HORSE CREEK BRIDGE REPLACEMENT PROJECT

SISKIYOU COUNTY, CALIFORNIA
02–SIS–96–PM 76.8/78.0
EA 02-1H360
EFIS 0216000040

Initial Study with Proposed Mitigated Negative Declaration

Caltrans

Prepared by the
State of California, Department of Transportation
Caltrans District 2
1657 Riverside Drive, MS-30
Redding, CA 96001

October 2021

General Information About This Document

What's in this document?

The California Department of Transportation (Caltrans) has prepared this Initial Study, which examines the potential environmental impacts of a proposed bridge replacement project on State Route (SR) 96, between postmiles 76.8 and 78.0, in Siskiyou County. This Initial Study was prepared to comply with the California Environmental Quality Act (CEQA). Caltrans is the lead agency under CEQA. This document describes the purpose and need for the project, project alternatives, potential environmental impacts, and proposed avoidance, minimization, and mitigation measures.

What should you do?

- Please read this Initial Study
- You are invited to review the environmental document and technical studies. A printed copy of the document and technical studies can be found during business hours (Monday–Friday, 8:00 a.m. to 4:30 p.m.) at the Caltrans District Office located at 1657 Riverside Drive in Redding or at the Post Office (Monday–Friday, 9:00 a.m. to 5:00 p.m.), located at 33 Davis Road in Happy Camp. This document may be downloaded at the following website https://dot.ca.gov/caltrans-near-me/district-3/d3-programs/d3-environmental/d3-environmental-docs.
- We welcome your comments. If you have any information or concerns regarding the project, please send your written comments to Caltrans by the deadline. Submit comments via regular mail to:

  California Department of Transportation
  Attention: Keith Pelfrey
  North Region Office of Environmental Management, MS-30
  1657 Riverside Drive
  Redding, CA 96001

- You may also submit comments via e-mail to keith.pelfrey@dot.ca.gov
- Submit comments by the deadline: December 10, 2021.

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) undertake additional environmental studies, or (3) abandon the project. If the project is given environmental approval and funding is appropriated, Caltrans could construct all or part of the project.

For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Keith Pelfrey, North Region Office of Environmental Management MS-30, 1657 Riverside Drive, Redding, CA 96001; (530) 941-3340 Voice, or use the California Relay Service TTY number, 711 or 1-800-735-2929.

Horse Creek Bridge Replacement Project

In Siskiyou County near Hamburg on State Route 96

INITIAL STUDY WITH PROPOSED MITIGATED NEGATIVE DECLARATION

Submitted Pursuant to: Division 13, California Public Resources Code

STATE OF CALIFORNIA
Department of Transportation

Prepared By: Cabe Cornelius Date: 10/25/21

Cabe Cornelius, Associate Environmental Planner
North Region Environmental Management
California Department of Transportation

Approved By: Wesley Stroud Date: 10/25/21

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

Proposed Mitigated Negative Declaration

Submitted Pursuant to: Division 13, California Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to replace the Klamath River Bridge (Bridge No. 02-0117) on State Route (SR) 96 at post mile (PM) 77.15 in Siskiyou County. The existing four-span bridge will be replaced with a three-span bridge with two 12-foot wide traffic lanes and two eight-foot-wide shoulders. The new bridge will be constructed on a new alignment, approximately 12 feet north of the existing bridge. The roadway to and from the new bridge will have two 12-foot-wide traffic lanes and two eight-foot-wide shoulders to match the new bridge deck width and profile. Construction equipment parking and material stockpiling would occur within Caltrans right-of-way. The project would require the following permits: the California Department of Fish and Wildlife (CDFW) 1602 permit, North Coast Regional Water Quality Control Board (NCRWQCB) 401 certification, and the U.S. Army Corps of Engineers (USACE) 404 permit.

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 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.

The Department has prepared an Initial Study for this project, and pending public review, expects to determine from this study that the proposed project would not have a significant effect on the environment for the following reasons:

- The proposed project would have *No Impact* to: *Agriculture and Forest Resources, Cultural Resources, Energy, Geology and Soils, Land Use and Planning, Mineral Resources, Population and Housing, Public Services, Recreation, Transportation/Traffic, Tribal Cultural Resources, Utilities* and *Service Systems or Wildfires.*
- The proposed project would have a *Less-Than-Significant Impact* to: *Aesthetics, Air Quality, Climate Change, Hazards and Hazardous Materials, Hydrology* and *Water Quality and Noise*.
- The proposed project will have a *Less-Than-Significant Impact with Mitigation* to: *Biological Resources* and *Mandatory Findings of Significance*.

_____ _____

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

Date

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List of Figures and Tables

Chapter 1 Proposed Project

Project Title
Horse Creek Bridge Replacement Project

Lead Agency Name and Address
California Department of Transportation, District 2
Office of Environmental Management
1657 Riverside Drive, MS-30
Redding, CA 96001

Contact Person and Phone Number
Keith Pelfrey, Senior Environmental Planner
North Region Environmental Management
Phone: (530) 941-3340
Email: keith.pelfrey@dot.ca.gov

Project Location
The project is located on State Route 96 (SR 96), from Post Mile (PM) 76.8 to 78.0, in Siskiyou County (Figure 1 and Figure 2 on page 11 and page 13).

Project Sponsor's Name and Address
California Department of Transportation, District 2
1657 Riverside Drive, MS-30
Redding, CA 96001

1.1. Purpose and Need

The purpose of this project is to provide a safe, sustainable, and traversable corridor to the public, reduce operational deficiencies, improve worker safety, and decrease maintenance and repair costs.

The project is needed as Pier 3 of the structure is scour critical and is vulnerable to undermining, and the existing Rock Slop Protection (RSP) around the substructure has begun to settle and is no longer adequate or permanent in nature. Additional deficiencies associated with the bridge include limited horizontal and vertical clearance and substandard

geometrics. Damage from repeated hits from trucks with tall loads has resulted in numerous repairs to the steel truss structure.

1.2. Existing Facilities

The existing Klamath River Bridge (No. 02-0117) was built in 1953 measuring 419 feet long and is 26 feet and 10 inches wide. The bottom of the bridge (soffit) is approximately 15 feet and 11 inches above the Klamath River at normal flow. The existing bridge sits on a tangent. There are multiple scuppers (or vertical drains) on the deck. Surface waters from the deck drain through these holes and empty directly into the river. Currently, there is 1 to 2 tons of RSP placed around Pier 3 to prevent further erosion of the foundation.

1.3. Project Description (Build Alternative 1)

Caltrans is proposing to replace the Klamath River Bridge (Bridge No. 02-0117) on State Route (SR) 96 near Horse Creek in Siskiyou County. Work activities would include demolition of the existing bridge, construction of a new bridge adjacent to the current alignment, installation of new guardrails and bridge railing, and the improvement of road connections within the project limits. The new bridge would be longer and wider than the existing bridge (Table 1), to meet current design standards. Construction would occur over three seasons and traffic through the project site during construction would be kept on the existing bridge. The contractor will be provided with an approved optional disposal site to dispose of excess clean soil generated from project activities.

Table 1. Summary of Existing and Proposed Bridge Dimensions

Klamath River Bridge	Dimension Length (feet)	Dimension Width (feet)	Piers
Existing	419'	26'10"	3
Proposed	545'	44'	2
Change	+131'	+17'2"	-1

The new bridge would be approximately 545 feet long and 44 feet wide. The new soffit will be approximately 34.1 feet above normal flow. The new bridge would be a three-span cast-in-place post-tensioned bridge that ends in an

800-foot radius curve. There would be no scuppers on the deck. The superstructure would be supported on cantilever seat abutments and concrete piers on cast-in-drilled-hole (CIDH) concrete piles. The new bridge would be constructed on a new alignment. The roadway of the new bridge would have two 12-foot-wide traffic lanes and two eight-foot-wide shoulders to match the new bridge deck width and profile.

The new bridge alignment will require an upgrade at the intersection of Walker Road and State Route (SR) 96. The improvement would allow trucks and larger vehicles currently using the road to turn safely. Current conditions cause trucks and large vehicles to make out-of-lane turning movements to complete turns to or from Walker Road and often cross oncoming lanes. Walker Road would be lengthened to conform to the new highway alignment and widened at the intersection to accommodate turn movements to improve operational efficiencies. Existing culverts in this area may need to be extended or replaced to conform to the new edge of pavement.

A detour would not be required as traffic will continue to use the current bridge until construction is complete.

1.3.1. Construction of Temporary Access Roads

Temporary access roads would be required to access work below the bridges. These proposed temporary access roads would most likely be constructed at the northeast and northwest corners of the existing bridge and along the riverbanks between the existing and new bridges. The road would go down to the Klamath River. Most of the construction of these temporary access roads would take place within existing disturbed upland areas. Approximately 3,480 ft^2 or 516 cubic yards (CY) of gravel would be used between the edge of the riparian zone and the river's edge. Grading for the newly constructed temporary access roads may require grading up to three to four feet deep to push out high spots or to fill in low spots. These roads would have an overall width of approximately 20 feet.

1.3.2. Placement of Temporary Platforms for New Bridge

Temporary work platforms (falsework and trestle) would be required for the construction of the new bridge. The platforms would be elevated and supported on temporary piles to maintain water flows. The temporary piles would most likely be left in place over the winter. Falsework would be erected to support the construction of the superstructure and would span the entire length of the new bridge, 550 feet. A trestle would be erected between the two piers for installation and removal of the falsework and would most likely be built downstream of the new bridge. The trestle would be up to 40 feet wide with anticipated spans of 40 feet to 50 feet and a total length of 230 feet. The falsework and trestle would most likely be constructed in 2024.

The platforms would be designed by the contractor. The contractor would determine the final number and size of piles, but the pipe piles will likely not exceed 24-inches in diameter or steel H-piles greater than 14-inches in size. Each temporary platform would most likely be supported on 18 to 24-inch pipe piles or 12-14-inch driven steel H-piles (see Pile Installation). The temporary trestle deck would most likely consist of steel W-beams overlaid by timber decking.

1.3.3. Pile Installation

Both pipe piles and steel H-piles can be driven, but the pipe piles can be drilled in as well. Due to the substantial amounts of rocky material expected at the proposed bridge location, the method of non-displacement, pre-drilling the holes before placing the piles, may be used. It is anticipated that roughly 600 to 1,000 strikes per pile would be needed to drive each pile into the ground. The depth of piles driven may vary depending on substrate composition but is assumed to be approximately 25 to 30 feet deep. It is estimated that a total of 28 piles are needed for the temporary trestle and 56 to 70 piles for the falsework. It is anticipated that pile driving activities would take a total of 11-40 days. The remaining 28 piles are expected to be installed in dry riverbed.

1.3.4. Construction of In-Water Gravel Work Pad

Should the contractor choose to construct gravel work pads in place of a portion of a trestle for cranes and equipment access, they would likely be placed in the river. The contractor may also choose to construct a combination of pilings and gravel work pads. Whether a work pad is installed on the east or the west (or both) sides of the river, it would extend from the river's edge into the river. Both gravel work pads would most likely be reinforced with stepped k-rail around the perimeter to prevent erosion and sloughing of material into the river. Other slope protection measures may also be used to prevent erosion within the river. Depending on the contractor's work schedule and timing, in-water gravel work pads would either be constructed one at a time or at the same time. If constructed one at a time, removal of the first pad and installation of the second pad would occur sequentially to allow the reuse of gravel removed from one pad to construct the other pad. Construction of each gravel pad is anticipated to take approximately 6 days to complete. They may remain in the river for up to two winters and three summers.

Additionally, an in-water gravel work pad may be required for the removal of Pier 2. If needed, it would likely be placed in the river, extending from the river's edge on the west to six feet past Pier 2. Construction of this gravel pad is anticipated to take approximately 3 days to complete. It would remain in the river for one summer.

1.3.5. Construction of the new bridge and associated bridge elements

The abutments and piers of the new bridge would be founded on CIDH concrete piles.

The new bridge would have two cantilever seat abutments on 36-inch CIDH concrete piles. Each abutment is expected to have approximately 17 piles, and each pile would be approximately 46 feet long. The 36-inch CIDH would be drilled (25 to 30 feet) into bedrock to carry the load from the superstructure.

The new bridge would have two piers, each consisting of two columns and a pier cap. The pier columns would be constructed using 72-inch CIDH concrete pilings with 84-inch permanent steel casings. The concrete piling would be approximately 120 feet long. The piers would be constructed within the riparian zone. At the centerline of the new bridge, the piers would be approximately 32.2 feet and 62.9 feet from the river, respectively. Table 2 provides a summary of the CIDH pile drilling assumptions.

Table 2. Summary of CIDH Pile Drilling Assumptions

Bridge Elements	Pile Type	Pile Diameter	Pile Length	Total Number of Piles	Number of Piles Drilled Per Week	Hrs. of Pile Drilling Per Day	Total of Pile Drilling Days
Pier2	CIDH	72-inch	120-feet	3	1	8-12	14
Pier3	CIDH	72-inch	120-feet	3	1	8-12	14

1.3.6. Construction of the new road alignment and drainages

Approximately 251,412 ft^2 or 1.17 miles of the roadway would be realigned. The realignment includes an existing private access near the beginning of the realignment, existing private access near the new bridge, the new bridge, and Walker Road. The realignment would begin approximately 1,800 feet before the new bridge and continue approximately 4,000 feet beyond the new bridge. Soil would be borrowed from two adjacent hillsides north of SR 96 near the beginning of the realignment to construct the roadway. Borrowing soil from adjacent hillsides may require blasting.

Following the realignment, approximately 177,284 ft^2 or 1.17 miles of the existing roadway would be decommissioned. Existing culverts within the existing pavement footprint would be perpetuated to provide drainage to the newly realigned roadway. This would keep the existing drainage pattern. A total of five culverts and end treatments (i.e., headwall, inlet, or outlet) would be extended or replaced within the newly constructed roadway footprint. These culverts will be for storm drainage only; none are in the active channel. They would have some overland/channel between the outlets and

the river. Table 3 provides a summary of the culverts proposed for extension or replacement.

Table 3. Culverts Proposed for Extension or Replacement

Number	Location (PM)	Type	Existing Diameter (inch)	New Diameter (inch)	Existing Condition	Proposed Work
1	76.8	CSP	24	24	Fair	Replace
2	76.92	CSP	24	24	Good/Fair	Replace
3	77.15	CSP	24	24	Poor	Replace
4	77.67	CSP	24	24	Good/Fair	Extend or replace
5	77.78	CSP	24	24	Good/Fair	Extend or replace

RSP would also be placed at all five culvert outlets. The purpose of the RSP is to prevent erosion from undermining the area below the outlet and to keep the fill slope from becoming incised and destabilized to protect the highway. This action would protect the embankment from erosion and ensure the drainage systems continue to function in the future.

1.3.7. Removal of the Existing Bridge and Associated Bridge Elements

The contractor will prepare a bridge demolition plan for approval by Caltrans. The existing bridge would likely be removed in sections from the top down. Following the removal of the bridge rail, the superstructure would be removed. The contractor is expected to remove the existing bridge by saw-cutting the deck, pulling back from the truss, removing the truss section with the use of cranes, then removing the bridge superstructure starting in the center and working outward to the abutments. Next, removal of the abutments and piers would require breaking the abutments and piers into small, manageable concrete and rebar pieces that can be removed by an excavator or other mobile construction equipment. Access to the existing piers would be from the banks, using temporary rock access roads. The

existing CIDH piles under Pier 1 would be cut below the ground surface three feet and backfilled with riverbed material. The pier footings have been exposed so minimal excavation would be required. Finally, the abutments and embankment would be removed. The existing abutments footings are approximately six feet wide, 38 feet long and three feet deep, sitting on seven steel piles. Excavation to one foot below the original ground or three feet below finished grade, whichever is lower, would be required to remove the abutment footings. The steel piles would be cut three feet below finished grade.

During bridge removal, debris from the superstructure will have the potential to fall into the river. The contractor will be required to construct a catchment device to minimize debris from falling into the river. The catchment device will be deployed for the duration of the demolition process. The riverbed will be restored reflective of the existing condition.

1.3.8. Removal of the existing pavement and drainages

Approximately 177,284 ft^2 or 1.17 miles of the existing roadway would be decommissioned. Existing culverts within the existing pavement footprint would be perpetuated to provide drainage to the newly realigned roadway. This would keep existing drainage pattern.

1.3.9. Fish relocation

Fish capture and relocation efforts will take place after the barrier has been installed and prior to fish rock being placed within the barrier. Preceding the fish capture and relocation efforts, the contractor will develop an aquatic species relocation and clear water diversion plan to be submitted to NMFS and CDFW for approval. No area will be dewatered or diverted prior to June 15. Dewatering or diversion will take place during the dry season (June 15 to October 15), during daylight hours. Fish capture and relocation attempts are expected to occur up to three times and will be conducted by qualified fisheries biologists supplied by the contractor, following both NMFS and CDFW guidelines.

1.3.10. Water Drafting

Water drafting may be necessary for dust suppression or other construction activities (i.e., earthwork compaction operation or concrete curing). If water drafting is needed, the contractor shall provide to Caltrans copies of current applicable permits for the water drafting. Water drafting will comply with NMFS guidelines for water drafting. The contractor will prepare a water drafting plan for Caltrans' approval. At the minimum, the plan shall include the amount and the schedule of water withdrawals.

1.3.11. Right of Way

Right of way acquisition will be required to construct this project, including 4 parcels totaling 3.95 acres for easements, 2 temporary construction easements totaling 19.7 acres and 2 special use permits totaling 1.0 acre.

1.3.12. Utilities

The following utilities are within the project limits: Pacific Power and Siskiyou Telephone. Up to five power poles are in conflict and will require relocation. Siskiyou Telephone aerial and underground fiber optic will also require relocation.

1.4. Project Alternatives

Two project alternatives, one of which is a "no-build" alternative, were developed as potential solutions to address the purpose and need for the proposed project.

1.4.1. Alternative 1 (Build Alternative)

The build alternative, bridge replacement, is the preferred alternative, because it best meets the project's purpose and need statement, eliminates scour-related issues at Pier 3, and improves the limited horizontal and vertical clearances that are currently an issue on the existing bridge. This alternative would also improve nonstandard geometrics, including but not limited to, curve radius, superelevation, and pavement width.

1.4.2. Alternative 2 (No-Build)

The no-build alternative would not improve the existing facility within the project limits. Instead, the result would be continued, persistent, extensive, and costly maintenance efforts. Failure of the bridge would result in greater than a 70-mile detour, causing significant delays in emergency response times and increased travel times for goods movement, travelers, and residents to and from the communities along SR 96. This alternative does not meet the need and purpose of the project.

1.5. Permits and Approvals

Proposed work activities within the Klamath River would require permits from the California Department of Fish and Wildlife (1602 Streambed Alteration Agreement as well as an Incidental Take Permit), Regional Water Quality Control Board (401 Water Quality Certification), and the U.S. Army Corps of Engineers (404 Nationwide Permit).

A Water Quality Assessment (WQA) was prepared in accordance with Caltrans standard construction specifications. The contractor would be required to submit a Stormwater Pollution Prevention Plan (SWPPP) for the proposed project. The SWPPP would be prepared in accordance with Caltrans' Storm Water Management Program and the Statewide Caltrans NPDES Permit issued by the State Water Resources Control Board. The SWPPP would identify potential sources of pollution and include Caltrans' Best Management Practices (BMPs) to be implemented to avoid and/or minimize potential water quality-related impacts in the proposed project vicinity.

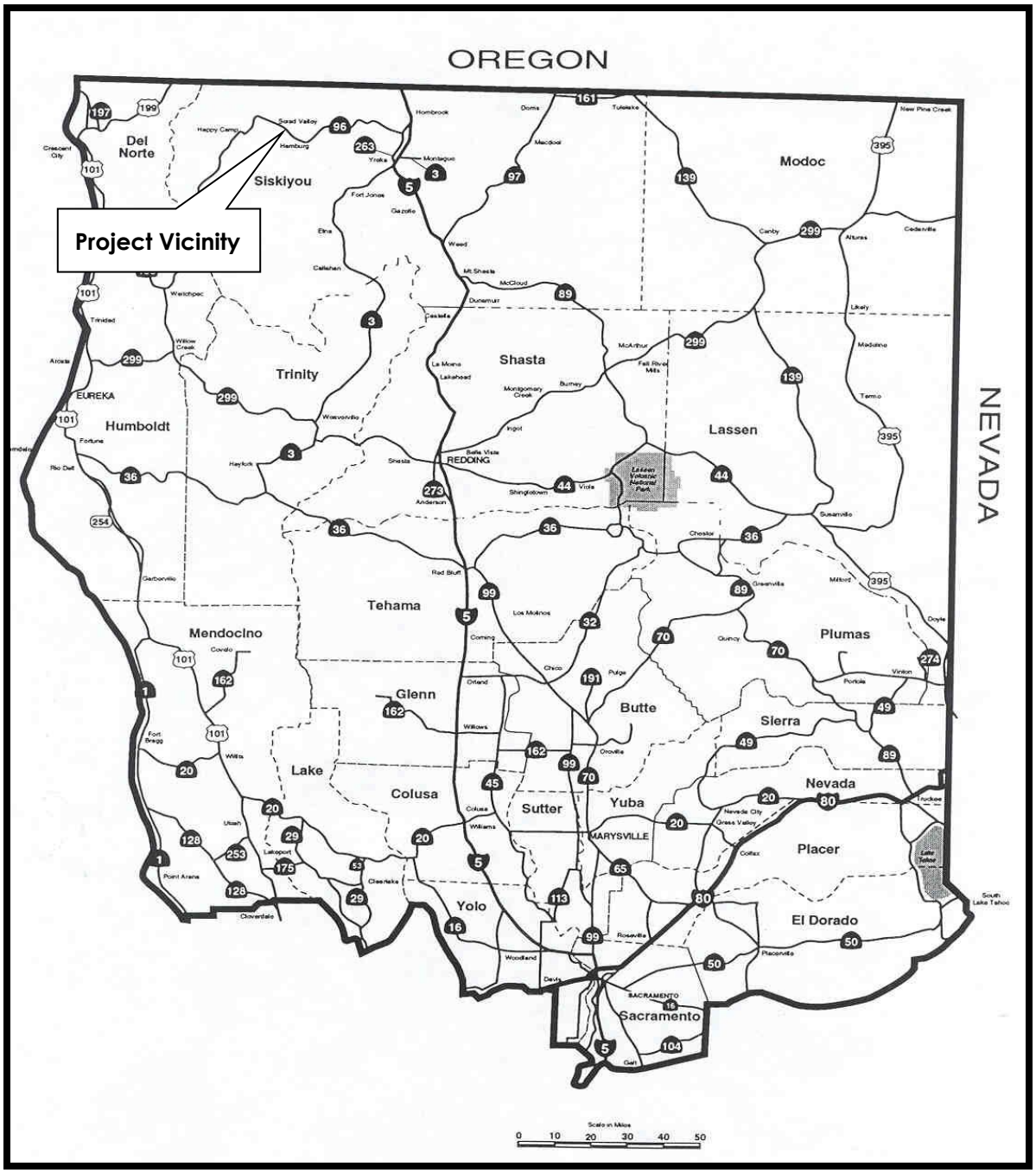

Figure 1. Project Vicinity Map

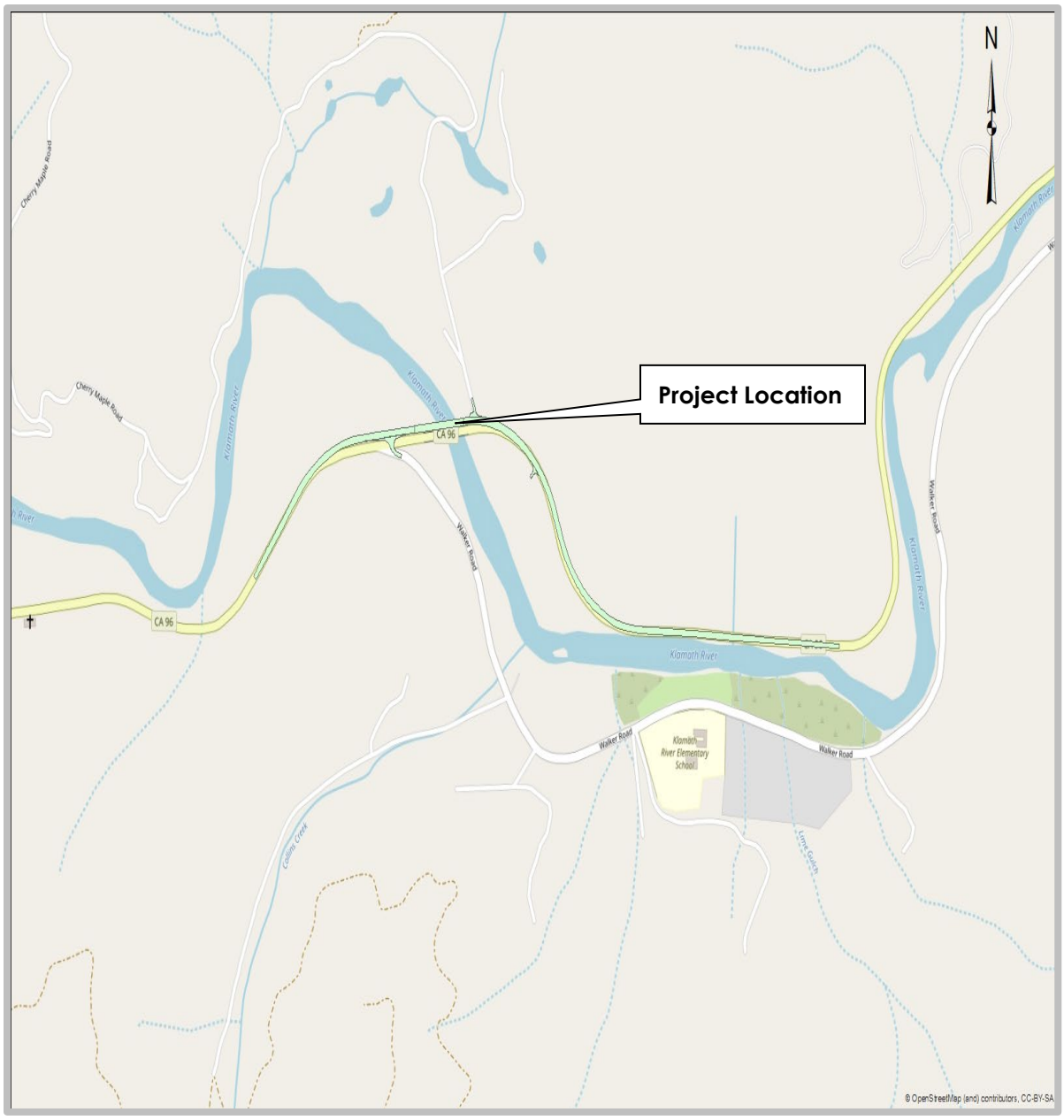

Figure 2. Project Location Map

Chapter 2 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the project indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included in the section following the checklist. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
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?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒
See Section 3.1: Aesthetics				

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
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?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
There is no Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or a Williamson Act contract land in the project vicinity. Land within the project limits is not considered to be forest land or timberland. The proposed project would have no impact to agriculture and forest resources. Given the determinations above, the project would have no impact on agriculture and forest resources.				
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
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?	☐	☐	☐	☒
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☐	☒
See Section 3.2: Air Quality				
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or NOAA Fisheries?	☐	☒	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☒	☐	☐
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?	☐	☐	☐	☒
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?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
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?	☐	☐	☐	☒
See Section 3.3: Biological Resources				
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Literature and record searches of the proposed project area along with field visits and contacts with multiple repositories, agencies, organizations, and Native American representatives were conducted from 2017 to 2020. The purpose of these efforts was to identify and evaluate any cultural resources that may exist within the project Area of Potential Effects (APE), and to assess any effects that the proposed project might have related to the cultural resources. Caltrans determined there are no cultural resources or eligible historic properties within the project limits. It is Caltrans' policy to avoid impacting cultural resources whenever possible. If buried cultural materials are encountered during construction, it is Caltrans' policy that work stop in the area until a qualified archaeologist can evaluate the nature and significance of the find. Given the determinations above, the project would have no impact on cultural resources.				
VI. ENERGY: Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☐	☒
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Caltrans staff completed an Energy Analysis in May of 2021 and found that project construction would primarily consume diesel and gasoline through operation of construction equipment. This represents a small demand on local and regional fuel supplies that would easily be accommodated, and this demand would cease once construction is complete. 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. In addition, the proposed project would not increase capacity or provide congestion relief when compared to the no-build alternative. Therefore, the project would not result in an inefficient, wasteful, and unnecessary consumption of energy. The project would not obstruct a state or local plan for renewable energy or energy efficiency. Given the determinations above, the project would have no impact on energy.				
VII. GEOLOGY AND SOILS: Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
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?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
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?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
The project site is not located in an area that contains a known earthquake fault or that is subject to strong seismic ground shaking, seismic-related ground failure, and/or landslides. Following construction, all disturbed soil areas will be stabilized with erosion control measures, and erosion control materials such as straw and seed mixes will be certified weed-free. Soil types found in the project area are not known to be expansive. The project does not include the use of septic tanks and/or alternative waste water disposal systems. There are no known paleontological resources in the proposed project limits; the proposed project is not expected to have an impact to paleontological resources. Given the determinations above, the project would have no impact on geology and soils.				
VIII. GREENHOUSE GAS EMISSIONS: Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒
See Section 3.4: Climate Change				
IX. HAZARDS AND HAZARDOUS MATERIALS: Would the project:				

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
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?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒
See Section 3.5: Hazards and Hazardous Materials				
X. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☐	☒
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☐	☒
(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	☐	☐	☐	☒
(iv) impede or redirect flood flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒
See Section 3.6: Hydrology and Water Quality				
XI. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
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?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
The proposed project would not physically divide an established community as it's replacing an existing bridge in its current location. Land in the immediate project vicinity is rural and 5 miles East of the town of Happy Camp. The project consists of the replacement of an existing bridge; there is no conflict regarding any applicable land use plan, policy, and or regulation of an agency with jurisdiction over the project. There are no habitat conservation plans and/or natural community conservation plans that apply to the project site. Given the determinations above, the project would have no impact on land use and planning.				
XII. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
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?	☐	☐	☐	☒
Project implementation would take place on and adjacent to an existing roadway and the project would not introduce new uses into the area. Furthermore, the existence of a new bridge and demolition of the old bridge would not prevent use of adjacent land for mineral extraction. Given the determinations above, the project would have no impact on mineral resources.				
XIII. NOISE: Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
See Section 3.7: Noise.				
XIV. POPULATION AND HOUSING: Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
The proposed project would result in improvements to an existing roadway and would not increase capacity of the facility. In addition, the new bridge would not result in new access to locations where access is not already provided. Therefore, the project would not result in any population growth, directly or indirectly. In addition, the proposed project does not require permanent acquisition of new right-of way and would not displace people or housing. Given the determinations above, the project would have no impact on population and housing.				
XV. PUBLIC SERVICES:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

The proposed project would not result in new service population and, therefore, no additional public facilities would be required.

Public services as well as pedestrian traffic will continue to use the current bridge during construction of the new bridge. Once construction is complete traffic will be switched to the new structure. A traffic detour will not be required.

Once construction is complete and the upgraded portion of the road is opened to the travelling public, traffic volumes, composition and speeds would remain the same and would not impact public services.

Given the determinations above, the project would have no impact on public services.

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

The project area does not contain existing neighborhood or regional parks or other recreational facilities. Therefore, the project would not 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. The project does not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment and would not delay access to recreational sites located along SR 96.

Given the determinations above, the project would have no impact on recreation.

XVII. TRANSPORTATION: Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☐	☒
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☐	☒

This bridge replacement project would not result in conflicts or impacts related to an applicable congestion management program, air traffic patterns, increased hazards due to a design feature, inadequate emergency access, and/or adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities.

Based on guidelines outlined in the Technical Advisory produced and provided in April 2021 by the Office of Planning and Research, a travel analysis will not be required as this is a bridge replacement project and will not increase traffic or capacity.

Traffic would continue to use the current bridge until construction is completed and traffic switched to the new bridge.

State Route 96 is designated as a Terminal Access route for STAA trucks. It is not anticipated that traffic control for this project will alter the requirement for STAA truck route; therefore, no truck impacts are anticipated.

Caltrans would notify and coordinate with local emergency and transit authorities to ensure proper function of public services.

Given the determinations above, the project would have no impact on transportation.

XVIII. TRIBAL CULTURAL RESOURCES: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☒
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.	☐	☐	☐	☒

There are no tribal cultural resources that are listed or eligible for listing in the California Register of Historical Resources, or in a local register or historical resources, or determined to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1 within the project limits.

Assembly Bill (AB) 52 establishes a formal consultation process for California tribes as part of the CEQA review process and equates significant impacts on "tribal cultural resources" (TCRs) with significant environmental impacts (Public Resources Code 21084.2).

Caltrans contacted the Native American Heritage Commission (NAHC) by email letter on August 4, 2017. The NAHC responded indicating that a search of the sacred lands files for the project area failed to reveal the presence of any Native American cultural resources in the vicinity of the proposed project but also provided a listing of Native American individuals who might have knowledge related to the area. These individuals were initially contacted either by informational letter or phone on October 20, 2017 and January 29, 2019.

No formal written requests or comments have been received from any Native American tribes that are traditionally and/or culturally affiliated with the project area pursuant to Public Resources Code section 21080.3.1.

Given the determinations above, the project would have no impact on tribal cultural resources.

XIX. UTILITIES AND SERVICE SYSTEMS: Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒
The proposed project consists of the replacement of an existing bridge and would not result in an increase in the service population for any utilities or service systems. In addition, the project would comply with all statutes and regulations related to the disposal of solid waste generated during construction. Given the determinations above, the project would have no impact on utilities and service systems.				
XX. WILDFIRE: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?				
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

The project proposes to replace the current bridge with a wider bridge immediately west of the current alignment and would not impair any emergency response or evacuation plan. Caltrans would notify and coordinate with local emergency authorities to ensure proper function of public services.

Although the project is designated as a high risk fire area according to Cal Fire online mapping (https://osfm.fire.ca.gov/divisions/wildfire-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/) the project would not modify or add any components that may exacerbate wildfire risks, and would not change the surrounding topography which is currently annual grasses with a few scattered trees along the creek.

Given the determinations above, the project would have no impact on additional wildfire risk.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐

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

Although the proposed project would have impacts to the environment it does not 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. Please see Chapter 3 and the CEQA Checklist for a detailed discussion regarding biological resources.

The project would have a negligible contribution to any potential cumulatively considerable impacts as the project proposes to replace an existing bridge with a new structure on an adjacent alignment, and would not increase capacity, nor introduce any additional transportation facility elements on this rural stretch of SR 96. Please see Chapter 3 and the CEQA Checklist for further discussion.

The project will have no long-term adverse impacts on human beings, either directly or indirectly. Please see Chapter 3 and the CEQA Checklist for detailed discussions related to potential impacts to the human environment.

Chapter 3 Discussion of Environmental Impacts

3.1. Aesthetics

CEQA Significance Determinations for Aesthetics

The project site is located along a rural area on SR 96 near Horse Creek. This section of SR 96 is designated as a National Wild and Scenic Highway as well as part of the Jefferson Scenic Byway. The Klamath National Forest was provided the proposed construction details and concurred on June 28, 2021 that the project will not change or adversely affect the attributes of the Klamath River which is qualified as a National Wild and Scenic River, nor the affected stretch of State Highway 96 that constitutes part of the Jefferson Scenic Byway.

A moderate amount of vegetation and trees will be removed from the project limits to allow for construction access and the new bridge. In accordance with Caltrans standard construction specifications, areas cleared of vegetation and riparian habitat during construction activities would be re-seeded with a native grass and shrub mix for aesthetics and erosion control following construction.

The proposed project consists of the replacement of the existing bridge just west of the current alignment and would have no impact on scenic vistas, scenic resources, and would not substantially degrade the existing visual character or quality of the site and its surroundings. The old bridge will be removed.

The proposed project would utilize aesthetic elements placed on the bridge that follow the current theme of the 96-corridor recommended by the Visual Impact Assessment completed June 2021.

Given the determinations above, the project would have a less than significant impact on aesthetics.

3.2. Air Quality

CEQA Significance Determinations for Air Quality

Siskiyou County, which includes the project area, is categorized as an attainment/unclassified area for all current California and National Ambient Air Quality Standards (CAAQS & NAAQS).

The proposed project would not change traffic volume, fleet mix, speed, or any other factor that would cause an increase in emissions relative to the no-build alternative; therefore, this project would not cause an increase in operational emissions.

The proposed project is expected to 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, pavement grinding, and hauling activities. Both fugitive dust and construction equipment exhaust emissions would be temporary and transitory in nature and would not result in long-term adverse conditions. Caltrans Standard Specifications require the awarded contractor to maintain compliance with all applicable laws and regulations related to air quality, including the Siskiyou County Air Pollution Control District regulations and local ordinances. In addition, the contractor is required to use water or dust palliatives to control fugitive dust, implement track-out reduction measures, cover or maintain adequate freeboard on all transported loads of materials, and properly maintain construction vehicles and equipment. Although the project would result in short-term construction-related emissions, the proposed project would not expose sensitive receptors to substantial pollutant concentrations or create substantial objectionable odors.

Given the determinations above, the project would have a less than significant impact on air quality.

3.3. Biological Resources

Caltrans staff conducted biological resource-related literature and record searches of the proposed project area, including reviews of numerous databases, lists and maps, as well as visits to and/or contacts with relevant agencies.

Biological field surveys were conducted on multiple occasions in 2019, 2020 and 2021 to assess the existing environment, gather information on the potential presence of special status species, and determine potential project-level impacts with regard to biological resources.

3.3.1. Habitats and Natural Communities of Concern

Habitats and natural communities of special concern in the project limits include riparian habitat and the Klamath River. These habitats are protected by both federal and State laws and impacts to these resources require certifications, permits or agreements from resource agencies.

3.3.1.1. Riparian

Montane riparian (MRI) habitat within the project limits occurs as linear bands of shrubs lining the streambank and floodplain. They also occur below the bridge. Plant species composition include sandbar willow (*Salix exigua* var. *hindsiana*), Oregon ash (*Fraxinus latifolia*), arroyo willow (*Salix lasiolepis*), black cottonwood (*Populus trichocarpa*), white alder (*Alnus rhombifolia*), boxelder (*Acer negundo*), and big leaf maple (*Acer macrophyllum*). The understory supports California wild grapes (*Vitis californica*) and Himalayan blackberry (*Rubus armeniacus*).

Project Impacts

The proposed construction activities will most likely result in both temporary and permanent loss of riparian vegetation. These impacts are a result of riparian vegetation removal in locations that conflict with the proposed new bridge structure, and in locations where access is necessary to facilitate the demolition and removal of the existing bridge structure. However, areas

where riparian vegetation will be removed to accommodate construction activities will be replanted following construction. Removal of Piers 1 and 3 will provide 160 ft^2 of additional area in the project limits for possible replanting. Riparian vegetation currently growing in areas below the existing bridge is thriving and is not affected by its dimensions or height. The new bridge is wider, but it is also taller; therefore, the new bridge is not expected to hinder vegetation growth beneath it. The extension of an existing culvert and placement of RSP at the outlet would also remove a small amount of riparian vegetation.

Standard Measures and Best Management Practices

- Work taking place in the riparian zone to the edge of the river will be dependent on the seventy-two (72) hour forecast from the National Weather Service (NWS). The contractor will monitor the 72-hour forecast from the NWS and adhere to the guidelines specified in the General Construction Permit and Nation Stormwater Permit.
- The number of access and egress points (e.g., to access work below bridge) and total area affected by vehicle operation will be minimized. The contractor will use the minimum grading required to create access and egress points.
- Temporary access roads located in the riparian zone to the edge of the river will be constructed with at least six (6) inches spawning gravel base that consists of uncrushed, rounded, natural river rock at a minimum of 0.5 inch to 4 inches in diameter. The spawning gravel will be washed to ensure it is free of oils, clay, debris, and organic matter. Spawning gravel will be topped with geotextile fabric (e.g., subgrade enhancement fabric, Class 10 RSP fabric, or other authorized geotextile fabric) followed by angular rock to create a separation from the spawning gravel and angular rock. The geotextile fabric will be covered with washed angular rock to a sufficient depth to prevent stormwater erosion or disturbance to subgrade soils.
- Environmental Sensitive Area (ESA) will be shown on the plans or described in the specifications to protect in place the riparian vegetation outside of the work zone. Onsite, a combination of stakes and flags or

temporary high visibility fencing (THVF) will be used to clearly mark the limits of the designated work zone and restrict construction activities from occurring outside of the designated work areas.

- Riparian trees as identified on the plans will be preserved.
- Riparian vegetation removal will not exceed the minimum necessary to complete the project.
- Where riparian vegetation removal is necessary, rapidly sprouting plants, such as willows, shall be cut off at the ground line and the root system left intact.
- Riparian trees or trees will be felled in such a manner as not to injure standing trees and other plants to the extent possible.
- The disturbed vegetated areas will be restored as described in the proposed Mitigation and Monitoring Plan (MMP).
- The MMP will be submitted to CDFW, NMFS, and RWQCB for review and approval prior to the start of construction activities.
- Vegetated areas which are disturbed will be replanted using native riparian plant species that are part of the baseline of the area.
- Non-native plant species removed during construction will be replaced with native species.
- Where unintended soil compaction occurs in areas slated for re-vegetation, compacted soils will be loosened after heavy construction activities are complete.
- Areas disturbed and slated for riparian replanting will be shown on the plans or described in the specifications with direction to remove any materials preconstruction and to prepare replanting areas by either incorporating or amending existing soil using appropriate planting medium to improve aeration and moisture retention.
- Use of RSP will be limited to the minimum necessary to protect infrastructure.

- Caltrans anticipates nesting or attempted nesting by migratory and non-game birds from February 1 to September 30. No tree removal will take place between this window.
- If trees or shrubs cannot be removed outside of the anticipated nesting or attempted nesting period, a contractor supplied biologist with bird survey experience will conduct a preconstruction survey no more than 3 days prior to the tree or shrub removal.
- If active nest(s) are located during preconstruction survey, the contractor supplied biologist will notify the contractor. The contractor and contractor supplied biologist will follow the guidelines specified in Sections 14-6.03 B Bird Protection and 14-6.03(D1) Contractor-Supplied Biologist of the 2018 Caltrans' Standard Specifications.

3.3.1.2. CEQA Significance Determinations for Riparian

The proposed project will likely result in permanent impacts to 842 ft^2 of riparian vegetation. However, these permanent impacts will be offset through onsite or off-site in-kind riparian planting.

Given the determinations above, the project would have a less than significant impact on riparian.

3.3.1.3. Waters/Riverine Habitat

Open water habitat within the project limits is restricted to the Klamath River. The gradient is relatively high, and velocity of the water is relatively fast, especially around Pier 2. The substrate consists of rock, cobbles, or gravel with sand along the river's edge on the west. Portion of the river within the project limits contains no rooted aquatic vegetation and much of the river is exposed to direct sunlight.

There is a side channel that is relatively shallow and conveys flows seasonally and is generally unvegetated. Stream width averages approximately 8 feet. Stream depth ranges from one inch to 12 inches deep in several places. Actual length of the side channel was not determined because of limited access from overgrown shrubs within the understory. Substrates are mostly

gravel fill with sand/silt.

Project Impacts

The project anticipates placing up to 70 pipe piles and up to three in-water gravel work pads in the Klamath River. A temporary reduction in riverine habitat will most likely occur while the pipe piles and in-water gravel work pads are in place. Dimensions and height of the in-water gravel work pads would depend on future river morphology or hydraulic analysis and environmental restrictions. However, the reduction of riverine habitat is short-term, and removing the existing Pier 2 will have a long-term benefit to the Klamath River. In-water maintenance would no longer be required for Pier 2, resulting in a reduction of temporary impacts to riverine habitat every few years. Additionally, removing existing Pier 2 would remove approximately 74 CY of concrete and provide an additional 60 ft^2 of riverine habitat. The new bridge spans the active channel without any pier in the river.

Standard Measures and Best Management Practices

- Measures consistent with the current Caltrans' 2017 Construction Site Best Management Practices (BMPs) Manual (including the Storm Water Pollution Prevention Plan [SWPPP] and Water Pollution Control Plan [WPCP] Manuals) shall be implemented to minimize effects to habitat of special concern (i.e., riparian and/or riverine habitat) during construction.
- If water drafting is needed, the contractor shall provide to Caltrans copies of current applicable permits for the water drafting. The contractor will prepare a water drafting plan for Caltrans' approval. At a minimum, the plan shall include the amount and the schedule of water withdrawals.
- A SWPPP will be prepared by the contractor in accordance with the guidelines specified in the SWPPP Manual, Section 3: BMP WM-4, which include a spill prevention and control measure outlining the actions to be taken in the event of a leak or spill. Implementation of the SWPPP will minimize effects to habitat of special concern (i.e., riparian and/or riverine habitat) from potential spills associated with construction activities.

- If chemical contamination has been detected, all project activities shall cease and National Marine Fisheries Service (NMFS), California Department of Fish and Wildlife (CDFW), and North Coast Regional Water Quality Control Board (NCRWQCB) shall be contacted immediately. Project activities may resume only after NMFS, CDFW, and NCRWQCB have reasonable assurances that chemical contamination has ceased.
- Prior to use, equipment must be visually inspected daily and throughout the day for leaks. If leaking, equipment cannot be used until the leak is fixed.
- Before entering the job site, all equipment must be cleaned to remove external oil, grease, dirt, or mud. Cleaning operations shall follow the guidelines described in the Caltrans' 2017 Construction Site Best Management Practices (CSBMP) Manual, Section 7: BMP NS -8.
- Vehicle and equipment fueling, and vehicle and equipment maintenance operations shall be conducted at least 50-150 feet away from the active stream as described in the SWPPP Manual, Section 3 and the CSBMP Manual, Section 7: BMP NS-9 and NS-10.
- Temporary material storage piles (e.g., erodible materials) shall be placed outside of the floodplain (at least 50-150 feet away from the active stream) during the rainy season (November 1 through May 31), unless material can be relocated within (i.e., before) 12 hours of the onset of a storm.
- Any gravel or fill placed within the side channel because of conservation third bullet from the previous section must be removed. When removing gravel or fill, ensure that the natural bottom is not disturbed. If any part (e.g., streambed and bank) of the side channel is disturbed, restore it to preconstruction conditions. Take preconstruction photos of the side channel as reference. A temporary stream crossing that can withstand the weight of heavy equipment that is approved by the Engineer may be used in place of gravel or fill.
- The ESA will be shown on the plans or described in the specifications to protect in place the active stream outside of the work zone.

- The Ordinary High-Water Mark (OHWM) will be shown on a scaled project plan sheet.
- All work within the active stream shall occur during daylight hours.
- All work within the active stream shall occur between June 15 and October 15, or as specified by the permitting resource agencies.
- The contractor must monitor the National Weather Service's (NWS) forecast daily. If the NWS predicts a storm event in the project area with at least a 50 percent probability of precipitation within 72 hours, for construction activities, do not begin work or stop work immediately in the active channel.
- The contractor shall prepare and submit a temporary work platform (falsework and trestle) plan for review and approval by Caltrans. Caltrans will submit the temporary work platform plan to NMFS and CDFW for review and concurrence. The plan will include, but not be limited to, location and length of the temporary work platforms, width of the trestle, type of decking for the trestle, type of support (i.e., pipe pile or steel H-pile) for the temporary work platforms, and length, number, and size of piles needed to erect the temporary work platforms.
- The temporary work platforms will be designed to resist the 25-year peak flow for the Klamath River. If it is required to be left in the river over the winter, the deck of the temporary trestle will be removed during the rainy season so the structure does not interfere with high flows.
- While temporary work platform piling is in place in the water, the contractor shall monitor piling and remove any accumulated debris at least daily, or more often as necessary, to protect the temporary structure.
- Temporary platforms, piles, and other structures that will not remain in the active stream will be removed in a manner that minimizes disturbance to downstream flows and water quality.
- If in-water gravel work pads are placed in the river in place of a trestle for new bridge construction, each pad shall be installed and completed within approximately 6 days during daylight hours.

- If an in-water gravel work pad is placed in the river for Pier 2 removal, it shall be installed and completed within approximately 3 days during daylight hours.
- In-water gravel work pads in-lieu of a trestle will have a maximum footprint of 2,106 ft^2 or a maximum volume of 780.01 CY of gravel.
    - 641 ft^2 or 237.41 CY of gravel for the west gravel pad
    - 1,465 ft^2 or 542.60 CY of gravel for the east gravel pad
- The in-water gravel work pad for existing Pier 2 removal will have a maximum footprint of 2,746 ft^2 or 1,017 CY of gravel.
- When forming the gravel work pad, the barriers (e.g., k-rails) shall be installed first and slowly loaded into the river from the top of the riverbanks. The gravels shall then be placed gradually along the edge of the river outward until a pad is formed.
- The contractor shall cover the gravel pad above the water level with geotextile fabric (e.g., subgrade enhancement fabric, Class 10 RSP fabric, or other authorized geotextile fabric) to ensure any construction debris from contaminating the washed fish gravel.
- When removing the gravel from the gravel work pads the contractor shall leave one foot in the river to avoid impacts to the natural bed of the river or as instructed by permits.
- Water pumped from an area isolated from surface water (e.g., cofferdam) to allow construction to occur will be discharged to an upland area providing overland flow and infiltration before returning to the stream. Upland areas may include sediment basins of sufficient size to allow infiltration rather than overflow, or adjacent dry gravel/sand bars if the water is clean and no visible plume of sediment is created downstream of the discharge. Other measures may be used such as a baker tank or methods described in the 2017 CSBMP Manual, Section 7: BMP NS-2.

- Temporary sediment basins will be cleaned of sediment and the site restored to pre-construction contours (elevations, profile, and gradient) and function post-construction.

- The contractor shall comply with Caltrans' 2018 Standard Specification Section 13-4.03E(5) Material and Equipment Used Over Water and Section 14-11.06 Contractor-Generated Hazardous Waste. While constructing and curing concrete, contain water to prevent runoff from bridge deck or other surfaces.
  - Per paragraph 2 of 13-4.03E(5)

  Install watertight curbs or toe boards on barges, platforms, docks, or other surfaces over water to contain material, debris, and tools. Secure any material or debris to prevent spills or discharge into the water due to wind.

- The contractor shall follow the guidelines specified in the Caltrans' 2018 Standard Specification, Section 13-9 Temporary Concrete Washouts.

- Handle debris according to Caltrans' 2018 Standard Specifications, Section 13-4.03 Construction, and the Caltrans' 2017 CSBMP Manual, Section 7: BMP NS-15. While demolishing and constructing the bridges to keep bridge debris and construction materials from falling into the river.

- All waste (e.g., asphalt, concrete, geotextile, rock, etc.) generated during construction will be disposed of properly at an approved disposal location.

3.3.1.4. CEQA Significance Determinations for Waters/Riverine habitat

Impacts to waters/riverine habitat from placing pipe piles and gravel work pads in the active stream will only be temporary and therefore will not require mitigation. This proposed project will provide a net gain of 0.001 acre of waters by removing a pier from the water.

Given the determinations above, the project would have a less than significant impact on waters/riverine habitat.

3.3.2. Special Status Animal Species

Based on resource databases query results, the following federal or state candidate, threatened, or endangered animal species have been identified as having the potential to occur in the project limits: Southern Oregon Northern California Coast (SONCC) Evolutionary Significant Unit (ESU) coho salmon (*Oncorhynchus kisutch*), Upper Klamath-Trinity Rivers (UKTR) Chinook salmon (*Oncorhynchus tshawytscha*), bald eagle (*Haliaeetus leucocephalus*), and foothill yellow-legged frog (*Rana boylii*) (Table 4). Federal or state candidate, threatened, or endangered animal species not known to occur in the project limits and not expected to be present within the project limits will not be discussed further in this report. Other species discussed with the potential for occurrence are the Klamath Mountain Province (KMP) steelhead (*Oncorhynchus mykiss*), Klamath lamprey (*Lampetra similis*), Pacific lamprey (*Lampetra tridentata*), and lower Klamath marbled sculpin (*Cottus klamathensis*); pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), and fringed myotis (*Myotis thysanodes*); ring-tail (*Bassariscus astutus*); great blue heron (*Ardea herodias*); and western pond turtle (*Emys marmorata*).

Table 4. Federal and State Threatened and Endangered Species – Wildlife

Scientific Name	Common Name	Legal Status Federal/State	Habitat Present	Species Present	Impact and Rationale
Antigone canadensis tabida	greater sandhill crane	--/Threatened	NO	NO	The project ESL is outside of the species' distribution range. Therefore, the greater sandhill crane is not expected to be present in the ESL, and the proposed project will have no effect on the species.
Bombus occidentalis	western bumble bee	--/CE	NO	NO	Although the project limits fall within the species' distribution range, suitable habitat is not present in the ESL. Bumble bees are commonly found in meadows and grasslands that contain abundant flowering plants. These habitat conditions are not met in the ESL. No suitable habitat will be altered by the proposed project. Additionally, this species was not observed during field surveys. Therefore, the western bumble bee is not expected to be present in the ESL, and the proposed project will have no effect on the species.
Branchinecta conservatio	Conservancy fairy shrimp	E/--	NO	NO	The project ESL is outside of the species' distribution range. Conservancy fairy shrimp uses astatic pools located in swales formed by old, braided alluvium; filled by winter/spring rains that last until June. These habitat conditions are not met in the ESL. No suitable habitat will be altered by the proposed project. Additionally, this species was not observed during field surveys. Therefore, the conservancy fairy shrimp is not expected to be present in the ESL, and the proposed project will have no effect on the species.

Branchinecta lynchi	vernal pool fairy shrimp	T/--	NO	NO	Though the ECOS shows species' current range overlaps the ESL, a review of the CNDDB shows that there are no known occurrences documented within the vicinity of the project. All occurrences are mapped south of Redding. Furthermore, vernal pool fairy shrimp uses small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools. These habitat conditions are not met in the ESL. No suitable habitat will be altered by proposed project. Additionally, this species was not observed during field surveys. Therefore, the vernal pool fairy shrimp is not expected to be present in the ESL, and the proposed project will have no effect on the species.
Chasmistes brevirostris	shortnose sucker	E/E	NO	NO	Though the ECOS shows species' current range overlaps the ESL, a review of the CNDDB shows that there are no known occurrences documented within the vicinity of the project. All known occurrences are mapped near or within Copco Reservoir, Clear Lake Watershed, Lost River, Tule Lake, and Lower Klamath Lake. Furthermore, suitable habitat is not present in the ESL. They use primary large lakes and tributaries. These habitat conditions are not met in the ESL. No suitable habitat will be altered by proposed project. Additionally, this species was not observed during field surveys. Therefore, the shortnose sucker is not expected to be present in the ESL, and the proposed project will have no effect on the species.

Coccyzus americanus occidentalis	western yellow-billed cuckoo	T/E	NO	NO	Though the ECOS shows species' current range overlaps the ESL, a review of the CNDDB shows that there are no known occurrences documented within the vicinity of the project. Critical habitat for the species is restricted to along the Sacramento River between Red Bluff and Colusa. Suitable habitat is not present in the ESL. The species requires large blocks of deciduous forest for nesting with low seral state willow patches interspersed for foraging. These habitat conditions are not met in the ESL. No suitable habitat will be altered by proposed project. Additionally, this species was not observed during field surveys. Therefore, the yellow-billed cuckoo is not expected to be present in the ESL, and the proposed project will have no effect on the species.
Deltistes luxatus	Lost River sucker	E/E	NO	NO	Though the ECOS shows species' current range overlaps the ESL, a review of the CNDDB shows that there are no known occurrences documented within the vicinity of the project. All known occurrences are mapped near or within Copco and Iron Gate Reservoirs, Clear Lake Watershed, Lost River, Tule Lake, and the Lower Klamath Lake. Suitable habitat is not present in the ESL. They are a primarily large lake species. This habitat condition is not met in the ESL. No suitable habitat will be altered by proposed project. Additionally, this species was not observed during field surveys. Therefore, the Lost River sucker is not expected to be present in the

					ESL, and the proposed project will have no effect on the species.
Empidonax traillii	willow flycatcher	--/E	NO	NO	Although the project limits fall within the species' distribution range, suitable habitat is not present in the ESL. A review of the eBird range map indicates that willow flycatchers are not known to occur in the general area of the project site. They normally use dense willow thickets found along mountain meadow's edges at an elevation of 2,000 feet or higher. These habitat conditions are not met in the ESL. No suitable habitat will be altered by proposed project. Additionally, this species was not observed during field surveys. Therefore, the willow flycatcher is not expected to be present in the ESL, and the proposed project will have no effect on the species.
Haliaeetus leucocephalus	bald eagle	--/E	YES	NO	Habitat in the ESL is marginal to unsuitable for nesting. There are no current documented nesting sites within 10 miles of the project ESL. However, potential suitable foraging habitat exists within the ESL, as such, it is anticipated that bald eagle may be present at the project site, and the proposed project may affect this species.
Lepidurus packardi	vernal pool tadpole shrimp	E/--	NO	NO	Though the ECOS shows species' current range overlaps the ESL, a review of the CNDDB shows that there are no known occurrences documented within the vicinity of the project. All occurrences are mapped south of Redding. Suitable habitat is not present in the ESL. The species use vernal pools and swales. These habitat conditions are not met in the ESL. No

					suitable habitat will be altered by proposed project. Additionally, this species was not observed during field surveys. Therefore, the vernal pool tadpole shrimp is not expected to be present in the ESL, and the proposed project will have no effect on the species.
Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	T/T	YES	YES	This species is known to occur in the Klamath River and its tributaries. The project limits overlap the critical habitat and EFH for both Coho and Chinook salmon. As such, it is anticipated that Coho salmon may be present at the project site, and the proposed project may affect the species.
Oncorhynchus tshawytscha pop. 30	chinook salmon - upper Klamath and Trinity Rivers Spring ESU	C/T	YES	NO	Historically, the UKTR spring Chinook salmon is found throughout the Klamath and Trinity River basins, including upstream of current impassable dams. Currently, they are mainly found in Upper Trinity River, South Fork Trinity River, and Salmon River. UKTR spring Chinook salmon are also found in Mid-Klamath tributaries, such as Dillon, Clear, Elk, Indian, and Thompson creeks, but in small numbers. The proposed project may affect this species.
Plethodon asupak	Scott Bar salamander	--/T	NO	NO	Although the project limits fall within the species' distribution range, suitable habitat is not present in the ESL. They need damp or moist environments on land. These habitat conditions are not met in the ESL. No suitable habitat will be altered by proposed project. Additionally, this species was not observed during field surveys. The closest documented occurrence occurred on Klamath National Forest's land, about 0.85 mile south of the

					intersection of Horse Creek Road with SR 96. Therefore, Scott Bar salamander is not expected to be present in the ESL, and the proposed project will have no effect on the species.
Plethodon stormi	Siskiyou Mountains salamander	--/T	NO	NO	Although the project limits fall within the species' distribution range, suitable habitat is not present in the ESL. They require talus (rock fragment piles) or rock outcrops in older forests that is covered with moss to hold in moisture. These habitat conditions are not met in the ESL. No suitable habitat will be altered by proposed project. Additionally, this species was not observed during field surveys. The closest documented occurrence occurred on Klamath National Forest's land, about 3 miles SSE of Copper Butte within the general area between Salt Gulch and Horse Creek. Therefore, Siskiyou Mountains salamander is not expected to be present in the ESL, and the proposed project will have no effect on the species.
Rana cascadae	Cascades frog	--/CE	NO	NO	Although the project limits fall within the species' distribution range, suitable habitat is not present in the ESL. The species prefers boreal or old growth habitats associated with firs and *Thuja* species. They like slow moving streams, which the Klamath is not. There is no documented occurrence within 10 miles of the project ESL. Therefore, Cascades frog is not expected to be present in the ESL, and the proposed project has no effect on the species.

Rana pretiosa	Oregon spotted frog	T/--	NO	NO	Though the ECOS shows species' current range overlaps the ESL, a review of the CNDDB shows that there are no known occurrences have been documented within the vicinity of the project. All occurrences are mapped in northeastern California. They are extirpated from their historical range. Suitable habitat is not present in the ESL. The species requires slow moving streams with abundant shallow emergent vegetation. Therefore, Oregon spotted frog is not expected to be present in the ESL, and the proposed project has no effect on the species.
Strix nebulosa	great gray owl	--/E	NO	NO	The project ESL is outside of the species' distribution range. The species is restricted mostly to the eastern part of the State. Therefore, great gray owl is not expected to be present in the ESL, and the proposed project has no effect on the species.
Strix occidentalis caurina	northern spotted owl	T/T	YES	NO	Although the project limits fall within the species' distribution range, potential suitable nesting/roosting habitat is not present in the ESL. However, potential dispersal/foraging habitat may be present within the ESL. As such, it is anticipated that the species may be present in the ESL, and the proposed project may affect the species.

Status Explanation C = Candidate E = Endangered

-- = none CE = Candidate Endangered T = Threatened

*This table is a subset of the Regional Species Evaluation Table for Wildlife in Appendix C.

3.3.2.1. Southern Oregon Northern California Coast Coho Salmon

The SONCC ESU coho salmon includes all naturally spawned populations of coho salmon in coastal streams between Cape Blanco, Oregon to Punta Gorda, California, as well as coho salmon produced by three hatcheries: Iron Gate, Cole M. Rivers, and Trinity River (NMFS 2014). The project falls within the designated critical habitat and Essential Fish Habitat (EFH) for coho salmon. The NMFS originally listed coho salmon as threatened under the ESA in 1997 and critical habitat was subsequently designated (62 FR 24588, 64 FR 24049). The SONCC ESU coho salmon was listed as threatened under the CESA in August 2002.

A Biological Assessment (BA) is prepared in accordance with legal requirements set forth under regulations implementing Section 7 of the federal ESA. EFH requirements are included in the BA. The coho salmon are known to use the Klamath River at the location where project construction activities are proposed. Due to the lack of suitable substrates and flows, use is limited to only safe passage to upstream spawning and rearing sites above the project area through this segment of the river. For detailed information on the species refer to the BA.

Project Impacts

Proposed project activities such as rock crushing, pile driving, fish relocation, water turbidity, etc. will most likely impact coho salmon and its critical habitat within the project limits segment of the mainstem Klamath River. Caltrans has initiated a formal consultation with NMFS to determine to what extent the proposed construction activities may affect the listed species and their designated critical habitat. EFH consultation requirement is included as part of the consultation. Caltrans has submitted a draft BA to NMFS for review on June 29, 2021 and has since received comments from NMFS. Caltrans is in the process of revising the BA. Caltrans anticipates the issuance of a Biological Opinion (BO) by NMFS sometime in November of 2021.

Standard Measures and Best Management Practices

- Outside the active stream avoid night work or keep to the minimum extent necessary to complete work operations. When night work cannot be avoided, focus lighting away from listed-species habitat.
- Prior to placing the gravel work pad in the river, a contractor supplied biologist with fish relocation experience, will develop an aquatic species relocation and clear water diversion plan to Caltrans to be submitted to NMFS and CDFW for approval. Allow a minimum of 30 days for review and approval.
- Fish capture and relocation efforts or diversion activities will not start until the aquatic species relocation and clear water diversion plan is authorized.
- If fish are observed stranded within the k-rail structure, a contractor supplied biologist with fish relocation experience will relocate fish to suitable habitat and notify the Resident Engineer.
- In the event the in-water gravel work pads are overtopped, prior to reconstructing the pads, a contractor supplied biologist with fish relocation experience will survey the pads to ensure that no fish are present. If fish are found, relocate all fish prior to reconstructing the pads.
- The contractor shall follow the guidelines specified in the Caltrans' 2018 Standard Specification, Section 14-6.03C Fish Protection, as well as the guidelines specified in Section 14-6.03D Contractor-Supplied Biologist.
- If one or more Coho salmon or listed salmonids are found dead or injured, all project activities shall cease and NMFS and CDFW shall be contacted immediately. Project activities may resume only after NMFS and CDFW have reasonable assurances that no additional mortalities of Coho salmon or listed salmonids will occur.
- The use of hoe ramming to remove Pier 2 shall occur in a dry area, within the gravel work pad.
- Blasting operation shall occur between July 1 and September 30 during daylight hours. No underwater blasting is allowed.
- Water drafting from an anadromous waterway shall comply with NMFS's 2001 Water Drafting Specifications and CDFW's guidelines specified in the Streambed Alteration Agreement.

Mitigation

The BO is expected to contain reasonable and prudent measures, terms and conditions to further offset any adverse effects to the species and critical habitat in addition to the standard measures and Best Management Practices (BPMs) listed above.

Since coho salmon is a dual listed species (a species listed by both the ESA and the CESA), Fish and Game Code section 2080.1 allows Caltrans, who has obtained a federal incidental take statement (ITS) by means of the BO, to request that the Director of the CDFW find the ITS consistent with CESA. If the ITS is found to be consistent with CESA, a consistency determination (CD) is issued and no further authorization or approval is necessary under CESA. To facilitate the issuance of the CD, Caltrans has also provided a copy of the draft BA to CDFW for review.

The State of California FGC Section 2081(b)(2) and Section 2081(b)(4) require that action agencies fully mitigate for take of CESA listed Species and ensure adequate funding to implement the measures required by Section 2081(b)(2), and for monitoring compliance with, and effectiveness of, those measures. Coho salmon ESU is listed as threatened under CESA. Mitigation for the expected pursuit, catch, capture, and possible mortality of Coho salmon, because of constructing this project will be implemented at the Lower Beaver Creek Aquatic Habitat Restoration Project. The project is located near the town of Klamath River within Township 47 North, Range 8 West, Sections 6 and 30: Mount Diablo Meridian.

3.3.2.2. Upper Klamath-Trinity Rivers Chinook Salmon

The Upper Klamath-Trinity Rivers (UKTR) ESU Chinook salmon (Chinook salmon) includes all Klamath River Basin populations from the Trinity River and the Klamath River upstream from the confluence with the Trinity River. The Project falls within the designated EFH for Chinook salmon. The IGH artificial production program of Chinook salmon is also considered in the Pacific Coast Salmon Fishery Management Plan (FMP). The Chinook salmon population is composed of both fall- and spring-run types. Only the fall-run type is found in stream reaches within the proposed project locations (CDFW

2020). Chinook salmon are not listed under the ESA. However, NMFS is currently soliciting information to list the spring-run type as a threatened or endangered ESU under the ESA and to designate critical habitat concurrently with the listing (86 FR 14407). The UKTR spring Chinook Salmon ESU was recently (June 16, 2021) listed as threatened under the CESA.

No critical habitat has been designated for Chinook salmon. The segment of the mainstem Klamath River within the project limits supports habitat consistent with the EFH designation for Pacific salmon. Chinook salmon are managed under the Pacific Coast Salmon FMP of the Pacific Fisheries Management Council, who implement the Magnuson-Stevens Act.

Project Impacts

The impacts to individuals described in the BA for coho salmon are the same as the impacts for Chinook salmon. Juvenile Chinook salmon may be subjected to elevated underwater sound pressure levels (SPLs), crushing, and handling if they are transiting the project site during the first two to four weeks of the in-water work window (June 15-July 15).

Adult Chinook salmon may also be subject to elevated underwater SPLs, crushing, and handling if they are transiting the project site during the latter portion of the in-water working window (September 1- October 15). However, because they are not expected to be in project limits, they are unlikely to be crushed or handled. As previously mentioned, the project limits lack spawning habitat.

Natural adult Chinook salmon are expected to spawn upstream, north of the project limits and at the river bends. Spawning in these areas may be hindered by elevated underwater SPLs from pile driving and hoe ram activities. Pile driving should be short in duration, with breaks between different piles. Therefore, spawning adults are not expected to be exposed to the full daily duration of pile driving sound pressure. Hoe ram activities will most likely be conducted in a dry area, within a gravel work pad for a short duration (1 day); thus, actual exposure to sound above injury thresholds would be limited.

Spawning is not expected to be hindered by elevated underwater SPLs from the blasting operation because of blasting time restrictions (July 1 and September 30).

Impacts to EFH are the same as those identified for coho salmon critical habitat (see the BA).

Standard Measures and Best Management Practices

The conservation measures to prevent and reduce impacts to the coho salmon and its critical habitat noted in the preceding section will also protect Chinook salmon and EFH.

Mitigation

Mitigation proposed for the coho salmon will also mitigate for potential impacts to Chinook salmon and EFH.

3.3.2.3. Klamath Mountain Province Steelhead

KMP steelhead is not listed under the Federal or State ESA. KMP steelhead is recognized by the FS in R5 as a sensitive species and has identified winter-run steelhead as the MIS to represent the anadromous recreational sport fish habitat assemblage. CDFW recognizes the spring-run KMP steelhead as a species of special concern and manages the winter-run KMP steelhead for sport fishing.

Project Impacts

The impacts to individuals described in the preceding section for coho salmon are similar, if not the same, as the impacts for KMP steelhead, in which juvenile steelhead may be subjected to elevated underwater SPLs, crushing, and handling if they are transiting the project site during the in-water work window (June 15-October 15).

Standard Measures and Best Management Practices

Conservation measures to prevent and reduce impacts to the coho salmon and its critical habitat and EFH will also help protect KMP steelhead.

Mitigation

Mitigation proposed for the coho salmon will also mitigate for any potential impacts to KMP steelhead.

3.3.2.4. Klamath River Lamprey

Klamath River lamprey is not listed under the Federal or State ESA. They are recognized by the FS in R5 as a sensitive species. The CDFW recognized the Klamath River lamprey as a species of special concern.

Project Impacts

The impacts to individuals described in the preceding section for Coho salmon are similar, if not the same, as the impacts for Klamath River lamprey. Lampreys may be subjected to elevated underwater SPLs, crushing, and handling if they are transiting the project site during the in-water work window (June 15-October 15).

Standard Measures and Best Management Practices

Conservation measures to prevent and reduce impacts to the coho salmon and its critical habitat and EFH will also protect the Klamath River lamprey.

Mitigation

Mitigation proposed for the coho salmon will mitigate for any potential impacts to Klamath River lamprey.

3.3.2.5. Pacific Lamprey

Pacific lamprey is not listed under the Federal or State ESA. The USFWS has designated the species as a special concern. They are recognized by the FS in R5 as a sensitive species. The CDFW also recognizes the Pacific lamprey as a species of special concern.

Project Impacts

The impacts to individuals described in the preceding section for coho salmon are similar, if not the same, as the impacts for Pacific lamprey, in which the lampreys may be subjected to elevated underwater SPLs, crushing, and handling if they are transiting the project site during the in-water work window (June 15-October 15).

Standard Measures and Best Management Practices

Conservation measures to prevent and reduce impacts to coho salmon and its critical habitat and EFH will protect the Pacific lamprey.

Mitigation

Mitigation proposed for the coho salmon will mitigate for any potential impacts to Pacific lamprey.

3.3.2.6. Lower Klamath Marbled Sculpin

Lower Klamath marbled sculpin is not listed under the Federal or State ESA. The CDFW recognized the lower Klamath marbled sculpin as a species of special concern.

Project Impacts

The impacts to individuals described in the preceding section for coho salmon are similar, if not the same, as the impacts for lower Klamath marbled sculpin, in which the lampreys may be subjected to elevated underwater SPLs, crushing, and handling if they are transiting the project site during the in-water work window (June 15-October 15).

Standard Measures and Best Management Practices

Conservation measures to prevent and reduce impacts to the coho salmon and its critical habitat and EFH, will protect the lower Klamath marbled sculpin.

Mitigation

Mitigation proposed for the coho salmon will mitigate for any potential impacts to lower Klamath marbled sculpin.

3.3.2.7. Foothill Yellow Legged Frog

In late 2019, the CDFW published its staff review of the species and recommended that the foothill yellow legged frog (FYLF) be listed as threatened or endangered, or not listed, depending on geography. In early 2020, the CDFW listed five of the six populations of the FYLF as endangered or threatened. The Feather River and Northeast/Northern Sierra clades are listed as threatened; the East/Southern Sierra, West/Central Coast and Southwest/South Coast clades are listed as endangered. The only clade not listed under CESA is the North Coast Clade; this clade is not subject to CESA protections but is still a CDFW Species of special concern. The clade is also recognized by the FS in R5 as a sensitive species. The project site is located within the range of the North Coast Clade.

Project Impacts

Riparian vegetation removal may cause a minor decrease in overhead canopy that could provide partial sun and shade. However, the amount of riparian vegetation present that could provide shade to the river is minimal because the area lacks overhanging vegetation. Shade is provided along the river's edge by the existing riparian vegetation. In addition, the minor reduction in shade from riparian vegetation removal is expected to be temporary until replanted vegetation becomes established.

Gravel work pad placement may cause a minor decrease in edge water habitat. However, the river margin in the project limits lacks suitable flow, substrate, and aquatic vegetation characteristics used by FYLF. In the project limits, this portion of the river lacks isolated pools or channels.

Based on habitat requirements of both adult and tadpole frogs, a suitable habitat is minimal in the project limits. In addition, conservation measures listed below will further reduce any impact to individual or habitat.

Standard Measures and Best Management Practices

- Pre-construction surveys for foothill yellow-legged frog (FYLF) will be required and will be conducted by a contractor supplied biologist with FYLF experience in all areas planned for construction activities (including, but not limited to, the riparian zone and the river's margin) no earlier than three days prior to construction activities. If FYLF are found, the biologist will relocate them to a safe species-specific appropriate habitat nearby, but outside the project limits and well outside the construction area.

- If FYLF are encountered during construction, they must be allowed to leave the construction area unharmed or the biologist will relocate them to a safe species-specific appropriate habitat well outside of the construction area.

3.3.2.8. Western Pond Turtle

The CDFW recognized the western pond turtle as a species of special concern. The FS in R5 also recognized the species as a sensitive species.

Project Impacts

Riparian vegetation removal and soil disturbance may disrupt foraging activities within the riparian zone. Additionally, gravel work pad placement may cause a minor decrease in foraging activities. Based on nest site selection criteria, western pond turtles are unlikely to nest within the riparian zone, as the understory is overgrown with blackberry and sun exposure is limited below the willow canopy. They are highly unlikely to nest along the edge of water because of saturated soils.

Standard Measures and Best Management Practices

The conservation measures to prevent and reduce impacts to the FYLF listed in the preceding section will also protect the western pond turtles.

3.3.2.9. Northern Spotted Owl

The USFWS listed the northern spotted owl (NSO, *Strix occidentalis caurina*) as threated under the ESA in 1990 and critical habitat was designated for the species in 2008. The NSO is recognized by FS in R5 as a sensitive species. The CDFW listed the NSO as threatened under CESA in 2016.

Project Impacts

The removal of approximately 168,958 ft^2 or 1.26 acres of Douglas fir habitat may discourage dispersal and/or foraging activities within the area. Tree removal, however, will be conducted between September 15 and January 31 when NSO are least expected to be present.

Depending on the type of pile driving that will be used, noise levels of 95 to 105 decibels at 50 feet from the location of pile driving are possible. Based on Google earth imagery, the distance from the west abutment (where pile driving is anticipated) to the northeast corner of the habitat (excluding a small portion that is mapped over Walker Road) is about 300 feet, and the distance from the west abutment to the "unoccupied" activity center is about 700 feet. Generally, construction noise from equipment is reduced by 6 decibels when doubling the distance from the equipment location. Thus, at 300 feet the noise level would be 87 decibels and at 700 feet the noise level would be 63 decibels.

Walker Road is adjacent to potential dispersal/foraging habitat. Work for Walker Road would include widening, paving, and replacing or extending existing culverts to conform to the new edge of pavement. Equipment most likely to be used includes an excavator, scraper, milling machine, sweeper, dump truck, paver, and a compactor/roller. Utilizing the "Some Common Sound Levels for Equipment/Activities", noise levels for the equipment range from 61 to 86 decibels. Because Walker Road is less than 50 feet from the habitat, noise levels generated would be considered a "take". Work in this area will not occur before July 9th of any given year to decrease impacts on spotted owl to no effect.

Caltrans has consulted with USFWS and CDFW and both agreed that potential impacts to northern spotted owl would be immeasurable and should have no effect on the NSO.

Standard Measures and Best Management Practices

- All upland trees, as mapped in the Preliminary Upland Tree Impact Map for the project, shall be removed between September 15 and January 31 of any given year.
- Construction activities taking place at or near Walker Road shall not start before July 9th of any given year.

3.3.2.10. Bald Eagle

Bald eagles were listed as a threatened species on March 11, 1967 by the USFWS and CDFW. On August 8, 2007, it was delisted from the USFWS endangered species list but remained a birds of conservation concern, and a fully protected species by CDFW. The bald eagle is recognized as a sensitive species by the FS in R5.

Project Impacts

Proposed tree removal is not expected to have an impact on bald eagle or nesting. Bald eagles would most likely forage further downstream or upstream and avoid this portion of the river during construction. As salmon abundance coincides with hatchery releases and migration, local bald eagles are unlikely to have to travel far to locate their prey. Also, construction activities will be intermittent and temporary. Therefore, proposed construction activities are anticipated to have a negligible impact on the bald eagles.

Standard Measures and Best Management Practices

- Caltrans anticipates nesting or attempted nesting by migratory and nongame birds from February 1 to September 30. Do not perform tree or shrub removal during nesting or attempted nesting.

- If trees or shrubs cannot be removed outside of the anticipated nesting or attempted nesting period, a contractor supplied biologist with bird survey experience will conduct a preconstruction survey no more than 3 days prior to the tree or shrub removal.
- If active nest(s) are located during preconstruction survey, the contractor supplied biologist will notify the contractor. The contractor and contractor supplied biologist will follow the guidelines specified in Sections 14-6.03 B Bird Protection and 14-6.03(D1) of the Caltrans' 2018 Standard Specifications.
- If any wildlife is encountered during construction, said wildlife shall be allowed to leave the construction area unharmed.

3.3.2.11. Great Blue Heron

The CNDDB noted a total of nine known and presumed extant occurrences within a 10-mile radius of the project location. All the occurrences are greater than a mile from the project location. The closest documented occurrence is 1.30 miles from the project site. This is a rookery site for breeding great blue herons and was recorded in the 1980s. Per the CNDDB, the rookery site is located on the southeast side of the Klamath River, about 0.75-mile south southwest of Horse Creek. There are no current documented rookeries within the project, and habitat is marginal to unsuitable for rookery site. However, potential suitable foraging habitat exists within the project limits.

Project Impacts

Based on the location of the rookery sites, proposed construction activities are not anticipated to have an impact on the great blue heron. Additionally, great blue heron was not observed, or their vocalizations were not heard during field surveys. If great blue herons were to be found in the project limits during construction, standard measures and BMPs listed below shall be implemented.

Standard Measures and Best Management Practices

The conservation measures to prevent and reduce impacts to the bald eagle listed in the preceding section will also protect the great blue heron.

3.3.2.12. Bats

The CDFW recognizes the pallid bat and Townsend's big-eared bat as species of special concern. The Townsend's big-eared bat is a USFWS species of concern. Both pallid and Townsend's big-eared bat along with fringed myotis are recognized by the FS in R5 as sensitive species.

Caltrans biologists conducted bat surveys in 2020 and 2021 to identify bat species present and to provide information about the locations and extent of bat use on the bridge. Survey results suggest that a maternity colony of approximately 250 myotis are using the hollow chambers mainly in Pier 1 and likely in Pier 2. The colony is composed of mainly Yuma myotis with a smaller number of long-legged myotis (Myotis volans) and California myotis (Myotis californicus). Though not detected during surveys, pallid bat, Townsend's big-eared bat, and fringed myotis can still be using the bridge, because they are occasionally to commonly found on bridges and other transportation structures. Additionally, the project is within their range (Johnston 2019, CDFW 2021).

Project Impacts

The proposed project's activities may impact bats. Existing Piers 1 and 2 are open boxes formed by the steel girders on the underside of the bridge's deck and are being used as day, maternity, and night roosting locations. The removal of the existing bridge will permanently result in the loss of approximately 3,093 ft^2 or 0.071 acre of day or maternal roost habitats.

Cavity roosting bats (e.g., long-legged myotis) may aggregate in large tree hollows or crevice roosting bats (e.g., California myotis) may occupy exfoliating tree bark. The trees within the project limits may serve as cavity or crevice roosting habitat. However, most trees slated for removal are in adjacent riparian habitat. They do not have the attributes (being less than 6

inches in dbh with no hollow decay or exfoliating bark) to provide roosting habitat. Though there are a few trees along the highway west of the existing bridge slated for removal that have the dbh, they do not have hollows or loose bark. Trees exhibiting such structural attributes are normally found in late successional, old growth, or multi-stands forests which does not exist within the proposed project location. Tree species including ponderosa pine with a dbh range of 32-74 inches, lodgepole pine with a mean dbh of 26 inches, and Douglas fir with a mean dbh of 36 inches that are most frequently used for roosting are either absent or sparse within the proposed project vicinity (Keeley 1997, Erickson et al. 2002, Pierson and Rainey 2007, Taylor 2006). In addition, these trees are all located about 300 feet upslope from the riparian area. Based on species requirements, proposed tree removal activities are anticipated to have a negligible impact on the bats.

The removal of riparian vegetation may result in impacts to the bats' foraging habitats. However, downstream and upstream reaches contain open water and riparian vegetation that would most likely provide equal or greater foraging habitat to the bats. These foraging grounds are proximate to the proposed project location and bats could remain in the area between hunting forays without expending a large amount of energy.

Standard Measures and Best Management Practices

- A contractor supplied biologist with bat experience shall survey the existing bridge prior to bridge demolition.
- Prior to bridge demolition, the bat biologist will develop a bat exclusion and sequencing plan. The plan to sequence bat exclusion will be submitted to Caltrans to be submitted to CDFW for review and approval. Allow a minimum of 15 days for review and approval.
- Bat exclusion activities will not start until the bat exclusion and sequencing plan is authorized.
- Bats must not be present in the existing bridge when demolition begins. The new bridge must be available to bats before existing habitat is removed.

- The bat biologist shall be onsite to monitor, direct, and provide guidance on the implementation of the bat exclusion and sequencing plan as well as protection measures to ensure that no take of bats occurs.

Mitigation

Coordination between Caltrans and CDFW has identified potential roost replacements that would mitigate impacts to bat habitat. The specific type of roosts will be identified during the LSA Agreement application process.

3.3.2.13. Ringtail

The ringtail (Bassariscus astutus) is not listed under either ESA or CESA. They are not tracked by CNDDB but are a fully protected species. Fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take.

Project Impacts

Riparian vegetation removal may reduce ringtail foraging habitat; however, impacts to foraging habitat would be temporary in nature until replanted vegetation becomes established. Also, riparian vegetation adjacent to the project limits and along the Klamath River would most likely provide equal or greater foraging habitat. In addition, the fact that this species typically forages at night and the fact that this is a highly mobile species, makes it unlikely that ringtail would be encountered during daylight. Therefore, project construction activities are not expected to have an impact.

The proposed bridge replacement may disrupt the connectivity of an established corridor provided by the existing bridge. The ringtail's ability to cross the river may be obstructed during construction. However, impediment would be temporary until the new bridge is built. If the ringtail is using the underside of the existing bridge to access its territory, it would have to use the roadway instead where predation and vehicle-caused mortality are increased.

Upland trees slated for removal do not have hollows. Though hollows were not observed in the trees that were sampled, it is probable that trees with

hollows exist but were not discovered during survey efforts. For this reason, potential impacts could occur if ringtails were denning within the project area and were harmed or killed during tree removal.

Standard Measures and Best Management Practices

- Outside the active stream keep night work to the minimum extent necessary to complete work operations. When night work cannot be avoided, focus lighting away from listed-species habitat.
- Conservation measures to prevent and reduce impacts to the bald eagle listed in the preceding section will also help to reduce impacts to ringtail.
- If any wildlife is encountered during construction, said wildlife shall be allowed to leave the construction area unharmed.

Mitigation

Compensatory mitigation should not be required. However, if feasible, Caltrans is exploring ideas on providing connectivity for the ringtail and other arboreal species to maintain their ability to access habitat on either side of the river. Coordination between Caltrans and CDFW has identified potential alternative crossing designs, but the specific type would be identified during the LSA Agreement application process.

3.3.3. Special Status Plant Species

Based on resource databases query results, no federal or state candidate, threatened, or endangered plant species (Table 5) are known to occur in the project limits and are not expected to be present within the project limits. They will not be discussed further in this report. Dudley's rush (*Juncus dudleyi*) has been identified as having the potential to occur in the project limits and is discussed below.

Table 5. Federal and State Threatened and Endangered Species-Plants

Scientific Name	Common Name	Legal Status Federal/State	Habitat Present	Species Present	Impact and Rationale
Astragalus applegatei	Applegate's Milk-vetch	E/--	NO	NO	The project site is well below the reported elevational range of the species. Applegate's milk-vetch was not observed during botanical surveys and is not expected to be present at the project site. Thus, proposed project has no effect on the species.
Eriogonum alpinum	Trinity buckwheat	--/E	NO	NO	The project site is well below the reported elevational range of the species. Trinity buckwheat was not observed during botanical surveys and is not expected to be present at the project site. Thus, proposed project has no effect on the species.
Fritillaria gentneri	Gentner's fritillary	E/--	NO	NO	The project site is well below the reported elevational range of the species. Gentner's fritillary was not observed during botanical surveys and is not expected to be present at the project site. Thus, proposed project has no effect on the species.

Status Explanation -- = none E = Endangered

*This table is a subset of the Regional Species Evaluation Table for Plants in Appendix C.

3.3.3.1. Dudley's Rush

Dudley's rush is a rare native grass that often grows in moist areas along streambanks, ditches, or around springs in montane conifer forest habitat. It is found in exposed or shaded sites in sandy to clayey soils. Dudley's rush flowers and fruits during the spring and summer. It is found in central and northern California, primarily in the Klamath Mountain Range region.

Project Impacts

Dudley's rush was not observed during surveys. Therefore, project-related soil disturbance is not anticipated to affect Dudley's rush.

Standard Measures and Best Management Practices

Specific measures and BMPs are not needed.

3.3.3.2. Invasive Species

Thirteen species included on the State-listed Noxious Weeds List and the California Invasive Species Advisory Committee (CISAC) list of invasive species were encountered during field surveys: yellow starthistle (*Centaurea solstitialis*), bull thistle (*Cirsium vulgare*), Brazilian Egeria (*Egeria densa*), Dyer's woad (*Isatis tinctorial*), black mustard (*Brassica nigra*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), downy brome (*Bromus tectorum*), dogtail grass (*Cynosurus echinatus*), orchard grass (*Dactylis glomerata*), redstem filaree (*Erodium cicutarium*), everlasting pea (*Lathyrus latifolius*), and Himalayan blackberry (*Rubus armeniacus*).

Project Impacts

Equipment entering the worksite and vegetation clearing activities could introduce or spread invasive species. These activities are not anticipated to contribute to the increasing number of invasive species beyond what is presently within the project limits. Work will be confined within the project limits, and standard measures and BMPs will be implemented during construction to prevent the introduction and spread of invasive species to and from the job site.

Standard Measures and Best Management Practices

- Clean or wash vehicles and equipment before entering and leaving the job site. Cleaning operations shall follow the guidelines specified in Section 14-6.05 of the Caltrans' Standard Specifications.
- Following construction, all disturbed soil areas will be stabilized with erosion control measures, and erosion control materials such as straw and seed mixes will be certified weed-free.
- Plans will show plant species that will be used for erosion control. They will consist of native species or non-persistent hybrids that will prevent invasive species from colonizing disturbed areas.
- Straw must be certified weed free under the Department of Food and Agriculture. Straw must be free of plastic, glass, metal, rocks, and refuse or other deleterious material.
- Seed must not contain prohibited noxious weed seed at more than 1.0 percent total weed seed by weight.

3.3.3.3. Migratory Bird Treaty Act (MBTA)

Based on data queries, a list of potential migratory birds is not available. However, field surveys identified vegetation (i.e., trees or shrubs) within the project limits to have the potential for use by migratory birds. The existing habitat near SR 96 consists of trees that have no structural attributes to support raptors (e.g., eagle or osprey). No bird nests were observed.

Project Impacts

Vegetation removal during the migratory bird nesting season could cause impacts to nesting birds or their young. Noise generated during work activities could also disturb nesting birds or their young.

Standard Measures and Best Management Practices

- Caltrans anticipates nesting or attempted nesting by migratory and nongame birds from February 1 to September 30. Do not perform tree or shrub removal during nesting or attempted nesting.
- If trees or shrubs cannot be removed outside of the anticipated nesting or attempted nesting period, a contractor supplied biologist will conduct a preconstruction survey no more than 3 days prior to the tree or shrub removal.
- If active nest(s) are located during preconstruction survey, the contractor supplied biologist will notify the contractor. The contractor and contractor supplied biologist will follow the guidelines specified in Sections 14-6.03 B and 14-6.03(D1) of the Caltrans' Standard Specifications.

3.4. Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas (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 (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), and various hydrofluorocarbons (HFCs). CO_2 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 CO_2.

Two terms are typically used when discussing how to 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).

3.4.1. Regulatory Setting

This section outlines state and federal 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. NHSTSA and EPA approved the SAFE (Safer Affordable Fuel-Efficient) Vehicles Rule Parts One and Two in 2019 and 2020 respectively. Part One, published September 27, 2019 and effective November 26, 2019, revoked California's authority to set its own greenhouse gas emissions standards. Part Two, effective June 30, 2020, amended existing Corporate Average Fuel Economy and tailpipe CO_2 emissions standards for passenger cars and light trucks and established new standards covering model years 2021 through 2026. The rule retains the model year 2020 standards for both programs through model year 2026. 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:

Executive Order S-3-05 (June 1, 2005): The goal of this executive order (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 32 in 2006 and SB 32 in 2016.

Assembly Bill 32 (AB 32), Chapter 488, 2006: Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 codified the 2020 GHG emissions reduction goals as outlined in EO S-3-05, while further mandating that 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 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.

Executive Order 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 375 (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.

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

Executive Order 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.

Executive Order 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 ($MMTCO_2e$)[1]. 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.

Senate Bill 32 (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

[1] GHGs differ in how much heat each trap in the atmosphere (global warming potential, or GWP). CO_2 is the most important GHG, so amounts of other gases are expressed relative to CO_2, using a metric called "carbon dioxide equivalent" (CO_2e). The global warming potential of CO_2 is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO_2

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 traveled, to promote the state's goals of reducing greenhouse gas emissions and traffic-related air pollution and promoting multimodal transportation while balancing the needs of congestion management and safety.

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 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.

EO N-79-20 (September 2020) establishes goals for 100 percent of in-state sales of new passenger cars and trucks to be zero-emissions vehicles by 2035, that the state transition to 100 percent zero-emission off-road vehicles and equipment by 2035 where feasible, and that 100 percent of medium- and heavy-duty vehicles in the state be zero-emissions by 2045 where feasible.

3.4.2. Environmental Setting

The project site is located on SR 96 near the community of Horse Creek in Siskiyou County. SR 96 is classified as a minor arterial. The Klamath River Bridge is located about 1.44 miles west of Horse Creek and about 2.38 miles west of Kohl Creek at approximately river mile 158 upstream from the confluence of the Klamath River and the Pacific Ocean. This segment of SR 96 runs through the Klamath National Forest. Land use in the adjacent area includes logging, open-pit rock mining, recreational activities including fishing and boating, and rural residential. Average annual daily traffic at the project location in existing year 2016 was 550, of which trucks constituted 7%. The Siskiyou County Local Transportation Commission guides transportation development in the project area and aims to help meet statewide GHG emissions-reduction goals. The commission's 2021 Regional Transportation Plan forecasts that average annual daily traffic on SR 96 will generally decrease in the project region from 2021 to 2041, and VMT on Siskiyou County roadways is not expected to change substantially between 2021 and 2041 (Siskiyou County Local Transportation Commission 2021a:27, 30).

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. The 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.

3.4.3. 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 CO_2, CH_4, N_2O, HFCs, perfluorocarbons, SF_6, and nitrogen trifluoride. It also accounts for emissions of CO_2 that are removed from the atmosphere by "sinks" such as forests, vegetation, and soils that uptake and store CO_2 (carbon sequestration). The 1990-2019 inventory found that overall GHG emissions were 6,558 million metric tons (MMT) in 2019, down 1.7 percent from 2018 but up 1.8% from 1990 levels. Of these, 80 percent were CO_2, 10 percent were CH_4, and 7 percent were N_2O; the balance consisted of fluorinated gases. CO_2 emissions in 2019 were 2.2 percent less than in 2018, but 2.8 percent more than in 1990. As shown in Figure 3, the transportation sector accounted for 29 percent of U.S. GHG emissions in 2019 (U.S. EPA 2021a, 2021b).

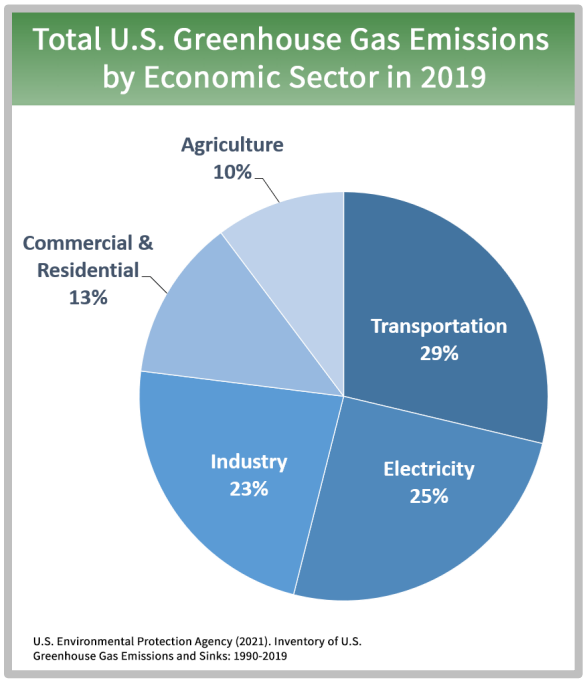

Figure 3. U.S. 2019 Greenhouse Gas Emissions (Source: U.S. EPA 2021c)

3.4.4. 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 2020 edition of the GHG emissions inventory reported emissions trends from 2000 to 2018. It found total California emissions were 425.3 $MMTCO_2e$ in 2018, 0.8 $MMTCO_2e$ higher than 2017 but 6 $MMTCO_2e$ lower than the statewide 2020 limit of 431 MMT CO_2e. The transportation sector was responsible for 41 percent of total GHGs. Transportation emissions decreased in 2018 compared to the previous year, which is the first year over year decrease since 2013. Overall statewide GHG emissions declined from 2000 to 2018 despite growth in population and state economic output (ARB 2020a).

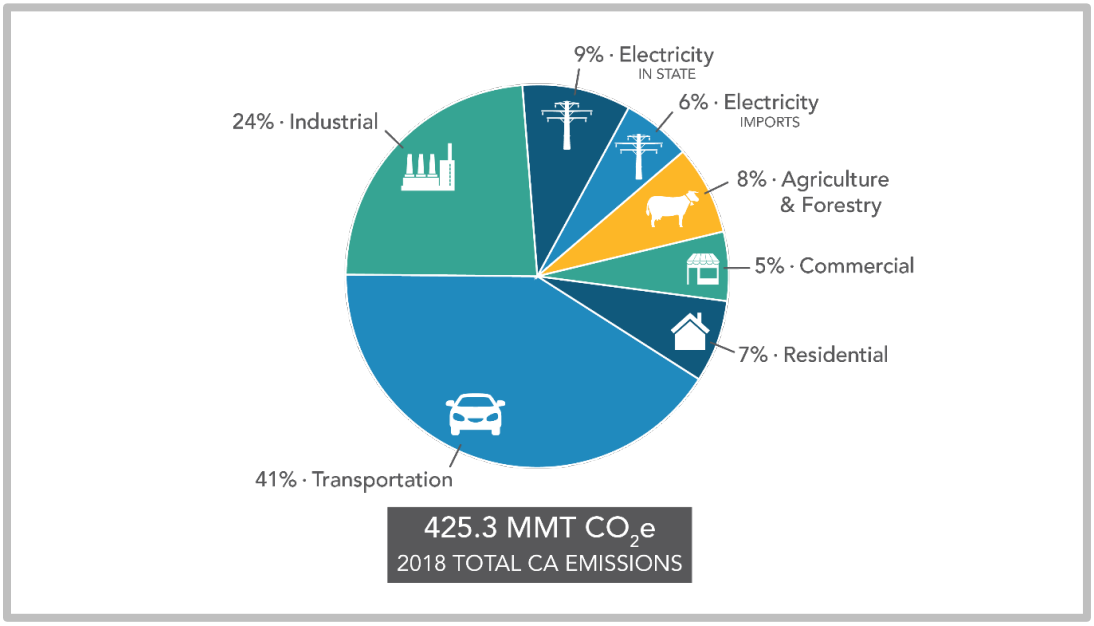

Figure 4. California 2018 Greenhouse Gas Emissions by Economic Sector (*Source*: ARB 2020b)

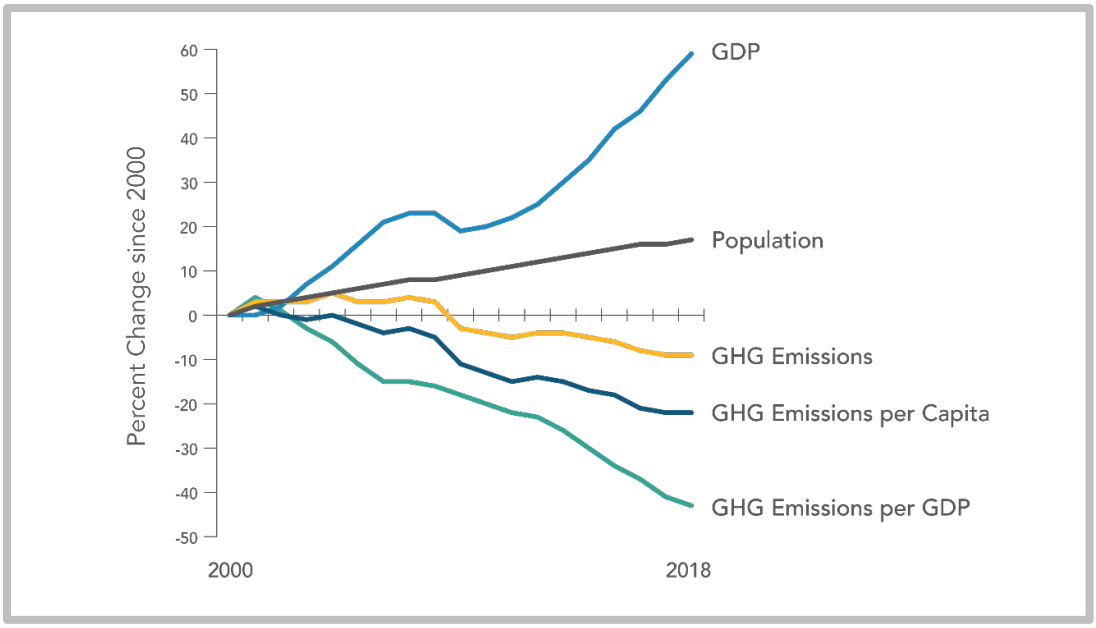

Figure 5. Change in California GDP, Population, and GHG Emissions since 2000 (Source: ARB 2020b)

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.

3.4.5. Regional Plans

ARB sets regional targets for California's 18 MPOs to use in their Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) to plan future projects that will cumulatively achieve GHG reduction goals. Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels. Siskiyou County, however, is not an MPO and is not required to produce an SCS. The Siskiyou County Local Transportation Commission is the Regional Transportation Planning Agency. The proposed project was programmed in the 2016 RTP. The 2021 Final Regional Transportation Plan was adopted on August 10, 2021. GHG-related goals of the 2021 RTP include Goal 16: Ensure sensitivity to the environment in all

transportation decisions; and Goal 17: Include climate change strategies in transportation investment decisions. The RTP also identifies promoting alternative and multimodal transportation, pedestrian and bicycle improvement projects, and public transit elements (Siskiyou County Local Transportation Commission 2021b:27).

3.4.6. Project Analysis

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 CO_2, CH_4, N_2O, and HFCs. CO_2 emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of CH_4 and N_2O are emitted during fuel combustion. In addition, a small amount of HFC emissions are included in the transportation sector.

The CEQA Guidelines generally address greenhouse gas emissions as a cumulative impact due to the global nature of climate change (Pub. Resources Code, § 21083(b)(2)). As the California Supreme Court explained, "because of the global scale of climate change, any one project's contribution is unlikely to be significant by itself." (Cleveland National Forest Foundation v. San Diego Assn. of Governments (2017) 3 Cal.5th 497, 512.) In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines Sections 15064(h)(1) and 15130).

To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. Although climate change is ultimately a cumulative impact, not every individual project that emits greenhouse gases must necessarily be found to contribute to a significant cumulative impact on the environment.

Operational Emissions

The project purpose is to replace the structurally deficient Horse Creek Bridge to maintain mobility and safety on SR 96. The proposed project would not

increase roadway capacity or vehicle miles traveled (VMT). While construction emissions would be unavoidable, no increase in operational emissions is expected.

3.4.7. 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.

CAL-CET2020 was used to estimate carbon dioxide (CO_2) emissions from construction activities. CO_2 emissions produced during construction are estimated to total approximately 581 tons over 360 working days of construction.

The project will include measures to minimize construction GHG emissions. Caltrans 2018 Standard Specifications Section 14-9.02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including the Siskiyou County Air Pollution Control District regulations and local ordinances. The contractor will also comply with Title 13 of the California Code of Regulations, which includes idling restrictions of construction vehicles and equipment to no more than 5 minutes. Caltrans 2018 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. The project would utilize a traffic management plan to minimize vehicle delays, and to the extent feasible, construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.

3.4.8. CEQA Conclusion

Because the proposed project does not increase roadway capacity or VMT, no long-term increase in operational GHG emissions is anticipated. 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.

Caltrans is firmly committed to implementing measures to help reduce GHG emissions. These measures are outlined in the following section.

3.4.9. Greenhouse Gas Reduction Strategies

3.4.9.1. 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.

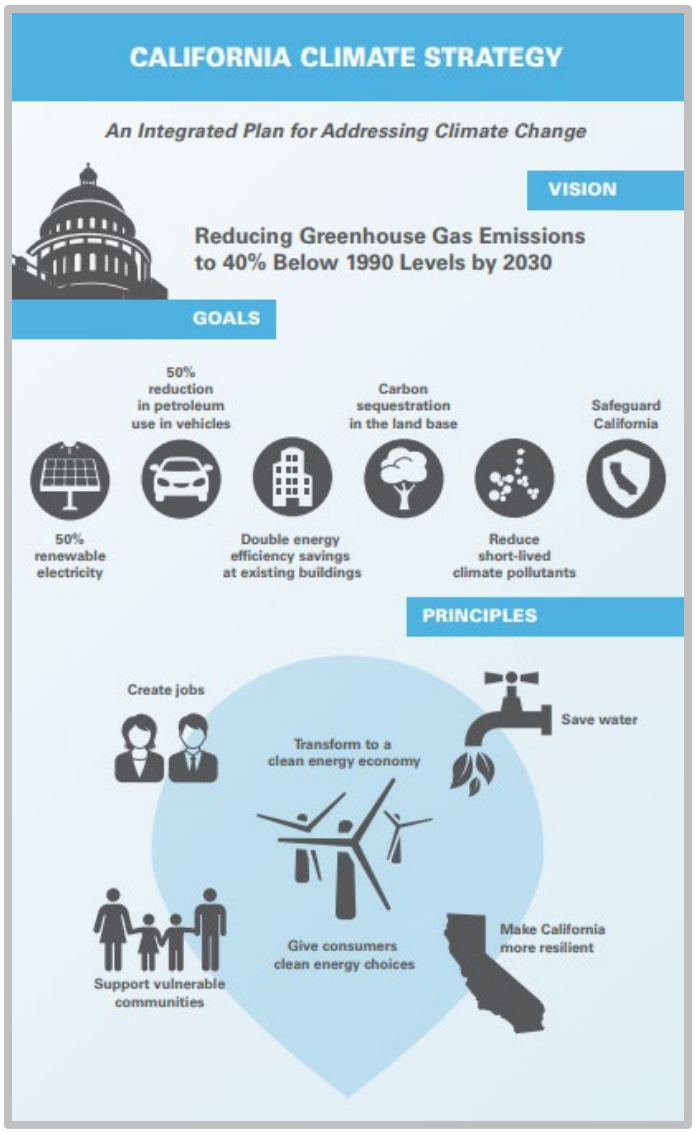

Figure 6. California Climate Strategy

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 greenhouse gas emissions is to reduce today's petroleum use in cars and trucks by up to 40 percent by 2030 (California Environmental Protection Agency 2015).

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.

Subsequently, Governor Gavin Newsom issued Executive Order N-82-20 to combat the crises in climate change and biodiversity. It instructs state agencies to use existing authorities and resources to identify and implement near- and long-term actions to accelerate natural removal of carbon and build climate resilience in our forests, wetlands, urban greenspaces, agricultural soils, and land conservation activities in ways that serve all communities and in particular low-income, disadvantaged, and vulnerable communities. Each agency is to develop a Natural and Working Lands Climate Smart Strategy that serves as a framework to advance the State's carbon neutrality goal and build climate resilience.

3.4.9.2. 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 a new 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.

3.4.9.3. California Transportation Plan

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. It serves as an umbrella document for all the other statewide transportation planning documents. The CTP 2050 presents a vision of a safe, resilient, and universally accessible transportation system that supports vibrant communities, advances racial and economic justice, and improves public and environmental health. The plan's climate goal is to achieve statewide GHG emissions reduction targets and increase resilience to climate change. It demonstrates how GHG emissions from the transportation sector can be reduced through advancements in clean fuel technologies; continued shifts

toward active travel, transit, and shared mobility; more efficient land use and development practices; and continued shifts to telework (Caltrans 2021a).

SB 391 (Liu 2009) requires the CTP to meet California's climate change goals under AB 32. Accordingly, the CTP 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, the CTP identifies additional strategies.

3.4.9.4. Caltrans Strategic Management Plan

The Caltrans 2020–2024 Strategic Plan includes goals of stewardship, climate action, and equity. Climate action strategies include developing and implementing a Caltrans Climate Action Plan; a robust program of climate action education, training, and outreach; partnership and collaboration; a VMT monitoring and reduction program; and engaging with the most vulnerable communities in developing and implementing Caltrans climate action activities (Caltrans 2021b).

3.4.9.5. 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, advance transportation-related GHG emission reduction project types/strategies and support other climate adaptation goals (e.g., Safeguarding California).

3.4.9.6. Caltrans Policy Directives and Other Initiatives

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) established a Department policy to 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.

3.4.9.7. Project-Level Greenhouse Gas Reduction Strategies

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

- According to Caltrans Standard Specifications, the contractor must comply with all of the Siskiyou County Air Pollution Control District rules, ordinances, and regulations regarding air quality restrictions. Measures such as idling restrictions help reduce GHG emissions.

- Caltrans Standard Specifications, a required part of all construction contracts, should effectively reduce and control emission impacts during construction under the provisions of Section 7-1.02C "Emission Reduction" and Section 14-9.03 "Dust Control". Provision 14-9.02 "Air Pollution Control" requires the contractor to comply with all pertinent rules, regulations, ordinances, and statutes of the local air district.

- Landscaping reduces surface warming, and through photosynthesis, decreases CO_2. The project includes replanting in areas cleared by construction activities. This replanting would help offset potential CO_6 emissions.

3.4.9.8. 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.

3.4.9.9. 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. DOT Policy Statement on Climate Adaptation in June 2011 committed the federal Department of Transportation to "integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of 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).

3.4.9.10. 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.

3.4.9.11. Caltrans Adaptation Efforts

Caltrans Vulnerability Assessments

Caltrans conducted 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 was 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.

3.4.9.12. 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

The Klamath River Bridge is located in Zone A, "Special Flood Hazard Area" without a Base flood elevation determination. The Caltrans District 2 Climate Change Vulnerability Assessment interactive mapping indicates a potential increase in 100-year storm precipitation of less than 5% in the project area through 2085 (Caltrans 2018). The 100-year storm event is a metric commonly used in design of transportation assets.

How a storm affects the flow of a river involves many site-specific factors such as channel characteristics and slope, among others. The proposed Klamath River Bridge replacement will have a soffit elevation of approximately 34 feet above the river at normal flow levels. The project will include installation of rock slope protection to protect abutments, retaining walls, piers, culverts, and embankments from storm events and scour. Given the bridge's height and project design features, the new bridge would likely remain resilient to higher flood flows under future changed climate conditions.

Wildfire

Climate change is expected to bring increasing temperatures, changing precipitation patterns, and corresponding changes in land cover that will affect wildfire frequency and intensity. Caltrans Climate Change Vulnerability Assessment mapping of wildfire-exposed roadway for District 2 shows that SR 96 in the project area is exposed roadway at a very high level of concern from 2025 through 2055, and high concern through 2085 (Caltrans 2018). The California Department of Forestry and Fire Protection FHSZ Viewer show that

the project location is in a State Responsibility Area categorized as a Very High Fire Hazard Severity Zone for years 2010 through 2069, and High FHSZ from 2070 to 2099.

The proposed project would increase the width of the road, which improves its function as a firebreak; would reduce vegetation adjacent to the roadside; and would provide additional paved areas for emergency response vehicle staging. Construction materials would be non-combustible such as asphalt and steel. All sources of electrical power would either be underground or contained in conduit and meet current electrical, building, and fire code, standards. The proposed project would not introduce additional infrastructure or housing that may exacerbate fire risk or result in temporary ongoing impacts to the environment. To reduce fire risk during construction, Caltrans 2018 revised Standard Specification 7-1.02M(2) mandates fire prevention procedures, including a fire prevention plan. The project is not anticipated to exacerbate the impacts of wildfires intensified by climate change.

3.5. Hazards and Hazardous Materials

3.5.1. CEQA Significance Determinations for Hazards and Hazardous Materials

Caltrans staff completed an Initial Site Assessment (ISA) in May 2021 that identified the potential for minor hazardous waste/material issues within the project site; Asbestos Containing Material (ACM), Treated Wood Waste (TWW), Lead Containing Paint (LCP) related to thermoplastic and/or paint striping removal, Aerially Deposited Lead (ADL) and Naturally Occurring Asbestos (NOA).

Asbestos Containing Material (ACM) may be present in shims, joints, and/or bearing plates of the bridge. If ACM is present it would be treated in accordance with the Caltrans Standard Specifications, including requiring the contractor be notified as to the presence of suspected ACM. ACM removal must be conducted by a licensed and certified asbestos abatement contractor.

Treated wood is present within the project limits in the form of Metal Beam Guard Rail (MBGR) and signposts. If Treated Wood Waste (TWW) is generated during this project, the storage and disposal would be in accordance with Caltrans Standard Specifications.

In accordance with Caltrans Standard Specifications, a Lead Compliance Plan (LCP) would be prepared and implemented to address appropriate lead removal related to LCP and Aerially ADL, including temporary storage, testing, and transportation to an appropriate disposal or recycling facility.

Soil samples taken in the project limits indicate a varied low-level to non-detect presence of Naturally Occurring Asbestos (NOA).

The project is not near an existing or proposed school, or public or private airport and/or airstrip.

The project would not interfere with an emergency response plan and/or emergency evacuation plan or expose people or structures to wildland fire-related hazards.

Given the determinations above, the project would have a less than significant impact on hazards and hazardous materials.

3.6. Hydrology and Water Quality

3.6.1. CEQA Significance Determinations for Hydrology and Water Quality

For this project, increased turbidity is a realistic short-term impact that may occur when performing instream work. This includes installing and removing the gravel work pad from the channel. It could also occur while removing the old structure abutments. Instream channel work will occur after May 15th and is expected to have a less than significant long-term impact to turbidity.

Accidental spills and leaks from heavy equipment, electricity generators, and vehicles have potential to occur during construction. Leaks and spills would result in fuels, lubricants, and other chemicals being released. Providing adequate containment for stationary equipment and maintaining leak free

mobile equipment would reduce the potential for fuel and lubricant-related pollutant discharges.

Prior to construction, the contractor shall prepare a Storm Water Pollution Prevention Plan in accordance with the 2018 Caltrans Standard Specifications that identifies measures to be implemented for erosion control, spill prevention, and construction waste containment. All construction site Best Management Practices shall follow the most current edition of the Construction Site Best Management Practices (BMPs) Manual.

The project will NOT require post-construction stormwater treatment BMPs under Caltrans NPDES Permit No. CAS000003 since the new impervious surface will be less than one acre.

Although additional impervious area is in the project, negligible changes are expected in velocity and volume of flow from the project site. While increases are not expected, energy dissipation and volumetric reduction BMPs will be evaluated as necessary to prevent scour and objectionable downstream effects. Approximately 3 cfs of additional flow generated by this project (100-year event) is negligible compared to the current volumes of the Klamath River, especially considering the disparity between the basin sizes of the Klamath River and this project.

The project site is not located in an area subject to potential inundation by a seiche, tsunami, or mudflow.

Given the determinations above, the project would have a less than significant impact on hydrology and water quality.

3.7. Noise

3.7.1. CEQA Significance Determinations for Noise

Once complete, operation of the improved roadway would not result in increases in noise levels above existing conditions. The project would not increase roadway capacity or involve the introduction of additional noise-producing activities. The project area is rural and has few receptors present.

Construction noise would be temporary and intermittent. Construction of the new bridge structure would require work that would result in minor ground-borne vibration and noise. However, due to the rural nature of the project area, the project would not result in substantial temporary or periodic increases in ambient noise levels and would not result in the exposure of persons to, or generation of, excessive ground-borne vibration or noise levels.

Given the determinations above, the project would have a less than significant impact on noise.

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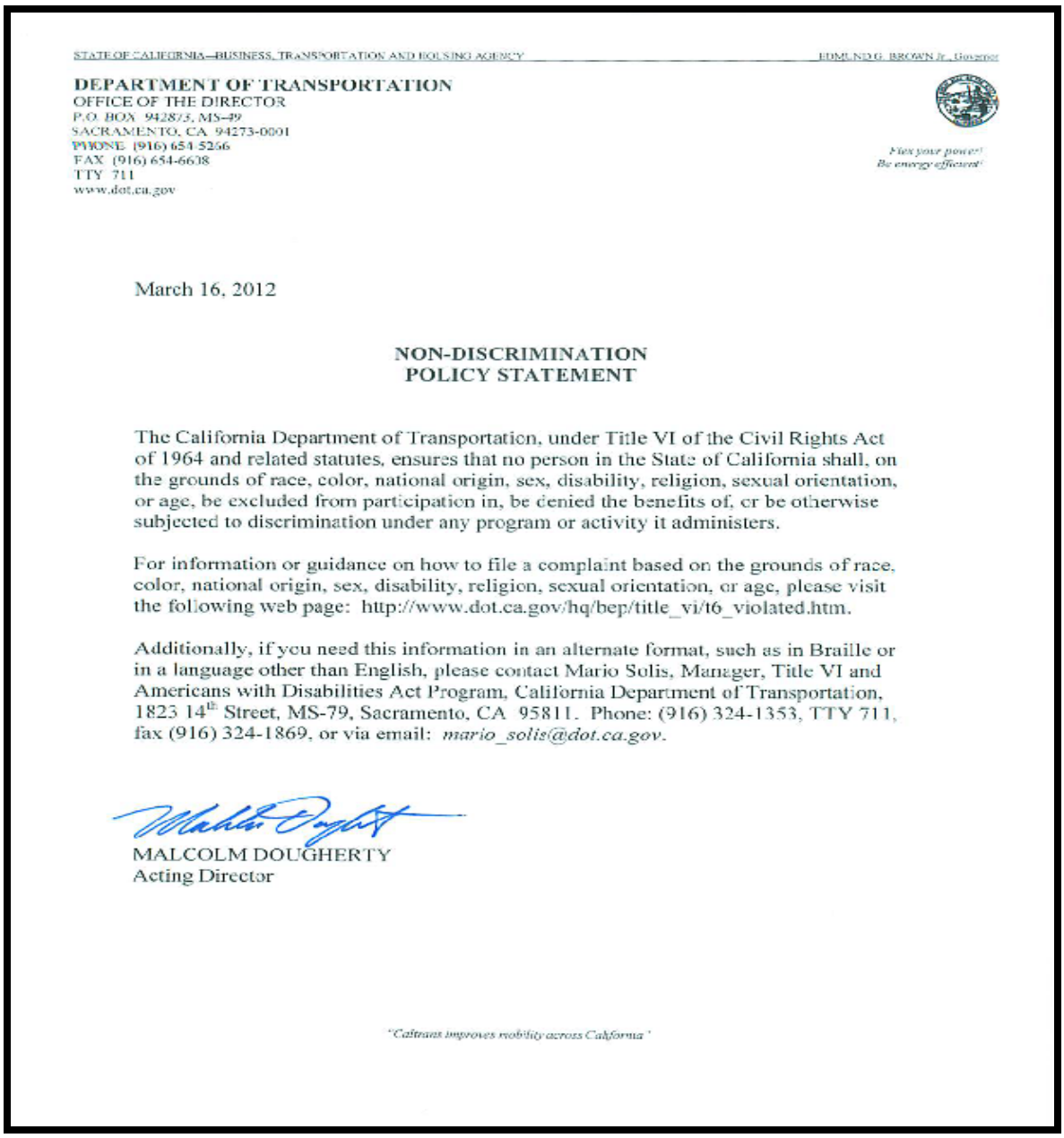
Appendix A Title VI Policy Statement



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

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact Mario Solis, Manager, Title VI and Americans with Disabilities Act Program, California Department of Transportation, 1823 14th Street, MS-79, Sacramento, CA 95811. Phone: (916) 324-1353, TTY 711, fax (916) 324-1869, or via email: *mario_solis@dot.ca.gov*.

MALCOLM DOUGHERTY
Acting Director

"Caltrans improves mobility across California"

Appx. Figure 1. Title VI Policy Statement

Appendix B Caltrans Standard Specifications, Special Provisions, Best Management Practices And Mitigation Measures

Caltrans standard specifications, special provisions, and best management practices (BMPs) that apply will be implemented during construction. Standard specifications and special provisions are project specific conservation measures to be implemented for the protection of a species and/or its habitat. BMPs are implemented in all Caltrans construction projects. Caltrans may, on project basis, specify or require contractors to implement certain BMPs.

The following standard specifications, special provisions, and BMPs will be implemented for this project.

- Work taking place in the riparian zone to the edge of the river will be dependent on the seventy-two (72) hour forecast from the National Weather Service (NWS). The contractor will monitor the 72-hour forecast from the NWS and adhere to the guidelines specified in the General Construction Permit and Nation Stormwater Permit.

- The number of access and egress points (e.g., to access work below bridge) and total area affected by vehicle operation will be minimized. Use the minimum grading required to create access and egress points.

- Temporary access roads located in the riparian zone to the edge of the river will be constructed with at least six (6) inches spawning gravel base that consists of uncrushed, rounded, natural river rock at a minimum of 0.5 inch to 4 inches in diameter. Ensure that the spawning gravel has been washed to ensure it is free of oils, clay, debris, and organic matter. Top spawning gravel with geotextile fabric (e.g., subgrade enhancement fabric, Class 10 RSP fabric, or other authorized geotextile fabric) followed by angular rock to create a separation from the spawning gravel and angular rock. Cover the geotextile fabric with washed angular rock to a

sufficient depth to prevent stormwater erosion or disturbance to subgrade soils.

- Environmental Sensitive Area (ESA) will be shown on the plans or described in the specifications to protect in place the riparian vegetation outside of the work zone. Onsite, a combination of stakes and flags or temporary high visibility fencing (THVF) will be used to clearly mark the limits of the designated work zone and restrict construction activities from occurring outside of the designated work areas.
- Riparian trees as identified on the plans will be preserved.
- Riparian vegetation removal will not exceed the minimum necessary to complete the project.
- Where riparian vegetation removal is necessary, rapidly sprouting plants, such as willows, shall be cut off at the ground line and the root system left intact.
- Trees will be felled in such a manner as not to injure standing trees and other plants to the extent possible.
- The disturbed vegetated areas will be restored as described in the proposed Mitigation and Monitoring Plan (MMP).
- The MMP will be submitted to CDFW, NMFS, and RWQCB for review and approval prior to the start of construction activities.
- Vegetated areas which are disturbed will be replanted using native riparian plant species that are part of the baseline of the area.
- Non-native plant species removed during construction will be replaced with native species.
- Where unintended soil compaction occurs in areas slated for re-vegetation, compacted soils will be loosened after heavy construction activities are complete.

- Areas disturbed and slated for riparian replanting will be shown on the plans or described in the specifications with direction to remove any materials preconstruction and to prepare replanting areas by either incorporating or amending existing soil using appropriate planting medium to improve aeration and moisture retention.

- Use of RSP will be limited to the minimum necessary to protect infrastructure.

- Caltrans anticipates nesting or attempted nesting by migratory and nongame birds from February 1 to September 30. Do not perform tree or shrub removal during nesting or attempted nesting.

- If trees or shrubs cannot be removed outside of the anticipated nesting or attempted nesting period, a contractor supplied biologist with bird survey experience will conduct a preconstruction survey no more than 3 days prior to the tree or shrub removal.

- If active nest(s) are located during preconstruction survey, the contractor supplied biologist will notify the contractor. The contractor and contractor supplied biologist will follow the guidelines specified in Sections 14-6.03 B Bird Protection and 14-6.03(D1) Contractor-Supplied Biologist of the Caltrans' 2018 Standard Specifications.

- Measures consistent with the current Caltrans' Construction Site Best Management Practices (BMPs) Manual (including the Storm Water Pollution Prevention Plan [SWPPP] and Water Pollution Control Plan [WPCP] Manuals) shall be implemented to minimize effects to habitat of special concern (i.e., riparian and/or riverine habitat) during construction.

- If water drafting is needed, the contractor shall provide to Caltrans copies of current applicable permits for the water drafting. The contractor will prepare a water drafting plan for Caltrans' approval. At a minimum, the plan shall include the amount and the schedule of water withdrawals.

- A SWPPP will be prepared by the contractor in accordance with the guidelines specified in the SWPPP Manual, Section 3: BMP WM-4, which

include a spill prevention and control measure outlining the actions to be taken in the event of a leak or spill. Implementation of the SWPPP will minimize effects to habitat of special concern (i.e., riparian and/or riverine habitat) from potential spills associated with construction activities.

- If chemical contamination has been detected, all project activities shall cease and National Marine Fisheries Service (NMFS), California Department of Fish and Wildlife (CDFW), and North Coast Regional Water Quality Control Board (NCRWQCB) shall be contacted immediately. Project activities may resume only after NMFS, CDFW, and NCRWQCB have reasonable assurances that chemical contamination has ceased.

- Prior to use, equipment must be visually inspected daily and throughout the day for leaks. If leaking, equipment cannot be used until the leak is fixed.

- Before entering the job site, all equipment must be cleaned to remove external oil, grease, dirt, or mud. Cleaning operations shall follow the guidelines described in the Caltrans' 2017 Construction Site Best Management Practices (CSBMP) Manual, Section 7: BMP NS-8.

- Vehicle and equipment fueling, and vehicle and equipment maintenance operations shall be conducted at least 50-150 feet away from the active stream as described in the SWPPP Manual, Section 3 and the Caltrans' 2017 CSBMP Manual, Section 7: BMP NS-9 and NS-10.

- Temporary material storage piles (e.g., erodible materials) shall be placed outside of the floodplain (at least 50-150 feet away from the active stream) during the rainy season (November 1 through May 31), unless material can be relocated within (i.e., before) 12 hours of the onset of a storm.

- Any gravel or fill placed within the side channel because as a result of conservation #3 must all be removed. When removing gravel or fill, ensure that the natural bottom is not disturbed. If any part (e.g., streambed and bank) of the side channel is disturbed, restore it to preconstruction conditions. Take preconstruction photos of the side channel as reference.

A temporary stream crossing that can withstand the weight of heavy equipment that is approved by the Engineer can be used in place of gravel or fill.

- The ESA will be shown on the plans or described in the specifications to protect in place the active stream outside of the work zone.
- The Ordinary High-Water Mark (OHWM) will be shown on a scaled project plan sheet.
- All work within the active stream shall occur during daylight hours.
- All work within the active stream shall occur between June 15 and October 15 or as specified by the permitting resource agencies.
- Monitor the National Weather Service's (NWS) forecast daily. If the NWS predicts a storm event in the project area with at least a 50 percent probability of precipitation within 72 hours, for construction activities, do not begin work or stop work immediately in the active channel.
- The contractor shall prepare and submit a temporary work platform (falsework and trestle) plan for review and approval by Caltrans. Caltrans will submit the temporary work platform plan to NMFS and CDFW for review and concurrence. The plan will include, but not be limited to, location and length of the temporary work platforms, width of the trestle, type of decking for the trestle, type of support (i.e., pipe pile or steel H-pile) for the temporary work platforms, and length, number, and size of piles needed to erect the temporary work platforms.
- The temporary work platforms will be designed to resist the 25-year peak flow for the Klamath River. If it is required to be left in the river over the winter, the deck of the temporary trestle will be removed during the rainy season so the structure does not interfere with high flows.
- While temporary work platform piling is in place in the water, monitor piling and remove any accumulated debris at least daily, or more often as necessary, to protect the temporary structure.

- Temporary platforms, piles, and other structures that will not remain in the active stream will be removed in a manner that minimizes disturbance to downstream flows and water quality.

- If in-water gravel work pads are placed in the river in place of a trestle for new bridge construction, each pad shall be installed and completed within approximately 6 days during daylight hours.

- If an in-water gravel work pad is placed in the river for Pier 2 removal, it shall be installed and completed in approximately 3 days during daylight hours.

- In-water gravel work pads in-lieu of a trestle will have a maximum footprint of 2,106 ft^2 or a maximum volume of 780.01 CY of gravel.

    - 641 ft^2 or 237.41 CY of gravel for the west gravel pad

    - 1,465 ft^2 or 542.60 CY of gravel for the east gravel pad

- In-water gravel work pad for existing Pier 2 removal will have a maximum footprint of 2,746 ft^2 or 1,017 CY of gravel.

- When forming the gravel work pad, the barriers (e.g., k-rails) shall be the first to be installed and slowly loaded into the river from the top of the riverbanks. The gravels shall then be placed gradually along the edge of the river outward until a pad is formed.

- Cover the gravel pad above the water level with geotextile fabric (e.g., subgrade enhancement fabric, Class 10 RSP fabric, or other authorized geotextile fabric) to ensure any construction debris from contaminating the washed fish gravel.

- When removing the gravel from the gravel work pads, leave one foot in the river to avoid impacts to the natural bed of the river or as instructed by permits.

- Water pumped from an area isolated from surface water (e.g., cofferdam) to allow construction to occur will be discharged to an

upland area, providing overland flow and infiltration before returning to stream. Upland areas may include sediment basins of sufficient size to allow infiltration rather than overflow, or adjacent dry gravel/sand bars if the water is clean and no visible plume of sediment is created downstream of the discharge. Other measures may be used such as a baker tank or methods described in the 2017 CSBMP Manual, Section 7: BMP NS-2.

- Post-construction, temporary sediment basins will be cleaned of sediment and the site restored to pre-construction contours (elevations, profile, and gradient) and function.

- Debris containment will be required to minimize bridge debris and materials from falling into the river during demolition, construction, and substantial maintenance and repair activities. Handle debris according to Caltrans' 2018 Standard Specifications Section 13-4.03D and the 2017 CSBMP Manual, Section 7: BMP NS-15.

- All waste (e.g., asphalt, concrete, geotextile, rock, etc.) generated during construction will be disposed of properly at an approved disposal location.

- Outside the active stream avoid night work to the minimum extent necessary to complete work operations. When night work cannot be avoided, focus lighting away from listed-species habitat.

- All pile driving activities will occur between June 15 and October 15 and shall occur during daylight hours.

- All pile driving activities will use the smallest pile driver and minimum force necessary complete the work.

- Pile driving will take place either on dry ground outside the active stream or within a sound attenuation system (i.e., a dewatered isolation casing, a dewatered cofferdam, or a confined bubble curtain). Sound attenuation system must comply with Caltrans' Non-Standard Special Provision (NSSP) for Sound Attenuation System.

- Prior to pile driving activities, a qualified hydroacoustic specialist, supplied by the contractor, shall prepare and submit an underwater noise monitoring plan for review and approval by Caltrans. Caltrans will submit the underwater noise monitoring plan to NMFS for review and concurrence. The "Underwater Noise Monitoring Template" can be accessed at https://dot.ca.gov/programs/environmental-analysis/caltrans-biology/biological-studies/hydroacoustics.

- Acoustic monitoring will be performed onsite by a qualified hydroacoustic specialist, supplied by the contractor. Regular decibel readings will be collected and documented during all pile driving activities. Underwater sound generated by pile driving (decibel readings) must adhere to the monitoring plan approved by Caltrans and NMFS.

- The underwater noise monitoring plan must also comply with Caltrans' NSSP for Underwater Sound Measurement.

- Stream flow shall be maintained at a rate near natural conditions.

- A minimum 40-foot-wide section of the active stream shall be maintained between the piles throughout the duration of construction for safe fish passage.

- The contractor shall follow the guidelines specified in the Caltrans Standard Specification, Section 14-6.03C: Fish Protection, as well as the guidelines specified in the Caltrans Standard Special Provision 14-6.03D(1).

- If one or more Coho salmon or listed salmonids are found dead or injured, all project activities shall cease and NMFS and CDFW shall be contacted immediately. Project activities may resume only after NMFS and CDFW have reasonable assurances that no additional mortalities of Coho salmon or listed salmonids will occur.

- If blasting is needed, a qualified hydroacoustic specialist, supplied by the contractor, shall prepare and submit a hydroacoustic monitoring plan for the blasting operation for review and approval by Caltrans. Caltrans will submit the plan to NMFS for review and concurrence. At the minimum, the

blasting plan shall include information of predicted underwater sound pressure levels (SPLs) and a clear methodology for collecting underwater SPLs during blasting.

- Blasting operation shall occur between July 1 and September 30 during daylight hours. No underwater blasting is allowed.
- Prior to placing the gravel work pad in the river, a contractor supplied biologist with fish relocation experience, will develop an aquatic species relocation and clear water diversion plan to Caltrans to be submitted to NMFS and CDFW for approval. Allow a minimum of 30 days for review and approval.
- Fish capture and relocation efforts or diversion activities will not start until the aquatic species relocation and clear water diversion plan is authorized.
- If fish are observed stranded within the k-rail structure, a contractor supplied biologist with fish relocation experience will relocate fish to suitable habitat and notify the Resident Engineer.
- In the event the in-water gravel work pads are overtopped, prior to reconstructing the pads, a contractor supplied biologist with fish relocation experience will survey the pads to ensure that no fish are present. If fish are found, relocate all fish prior to reconstructing the pads.
- A minimum of 30-foot-wide section of the active stream shall be maintained when the temporary gravel work pad is in place for safe fish passage.
- The use of hoe ramming to remove Pier 2 shall occur in a dry area, within the gravel work pad.
- Modified or disturbed portions of the channel (i.e., streambed and streambank) will be restored as nearly as possible to natural and stable contours (elevations, profile, and gradient). Stream width, depth, velocity, and slope that provide upstream and downstream passage of adult and juvenile fish will be preserved according to current NMFS and CDFW

guidelines and criteria or as developed in cooperation with NMFS and CDFW to accommodate site-specific conditions.

- Water drafting from an anadromous waterway shall comply with NMFS's 2001 Water Drafting Specifications and CDFW's guidelines specified in the Streambed Alteration Agreement.

- Pre-construction surveys for foothill yellow-legged frog (FYLF) will be required and will be conducted by a contractor supplied biologist with FYLF experience in all areas planned for construction activities (including, but not limited to, the riparian zone and the river's margin) no earlier than three days prior to construction activities. If FYLF are found, the biologist will relocate them to a safe species-specific appropriate habitat nearby, but outside the project limits and well outside the construction area.

- If FYLF are encountered during construction, they must be allowed to leave the construction area unharmed or the biologist will relocate them to a safe species-specific appropriate habitat well outside of the construction area.

- All upland trees, as mapped, shall be removed between September 15 and January 31 of any given year.

- Construction activities taking place at or near Walker Road shall not start before July 9th of any given year.

- A contractor supplied biologist with bat experience shall survey the existing bridge prior to bridge demolition.

- Prior to bridge demolition, the bat biologist will develop a bat exclusion and sequencing plan. The plan to sequence bat exclusion will be submitted to Caltrans to be submitted to CDFW for review and approval. Allow a minimum of 15 days for review and approval.

- Bat exclusion activities will not start until the bat exclusion and sequencing plan is authorized.

- Bats must not be present in the existing bridge when demolition begins. The new bridge must be available to bats before existing habitat is removed.

- The bat biologist shall be onsite to monitor, direct, and provide guidance on the implementation of the bat exclusion and sequencing plan as well as protection measures to ensure that no take of bats occurs.

- Clean or wash vehicles and equipment before entering and leaving the job site. Cleaning operations shall follow the guidelines specified in Section 14-6.05 of the Caltrans' Standard Specifications.

- Following construction, all disturbed soil areas will be stabilized with erosion control measures, and erosion control materials such as straw and seed mixes will be certified weed-free.

- Plans will show plant species that will be used for erosion control. They will consist of native species or non-persistent hybrids that will prevent invasive species from colonizing disturbed areas.

- Straw must be certified weed free under the Department of Food and Agriculture. Straw must be free of plastic, glass, metal, rocks, and refuse or other deleterious material.

- Seed must not contain prohibited noxious weed seed ad more than 1.0 percent total weed seed by weight.

<u>The following mitigation measures may be implemented for this project</u>

- All planting is expected to take place onsite as space allows. If necessary, Caltrans will mitigate offsite for additional planting requirements.

- Caltrans has begun coordination with CDFW and seeks to obtain a consistency determination through compliance with section 2080.1 of the Fish and Game Code. The following proposed compensation was developed in coordination with CDFW to fully mitigate the impacts of the proposed action with the goal of obtaining a consistency determination.

- Caltrans is partnering with the Klamath National Forest (KNF), the Mid Klamath Watershed Council (MKWC), and the Karuk Tribe to develop the Lower Beaver Creek Aquatic Habitat Restoration Project. The project fits within the scope of the NOAA RCPBO and will be covered under Section 7a2 of the ESA. The project qualifies for authorization under the Department of the Army Nationwide Permit (NWP) 27 for Aquatic Restoration Projects (82 Fed. Reg. 1860, January 6, 2017), pursuant to Section 404 of the CWA of 1972, as amended (33 U.S.C. § 1344 et seq.). It has been certified coverage under the General 401 Water Quality Certification Order for Small Habitat Restoration Projects (General 401 Order); Order No. SB12006GN.

- The Lower Beaver Creek Aquatic Habitat Restoration Project aims to increase refugia and quality rearing habitat for Coho salmon in and adjacent to the lower mainstem Beaver Creek, and to slow, halt, or reverse incision of the mainstem Beaver Creek and lower Buckhorn Gulch. (The project is located near the town of Klamath River within Township 47 North, Range 8 West, Sections 6 and 30: Mount Diablo Meridian). The project is needed to increase the area and extent of winter and summer refugia for salmonids. This type of habitat is lacking or inaccessible on the mid-Klamath River because of historic mining, road building, berming and levying of stream channels, private property development, channel incision, and other management or human influenced actions. This project is an opportunity to improve and expand the aquatic habitat types that are limiting Coho salmon populations in the mid-Klamath sub-basin. This project will help establish desired fisheries resource conditions as stated in the Klamath National Forest Land and Resource Management Plan (Forest Plan, as amended, p. 4-16 (KNF 2020)).

- The proposed bridge replacement would permanently impact approximately 0.071 acre of day or maternal roost habitat. Coordination between Caltrans and CDFW has identified potential roost replacements that would mitigate impacts to bat habitat. The specific type of roosts will be identified during the LSA Agreement application process.

- It is a possibility that the ringtail may use the exiting bridge girders to cross the river. The bridge girders provide connectivity over the physical barrier (Klamath River). Bridge replacement may permanently impede the species or other arboreal species abilities to cross the river. Coordination between Caltrans and CDFW has identified potential crossing replacements that would mitigate loss of connectivity. The specific type of crossing (if deemed necessary) will be identified during the LSA application process.

Appendix C Regional Species Tables

Appx. Table 1. Regional Wildlife Species Evaluation Table for Horse Creek Bridge Replacement Project

Scientific Name	Common Name	Federal Legal Status	State Legal Status	Other Status	General Habitat	Micro-Habitat	Habitat Present (HP)	Habitat Absent (A)	Potential to Occur
Accipiter gentilis	northern goshawk	--	--	BLM_S-Sensitive | CDF_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive	Within, and in vicinity of, coniferous forest. Uses old nests and maintains alternate sites.	Usually nests on north slopes, near water. Red fir, lodgepole pine, Jeffrey pine, and aspens are typical nest trees.		A	Although the project limits fall within the species' distribution range, suitable habitat is not present in the ESL. The closest documented occurrence is approximately 3 miles southwest in a smaller drainage in an area with limited public access roads. This species needs old growth forest with minimal human disturbance. This species is not known to nest in close proximity to a State Highway. Therefore, northern goshawk is not expected to be present in the ESL.
Ancotrema voyanum	hooded lancetooth	--	--		Occurs mostly in the Shasta-Trinity National forests in the northern half of Trinity County. Associated with limestone substrates, mostly in an elevation range of 168-960 meters.	All known occurrences are near streams or in draws (intermittent stream channel). Needs permanent dampness. Late successional conditions provide suitable habitat conditions.		A	Although the project limits fall within the species' distribution range, suitable habitat is not present in the ESL. The closest documented occurrence is approximately 7.5 miles northwest in a small drainage. The forest around the ESL is not late successional that would provide suitable habitat conditions, and limestone substrates are not known to occur in the ESL. Therefore, hooded lancetooth is not expected to be present in the ESL.

Antigone canadensis tabida	greater sandhill crane	--	T	BLM_S-Sensitive | CDFW_FP-Fully Protected | USFS_S-Sensitive	Nests in wetland habitats in northeastern California; winters in the Central Valley.	Prefers grain fields within 4 miles of a shallow body of water used as a communal roost site; irrigated pasture used as loafing sites.		A	The project ESL is outside of the species' distribution range, potential suitable habitat is not present in the ESL. Therefore, greater sandhill crane is not expected to be present in the ESL.
Antrozous pallidus	pallid bat	--	--	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive | WBWG_H-High Priority	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.	HP		The species is known to frequently use bridges for day, maternity, and night roosts. As such, it is anticipated that pallid bat may be present at the project site.
Ardea herodias	great blue heron	--	--	CDF_S-Sensitive | IUCN_LC-Least Concern	Colonial nester in tall trees, cliffsides, and sequestered spots on marshes.	Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	HP		Habitat in the ESL is marginal to unsuitable for rookery site. The closest documented rookery site occurred on the southeast side of the Klamath River, about 0.75-mile SSW of Horse Creek. This rookery observation is from the 1980s and is about 1.3 miles away. There are no current documented rookeries within the ESL. However, potential suitable foraging habitat exists within the ESL, as such, it is anticipated that great blue heron may be present at the project site.

Ascaphus truei	Pacific tailed frog	--	--	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Occurs in montane hardwood-conifer, redwood, Douglas-fir & ponderosa pine habitats.	Restricted to perennial montane streams. Tadpoles require water below 15 degrees C.		A	Although the project limits fall within the species' distribution range, suitable habitat is not present in the ESL. Water temperatures in the mainstem Klamath are relatively high between July and September, which when female Pacific tailed frogs lay their eggs in California. Pacific tailed frogs are extremely sensitive to warm temperatures. The closest documented occurrence is 7.7 miles north in a much smaller drainage. Therefore, Pacific tailed frog is not expected to be present in the ESL.
Bombus caliginosus	obscure bumble bee	--	--	IUCN_VU-Vulnerable	Coastal areas from Santa Barbara county to north to Washington state.	Food plant genera include Baccharis, Cirsium, Lupinus, Lotus, Grindelia and Phacelia.		A	Although the project limits fall within the species' distribution range, suitable habitat is not present in the ESL. Bumble bees are commonly found in meadows and grasslands that contain abundant flowering plants. These habitat conditions are not met in the ESL. No suitable habitat will be altered by the proposed project. Additionally, this species was not observed during field surveys. The are no recent observation in the database. Therefore, obscure bumble bee is not expected to be present in the ESL.

Bombus morrisoni	Morrison bumble bee	--	--	IUCN_VU-Vulnerable	From the Sierra-Cascade ranges eastward across the intermountain west.	Food plant genera include Cirsium, Cleome, Helianthus, Lupinus, Chrysothamnus, and Melilotus.		A	Although the project limits fall within the species' distribution range, suitable habitat is not present in the ESL. Bumble bees are commonly found in meadows and grasslands that contain abundant flowering plants. These habitat conditions are not met in the ESL. No suitable habitat will be altered by the proposed project. Additionally, this species was not observed during field surveys. The are no recent observation in the database. Therefore, Morrison bumble bee is not expected to be present in the ESL.
Bombus occidentalis	western bumble bee	--	CE	USFS_S-Sensitive	Once common & widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease.	Inhabit primarily underground cavities (e.g., old squirrel or other animal nests) in open west-southwest slopes bordered by trees. Nesting sites must have plants that bloom and provide adequate nectar and pollen throughout the colony's life cycle (from early February to late November).		A	Although the project limits fall within the species' distribution range, suitable habitat is not present in the ESL. Bumble bees are commonly found in meadows and grasslands that contain abundant flowering plants. These habitat conditions are not met in the ESL. No suitable habitat will be altered by the proposed project. Additionally, this species was not observed during field surveys. The are no recent observation in the database. Therefore, western bumble bee is not expected to be present in the ESL.

Branchinecta conservatio	Conservancy fairy shrimp	E	--	IUCN_EN-Endangered	Endemic to the grasslands of the northern two-thirds of the Central Valley; found in large, turbid pools.	Inhabit astatic pools located in swales formed by old, braided alluvium; filled by winter/spring rains, last until June.		A	The project ESL is outside of the species' distribution range, potential suitable habitat is not present in the ESL. Therefore, conservancy fairy shrimp is not expected to be present in the ESL.
Branchinecta lynchi	vernal pool fairy shrimp	T	--	IUCN_VU-Vulnerable	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools.	Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.		A	Though the ECOS shows species' current range overlaps the ESL, a review of the CNDDB shows that there are no known occurrences documented within the vicinity of the project location. All occurrences are mapped south of Redding. Also, potential suitable habitat is not present in the ESL. Therefore, vernal pool fairy shrimp is not expected to be present in the ESL.
Chasmistes brevirostris	shortnose sucker	E	E	AFS_EN-Endangered | CDFW_FP-Fully Protected | IUCN_EN-Endangered	Native to the Klamath and Lost river systems in California and Oregon.	Spend most of year in open waters of large lakes. They feed on plankton. Spawn in tributary streams.		A	Though the ECOS shows species' current range overlaps the ESL, a review of the CNDDB shows that no known occurrences have been documented within the vicinity of the project location. All known occurrences are mapped near or within Copco Reservoir, Clear Lake Watershed, Lost River, Tule Lake, and Lowe Klamath Lake. Also, potential suitable habitat is not present in the ESL. Therefore, shortnose sucker is not expected to be present in the ESL.

Corynorhinus townsendii	Townsend's big-eared bat	--	--	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive | WBWG_H-High Priority	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.	HP		The species is known sometime to utilize bridges for roosting for day, maternity or night roosts, especially if a portion of the bridge is analogous to a cave-like structure. As such, it is anticipated that Townsend's big-eared bat may be present at the project site.
Cottus klamathensis polyporus	Lower Klamath marbled sculpin	--	--	CDFW_SSC-Species of Special Concern	Common in the Klamath River drainage from Iron Gate Dam downstream to the mouth of the Trinity River.	Inhabit slow moving streams with width greater than 66 feet wide. Found in coarse substrates. Prefer water temperatures of 50-59°F.	HP		The species was collected in 2008 during an electrofishing conducted along the Klamath, 0.4 mile west of its confluence with McKinney Creek, NW of Yreka. As such, it is anticipated that Lower Klamath marbled sculpin may be present at the project site.
Coccyzus americanus occidentalis	western yellow-billed cuckoo	T	E	BLM_S-Sensitive | NABCI_RWL-Red Watch List | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems.	Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.		A	Though the ECOS shows species' current range overlaps the ESL, a review of the CNDDB shows that no known occurrences have been documented within the vicinity of the project location. Also, critical habitat for the species is restricted along the Sacramento River between Red Bluff and Colusa. Additionally, potential suitable habitat is not present in the ESL. Therefore, yellow-billed cuckoo is not expected to be present in the ESL.

Deltistes luxatus	Lost River sucker	E	E	AFS_EN-Endangered | CDFW_FP-Fully Protected | IUCN_EN-Endangered	Native to the Lost River system in California and Oregon.	Primarily a lake species found in fairly deep water. Adults run up tributary streams to spawn in the spring.		A	Though the ECOS shows species' current range overlaps the ESL, a review of the CNDDB shows that no known occurrences have been documented within the vicinity of the project location. All known occurrences are mapped near or within Copco and Iron Gate Reservoirs, Clear Lake Watershed, Lost River, Tule Lake, and Lowe Klamath Lake. Also, potential suitable habitat is not present in the ESL. Therefore, Lost River sucker is not expected to be present in the ESL.
Empidonax traillii	willow flycatcher	--	E	IUCN_LC-Least Concern | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Inhabits extensive thickets of low, dense willows on edge of wet meadows, ponds, or backwaters; 2000-8000 ft elevation.	Requires dense willow thickets for nesting/roosting. Low, exposed branches are used for singing posts/hunting perches.		A	Although the project limits fall within the species' distribution range, suitable habitat is not present in the ESL. A review of the eBird range map shows willow flycatchers are not known to occur in the general area of the project site. The project site also occurs at an elevation of about 1,630 feet in elevation. Therefore, willow flycatcher is not expected to be present in the ESL.
Emys marmorata	western pond turtle	--	--	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable | USFS_S-Sensitive	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation.	Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	HP		The species is known to occur in the mainstem Klamath River. As such, it is anticipated that western pond turtle may be present at the project site.

Entosphenus similis	Klamath River lamprey	--	--	AFS_TH-Threatened | CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Upper Klamath River and upper Klamath Lake.	Adults need coarser gravel-rubble substrate for spawning. Ammocoetes need sand/mud substrate in shallow pools.	HP, P		This species is known to occur in the mainstem rivers within the Klamath River basin. As such, it is anticipated that Klamath River lamprey may be present at the project site.
Entosphenus tridentatus	Pacific lamprey	--	--	AFS_VU-Vulnerable | BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Found in Pacific Coast streams north of San Luis Obispo County, however regular runs in Santa Clara River. Size of runs is declining.	Swift-current gravel-bottomed areas for spawning with water temps between 12-18 C. Ammocoetes need soft sand or mud.	HP, P		This species is known to occur in the mainstem rivers within the Klamath River basin. As such, it is anticipated that Pacific lamprey may be present at the project site.
Erethizon dorsatum	North American porcupine	--	--	IUCN_LC-Least Concern	Forested habitats in the Sierra Nevada, Cascade, and Coast ranges, with scattered observations from forested areas in the Transverse Ranges.	Wide variety of coniferous and mixed woodland habitat.		A	Although the project limits fall within the species' distribution range, potential suitable denning habitat is not present in the ESL. This species might transverse the ESL but will not reproduce or den. Therefore, North American porcupine is not expected to be present in the ESL.

Gonidea angulata	western ridged mussel	--	--		Primarily creeks & rivers & less often lakes. Originally in most of state, now extirpated from Central & Southern Calif.	Found in areas with shallow, small gravel, and moderate current.		A	Although two occurrences are mapped near the project ESL by CNDDB, they are 0.6-mile NW and east of Collins Creek. Both occurrences are mapped at the river bends. Though dead Asiatic clams were found within the ESL, western ridged mussel was not observed. Therefore, western ridged mussel is not expected to be present in the ESL, especially in the area of direct disturbance.
Gulo gulo luscus	North American wolverine	--	--	USFS_S-Sensitive	Found in remote mountainous areas of the Cascades.	Denning sites are commonly located in north and northeastern facing cirque habitats, where snow commonly persists through the spring and into the summer months. Dens are typically associated with a passage through deep snow to a space within talus or under a fallen tree or other large woody debris.		A	The project site occurred at an elevation of 1,630 feet and does not have a deep snowpack that persists into spring. Potential suitable denning habitat is not present in the ESL. Therefore, North American wolverine is not expected to be present in the ESL.

Haliaeetus leucocephalus	bald eagle	D	E	BLM_S-Sensitive | CDF_S-Sensitive | CDFW_FP-Fully Protected | IUCN_LC-Least Concern | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water.	Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	HP		Habitat in the ESL is marginal to unsuitable for nesting. There are no current documented nesting sites within 10 miles of the project ESL. However, potential suitable foraging habitat exists within the ESL, as such, it is anticipated that bald eagle may be present at the project site.
Lepidurus packardi	vernal pool tadpole shrimp	E	--	IUCN_EN-Endangered	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water.	Pools commonly found in grass-bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.		A	Though the ECOS shows species' current range overlaps the ESL, a review of the CNDDB shows that no known occurrences have been documented within the vicinity of the project location. All occurrences are mapped south of Redding. Also, potential suitable habitat is not present in the ESL. Therefore, vernal pool tadpole shrimp is not expected to be present in the ESL.
Lampetra richardsoni	western brook lamprey	--	--	CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	California populations are primarily found in the Sacramento-San Joaquin River drainages. They are also found in the Eel River drainage and in tributaries to the Russian River.	Riffle and side channel habitats are important for spawning and silty backwater habitats for ammocoete rearing. Good water quality is essential for rearing.		A	The project ESL is outside of the species' distribution range, potential suitable habitat is not present in the ESL. There is no record of the species trapped or seen within the Mid-Klamath River. Therefore, western brook lamprey in not expect to be present in the ESL.

Lanx alta	highcap lanx	--	--		Occurs in portions of the mainstem Klamath River and possibly large tributaries to Upper Klamath Lake, Trinity River & Smith River.	The highcap lanx inhabits spring-influenced areas of larger rivers and tributaries.		A	Although the project limits fall within the species' distribution range, potential suitable habitat is not present in the ESL. The closest documented occurrence dates back to 2013 at the Scott River Bridge along SR96, which is more than 4 miles from the project site. Therefore, highcap lanx is not expected to be present in the ESL, especially in the area of direct disturbance.
Martes caurina	Pacific marten	--	--	IUCN_LC-Least Concern | USFS_S-Sensitive	Mixed evergreen forests with more than 40% crown closure along North Coast and Sierra Nevada, Klamath and Cascade mountains.	Needs variety of different-aged stands, particularly old-growth conifers and snags which provide cavities for dens/nests.		A	Although the project limits fall within the species' distribution range, potential suitable denning habitat is not present in the ESL. This species might transverse the ESL but will not reproduce or den. Therefore, Pacific marten is not expected to be present in the ESL.
Monadenia callipeplus	downy sideband	--	--		Old growth and riparian associate.	Found among rocks and leaf litter along forested streambanks.		A	Although the project limits fall within the species' distribution range, potential suitable habitat is not present in the ESL. The closest documented occurrence dates back to 1972 within Sugar pine Gulch of the Scott River, which is about 10 miles south of the project ESL. Therefore, downy sideband is not expected to be present in the ESL.

Monadenia fidelis leonina	A terrestrial snail	--	--		Old growth and riparian associate; local endemic.	Dead alder leaves and trunks near a stream, in relatively undisturbed forest.		A	Although the project limits fall within the species' distribution range, potential suitable habitat is not present in the ESL. The closest documented occurrence occurred about 1 mile above the mouth of Beaver Creek, which is about 9 miles northeast of the project ESL. The species has not been collected alive since the 1930s and is considered extirpated. Therefore, a terrestrial snail is not expected to be present in the ESL.
Myotis thysanodes	fringed myotis	--	--	BLM_S-Sensitive | IUCN_LC-Least Concern | USFS_S-Sensitive | WBWG_H-High Priority	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.	HP		The species is known to use bridges for maternity and night roosts and sometime trees. As such, it is anticipated that fringed myotis may be present at the project site.
Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	T	T	AFS_TH-Threatened	Federal listing refers to populations between Cape Blanco, Oregon and Punta Gorda, Humboldt County, California.	State listing refers to populations between the Oregon border and Punta Gorda, California.	HP, P, CH		The species is known to occur in the Klamath River and its tributaries. The project limits overlap the critical habitat and EFH for both coho and Chinook salmon. As such, it is anticipated that coho salmon may be present at the project site.

Oncorhynchus mykiss irideus pop. 1	steelhead - Klamath Mountains Province DPS	--	--	CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Streams between Elk River, Oregon and the Klamath & Trinity rivers in California, inclusive.	Minimum water depth for upstream migration is 18 cm. Water velocities > 3-4 m/sec may impede upstream progress.	HP, P		The species is known to occur in the Klamath River and its tributaries. As such, it is anticipated that KMP steelhead may be present at the project site.
Oncorhynchus tshawytscha pop. 30	chinook salmon - upper Klamath and Trinity Rivers Spring ESU	C	T	CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Spring-run chinook in the Trinity River and the Klamath River upstream of the mouth of the Trinity River.	Major limiting factor for juvenile chinook salmon is temperature, which strongly effects growth and survival.	HP, P		Historically, the UKTR spring Chinook salmon is found throughout the Klamath and Trinity River basins, including upstream of current impassable dams. Currently, they are mainly found in Upper Trinity River, South Fork Trinity River, and Salmon River. UKTR spring Chinook salmon are also found in Mid-Klamath tributaries, such as Dillon, Clear, Elk, Indian and Thompson creeks, but in very small numbers.
Pekania pennanti	Fisher	--	--	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure.	Uses cavities, snags, logs and rocky areas for cover and denning. Needs large areas of mature, dense forest.		A	Although the project limits fall within the species' distribution range, potential suitable denning habitat is not present in the ESL. This species might transverse the ESL but will not reproduce or den. Therefore, fisher is not expected to be present in the ESL.

Plethodon asupak	Scott Bar salamander	--	T	IUCN_VU-Vulnerable	Found only in the vicinity of the Scott River in Siskiyou County	Requires damp or moist environments or places on land.		A	Although the project limits fall within the species' distribution range, potential suitable habitat is not present in the ESL. The closest documented occurrence occurred on Klamath National Forest's land, about 0.85 mile south of the intersection of Horse Creek Road with SR 96. Therefore, Scott Bar salamander is not expected to be present in the ESL.
Plethodon stormi	Siskiyou Mountains salamander	--	T	IUCN_EN-Endangered | USFS_S-Sensitive	Mixed conifer habitat of dense, pole-to-mature size, trees. Active above ground only during spring and fall rains.	Found under loose rock rubble at the base of talus slopes or under surface objects.		A	Although the project limits fall within the species' distribution range, potential suitable habitat is not present in the ESL. The closest documented occurrence occurred on Klamath National Forest's land, about 3 miles SSE of Copper Butte within the general area between Salt Gulch and Horse Creek. Therefore, Siskiyou Mountains salamander is not expected to be present in the ESL.
Rana boylii	foothill yellow-legged frog	--	E	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_NT-Near Threatened | USFS_S-Sensitive	Partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats.	Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	HP		This species is known to occur in Klamath River and its tributaries. As such, it is anticipated that foothill yellow-legged frog may be present at the project site.

Rana cascadae	Cascades frog	--	CE	CDFW_SSC-Species of Special Concern | IUCN_NT-Near Threatened | USFS_S-Sensitive	Montane aquatic habitats such as mountain lakes, small streams, and ponds in meadows; open coniferous forests.	Standing water required for reproduction. Hibernates in mud on the bottom of lakes and ponds during the winter.		A	Although the project limits fall within the species' distribution range, potential suitable habitat is not present in the ESL. There is no documented occurrence within 10 miles of the project ESL. Therefore, Cascades frog is not expected to be present in the ESL.
Rana pretiosa	Oregon spotted frog	T	--	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable	Low swampy areas in mountainous woodlands and wet meadows, springs, small cold streams & lakes in northeastern California.	Standing water needed for breeding.		A	Though the ECOS shows species' current range overlaps the ESL, a review of the CNDDB shows that there are no known occurrences documented within the vicinity of the project location. All occurrences are mapped in the northeastern of California. Also, potential suitable habitat is not present in the ESL. Therefore, Oregon spotted frog is not expected to be present in the ESL.
Rhyacotriton variegatus	southern torrent salamander	--	--	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive	Coastal redwood, Douglas-fir, mixed conifer, montane riparian, and montane hardwood-conifer habitats. Old growth forest.	Cold, well-shaded, permanent streams and seepages, or within splash zone or on moss-covered rocks within trickling water.		A	The project ESL is outside of the species' distribution range, potential suitable habitat is not present in the ESL. In California, the species occurs throughout humid coastal drainages from near Pt. Arena in southern Mendocino County to the Oregon border in the coniferous belt. Therefore, southern torrent salamander is not expected to be present in the ESL.

Strix nebulosa	great gray owl	--	E	CDF_S-Sensitive | IUCN_LC-Least Concern | USFS_S-Sensitive	Resident of mixed conifer or red fir forest habitat, in or on edge of meadows.	Requires large diameter snags in a forest with high canopy closure, which provide a cool sub-canopy microclimate.		A	The project ESL is outside of the species' distribution range, potential suitable habitat is not present in the ESL. The species is restricted mostly to the Yosemite area (and Stanislaus NF). Therefore, great gray owl is not expected to be present in the ESL.
Strix occidentalis caurina	northern spotted owl	T	T	CDF_S-Sensitive | IUCN_NT-Near Threatened | NABCI_YWL-Yellow Watch List	Old-growth forests or mixed stands of old-growth and mature trees. Occasionally in younger forests with patches of big trees.	High, multistory canopy dominated by big trees, many trees with cavities or broken tops, woody debris, and space under canopy.	HP		Although the project limits fall within the species' distribution range, potential suitable nesting/roosting habitat is not present in the ESL. However, potential dispersal/foraging habitat may be present within the ESL. As such, it is anticipated that the species may be present in the ESL.
Trilobopsis tehamana	Tehama chaparral	--	--	USFS_S-Sensitive	Endemic to Butte, Tehama, and Siskiyou counties.	Usually found in rocky talus but has also been found under leaf litter or woody debris within 100 meters of limestone outcrops.		A	Although the project limits fall within the species' distribution range, potential suitable habitat is not present in the ESL. The closest documented occurrence occurred on Klamath National Forest's land, about 0.60-mile WNW of the confluence of Mill Creek and Scott River, near Scott Bar. Therefore, Tehama chaparral is not expected to be present in the ESL.

Habitat Evaluation

A (Absent) = the ESL is outside of the species known range and/or potential suitable habitat is not present in the ESL and no further work is needed.

HP (Habitat Present) = potential suitable habitat is or may be present in the ESL. The species may be present.

P (Present) = the species known to occur (documented in CNDDB or elsewhere) and/or was observed during field surveys within the ESL.

CH (Critical Habitat) = the ESL is located within a designated critical habitat unit but does not necessarily mean that appropriate habitat is present.

Legal Status Explanation:

-- = None C = Candidate CE = Candidate Endangered D = Delisted E = Endangered T = Threatened

Appx. Table 2. Plant Species Evaluation Table for Horse Creek Bridge Replacement Project

Scientific Name	Common Name	Blooming	Federal Legal Status	State Legal Status	Rare Plant Rank	Other Status	General Habitat	Micro-Habitat	Habitat Present (HP)	Habitat Absent (A)	Potential to Occur
Abies amabilis	Pacific silver fir	May	--	--	2B.3		Upper montane coniferous forest.	1795-2195 m.		A	The project site is well below the reported elevational range of the species. Pacific silver fir was not observed during botanical surveys and is not expected to be present at the project site.
Allium siskiyouense	Siskiyou onion	(Apr) May-Jul	--	--	4.3	SB_CalBG/ RSABG-California/ Rancho Santa Ana Botanic Garden	Lower montane coniferous forest, upper montane coniferous forest.	Rocky sites, sometimes on serpentine. 855-2500 m.		A	Although serpentine is mapped adjacent to both ends of the ESL, the project site is well below the reported elevational range of the species. Siskiyou onion was not observed during botanical surveys and is not expected to be present at the project site.
Anemone multifida var. multifida	cut-leaf anemone	Apr-Jul	--	--	2B.2		Subalpine coniferous forest, upper montane coniferous forest, lower montane coniferous forest.	Rocky, gravelly. 1700-2750 m.		A	The project site is well below the reported elevational range of the species. Cut-leaf anemone was not observed during botanical surveys and is not expected to be present at the project site.

Arabis aculeolata	Waldo rockcress	Apr-Jun	--	--	2B.2	SB_BerrySB-Berry Seed Bank	Broadleafed upland forest, lower montane coniferous forest, upper montane coniferous forest.	Serpentine slopes and ridges. 405-1270 m.		A	Although the project site falls within the elevational range of the Waldo rockcress, potential suitable habitat is not present. Waldo rockcress was not observed during botanical surveys and is not expected to be present at the project site.
Arabis modesta	modest rockcress	Mar-Jul	--	--	4.3		Chaparral, lower montane coniferous forest.	Intergrades with A. oregana in Siskiyou County; may be a variety of that plant. 120-800 m.		A	Although the project site falls within the elevational range of the modest rockcress, potential suitable habitat is not present. Modest rockcress was not observed during botanical surveys and is not expected to be present at the project site.
Arabis oregana	Oregon rockcress	May	--	--	4.3		Chaparral, lower montane coniferous forest.	Serpentine. 600-1830 m.		A	The project site is well below the reported elevational range of the species. Oregon rockcress was not observed during botanical surveys and is not expected to be present at the project site.
Arnica cernua	serpentine arnica	Apr-Jul	--	--	4.3		Lower montane coniferous forest.	Serpentine sites. 500-1920 m.		A	Although the project site falls within the elevational range of the serpentine arnica, potential suitable habitat is not present. Serpentine arnica was not observed during botanical surveys and is not expected to be present at the project site.

Astragalus applegatei	Applegate's Milk-vetch	Jun-Aug	E	--			Known only from southwestern Klamath County, Oregon (Klamath Falls; Keno).	Occurs in flat-lying, seasonally moist, strongly alkaline soils with sparse, native bunch grasses and patches of bare soil. 1250 m.		A	The project site is well below the reported elevational range of the species. Applegate's milk-vetch was not observed during botanical surveys and is not expected to be present at the project site.
Boechera koehleri	Koehler's stipitate rockcress	(Mar) Apr-Jul	--	--	1B.3	USFS_S-Sensitive	Chaparral, lower montane coniferous forest.	Rocky, serpentine substrate. 120-1830 m.		A	Although the project site falls within the elevational range of the Koehler's stipitate rockcress, potential suitable habitat is not present. Koehler's stipitate rockcress was not observed during botanical surveys and is not expected to be present at the project site.
Boechera rollei	Rolle's rockcress	Aug	--	--	1B.1		Upper montane coniferous forest.	Peridotite rocks on sparsely vegetated, forested slopes. 1600-1800 m.		A	The project site is well below the reported elevational range of the species. Rolle's rockcress was not observed during botanical surveys and is not expected to be present at the project site.
Boletus pulcherrimus	red-pored bolete	Sep-Dec	--	--		USFS_S-Sensitive	Known from coastal forests north of San Francisco	Solitary to scattered on ground in humus mixed hardwood/ conifer woods; fruiting from late to early winter.		A	Potential suitable habitat is not present in the ESL and reported occurrences of the species are known only from the coast ranges. Red-pored bolete was not observed during botanical surveys and is not expected to be present at the project site.

Botrychium crenulatum	scalloped moonwort	Jun-Sep	--	--	2B.2	USFS_S-Sensitive	Bogs and fens, meadows and seeps, upper montane coniferous forest, lower montane coniferous forest, marshes and swamps.	Moist meadows, freshwater marsh, and near creeks. 1185-3110 m.		A	The project site is well below the reported elevational range of the species. Scalloped moonwort was not observed during botanical surveys and is not expected to be present at the project site.
Botrychium lunaria	common moonwort	Aug	--	--	2B.3	USFS_S-Sensitive	Meadows and seeps, subalpine coniferous forest, upper montane coniferous forest.	1950-3415 m.		A	The project site is well below the reported elevational range of the species. Common moonwort was not observed during botanical surveys and is not expected to be present at the project site.
Botrychium minganense	Mingan moonwort	Jul-Sep	--	--	2B.2	USFS_S-Sensitive	Lower montane coniferous forest, upper montane coniferous forest, bogs and fens, meadows and seeps.	Creekbanks in mixed conifer forest. 1190-3295 m.		A	The project site is well below the reported elevational range of the species. Mingan moonwort was not observed during botanical surveys and is not expected to be present at the project site.

Botrychium montanum	western goblin	Jul-Sep	--	--	2B.1	USFS_S-Sensitive	Lower montane coniferous forest, upper montane coniferous forest, meadows and seeps.	Creekbanks in old-growth forest. 1430-2430 m.		A	The project site is well below the reported elevational range of the species. Western goblin was not observed during botanical surveys and is not expected to be present at the project site.
Botrychium pinnatum	northwestern moonwort	Jul-Oct	--	--	2B.3	USFS_S-Sensitive	Lower montane coniferous forest, meadows and seeps, upper montane coniferous forest.	Creekbanks. 1645-2045 m.		A	The project site is well below the reported elevational range of the species. Northwestern moonwort was not observed during botanical surveys and is not expected to be present at the project site.
Botrychium pumicola	pumice moonwort	Jul-Sep	--	--	2B.2	USFS_S-Sensitive	Alpine boulder and rock field, subalpine coniferous forest.	On loose pumice gravel, at high elevations. 2750 m in California.		A	The project site is well below the reported elevational range of the species. Pumice moonwort was not observed during botanical surveys and is not expected to be present at the project site.
Buxbaumia viridis	buxbaumia moss	unk	--	--	2B.2	BLM_S-Sensitive | USFS_S-Sensitive	Lower montane coniferous forest, upper montane coniferous forest, subalpine coniferous forest.	Well-rotted logs and in peaty soil and humus. 300-2225 m.		A	Although the project site falls within the elevational range of the Buxbaumia moss, potential suitable habitat is not present in the ESL. Also, reported occurrences of the species are known only from Mendocino, California. Buxbaumia moss was not observed during botanical surveys and is not expected to be present at the project site.

Calochortus greenei	Greene's mariposa-lily	Jun-Aug	--	--	1B.2	BLM_S-Sensitive | SB_BerrySB-Berry Seed Bank | USFS_S-Sensitive	Meadows and seeps, cismontane woodland, pinyon and juniper woodland, upper montane coniferous forest.	On volcanic outcrops and open, dry, gravelly soils. 230-1895 m.		A	Although the project site falls within the elevational range of the Greene's mariposa-lily, potential suitable habitat is not present in the ESL. Also, reported occurrences of the species are known only from areas east of I-5 in Siskiyou County. Greene's mariposa-lily was not observed during botanical surveys and is not expected to be present at the project site.
Calochortus persistens	Siskiyou mariposa-lily	Jun-Jul	--	--	1B.2	SB_BerrySB-Berry Seed Bank | USFS_S-Sensitive	Lower montane coniferous forest, North Coast coniferous forest.	On dry shallow soils of metavolcanic origin. 1310-1735 m.		A	The project site is well below the reported elevational range of the species. Siskiyou mariposa-lily was not observed during botanical surveys and is not expected to be present at the project site.
Campanula wilkinsiana	Wilkin's harebell	Jul-Sep	--	--	1B.2	USFS_S-Sensitive	Meadows and seeps, upper montane coniferous forest, subalpine coniferous forest.	Often on streambanks in meadows. 1265-2590 m.		A	The project site is well below the reported elevational range of the species. Wilkin's harebell was not observed during botanical surveys and is not expected to be present at the project site.
Carex scabriuscula	Siskiyou sedge	May-Jul	--	--	4.3	SB_BerrySB-Berry Seed Bank | SB_UCSC-UC Santa Cruz	Lower montane coniferous forest, upper montane coniferous forest, meadows and seeps.	Mesic sites; sometimes in serpentine seeps. 710-2345 m.		A	The project site is well below the reported elevational range of the species. Siskiyou sedge was not observed during botanical surveys and is not expected to be present at the project site.

Castilleja schizotricha	split-hair paintbrush	Jul-Aug	--	--	4.3	SB_BerrySB-Berry Seed Bank	Upper montane coniferous forest.	Decomposed granite or marble. 1500-2300 m.		A	The project site is well below the reported elevational range of the species. Split-hair paintbrush was not observed during botanical surveys and is not expected to be present at the project site.
Chaenactis suffrutescens	Shasta chaenactis	May-Sep	--	--	1B.3	BLM_S-Sensitive | SB_BerrySB-Berry Seed Bank | USFS_S-Sensitive	Lower montane coniferous forest, upper montane coniferous forest.	Sandy or serpentine soils. 730-2255 m.		A	The project site is well below the reported elevational range of the species. Shasta chaenactis was not observed during botanical surveys and is not expected to be present at the project site.
Cudonia monticola	mountain cudonia	Jun-Oct	--	--		USFS_S-Sensitive	On spruce needles and coniferous debris	Often found in areas with thick duff or moss on the ground and that are shaded much of the day, so the humidity remains high at ground level. It has no adaptations for resisting drying out.		A	Potential suitable habitat is not present in the ESL and reported occurrences of the species are known only from older forests on spruce needles. Cudonia monticola was not observed during botanical surveys and is not expected to be present at the project site.
Cypripedium californicum	California lady's slipper	Apr-Aug (Sep)	--	--	4.2		Lower montane coniferous forest, bogs and fens.	In perennial seepages on serpentine substrate and in gravel along creek margins. 30-2750 m.		A	Although the project site falls within the elevational range of the California lady's slipper, potential suitable habitat is not present in the ESL. California lady's slipper was not observed during botany surveys and is not expected to be present at the project site.

Cypripedium fasciculatum	clustered lady's-slipper	Mar-Aug	--	--	4.2	BLM_S-Sensitive | USFS_S-Sensitive	North coast coniferous forest, lower montane coniferous forest.	In serpentine seeps and on moist streambanks. 100-2435 m.		A	Although the project site falls within the elevational range of the clustered lady's slipper, potential suitable habitat is not present in the ESL. Clustered lady's slipper was not observed during botany surveys and is not expected to be present at the project site.
Cypripedium montanum	mountain lady's-slipper	Mar-Aug	--	--	4.2	BLM_S-Sensitive | USFS_S-Sensitive	Lower montane coniferous forest, broadleafed upland forest, cismontane woodland, north coast coniferous forest.	On dry, undisturbed slopes. 185-2225 m.		A	Although the project site falls within the elevational range of the mountain lady's slipper, potential suitable habitat is not present in the ESL. Mountain lady's slipper was not observed during botany surveys and is not expected to be present at the project site.
Dendrocollybia racemosa	branched collybia	Sep-Mar	--	--		USFS_S-Sensitive	Mixed hardwood-conifer woods	Solitary or in small groups growing from a grain-like sclerotium on the decayed remains of decayed mushrooms or in duff; fruiting from late fall to mid-winter.		A	Potential suitable habitat is not present in the ESL. Branched collybia was not observed during botanical surveys and is not expected to be present at the project site.

Dicentra formosa ssp. oregana	Oregon bleeding heart	Apr-May	--	--	4.2		Lower montane coniferous forest.	On rocky, ultramafic soils. 425-1485 m.		A	Although the project site falls within the elevational range of the Oregon bleeding heart, potential suitable habitat is not present in the ESL. Oregon bleeding heart was not observed during botany surveys and is not expected to be present at the project site.
Draba carnosula	Mt. Eddy draba	Jul-Aug	--	--	1B.3	BLM_S-Sensitive | SB_BerrySB-Berry Seed Bank | USFS_S-Sensitive	Subalpine coniferous forest, upper montane coniferous forest.	On talus or small boulder-fields; known from both serpentine and granite. 1645-2560 m.		A	The project site is well below the reported elevational range of the species. Mt. Eddy draba was not observed during botanical surveys and is not expected to be present at the project site.
Epilobium oreganum	Oregon fireweed	Jun-Sep	--	--	1B.2	USFS_S-Sensitive	Bogs and fens, meadows and seeps, lower montane coniferous forest, upper montane coniferous forest.	In and near springs and bogs; at least sometimes on serpentine. 575-2075 m.		A	Although the project site falls within the elevational range of the Oregon fireweed, potential suitable habitat is not present in the ESL. Oregon fireweed was not observed during botany surveys and is not expected to be present at the project site.
Epilobium siskiyouense	Siskiyou fireweed	Jul-Sep	--	--	1B.3	SB_BerrySB-Berry Seed Bank	Alpine boulder and rock field, subalpine coniferous forest, upper montane coniferous forest.	On slopes in gravelly, serpentine soils. 1675-2440 m.		A	The project site is well below the reported elevational range of the species. Siskiyou fireweed was not observed during botanical surveys and is not expected to be present at the project site.

Eriogonum alpinum	Trinity buckwheat	Jun-Sep	--	E	1B.2	USFS_S-Sensitive	Subalpine coniferous forest, upper montane coniferous forest, alpine boulder and rock field.	Rocky soils and scree slopes in open and windswept areas on serpentine substrate. 1990-2625 m.		A	The project site is well below the reported elevational range of the species. Trinity buckwheat was not observed during botanical surveys and is not expected to be present at the project site.
Eriogonum diclinum	Jaynes Canyon buckwheat	Jun-Sep	--	--	2B.3		Upper montane coniferous forest.	Often on serpentine. 1735-2440 m.		A	The project site is well below the reported elevational range of the species. Jaynes Canyon buckwheat was not observed during botanical surveys and is not expected to be present at the project site.
Eriogonum hirtellum	Klamath Mountain buckwheat	Jul-Sep	--	--	1B.3	USFS_S-Sensitive	Chaparral, lower montane coniferous forest, upper montane coniferous forest.	Dry serpentine rocky outcrops and ridges. 605-1890 m.		A	The project site is well below the reported elevational range of the species. Klamath Mountain buckwheat was not observed during botanical surveys and is not expected to be present at the project site.
Eriogonum ursinum var. erubescens	blushing wild buckwheat	Jun-Sep	--	--	1B.3	SB_UCSC-UC Santa Cruz | USFS_S-Sensitive	Lower montane coniferous forest, montane chaparral.	Rocky sites including scree and talus. 790-2120 m.		A	The project site is well below the reported elevational range of the species. Blushing wild buckwheat was not observed during botanical surveys and is not expected to be present at the project site.

Erythranthe inflatula	ephemeral monkeyflower	May-Aug	--	--	1B.2	BLM_S-Sensitive | USFS_S-Sensitive	Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodland.	Gravelly or rocky sites; vernally mesic. 1245-1770 m.		A	The project site is well below the reported elevational range of the species. Ephemeral monkeyflower was not observed during botanical surveys and is not expected to be present at the project site.
Erythronium hendersonii	Henderson's fawn lily	Apr-Jul	--	--	2B.3	USFS_S-Sensitive	Lower montane coniferous forest.	West-Side Forest, Meadow. 60-900 m.		A	Although the project site falls within the elevational range of the Henderson's fawn lily, potential suitable habitat is not present in the ESL. Henderson's fawn lily was not observed during botany surveys and is not expected to be present at the project site.

Eucephalis vialis	wayside aster	Jun-Sep	--	--	1B.2	USFS_S-Sensitive	Found from Linn County in western Oregon south to northern California. Most occurrences of the species are found in Oregon, although a few are reported from Del Norte and Humboldt counties in California.	Occupies dense coniferous forests, open deciduous woodlands, grassy balds, and exposed serpentine slopes. It is often found in relatively open areas in the understory of mixed coniferous/ hardwood forests, along roadsides, and on open slopes and prairie balds. 150-450 m. Sometime up to 2040 m.		A	Although the project site falls within the elevational range of the Wayside aster, potential suitable habitat is not present in the ESL. Also, reported occurrences of the Wayside aster are known mostly from Oregon with a few reported in Del Norte and Humboldt counties in California. Wayside aster was not observed during botanical surveys and is not expected to be present at the project site.
Fissidens aphelotaxifolius	brook pocket moss	unk	--	--	2B.2	USFS_S-Sensitive	Lower montane coniferous forest, upper montane coniferous forest.	Moss growing on rocks in stream channels and waterfalls; also, in splash zones. 1950-2000 m.		A	The project site is well below the reported elevational range of the species. Brook pocket moss was not observed during botanical surveys and is not expected to be present at the project site.

Frasera umpquaensis	Umpqua green-gentian	Jun-Jul	--	--	2B.2	USFS_S-Sensitive	Lower montane coniferous forest, meadows and seeps, chaparral, north coast coniferous forest.	Mountain meadows; openings in forest. 1550-1830 m.		A	The project site is well below the reported elevational range of the species. Umpqua green-gentian was not observed during botanical surveys and is not expected to be present at the project site.
Fritillaria gentneri	Gentner's fritillary	Apr-May	E	--	1B.1		Cismontane woodland, chaparral, lower montane coniferous forest.	Open sites at edge of woodland or chaparral (in Oregon); sometimes on serpentine. 1005-1100 m.		A	The project site is well below the reported elevational range of the species. Gentner's fritillary was not observed during botanical surveys and is not expected to be present at the project site.
Helodium blandowii	Blandow's bog moss	unk	--	--	2B.3	USFS_S-Sensitive	Meadows and seeps, subalpine coniferous forest.	Moss growing on damp soil, especially under willows among leaf litter. 1490-3050 m.		A	The project site is well below the reported elevational range of the species. Blandow's bog moss was not observed during botanical surveys and is not expected to be present at the project site.
Hemieva ranunculifolia	buttercup-leaf hemieva	Jun-Aug	--	--	2B.2		Upper montane coniferous forest, meadows and seeps.	Mesic sites; rocky. 1825-2075 m.		A	The project site is well below the reported elevational range of the species. Buttercup-leaf hemieva was not observed during botanical surveys and is not expected to be present at the project site.

Hesperocyparis bakeri	Baker cypress	unk	--	--	4.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | SB_KewBG-Kew Royal Botanic Gardens | SB_USDA-US Dept of Agriculture	Lower montane coniferous forest, chaparral.	Mixed-evergreen forests, open slopes, flats, on serpentine or volcanic substrates. 820-1995 m.		A	The project site is well below the reported elevational range of the species. Baker cypress was not observed during botanical surveys and is not expected to be present at the project site.
Horkelia hendersonii	Henderson's horkelia	Jun-Aug	--	--	1B.1	SB_BerrySB-Berry Seed Bank | SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Upper montane coniferous forest.	Granitic peaks and talus slopes at high elevations. 2000-2300 m.		A	The project site is well below the reported elevational range of the species. Henderson's horkelia was not observed during botanical surveys and is not expected to be present at the project site.
Ivesia pickeringii	Pickering's ivesia	Jun-Aug (Oct)	--	--	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Lower montane coniferous forest, meadows and seeps.	Mesic clay; usually serpentine seeps. 850-1525 m.		A	The project site is well below the reported elevational range of the species. Pickering's ivesia was not observed during botanical surveys and is not expected to be present at the project site.

Juncus dudleyi	Dudley's rush	Jul-Aug	--	--	2B.3		Lower montane coniferous forest (mesic).	Wet areas in forest. 455-1910 m.	HP		Potentially suitable habitat for Dudley's rush is present within and adjacent to the ESL. However, Dudley's rush was not observed during the botanical survey and is not expected to be present at the project site.
Lewisia cotyledon var. heckneri	Heckner's lewisia	May-Jul	--	--	1B.2	BLM_S-Sensitive | SB_UCSC-UC Santa Cruz	Lower montane coniferous forest.	Rocky places. 225-2100 m.		A	Although the project site falls within the elevational range of the Heckner's lewisia, potential suitable habitat is not present in the ESL. Heckner's lewisia was not observed during botany surveys and is not expected to be present at the project site.
Lewisia cotyledon var. howellii	Howell's lewisia	Apr-Jul	--	--	3.2		Chaparral, cismontane woodland, lower montane coniferous forest, broadleafed upland forest.	Rocky sites; bare shale outcrops in shallow soils. 150-2010 m.		A	Although the project site falls within the elevational range of the Howell's lewisia, potential suitable habitat is not present in the ESL. Howell's lewisia was not observed during botany surveys and is not expected to be present at the project site.
Lewisia kelloggii ssp. hutchisonii	Hutchison's lewisia	(Apr) May-Aug	--	--	3.2	USFS_S-Sensitive	Upper montane coniferous forest.	On slate; in openings and on ridgetops. Sometimes on rhyolite tuff. 765-2365 m.		A	The project site is well below the reported elevational range of the species. Hutchinson's lewisia was not observed during botanical surveys and is not expected to be present at the project site.

Lewisia kelloggii ssp. kelloggii	Kellogg's lewisia	(Apr) May-Aug	--	--	3.2	USFS_S-Sensitive	Upper montane coniferous forest.	Often on slate, sometimes rhyolite tuff. In openings, on ridgetops. 1465-2365 m.		A	The project site is well below the reported elevational range of the species. Kellogg's lewisia was not observed during botanical surveys and is not expected to be present at the project site.
Meesia uliginosa	broad-nerved hump moss	Oct	--	--	2B.2	USFS_S-Sensitive	Meadows and seeps, bogs and fens, upper montane coniferous forest, subalpine coniferous forest.	Moss on damp soil. Often found on the edge of fens or raised above the fen on hummocks/shrub bases. 1095-2805 m.		A	The project site is well below the reported elevational range of the species. Broad-nerved hump moss was not observed during botanical surveys and is not expected to be present at the project site.
Mertensia bella	Oregon lungwort	May-Jul	--	--	2B.2		Northwest Klamath Range.	Wet meadows, springs, under taller plants. 1500-1800 m.		A	The project site is well below the reported elevational range of the species. Oregon lungwort was not observed during botanical surveys and is not expected to be present at the project site.

Mielichhoferia elongata	elongate copper moss	unk	--	--	4.3	USFS_S-Sensitive	Cismontane woodland.	Moss growing on very acidic, metamorphic rock or substrate; usually in higher portions in fens. Often on substrates naturally enriched with heavy metals (e.g. copper) such as mine tailings. 5-1085 m.		A	Although the project site falls within the elevational range of the elongate copper moss, potential suitable habitat is not present in the ESL. Elongate copper moss was not observed during botany surveys and is not expected to be present at the project site.
Mitellastra caulescens	leafy-stemmed mitrewort	(Mar) Apr-Oct	--	--	4.2		Broadleafed upland forest, lower montane coniferous forest, meadows and seeps, north coast coniferous forest.	Mesic sites. 5-1700 m.		A	Although the project site falls within the elevational range of the species, potential suitable habitat for leafy-stemmed mitrewort is not present in the ESL. The species was not observed during botany surveys and is not expected to be present at the project site.
Parnassia cirrata var. intermedia	Cascade grass-of-Parnassus	Aug-Sep	--	--	2B.2	USFS_S-Sensitive	Meadows and seeps, bogs and fens.	Rocky serpentine soil. 775-2000 m.		A	The project site is well below the reported elevational range of the species. Cascade grass-of-Parnassus was not observed during botanical surveys and is not expected to be present at the project site.

Pedicularis howellii	Howell's lousewort	Jun-Aug	--	--	4.3	USFS_S-Sensitive	Upper montane coniferous forest.	Shallow loam to clay-loam, granitic, or (often) serpentine soil, often at edges of forest, meadows or streams. 1500-1900 m.		A	The project site is well below the reported elevational range of the species. Howell's lousewort was not observed during botanical surveys and is not expected to be present at the project site.
Peltigera gowardii	western waterfan lichen	unk	--	--	4.2	USFS_S-Sensitive	Riparian forest.	On rocks in cold water creeks with little or no sediment or disturbance. Often associated with rich bryophyte flora. 1065-2375 m.		A	The project site is well below the reported elevational range of the species. Western waterfan lichen was not observed during botanical surveys and is not expected to be present at the project site.
Phacelia cookei	Cooke's phacelia	Jun-Jul	--	--	1B.1	SB_BerrySB-Berry Seed Bank | USFS_S-Sensitive	Great Basin scrub, lower montane coniferous forest.	Disturbed areas of loose, ashy volcanic sand at the edges of old roads. 1095-1755 m.		A	The project site is well below the reported elevational range of the species. Cooke's phacelia was not observed during botanical surveys and is not expected to be present at the project site.

Phacelia greenei	Scott Valley phacelia	Apr-Jun	--	--	1B.2	BLM_S-Sensitive | USFS_S-Sensitive	Closed-cone coniferous forest, lower montane coniferous forest, subalpine coniferous forest, upper montane coniferous forest.	Bare serpentine ridges and openings in yellow pine and red fir forest communities. 850-2380 m.		A	The project site is well below the reported elevational range of the species. Scott Valley phacelia was not observed during botanical surveys and is not expected to be present at the project site.
Phacelia inundata	playa phacelia	May-Aug (Sep)	--	--	1B.3	BLM_S-Sensitive | USFS_S-Sensitive	Great Basin scrub, lower montane coniferous forest, playas.	Dried edges of alkali lakes and sinks, inundated clay soils. 1340-1585 m.		A	The project site is well below the reported elevational range of the species. Playa was not observed during botanical surveys and is not expected to be present at the project site.
Phaeocollybia olivacea	olive phaeocollybia	Sep-Oct	--	--		USFS_S-Sensitive	Mixed forests in coastal lowlands.	Scattered or in arcs among Fagaceae or Pinaceae.		A	Although the project site falls within the elevational range of the olive phaeocollybi, potential suitable habitat is not present. Olive phaeocollybi was not observed during botanical surveys and is not expected to be present at the project site.
Pinus albicaulis	whitebark pine	Jul-Aug	--	--		USFS_S-Sensitive	Associate of western hemlock, lodgepole pine, foxtail pine, red fir, and Jeffrey pine forests.	2160-3530 m.		A	The project site is well below the reported elevational range of the species. Mason's sky pilot was not observed during botanical surveys and is not expected to be present at the project site.

Piperia candida	white-flowered rein orchid	(Mar) May-Sep	--	--	1B.2		North Coast coniferous forest, lower montane coniferous forest, broadleafed upland forest.	Sometimes on serpentine. Forest duff, mossy banks, rock outcrops, and muskeg. 20-1615 m.		A	Although the project site falls within the elevational range of the white-flowered rein orchid, potential suitable habitat is not present. White-flowered rein orchid was not observed during botanical surveys and is not expected to be present at the project site.
Polemonium chartaceum	Mason's sky pilot		--	--	1B.3	SB_CalBG/ RSABG-California/ Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Alpine boulder and rock fields, subalpine coniferous forest.	Gravelly slopes and rocky ledges on granitic or volcanic soils. Possibly also known from serpentine. 3290-4240 m.		A	The project site is well below the reported elevational range of the species. Mason's sky pilot was not observed during botanical surveys and is not expected to be present at the project site.
Polystichum lonchitis	northern holly fern	Jun-Sep	--	--	3		Subalpine coniferous forest, upper montane coniferous forest.	Moist shady crevices in granite or carbonate cliffs. 1800-2600 m.		A	The project site is well below the reported elevational range of the species. Northern holly fern was not observed during botanical surveys and is not expected to be present at the project site.
Ptilidium californicum	Pacific fuzzwort	May-Aug	--	--	4.3	BLM_S-Sensitive	Lower montane coniferous forest, upper montane coniferous forest.	Epiphytic on fallen and decaying logs and stumps. Rarely on boulders over humus. 340-1860 m.		A	Although the project site falls within the elevational range of the Pacific fuzzwort, potential suitable habitat is not present. Pacific fuzzwort was not observed during botanical surveys and is not expected to be present at the project site.

Raillardella pringlei	showy raillardella	Jul-Sep	--	--	1B.2	SB_BerrySB-Berry Seed Bank | SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Bogs and fens, meadows and seeps, upper montane coniferous forest.	Streambanks, wet meadows, and bogs in areas of serpentinite rock. 1295-2135 m.		A	The project site is well below the reported elevational range of the species. Showy raillardella was not observed during botanical surveys and is not expected to be present at the project site.
Rorippa columbiae	Columbia yellow cress	May-Sep	--	--	1B.2	USFS_S-Sensitive	Meadows and seeps, playas, vernal pools, lower montane coniferous forest.	Moist sandy soil, low gravelly riverbanks, basaltic lava slopes. 120-2045 m.		A	Although the project site falls within the elevational range of the Columbia yellow cress, potential suitable habitat is not present in the ESL. Also, reported occurrences of the Columbia yellow cress are known only from the High Cascade, Warner Mountains, and the Modoc Plateau. Columbia yellow cress was not observed during botanical surveys and is not expected to be present at the project site.
Sabulina stolonifera	Scott Mountain sandwort	May-Aug	--	--	1B.3	USFS_S-Sensitive	Lower montane coniferous forest.	Serpentine soils, Jeffrey pine forest. 1125-2020 m.		A	The project site is well below the reported elevational range of the species. Scott Mountain sandwort was not observed during botanical surveys and is not expected to be present at the project site.

Saussurea americana	American saw-wort	Jul-Aug	--	--	2B.2		Lower montane coniferous forest, meadows and seeps.	Steep rocky hillsides, moist meadows. Mesic sites. 1890-1950 m.		A	The project site is well below the reported elevational range of the species. American saw-wort was not observed during botanical surveys and is not expected to be present at the project site.
Sedum oblanceolatum	Applegate stonecrop	Jun-Jul	--	--	1B.1	SB_BerrySB-Berry Seed Bank	Upper montane coniferous forest.	Rocky sites. 975-1750 m.		A	The project site is well below the reported elevational range of the species. Applegate stonecrop was not observed during botanical surveys and is not expected to be present at the project site.
Selaginella scopulorum	Rocky Mountain spike-moss	Aug	--	--	3		North coast coniferous forest, upper montane coniferous forest, subalpine coniferous forest.	Open, rocky sites; decomposed granite and outcrops. 1500-2200 m.		A	The project site is well below the reported elevational range of the species. Rocky Mountain spike-moss was not observed during botanical surveys and is not expected to be present at the project site.
Stachys pilosa	hairy marsh hedge-nettle	Jun-Aug	--	--	2B.3		Great Basin scrub, meadows and seeps.	Mesic sites. 785-2045 m.		A	The project site is well below the reported elevational range of the species. Hairy marsh hedge-nettle was not observed during botanical surveys and is not expected to be present at the project site.

Tetracoccus dioicus	Parry's tetracoccus	Apr-May	--	--	1B.2	BLM_S-Sensitive | SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | SB_CRES-San Diego Zoo CRES Native Gene Seed Bank | USFS_S-Sensitive	Chaparral, coastal scrub.	Stony, decomposed gabbro soil. 135-705 m.		A	Although the project site falls within the elevational range of the Parry's tetracoccus, potential suitable habitat is not present in the ESL. Also, reported occurrences of the Parry's tetracoccus are known only from South Coast, Peninsular ranges, and San Jacinto Mountains. Parry's tetracoccus was not observed during botanical surveys and is not expected to be present at the project site.
Thysanocarpus rigidus	rigid fringepod	unk	--	--	1B.2	USFS_S-Sensitive	Pinyon and juniper woodland.	Dry, rocky slopes and ridges of oak and pine woodland in arid mountain ranges. 425-2165 m.		A	Although the project site falls within the elevational range of the rigid fringepod, potential suitable habitat is not present in the ESL. Also, reported occurrences of the rigid fringe pod are known only from the Peninsular ranges, San Jacinto, Desert Mountains, Mojave Desert, and Sonoran Desert. Rigid fringe pod was not observed during botanical surveys and is not expected to be present at the project site.
Trifolium bolanderi	Bolander's clover	Jun-Aug	--	--	1B.2	SB_USDA-US Dept of Agriculture | USFS_S-Sensitive	Meadows and seeps, lower montane coniferous forest, upper montane coniferous forest.	Moist mountain meadows. 2039-2600 m.		A	The project site is well below the reported elevational range of the species. Bolander's clover was not observed during botanical surveys and is not expected to be present at the project site.

Triteleia hendersonii	Henderson's triteleia	May-Jul	--	--	2B.2		Cismontane woodland.	Open slopes and road banks. 760-1200 m.		A	The project site is well below the reported elevational range of the species. Henderson's triteleia was not observed during botanical surveys and is not expected to be present at the project site.
Vaccinium coccineum	Siskiyou Mountains huckleberry	Jun-Aug	--	--	3.3		Lower montane coniferous forest, upper montane coniferous forest.	Rocky slopes, ridges, and bogs; often on serpentine. 1095-2135 m.		A	The project site is well below the reported elevational range of the species. Siskiyou Mountains huckleberry was not observed during botanical surveys and is not expected to be present at the project site.
Vaccinium scoparium	little-leaved huckleberry	Jun-Aug	--	--	2B.2		Subalpine coniferous forest.	Rocky, subalpine woods. Sometimes serpentine. 1035-2200 m.		A	The project site is well below the reported elevational range of the species. Little-leaved huckleberry was not observed during botanical surveys and is not expected to be present at the project site.
Veronica copelandii	Copeland's speedwell	Aug	--	--	4.3		Subalpine coniferous forest, meadows and seeps.	Rocky serpentine slopes and ridges. 2225-2590 m.		A	The project site is well below the reported elevational range of the species. Copeland speedwell was not observed during botanical surveys and is not expected to be present at the project site.
Viola howellii	Howell's violet	May-Jun	--	--	2B.2		North coast coniferous forest.	Damp, shaded areas in riparian corridors. 655-655 m.		A	The project site is well below the reported elevational range of the species. Howell's violet was not observed during botanical surveys and is not expected to be present at the project site.

Rare Plant Rank
1B = Rare, threatened, or endangered in California and elsewhere
2B = Rare, threatened, or endangered in California, but more common elsewhere
3 = Plants about which more information is needed - a review list

4 = Limited distribution - A Watch List
0.1 = Seriously endangered in California
0.2 = Fairly endangered in California
1B = Rare, threatened, or endangered in California and elsewhere

Habitat Evaluation
A (Absent) = the ESL is outside of the species known range and/or potential suitable habitat is not present in the ESL and no further work is needed.
P (Present) = the species known to occur (documented in CNDDB or elsewhere) and/or was observed during field surveys within the ESL.

Legal Status Explanation
-- = None
E = Endangered