill grassland.	Present	No impact. Species not found during seasonal surveys.
Burke's goldfields	<i>Lasthenia burkei</i>	FE/SE/1B.1	Vernal pools, meadows and seeps.	Absent	No impact. Species not found during seasonal surveys.
California satintail	<i>Imperata brevifolia</i>	-/2B.1	Coastal scrub, chaparral, riparian scrub, mojavean desert scrub, meadows and seeps (alkali), riparian scrub.	Absent	No impact. Species not found during seasonal surveys.
Calistoga ceanothus	<i>Ceanothus divergens</i>	-/1B.2	Chaparral.	Absent	No impact. Species not found during seasonal surveys.
Cascade downingia	<i>Downingia willamettensis</i>	-/2B.2	Cismontane woodland, valley and foothill grasslands, vernal pools.	Present	No impact. Species not found during seasonal surveys.

Cleveland's milk-vetch	<i>Astragalus clelandii</i>	-/-/4.3	Chaparral, cismontane woodland, riparian forest.	Present	No impact. Species not found during seasonal surveys.
coast rockcress	<i>Arabis blepharophylla</i>	-/-/4.3	Broadleafed upland forest, coastal prairie, coastal scrub, coastal bluff scrub.	Absent	No impact. Species not found during seasonal surveys.
Cobb Mountain lupine	<i>Lupinus sericatus</i>	-/-/1B.2	Chaparral, cismontane woodland, lower montane coniferous forest, broadleafed upland forest.	Present	No impact. Species not found during seasonal surveys.
Colusa layia	<i>Layia septentrionalis</i>	-/-/1B.2	Chaparral, cismontane woodland, valley and foothill grassland.	Present	No impact. Species not found during seasonal surveys.
dimorphic snapdragon	<i>Antirrhinum subcordatum</i>	-/-/4.3	Chaparral, lower montane coniferous forest.	Absent	No impact. Species not found during seasonal surveys.
dwarf soaproot	<i>Chlorogalum pomeridianum var. minus</i>	-/-/1B.2	Chaparral.	Absent	No impact. No suitable habitat in ESL. Species not found during seasonal surveys.
eel-grass pondweed	<i>Potamogeton zosteriformis</i>	-/-/2B.2	Marshes and swamps.	Absent	No impact. No suitable habitat in ESL. Species not found during seasonal surveys.
elongate copper moss	<i>Mielichhoferia elongata</i>	-/-/4.3	Cismontane woodland.	Present	No impact. Species not found during seasonal surveys.
few-flowered navarretia	<i>Navarretia leucocephala ssp. pauciflora</i>	FE/ST/1B.1	Vernal pools.	Absent	No impact. No suitable habitat in ESL. Species not found during seasonal surveys.
four-petaled pussypaws	<i>Calyptridium quadripetalum</i>	-/-/4.3	Chaparral, lower montane coniferous forest.	Absent	No impact. Species not found during seasonal surveys.
Freed's jewelflower	<i>Streptanthus brachiatus ssp. haffmanii</i>	-/-/1B.2	Chaparral, cismontane woodland.	Present	No impact. Species not found during seasonal surveys.
Geysers panicum	<i>Panicum acuminatum var. thermale</i>	-/SE/1B.2	Closed-cone coniferous forest, riparian forest, valley and foothill grassland.	Present	No impact. Species not found during seasonal surveys.
glandular western flax	<i>Hesperolinon adenophyllum</i>	-/-/1B.2	Chaparral, cismontane woodland, valley and foothill grassland.	Present	No impact. Species not found during seasonal surveys.
green jewelflower	<i>Streptanthus hesperidis</i>	-/-/1B.2	Chaparral, cismontane woodland.	Present	No impact. Species not found during seasonal surveys.

Greene's narrow-leaved daisy	<i>Erigeron greenei</i>	-/-/1B.2	Chaparral.	Absent	No impact. No suitable habitat in ESL. Species not found during seasonal surveys.
Indian Valley brodiaea	<i>Brodiaea rosea ssp. rosea</i>	-/SE/3.1	Closed-cone coniferous forest, chaparral, cismontane woodland, valley and foothill grassland.	Present	No impact. Species not found during seasonal surveys.
Jepson's leptosiphon	<i>Leptosiphon jepsonii</i>	-/-/1B.2	Chaparral, cismontane woodland, valley and foothill grassland.	Present	No impact. Species not found during seasonal surveys.
Jepson's milk-vetch	<i>Astragalus rattanii var. jepsonianus</i>	-/-/1B.2	Cismontane woodland, valley and foothill grassland, chaparral.	Present	No impact. Species not found during seasonal surveys.
Konocti manzanita	<i>Arctostaphylos manzanita ssp. elegans</i>	-/-/1B.3	Chaparral, cismontane woodland, lower montane coniferous forest.	Present	No impact. Species not found during botanical surveys. CNDDDB occurrence mapped approximately 0.5 mile away from Kelsey Creek ESL in 2007.
Kruckeberg's jewelflower	<i>Streptanthus morrisonii ssp. kruckebergii</i>	-/-/1B.2	Cismontane woodland.	Absent	No impact. No suitable habitat in ESL. Species not found during seasonal surveys.
Lake County stonecrop	<i>Sedella leiocarpa</i>	FE/SE/1B.1	Valley and foothill grassland, vernal pools, cismontane woodland.	Present	No impact. Species not found during seasonal surveys.
Lake County western flax	<i>Hesperolinon didymocarpum</i>	-/SE/1B.2	Chaparral, cismontane woodland, valley and foothill grassland.	Present	No impact. Species not found during seasonal surveys.
legenere	<i>Legenere limosa</i>	-/-/1B.1	Vernal pools.	Absent	No impact. No suitable habitat in ESL. Species not found during seasonal surveys.
Loch Lomond coyote thistle	<i>Eryngium constancei</i>	FE/SE/1B.1	Vernal pools.	Absent	No impact. No suitable habitat in ESL. Species not found during seasonal surveys.
many-flowered navarretia	<i>Navarretia leucocephala ssp. plieantha</i>	FE/SE/1B.2	Vernal pools.	Absent	No impact. No suitable habitat in ESL. Species not found during seasonal surveys. CNDDDB occurrence mapped approximately

					0.6 miles away from Kelsey Creek ESL in 2015.
marsh checkerbloom	<i>Sidalcea oregana</i> <i>ssp. hydrophila</i>	FE/SE/1B.1	Meadows and seeps, riparian forest.	Present	No impact. Species not found during seasonal surveys.
Mt. Diablo cottonweed	<i>Micropus amphibolus</i>	-/-/3.2	Valley and foothill grassland, cismontane woodland, chaparral, broadleafed upland forest.	Present	No impact. Species not found during seasonal surveys.
Mt. Saint Helena morning-glory	<i>Calystegia collina</i> <i>ssp. oxyphylla</i>	-/-/4.3	Chaparral, lower montane coniferous forest, valley and foothill grassland.	Present	No impact. Species not found during seasonal surveys.
northern meadow sedge	<i>Carex praticola</i>	-/-/2B.2	Meadows and seeps.	Absent	No impact. No suitable habitat in ESL. Species not found during seasonal surveys.
Raiche's manzanita	<i>Arctostaphylos stanfordiana</i> <i>ssp. raichei</i>	-/-/1B.1	Chaparral, lower montane coniferous forest.	Absent	No impact. Species not found during seasonal surveys.
Rincon Ridge ceanothus	<i>Ceanothus confusus</i>	-/-/1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland.	Present	No impact. Species not found during seasonal surveys.
serpentine bird's-beak	<i>Cordylanthus tenuis</i> <i>ssp. brunneus</i>	-/-/4.3	Chaparral, closed-cone coniferous forest, cismontane woodland.	Present	No impact. Species not found during seasonal surveys.
serpentine collomia	<i>Collomia diversifolia</i>	-/-/4.3	Chaparral, cismontane woodland.	Present	No impact. Species not found during seasonal surveys.
serpentine cryptantha	<i>Cryptantha dissita</i>	-/-/1B.2	Chaparral.	Absent	No impact. No suitable habitat in ESL. Species not found during seasonal surveys.
serpentine milkweed	<i>Asclepias solanoana</i>	-/-/4.2	Chaparral, cismontane woodland, lower montane coniferous forest.	Present	No impact. Species not found during seasonal surveys.
serpentine reed grass	<i>Calamagrostis ophitidis</i>	-/-/4.3	Chaparral, lower montane coniferous forest, meadows and seeps, valley and foothill grassland.	Present	No impact. Species not found during seasonal surveys.

slender orcutt grass	<i>Orcuttia tenuis</i>	FT/SE/1B.1	Vernal pools.	Absent	No impact. No suitable habitat in ESL. Species not found during seasonal surveys.
small-flowered calycadenia	<i>Calycadenia micrantha</i>	-/-/1B.2	Chaparral, valley and foothill grassland, meadows and seeps.		No impact. Species not found during seasonal surveys.
Snow Mountain buckwheat	<i>Eriogonum nervulosum</i>	-/-/1B.2	Chaparral.	Absent	No impact. No suitable habitat in ESL.
Socrates Mine jewelflower	<i>Streptanthus brachiatus</i> ssp. <i>brachiatus</i>	-/-/1B.2	Chaparral, closed-cone coniferous forest.	Absent	No impact. Species not found during seasonal surveys.
Sonoma beardtongue	<i>Penstemon newberryi</i> var. <i>sonomensis</i>	-/-/1B.3	Chaparral.	Absent	No impact. No suitable habitat in ESL. Species not found during seasonal surveys.
swamp larkspur	<i>Delphinium uliginosum</i>	-/-/4.2	Chaparral, valley and foothill grassland.	Present	No impact. Species not found during seasonal surveys.
Toren's grimmia	<i>Grimmia torenii</i>	-/-/1B.3	Cismontane woodland, lower montane coniferous forest, chaparral.	Present	No impact. Species not found during seasonal surveys.
twig-like snapdragon	<i>Antirrhinum virga</i>	-/-/4.3	Chaparral, lower montane coniferous forest.	Absent	No impact. Species not found during seasonal surveys.
two-carpellate western flax	<i>Hesperolinon bicarpellatum</i>	-/-/1B.2	Chaparral.	Absent	No impact. No suitable habitat in ESL. Species not found during seasonal surveys.
watershield	<i>Brasenia schreberi</i>	-/-/2B.3	Freshwater marshes and swamps.	Absent	No impact. No suitable habitat in ESL. Species not found during seasonal surveys.
Habitats					
Central Valley Drainage Rainbow Trout/Cyprinid Stream				Absent	No impact. No suitable habitat in ESL.
Clear Lake Drainage Cyprinid/Catostomid Stream				Absent	No impact. No suitable habitat in ESL.
Clear Lake Drainage Resident Trout Stream				Present	Project will impact. Houghton Creek and Kelsey Creek are mapped as suitable habitat within project ESL on CNDDDB. See section 4.1.3 for discussion.

Clear Lake Drainage Seasonal Lakefish Spawning Stream	Absent	No impact. No suitable habitat in ESL.
Coastal and Valley Freshwater Marsh	Absent	No impact. No suitable habitat in ESL.
CCC coho critical habitat	Absent	No effect. No suitable habitat in ESL.
coho salmon EFH	Absent	No effect. No suitable habitat in ESL.
Chinook salmon EFH	Absent	No effect. No suitable habitat in ESL.

Federal: -- = No status definition. FE = Endangered. FPT = Proposed for federal listing as threatened under the Federal Endangered Species Act. FT = Listed as threatened under the Federal Endangered Species Act. FC = Candidate for Federal listing (taxa for which the U.S. Fish and Wildlife Service has sufficient biological information to support a proposal to list as Endangered or Threatened). DL = Delisted.

State: -- = No status definition. SE = Listed as endangered under the California Endangered Species Act. ST = Listed as threatened under the California Endangered Species Act. SC = Proposed for state listing as threatened under the California Endangered Species Act. FP = Fully protected, species may not be taken or possessed without a permit from the FG Commission and/or the CDFW, SSC = Species of Special Concern

California Rare Plant Rank (CRPR): -- = No status definition. Rank 1A = Plants presumed extinct in California. Rank 1B = Plants are rare and endangered in California. Rank 2 = Plants endangered in California, but more common elsewhere. Source: Caltrans 2017; CNDDDB 2017; USFWS 2017.



Appendix D. Biological Surveys – Species , Personnel, and Dates

Review Personnel	Date	Purpose
Grant Thornton, Michelle Holtz, Alexandra Laughtin.	5/9/2017	General field survey, Botanical survey
Grant Thornton, Lori Price	5/10/2017	General field survey, Botanical survey
Grant Thornton	5/31/17	General field survey, Botanical survey
Grant Thornton, Michelle Holtz	11/3/2017	General field survey, Botanical Survey
Grant Thornton	4/23/2018	General field survey
Grant Thornton, Ian Springer	9/17/2018	General Field Survey – Morrison Creek
Grant Thornton	10/22/18	General Field Survey – Morrison Creek
Grant Thornton	2/11/19	General Field Survey – Morrison Creek
Grant Thornton	2/28/19	General Field Survey – Morrison Creek
Grant Thornton	3/26/19	General Field Survey – Morrison Creek
Hannah Clark, Greg Saiyo, and Star Argo	12/26/2019	OHW and riparian mapping at Morrison Creek, Robinson Creek, and Kelsey Creek
Hannah Clark and Grant Thornton	3/12/20	Riparian mapping at Morrison Creek and ephemeral drainage mapping at Robinson Creek

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