

CARLOTTA CURVE IMPROVEMENT PROJECT

HUMBOLDT COUNTY, CALIFORNIA

DISTRICT 1 – HUM – 36 (Post Miles 10.5 to 10.8)

0F160 / 0115000076

INITIAL STUDY

with Mitigated Negative Declaration



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



July 2020



General Information about this Document

What's in this document?

The California Department of Transportation (Caltrans) has prepared this Initial Study with Mitigated Negative Declaration (IS/MND) which examines the potential environmental effects of a proposed project on State Route 36 in Humboldt County near the town of Carlotta, California. Caltrans is the lead agency under the California Environmental Quality Act (CEQA). This document tells you why the project is being proposed, how the existing environment could be affected by the project, the potential impacts of the project, and proposed avoidance, minimization, and/or mitigation measures. Throughout this document, a vertical line in the margin indicates a change made since the draft document circulation. Like other changes, the footnotes are also indicated with a vertical line in the margin. Minor editorial changes and clarifications have not been indicated.

For individuals with sensory disabilities, this document is available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please write to or call Caltrans, Attention: Jason Frederickson, North Region Environmental-District 1, 1656 Union Street, Eureka, CA 95501; (707) 441-4556 Voice, or use the California Relay Service TTY number, 711 or 1-800-735-2929.



CARLOTTA CURVE IMPROVEMENT PROJECT

Improve curves and widen shoulders on State Route 36 in Humboldt County,
from post miles 10.5 to 10.8 east of Carlotta

INITIAL STUDY WITH MITIGATED NEGATIVE DECLARATION

Submitted Pursuant to: Division 13, California Public Resources Code

THE STATE OF CALIFORNIA

Department of Transportation

07/23/20

Date of Approval



Brandon Larsen, Office Chief
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Mitigated Negative Declaration

Pursuant to: **Division 13, California Public Resources Code**

SCH Number: 2020029018

Project Description

The California Department of Transportation (Caltrans) proposes to improve the curves and widen the shoulders on State Route 36 at post miles 10.5 to 10.8 in Humboldt County.

Determination


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

The project would have No Impact with regard to Aesthetics, Agriculture and Forest Resources, Air Quality, Cultural Resources, Energy, Hazards and Hazardous Materials, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, Transportation and Traffic, Tribal Cultural Resources, Utilities and Service Systems, and Wildfire.

The project would have Less-Than-Significant Impacts with regard to Geology and Soils, Greenhouse Gas Emissions, and Hydrology and Water Quality.

With the following mitigation measures incorporated, the project would have Less-Than-Significant Impacts with regard to Biological Resources.

- Mitigation for permanent impacts to wetlands would be implemented.



Brandon Larsen, Office Chief
North Region Environmental-District 1
California Department of Transportation

07/23/20

Date



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List of Abbreviated Terms

Abbreviation	Description
AB	Assembly Bill
AC	Activity Centers
ARZ	absorber root zone
BMPs	Best Management Practices
BSA	Biological Study Limits
CAFE	Corporate Average Fuel Economy
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CGP	Construction General Permit
CH ₄	methane
CHCP	Carlotta Hydesville Community Plan
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO ₂	carbon dioxide
CO _{2e}	carbon dioxide equivalent
CRPR	California Rare Plant Rank
CSP	Corrugated Steel Pipe
CTP	California Transportation Plan
CWA	Clean Water Act
dB	decibel
DBH	diameter at breast height
Department	Caltrans
DI	Drainage Inlet
DPS	Distinct Population Segment
DSA	Disturbed Soil Area
EIR	Environmental Impact Report
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Environmentally Sensitive Area
ESL	Environmental Study Limits

Abbreviation	Description
FED	Final Environmental Document
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
G	Global (ranking for Natural Communities of Special Concern)
GHG	greenhouse gas
GMP	Galvanized Metal Pipe
GWP	global warming potential
H&FC	Health & Safety Code
HA	Hydrologic Area
HCAOG	Humboldt County Association of Governments
HDPE	High-density Polyethylene
HFCs	hydrofluorocarbons
HRC	Humboldt Redwood Company
HAS	Hydrologic Sub-Area
HU	Hydrologic Unit
IPCC	Intergovernmental Panel on Climate Change
IS	Initial Study
IS/MND	Initial Study/Mitigated Negative Declaration
LCFS	low carbon fuel standard
LEDPA	least environmentally damaging practicable alternative
LSAA	Lake or Streambed Alteration Agreement
MAMU	Marbled murrelet
MGS	Midwest Guardrail System
MLD	Most Likely Descendent
MMTC02e	million metric tons of carbon dioxide equivalent
MND	Mitigated Negative Declaration
mph	miles per hour
MPO	Metropolitan Planning Organization
MS4s	Municipal Separate Storm Sewer Systems
N ₂ O	nitrous oxide
NAHC	Native American Heritage Commission
NCRWQCB	North Coast Regional Water Quality Control Board
NCSC	Natural Communities of Special Concern
ND	Negative Declaration
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRLF	Northern red-legged frog

Abbreviation	Description
NSO	Northern spotted owl
OHWM	Ordinary High Water Mark
P	Public Lands (zoning classification)
PDT	Project Development Team
PEZ	potential effect zone
PM(s)	post mile(s)
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
PRC	Public Resources Code
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
S	State (ranking for Natural Communities of Special Concern)
SCS	Sustainable Communities Strategy
SF ₆	sulfur hexafluoride
SLR	Sea Level Rise
SO ₂	sulfur dioxide
SR 36	State Route 36
SRZ	structural root zone
SSC	Species of Special Concern
SWMP	Storm Water Management Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
T	Timberland (zoning classification)
TMDLs	Total Maximum Daily Loads
TMP	Transportation Management Plan
TPZ	Timber Production Zone (zoning classification)
U.S. or US	United States
U.S. 101	U.S. (United States) Highway 101
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDOT	U.S. Department of Transportation
U.S. EPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGRCP	U.S. Global Change Research Program
VMT	Vehicle Miles Traveled
WDRs	Waste Discharge Requirements
WQAR	Water Quality Assessment Report
WQOs	Water Quality Objectives



Chapter 1. Proposed Project

1.1. Project History

This project was identified by District 1, Office of Traffic Safety, while investigating a fatal collision that occurred at the project location in August 2013. Review of collision data received from the California Highway Patrol indicated that the number of fatal and injury collisions were greater than the statewide average at this location. In 2014, Caltrans completed a safety project that added 30 miles per hour (mph) curve warning signs in each direction and chevrons for westbound travel.

Due to the need to reduce fatal and injury collisions at this location, a Project Study Report was completed in 2017. In 2018, through discussions with Humboldt Redwood Company and input from the Project Development Team (PDT), Caltrans modified the project to reduce impacts to the adjacent parcel.

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

1.2. Project Description

Caltrans proposes to improve horizontal and vertical curves and widen shoulders on State Route (SR) 36 from post miles (PMs) 10.5 to 10.8 in Humboldt County, California (Figures 1 and 2), about 250 miles north of San Francisco and 6 miles east of the community of Carlotta. Pamplin Grove County Park is just east of the project (outside the project limits) with an access road at PM 11.30. Within the project limits, SR 36 is a rural, two-lane conventional highway through mountainous and forested terrain with a posted speed limit of 55 miles per hour. The road has a rolling profile and follows the north bank of the Van Duzen River. Lane widths are 12 feet and the roadway has a total paved width of approximately 26.5 feet and three reversing curves.

Project Objectives

The purpose of this project is to reduce the frequency and severity of collisions at this location. This project is needed because the collision rate within the project limits, including two fatalities and two injury collisions, is 3.59 times the statewide average for similar highway facilities.

Proposed Project

The proposed scope of work (see Appendix C—Layouts of Proposed Work)¹ includes the following:

- Set up temporary traffic control using portable delineators and traffic signs for single lane closure as required (one way traffic control starting on the eastbound direction and then switching to the westbound direction).
- Set up project stormwater Best Management Practices (BMPs), as needed and when needed.
- Remove trees and vegetation as shown/described in Figure 3 and Appendix C.
- Clear and grub site and access road.
- Utility relocation.
- Prepare existing subgrade:
 - Remove soft or spongy basement material to a depth of 3 inches below the subgrade elevation.
 - Backfill the subgrade with earth, sand, or gravel to produce a stable foundation.
 - Apply water to the subgrade and thoroughly compact it.
- Construct access road.
- Perform rough grading.
- Construct retaining wall below eastbound lane.
- Replace culverts.
- Reconstruct road section.
- Install Midwestern Guardrail System (MGS) along eastbound lane above the proposed retaining wall and to protect an existing utility pole at PM 10.60.

¹ Project layouts have been updated to show the expanded ESL to encompass the utility work and the addition of bioswales.

Construction Scenario

As shown in Figure 3, the project would require temporary access roads and a staging area. Prior to the start of construction, and between September 16 and January 31, the contractor would remove trees and clear and grub vegetation. If project timing misses this work window, or if nesting birds are found to be present, prior to vegetation removal a biologist would survey and certify that birds are not nesting in the areas to be cleared. The following describes each anticipated aspect of construction.

Access Roads and Staging

Staging of equipment and construction access would occur in the closed lane on SR 36 within the project area. If feasible, the contractor may be able to use the pre-existing Humboldt Redwood Company (HRC) logging road directly north of SR 36. As Figures 3 and 4 indicate, the project would require a new access road built from the existing logging road to SR 36, around PM 10.8. The road is anticipated to be at most 20 feet wide, however may vary at some locations to allow equipment turnarounds, equipment passing, work areas, etc. A second smaller and more narrow access road would be required to construct the retaining wall. Depending on access road conditions and locations, the roads might need to be overlain with gravel pads (typically made of 2 to 3-inch diameter open-graded or washed aggregate, either stone or crushed concrete) or fills on top of geotextile fabric. Some light grading may be necessary to construct the roads. If needed, the contractor may elect to rent land for a construction yard. If so, the contractor would be responsible for obtaining necessary clearances and/or permits.

Utility Relocation

Though Caltrans cannot direct the utility company on how to perform the utility relocation, for purposes of this document, a typical work plan has been put together. A 6-foot-wide by 6-foot-long by 10-foot-deep bore pit would be excavated along the north side of the road. Then two new 4-inch conduits would be installed: a 50-foot-long section in the southwesterly direction and a 120-foot section in the northeasterly direction. The existing wood utility pole on the southerly side of the roadway would be removed and the existing underground line would connect to the new conduit. A riser conduit would be installed up the side of the next adjacent existing wood utility pole to the northeast to connect to the aerial line. The conductors would be rerouted through each of the new conduits and service would be reconnected.

Construction Equipment

Typical equipment used for construction includes pavers, cranes, drills, pile drivers, excavators, backhoes, bobcats, pickup trucks, hauling and dump trucks, compactors, portable generators, concrete trucks, saws, pumps, jackhammers, site trailers, and storage boxes.

Mechanically Stabilized Earth (MSE) Retaining Wall

Construction for this type retaining wall would occur from the bottom up (Figure 3). Horizontal clearance, behind the wall layout line and into the finished embankment, would be required to reinforce the embankment. Mats or straps would be attached to the precast concrete blocks or wall panels at the wall layout line. Length of embankment would be one to one and a half times wall height. Temporary shoring of the existing embankment may be required to provide adequate clearance of reinforced embankment. The contractor would require an approximate 10-foot bench in front of the wall layout line for construction. Reinforced fill and wall panels would then be constructed to finished grade.

Culvert Replacement

Within the project limits, there are two culverts systems: one at PM 10.60 and the other at PM 10.70. The culvert at PM 10.60 is a 24-inch-diameter by 47-foot-long High Density Polyethylene (HDPE) cross culvert with a Galvanized Metal Pipe (GMP) drainage inlet (DI) and no end treatment at the outlet. The culvert at PM 10.70 is a 24-inch-diameter by 60-foot-long Corrugated Steel Pipe (CSP) cross culvert with a side opening drainage inlet. The culvert at PM 10.70, on its existing alignment, passes through the proposed location of the new retaining wall. The project proposes to replace the existing culvert and reconfigure the culvert alignment so that it does not pass through the retaining wall.

Removal and replacement of the two culverts would occur via half width construction, which would allow the contractor to maintain one open lane for traffic. The culvert sections below the westbound lane would be replaced first. The pavement above each section would be sawcut and a trench excavated around each section. With half-width construction, the culvert would be cut in half and replaced in kind and along the same alignment, allowing for slight adjustments to the location of the culvert and drainage inlet due to shoulder widening and retaining wall construction. The associated inlets, headwalls, down-drains, and outfalls would be removed and replaced. Concrete would be poured from a concrete truck operating in the closed traffic lane. A concrete pump may be required.

Construct Road Segment

The existing road surface would be ground off and removed. The soft or spongy base material would then be removed to a depth of 3 inches. The subgrade would be backfilled with earth, sand, or gravel to produce a stable foundation. Water would be applied to the subgrade and then it would be thoroughly compacted. Once the base is fully graded and compacted, the new roadway binder and pavement structure would be poured. Bioswales (linear, vegetated ditches which collect, convey, filter, and allow infiltration of stormwater) would be installed for stormwater treatment. Currently, the existing driver warning devices in this area are yellow warning signs and off-the-road warning devices (Rumble Strips) on the borders of the traveled lanes. The existing Rumble Strips would be replaced with Mumble Strips, which lower outside vehicle noise while offering a comparable warning (noise, seat track and steering column vibration) to the driver.

Excavated Material

Excavated material would either be used as needed backfill material during construction or hauled away to an approved permitted disposal site. Any necessary temporary storage site would follow standard BMP measures (Section 1.5—Standard Measures).

Disturbed Soil Areas

As part of the project, fill would be placed, and cuts would be made (Figures 3, 4 and Appendix C). Access roads and curve improvement work would create approximately 2.11 acres of temporary disturbed soil area (DSA). In addition, there would be approximately 0.84 acre of permanent DSA resulting from the curve correction. Total disturbed soil area for the project would be approximately 2.95 acres.

Environmental Work Window and Standard Measures

Standard and Best Management Practices (BMPs) are identified in Section 1.5; however, the following project-specific measures would be included:

- All work within jurisdictional waters would be restricted to June 15 to October 15 of the construction season.
- If nesting birds or roosting bats are found, removal of vegetation or nests would not be allowed until the nesting birds or roosting bats have vacated. The project biologist would then coordinate with CDFW and USFWS to establish appropriate species-specific buffer(s) and any monitoring requirements. The buffer(s) would be

- delineated around each active nest and construction activities would be excluded from these areas until the nest is no longer occupied.
- No potential marbled murrelet (MAMU) or suitable northern spotted owl (NSO) nesting trees would be removed during the nesting season.
 - No construction activities would occur within a visual line of sight for 131 feet or less from any known nest locations for MAMU or NSO.
 - From February 1 to August 5, no construction activities generating noise levels greater than 90 dB (with the exception of backup alarms) or activities generating sound levels 20 or more dB above ambient sound levels would occur.
 - From August 6 to September 15, any sound levels greater than 10 dB above ambient sound levels would observe a daily work window beginning two hours post sunrise and ending two hours pre-sunset.
 - To prevent attracting corvids (birds of the *Corvidae* family which include jays, crows and ravens), no trash or food stuffs would be left or stored onsite. All trash would be deposited in a secure container and disposed of at an approved garbage facility. Also, onsite workers would not attempt to attract or feed any wildlife.

Site Cleanup and Revegetation

After completion, all materials used for the temporary access roads, retaining wall construction, and/or culvert replacement would be completely removed from the site. The site would then be restored to a natural setting by regrading and revegetating with native plants, as required by the final approved revegetation and erosion control plans. Wetland vegetation would be planted from November 1 to February 28 in the year following completion.

Scheduling

Construction activities are anticipated to start in January 2022 and be completed by December 31, 2022. The schedule does not account for excessive winter weather delays, potential mechanical breakdowns, or harder than anticipated soil conditions for retaining wall installation.

Traffic Control

There would be lane closures with one lane open for travel during the construction season. The eastbound lane of the highway would be closed off and constructed first, including the

retaining wall. The westbound lane would be closed and constructed afterwards. There would be an estimated delay of five to ten minutes for travelers.

Night Work

Significant night work is not anticipated. However, there may be night work if construction needs to be accelerated and/or operations are required to be completed at night. Other reasons for working at night may include work delays for unforeseen reasons such as a continuous concrete placement activity (taking longer than one shift), a mechanical breakdown during a concrete pour, or paving operations. Such situations should occur rarely, if at all, during construction. Any night work would be subject to the county noise limitation of 86 decibels (dB) at 49 feet (15 meters) and the Standard Measures identified in Section 1.5.

General Plan Description, Zoning, and Surrounding Land Uses

In Humboldt County, the project is within the Carlotta Hydesville Community Plan (CHCP). Land use designation at the project location is T: Timberland, and TPZ: Timber Production Zone. The Timberland designation is used to classify land that is suitable for the growing, harvesting and production of timber (Humboldt County 2017). The Timber Production Zone designation creates a property tax system based on the growing and harvesting of trees (Humboldt County 2017). Pamplin Gove County Park is just outside of the project limits and has a land use designation of P: Public Lands. The Public Lands designation is used to classify land owned by or under the jurisdiction of the federal, state, county, or any other district authority or public corporation or agency thereof (Humboldt County 2017).

No Build (No Action) Alternative

This alternative would maintain the facility in its current condition without addressing the safety need.

For each of the potential impact areas discussed in Chapter 2, the No Build alternative has been determined to have no impact. Under the No Build alternative, no alterations to the existing conditions would occur, nor would the proposed improvements be implemented. The No Build alternative is not discussed further in this document

1.3. Project Maps

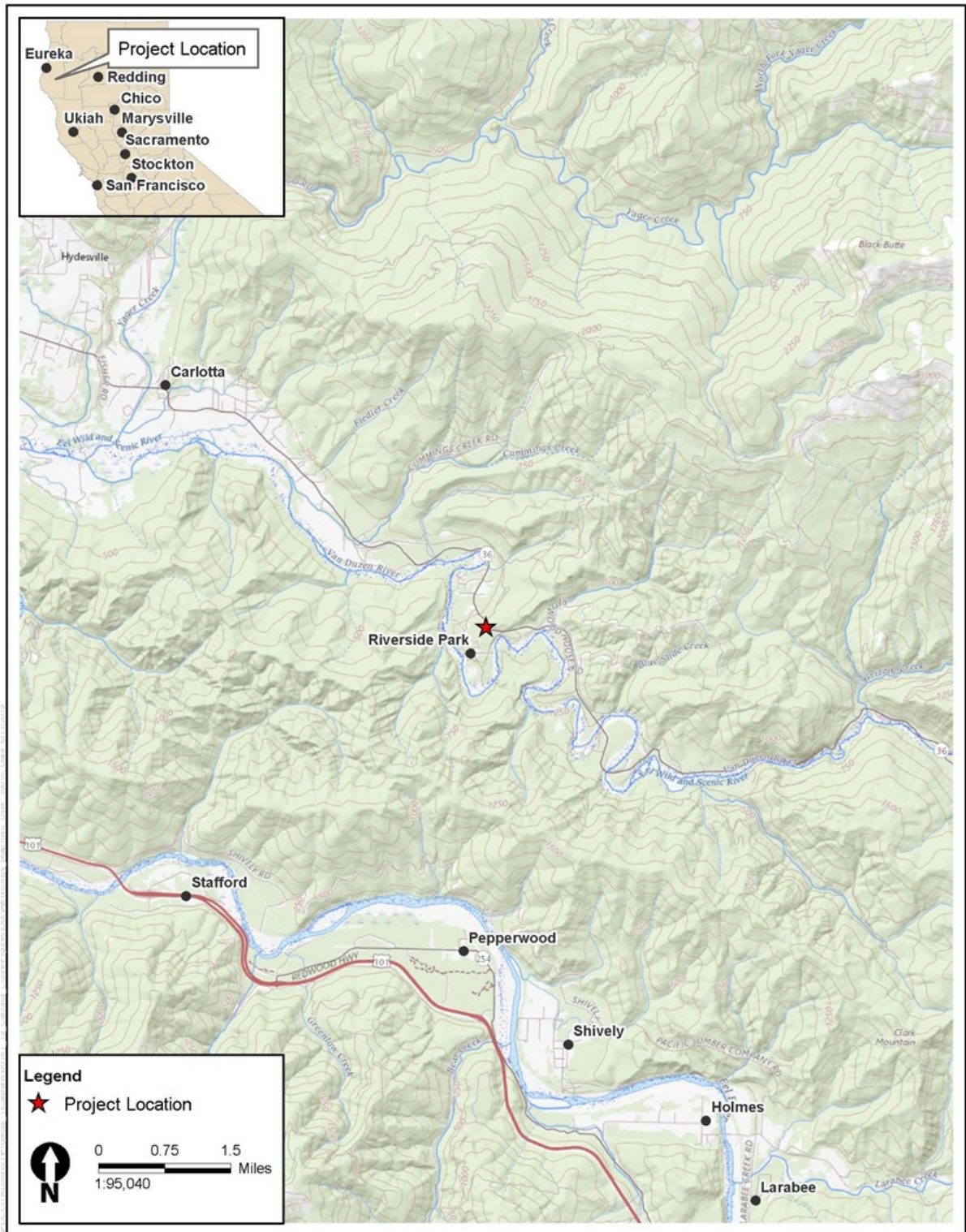
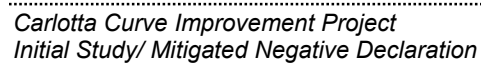


Figure 1. Project Location Map



Figure 2. Project Vicinity Map



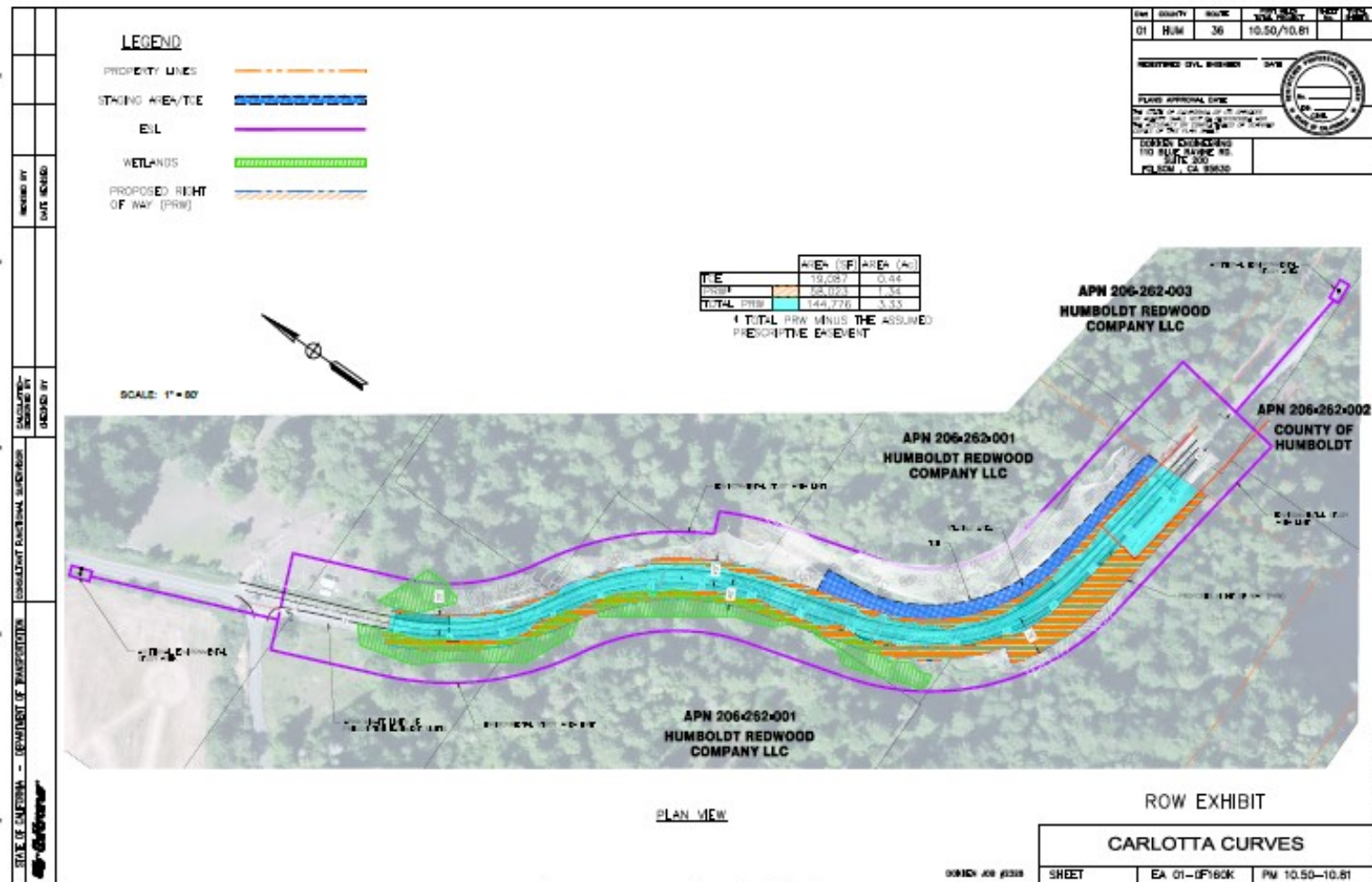


Figure 4. Access Roads and Staging

1.4. Permits and Approvals Needed

Table 1. Agency Approvals

Agency	Permit/Approval	Status
California Department of Fish and Wildlife (CDFW)	1602 Agreement for Streambed Alteration Agreement	Obtain after Final Environmental Document (FED) approval.
Regional Water Quality Control Board (RWQCB)	Clean Water Act Section 401 Water Quality Certification	Obtain after FED approval.
U.S. Army Corps of Engineers (USACE)	Section 404 authorization for work in Waters of the United States	Obtain after FED approval.
U.S. Fish and Wildlife Service (USFWS)	Programmatic Letter of Concurrence	On file.

1.5. Standard Measures and Best Management Practices Included in All Alternatives

Utilities and Emergency Services

UE-1: All emergency response agencies in the project area would be notified of the project construction schedule and would have access to SR 36 throughout the construction period.

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

Transportation and Traffic

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

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

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

Visual Aesthetics

VA-1: Riparian and wetland areas impacted would be replanted with regionally-appropriate native plants.

VA-2: Any temporary access roads would be restored to a natural contour and revegetated with appropriate native plants. A list of appropriate plant species and planting locations would be developed by the project landscape architect and biologist.

VA-3: Alterations to the existing contours of any temporary construction staging areas created by the contractor would be graded to previous conditions and revegetated with appropriate native plants.

Cultural Resources

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

CR-2: If human remains are discovered, State Health and Safety Code § 7050.5 states that further disturbances and activities would cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to CA Public Resources Code (PRC) § 5097.98, if the remains were thought to be Native American, the coroner would notify the Native American Heritage Commission (NAHC) who would then notify the Most Likely Descendent (MLD).

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

Water Quality and Stormwater Runoff

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

Before any ground-disturbing activities, the contractor would prepare a Stormwater Pollution Prevention Plan (SWPPP) (per the Construction General Permit Order 2009-0009-DWQ) that includes erosion control measures and construction waste containment measures so that waters of the State are protected during and after project construction.

The SWPPP would identify the sources of pollutants that may affect the quality of stormwater; include construction site Best Management Practices (BMPs) to control sedimentation, erosion, and potential chemical pollutants; provide for construction materials management; include non-stormwater BMPs; and include routine inspections and a monitoring and reporting plan. All construction site BMPs would follow the latest edition of the *Storm Water Quality Handbooks: Construction Site BMPs Manual* (Caltrans 2017) to control and reduce the impacts of construction-related activities, materials, and pollutants on the watershed.

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

Construction would likely require the following temporary construction site BMPs:

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

WQ-2: The project would incorporate pollution prevention and design measures consistent with the 2003 *Caltrans Storm Water Management Plan* to meet Water Quality Objectives

(WQOs). This plan complies with the requirements of the Caltrans Statewide NPDES Permit (Order 2012-0011-DWQ).

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

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

Hazardous Waste and Material

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

Geology and Seismic/Topography

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

GS-2: A discussion about paleontological resources would be conducted by the District Paleontological Coordinator during the pre-construction meeting.

GS-3: In the unlikely event that fossils were encountered during project excavations, Caltrans Standard Specification 14-7 would be followed. This standard specification states that if unanticipated paleontological resources were discovered at the job site, all work within 60 feet would stop, the area around the fossil would be protected, and the Resident Engineer would be notified.

Wetlands and Other Waters

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

WW-2: Caltrans would be required to restore wetland and riparian areas temporarily impacted by construction to pre-existing conditions prior to completion of construction.

Threatened and Endangered Species

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

TS-2: Artificial night lighting may be required. The use of artificial lighting would be temporary and of short duration and lighting would be directed away from the wetland and focused specifically on active construction, reducing potential disturbance to sensitive species. To reduce the effects of artificial light on sensitive biological resources, use near watercourses would be limited to critical need (i.e., due to accelerated work schedule to meet permit deadlines or reaching a critical juncture in work at a time when it would be infeasible to stop construction).

Plant Species

PS-1: In order to avoid impacting Howell's montia, no vehicles or equipment would be allowed to utilize the private logging road between December 1 through June 1. The project would avoid road rocking, excavation, and deep grading where plants are known to occur, since these activities can alter the microsite conditions or bury the seed bank. Any alterations to the private logging road that could potentially result in altering the current drainage conditions of the road bed should be avoided as Howell's montia prefers vernal wet soils.

PS-2: Prior to the start of construction activities, a qualified botanist would survey for and mark the location of rare plants in the project area. Environmentally Sensitive Area (ESA) fencing would be placed around these areas.

PS-3: After all construction materials are removed, the project area would be revegetated. Replanting would be subject to a plant establishment period as defined by project permits,

which would require Caltrans to adequately water plants, replace unsuitable plants, and control pests. Caltrans would implement a program of invasive weed control in all areas of soil disturbance caused by construction to improve habitat for native species in and adjacent to disturbed soil areas within the project limits.

PS-4: The contractor would be required to place temporary barrier fencing along the boundaries of all riparian, wetland or other environmentally sensitive areas to avoid impacts to sensitive habitats that occur adjacent to the project footprint.

Animal Species

AS-1: To protect migratory and nongame birds and their occupied nests and eggs, nesting-prevention measures would be implemented. Vegetation removal would be restricted to the period outside of the bird breeding season February 1 to September 15 or, if vegetation removal is required during the breeding season, a nesting bird survey would be conducted by a qualified biologist within one week of vegetation removal. If an active nest is located, the biologist would coordinate with the CDFW to establish appropriate species-specific buffer(s) and any monitoring requirements. The buffer would be delineated around each active nest and construction activities would be excluded from these areas until birds have fledged, or the nest is determined to be unoccupied.

AS-2: Partially constructed and unoccupied nests within the construction area would be removed and disposed of on a regular basis throughout the breeding season February 1 to September 15 to prevent their occupation. Nest removal would be repeated weekly under guidance of a qualified biologist to ensure nests are inactive prior to removal.

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

AS-4: Prior to any dewatering or diversion, the contractor would be required to provide to Caltrans for approval an Aquatic Species Relocation Plan as part of the Construction Site Dewatering and Diversion Plan. The plan would also include provisions for a pre-construction survey by a qualified biologist for Northern red-legged frog and Foothill yellow-legged frog. Any frogs, tadpoles, and egg masses found during the initial survey would be netted by the biologist and relocated to suitable habitat downstream of the project. Gravel or any other material added for construction purposes would be introduced slowly starting upstream, giving frogs an opportunity to escape downstream. The biologist would be present during all phases of in-stream construction to assist with frog relocation efforts as they arise.

Invasive Species

The standard measures described in PS-1 for restoring the project site post construction are also appropriate for the control of invasive species.

PS-1: After all construction materials are removed, the project area would be restored to a natural setting by grading, placing erosion control, and replanting. Caltrans would implement a program of invasive weed control in all areas of soil disturbance caused by construction to improve habitat for native species in and adjacent to disturbed soil areas within the project limits.

1.6. Discussion of the NEPA Categorical Exclusion

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

Chapter 2. CEQA Environmental Checklist

2.1. Environmental Factors Potentially Affected

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

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

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

The words “significant” and “significance” used throughout the checklist and this document are only related to potential impacts pursuant to CEQA. The questions in the CEQA Checklist are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project as well as standard measures that are applied to all or most Caltrans projects (such as Best Management Practices (BMPs) and measures included in the Standard Plans and Specifications or as Standard Special Provisions), are considered to be an integral part of the project and have been considered prior to any significance determinations documented in the checklist or document.

2.2. Project Impact Analysis Under CEQA for Initial Study

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

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

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

Though not required, CEQA suggests Lead Agencies adopt *thresholds of significance*, which define the level of effect above which the Lead Agency will consider impacts to be significant, and below which it will consider impacts to be less than significant. Given the size of California and its varied, diverse, and complex ecosystems, as a Lead Agency that encompasses the entire State, developing *thresholds of significance* on a state-wide basis has not been pursued by Caltrans. Rather, to ensure each resource is evaluated objectively, Caltrans analyzes potential resource impacts based on their location and the effect of the potential impact on the resource as a whole in the project area. For example, if a project has the potential to impact 0.10 acre of wetland in a watershed that has minimal development and contains thousands of acres of wetland, then a “less than significant” determination would be considered appropriate. In comparison, if 0.10 acre of wetland would be impacted that is located within a park in a city that only has 1.00 acre of total wetland, then the 0.10 acre of wetland impact could be considered “significant.”

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

Although the formulation of mitigation measures shall not be deferred until some future time, the specific details of a mitigation measure may be developed after project approval when it is impractical or infeasible to include those details during the project’s environmental review. The lead agency must (1) commit itself to the mitigation, (2) adopt specific performance standards the mitigation will achieve, and (3) identify the type(s) of potential action(s) that can feasibly achieve that performance standard and that will be considered, analyzed, and potentially incorporated in the mitigation measure. Compliance with a regulatory permit or other similar process may be identified as mitigation if compliance would result in

implementation of measures that would be reasonably expected, based on substantial evidence in the record, to reduce the significant impact to the specified performance standards (§15126.4(a)(1)(B)). Per CEQA, measures may also be adopted, but are not required, for environmental impacts that are not found to be significant (14 CCR § 15126.4(a)(3)). Under CEQA, mitigation is defined as avoiding, minimizing, rectifying, reducing, and compensating for any potential impacts (CEQA 15370).

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

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

No Build (No Action) Alternative

This alternative would maintain the facility in its current condition without addressing the safety need.

For each of the potential impact areas discussed in Chapter 2, the No Build alternative has been determined to have no impact. Under the No Build alternative, no alterations to the existing conditions would occur, nor would the proposed improvements be implemented. The No Build alternative is not discussed further in this document

2.3. Aesthetics

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Have a substantial adverse effect on a scenic vista?	No	No	No	✓
Would the project: b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	No	No	No	✓
Would the project: c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	No	No	No	✓
Would the project: d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	No	No	No	✓

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the Visual Impact Assessment (Caltrans 2019 k). Potential impacts to aesthetics are not anticipated due to minimal changes to the visual quality and visual character of the site.

2.4. Agriculture and Forest Resources

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

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	No	No	No	✓
Would the project: b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No	No	No	✓
Would the project: c) Conflict with existing zoning, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	No	No	No	✓
Would the project: d) Result in the loss of forest land or conversion of forest land to non-forest use?	No	No	No	✓

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	No	No	No	✓

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to Agriculture and Forest Resources are not anticipated due to the lack of agricultural land within or adjacent to the project area and because the scope of work would not conflict with the zoning of or result in the loss or conversion of forest land.

2.5. Air Quality

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

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Conflict with or obstruct implementation of the applicable air quality plan?	No	No	No	✓
Would the project: b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	No	No	No	✓
Would the project: c) Expose sensitive receptors to substantial pollutant concentrations?	No	No	No	✓
Would the project: d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	No	No	No	✓

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the air quality analysis completed in the Air Quality and Noise Analysis (Caltrans 2019 d). The analysis concluded that conformity requirements do not apply as Humboldt County is designated as attainment or is unclassified for all current National Air Quality Standards.

There would be temporary construction emissions associated with the project. Please see Section 2.10—Greenhouse Gas Emissions for more information.

2.6. Biological Resources

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	No	No	✓	No
Would the project: b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	No	No	✓	No
Would the project: c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	No	✓	No	No
Would the project: d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	No	No	✓	No
Would the project: e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No	No	No	✓

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	No	No	No	✓

Regulatory Setting

Natural Communities

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

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

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

Wetlands and Other Waters

Federal

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

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

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of USACE's Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with *U.S. EPA's Section 404(b)(1) Guidelines* (40 Code of Federal Regulations [CFR] 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would

have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a “least environmentally damaging practicable alternative” (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

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

State

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

Sections 1600–1607 of the California Fish and Game Code (CFGF) require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFW before beginning construction. If CDFW determines the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement (LSAA) will be required. CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA. In compliance with Section 401 of the CWA, the RWQCBs also issue water quality certifications for activities which may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request. Please see Section 2.12—Hydrology and Water Quality for additional details.

Plant Species

The U.S. Fish and wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) have regulatory responsibility for the protection of special-status plant species.

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

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

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

Animal Species

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

Federal laws and regulations pertaining to wildlife include the following:

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

State laws and regulations pertaining to wildlife include the following:

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

Threatened and Endangered Species

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

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

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

Invasive Species

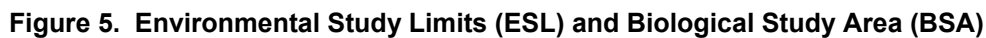
On February 3, 1999, President William J. Clinton signed Executive Order (EO) 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material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

Environmental Setting

The project area is within the Northern California Coast Ranges Ecological Province, a steep mountainous area from Humboldt Bay to the Russian River. The predominant land use in the immediate project vicinity is timber production, followed by rural residential areas and open space/state park.

The Environmental Study Limits (ESL) and Biological Study Area (BSA) were established to evaluate the potential presence of Natural Communities of Special Concern (NCSC) and special-status plants and animals. The ESL, shown in Figure 5, includes the anticipated work area.

The BSA is a larger area that contains the ESL and any additional areas that could be affected by the noise of construction, which includes a 0.25-mile buffer around the construction area for airborne noise and the extent of potential underwater noise transmittal upstream and downstream from the project area (Figure 5).



This section of the document discusses Natural Communities of Special Concern (NCSC). Natural communities in the Biological Study Area (BSA) were identified based on the vegetation classification used in *A Manual of California Vegetation, 2nd edition* (Sawyer J. O., T. Keeler-Wolf, J. Evans, 2009).

Vegetation communities are groups of plants that occur in repeatable patterns across the landscape. Several vegetation communities were found in the project area. Vegetation communities were identified based on the vegetation classification of the dominant plant species. Ruderal (disturbed) areas and areas of non-native grasslands (pastures) are also

present in the project area. Roadway shoulders in the project area include a mix of herbaceous and non-native herbaceous vegetation.

The communities present at the project site are typical of the North Coast Ranges of the California Floristic Province. NCSC present in the project area include Redwood forest (*Sequoia sempervirens*) Forest Alliance.

The disturbed roadsides include a mix of native and non-native herbaceous vegetation. The more open western portion of the ESL near Riverside Park Drive includes thickets of Himalayan blackberry (*Rubus armeniacus*) and non-native grassland habitat with orchard grass (*Dactylis glomerata*), ripgut (*Bromus diandrus*), and tall fescue (*Festuca arundinacea*). This area includes a known population of Siskiyou checkerbloom (*Sidalcea malviflora* ssp. *patula*), a special-status plant with a California Rare Plant Rank (CRPR) of 1B.2.

Redwood Forest (*Sequoia sempervirens*) Forest Alliance

The Redwood forest (*Sequoia sempervirens*) Forest Alliance is globally vulnerable and state ranked imperiled (G3 S3). This natural community comprises a predominant overstory of coast redwood trees with a mixture of Douglas-fir (*Pseudotsuga menziesii*), madrone (*Arbutus menziesii*), tanoak (*Notholithocarpus densiflorus*), California bay (*Umbellularia californica*), and big leaf maple. The understory is predominantly coyote brush (*Baccharis pilularis*) and French broom (*Genista monspessulana*) (an exotic invasive species) but also includes poison oak, madrone, live oak (*Quercus chrysolepis*), and tanoak. Redwood is one of the signature trees of California, with 95% of its range existing within the state. Years of logging have left less than 90% of the original forest.

Large diameter trees are often described as being old-growth, a term defined differently among professional foresters and ecologists and one that varies further when applied to individual trees, stands of trees (i.e., forests), and individuals and stands of different tree species or assemblages. Generally, mature, late-seral coast redwood forests comprise mixed-age and therefore mixed-structure stands with multiple layered canopies, where redwoods form the dominant crown class, occasionally with Douglas-fir, and other smaller hardwood species restricted to the intermediate or suppressed canopy classes. Late-seral forests contain many individual trees of a size and age that represent the distal end of the dominant species' lifespan. For coast redwoods, this typically means late-seral forest will contain many trees ranging from 700–2,000 years of age, collectively containing an enormous amount of carbon.

On September 13, 2019, professional arborists visited the site to determine potential impacts of the project on the surrounding trees. The purpose of this field visit was to: (1) to assess the accuracy of project mapping elements, such as tree identification, location, and diameter measurements; (2) assess tree health and growing conditions that could influence arborist recommendations; and, (3) record additional information on trees with potential to be impacted by the project (e.g., tree height, photographs, etc.).

The arborists determined the site along Carlotta Curve included in the project is not considered late-seral forest. Trees present in the project area are predominantly second-growth coast redwood (*Sequoia sempervirens*) and Douglas-fir (*Pseudotsuga menziesii*). These trees are in an area managed for timber harvest zoned either Timberland or Timber Production Zone. In addition, these trees are not located in marbled murrelet or northern spotted owl critical habitat.

Wetlands and Other Waters

Portions of the project area contain federally and state-recognized jurisdictional wetlands and waters. The United States Army Corp of Engineers (USACE) regulates waters of the U.S. under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbor Act. Waters of the U.S. include wetlands, special aquatic sites, and other non-wetland waters such as bays, rivers, and lakes.

The California Regional Water Quality Control Board (RWQCB) regulates discharges of fill and dredged material into waters of the State under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. This program protects all waters in its regulatory scope, but has special responsibility for wetlands, riparian areas, and headwaters because these water bodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs. The RWQCB is involved with protection of special-status species and regulation of hydro-modification effects. The program encourages basin or landscape-level analysis and protection of functions of wetlands, riparian areas, and headwater streams, including pollutant removal, floodwater retention, and habitat connectivity.

Plant Species

According to the California Native Plant Society (CNPS) inventory and the California Natural Diversity Database (CNDDB) searches, the project area has the potential to contain several listed plant species. Seasonally-appropriate floristic surveys were conducted according to *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2009).

Botanical surveys for this project found two rare plants present in the project area. These plants are Siskiyou checkerbloom (*Sidalcea malviflora ssp. patula*) and Howell's montia (*Montia howellii*). Please see Table 2 for a list of plant species that occur in the project area.

Table 2. Special-status Plants Potentially Occurring in the Project Area

Common Name	Scientific Name	Status** Federal/ State/ CRPR	General Habitat Description	Habitat Present/ Absent/ Critical Habitat	Rationale
Plants					
Beaked tracyina	<i>Tracyina rostrata</i>	--/--/1B.2	Open grassy meadows usually within oak woodland and grassland habitats. 492-2,608 feet (150-795 m.)	Absent	Low. Suitable habitat does not exist on-site.
Bensoniella	<i>Bensoniella oregona</i>	--/--/1B.1	Bogs and fens, lower montane coniferous forest, meadows and seeps. Wet meadows and openings in forest. 148-4,560 feet (405-1,390 m).	Absent	Low. Suitable habitat does not exist in the ESL.
California globe mallow	<i>Iliamna latibracteata</i>	--/--/1B.2	North Coast coniferous forest, chaparral, lower montane coniferous forest, riparian scrub (streambanks). Seepage areas in silty clay loam. 197-5,430 feet (60-1,655 m).	Absent	Low. Suitable habitat does not exist in the ESL.
Cascade downingia	<i>Downingia willamettensis</i>	--/--/2B.2	Cismontane woodland, valley and foothill grasslands, vernal pools. Lake margins. 49-3,642 feet (15-1,110 m).	Absent	Low. Suitable habitat does not exist in the ESL.
Coast checkerbloom	<i>Sidalcea oregana</i> ssp. <i>Eximia</i>	--/--/1B.2	Meadows and seeps, North Coast coniferous forest, lower montane coniferous forest. Near meadows, in gravelly soil. 16-5,922 feet (5-1,805 m).	Absent	Low. Suitable habitat does not exist in the ESL.
Coast fawn lily	<i>Erythronium revolutum</i>	--/--/2B.2	Bogs and fens, broad-leaved upland forest, North Coast coniferous forest. Mesic sites; streambanks. 196-4,910 feet (60-1,405 m).	Absent	Low. Suitable habitat does not exist in the ESL.
Great burnet	<i>Sanguisorba officinalis</i>	--/--/2B.2	Bogs and fens, meadows and seeps, broad-leaved upland forest, marshes and swamps, North Coast coniferous forest, riparian forest. Rocky serpentine seepage areas and along streams. 16-4,593 feet (5-1,400 m).	Absent	Low. Suitable habitat does not exist in the ESL.

Common Name	Scientific Name	Status** Federal/ State/ CRPR	General Habitat Description	Habitat Present/ Absent/ Critical Habitat	Rationale
Plants					
Giant fawn lily	<i>Erythronium oregonum</i>	--/--/2B.2	Cismontane woodland, meadows and seeps. Openings. Sometimes on serpentine; rocky sites. 985-4,708 feet (300-1,435 m).	Absent	Low. Suitable habitat does not exist in the ESL.
Howell's montia	<i>Montia howellii</i>	--/--/2B.2	Meadows, North Coast coniferous forest, vernal pools. Vernal wet sites; often on compacted soil. 33-3,230 feet (10-1,005 m).	Present	High. Suitable habitat may be present along disturbed areas; species was present during botanical surveys.
Humboldt County milk-vetch	<i>Astragalus agnicidus</i>	--/SE/1b.1	Broad-leaved upland forest, North Coast coniferous forest. Disturbed openings in partially timbered forest lands; also, along ridgelines; south aspects. 525-2,199 feet (160-670 m).	Present	Low. Suitable habitat may be present along disturbed areas, but species was not present during botanical surveys.
Kneeland Prairie pennycress	<i>Noccaea fendleri</i> ssp. <i>californica</i>	FE/--/1B.1	Coastal prairie. Serpentine rock outcrops. 2,493-2,690 feet (760-820 m). Rocky cliffs and ocean-facing bluffs. 0-4,003 feet (0-1,220 m).	Absent	Low. The project is well outside the range of this species and suitable habitat does not exist in the ESL.
Leafy reed grass	<i>Calamagrostis foliosa</i>	--/Rare/4.2	Coastal bluff scrub, North Coast coniferous forest. 30-3,002 feet (10-915 m).	Absent	Low. Suitable habitat does not exist in the ESL.
Northern clustered sedge	<i>Carex arcta</i>	--/--/2B.2	Bogs and fens, North Coast coniferous forest. Mesic sites. 197-4,609 feet (60-1,405 m).	Absent	Low. Suitable habitat does not exist in the ESL.
Oregon fireweed	<i>Epilobium oreganum</i>	--/--/1B.2	Bogs and fens, Lower montane coniferous forest, meadows and seeps, upper montane coniferous forest, and sometimes on serpentine. 1,887-6,808 feet (575-2,075 m).	Absent	Low. Suitable habitat does not exist in the ESL.
Pacific gilia	<i>Gilia capitata</i> ssp. <i>Pacifica</i>	--/--/1B.2	Coastal bluff scrub, chaparral, coastal prairie, valley and foothill grassland. 16-4,413 feet (5-1,345 m).	Absent	Low. Suitable habitat does not exist in the ESL.

Common Name	Scientific Name	Status** Federal/ State/ CRPR	General Habitat Description	Habitat Present/ Absent/ Critical Habitat	Rationale
Plants					
Seaside bittercress	<i>Cardamine angulate</i>	--/--/2B.1	North Coast coniferous forest, lower montane coniferous forest. Wet areas, streambanks. 295-509 feet (90-155 m).	Absent	Low. Suitable habitat does not exist in the ESL.
Seacoast ragwort	<i>Packera bolanderi</i> var. <i>bolanderi</i>	--/--/2B.2	Coastal scrub, North Coast coniferous forest. Sometimes along roadsides. 30-3,002 feet (30-915 m).	Absent	Low. Suitable habitat does not exist in the ESL.
Siskiyou checkerbloom	<i>Sidalcea malviflora</i> ssp. <i>Patula</i>	--/--/1B.2	Coastal bluff scrub, coastal prairie, North Coast coniferous forest. Open coastal forest; roadcuts. 16-4,118 feet (5-1,255 m).	Present	High. Suitable habitat may be present along disturbed areas; species was present during botanical surveys.
Small groundcone	<i>Kopsiopsis hookeri</i>	--/--/2B.3	North Coast coniferous forest. Open woods, shrubby places, generally on <i>Gaultheria shallon</i> . 394-4,708 feet (120-1,435 m).	Present	Low. Suitable habitat may be present in the understory of adjacent forest, but species was not present during botanical surveys.
Water howellia	<i>Howellia aquatilis</i>	DL/--/2B.2	Freshwater marshes and swamps. In clear ponds with other aquatics and surrounded by ponderosa pine forest and sometimes riparian associates. 3,543-4,511 feet (1,080-1,375 m).	Absent	Low. Suitable habitat does not exist in the ESL.
White-flowered rein orchid	<i>Piperia candida</i>	--/--/1B.2	North Coast coniferous forest, lower montane coniferous forest, broad-leaved upland forest. Sometimes on serpentine. Forest duff, mossy banks, rock outcrops, and muskeg. 3,543-5,300 feet (45-1,615 m).	Absent	Low. Suitable habitat does not exist in the ESL.

Federal:

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

State:

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

CNDDDB California Rare Plant Rank (CRPR):

– = No status definition. Rank 1A = Plants presumed extinct in California. Rank 1B = Plants are rare and endangered in California. Rank 2 = Plants endangered in California, but more common elsewhere. Source: CNPS 2020; CNDDDB 2020; USFWS 2020.

“Likelihood of Occurrence within the Study Area”, unless noted within the analysis, is derived from the following formula:

None: Species, habitat, or community was not observed during biological field surveys conducted at an appropriate time for identification of the species; or species is restricted to habitats that do not occur within the Study Area.

Low: No records exist of the species occurring within the Study Area or its “vicinity” (within 5 miles); or on-site habitats needed to support the species are of poor quality.

Moderate: Both a historical record exists of the species within the vicinity of the Study Area and the habitat requirements associated with the species occur within the Study Area. The validity of a historical occurrence is weighted by the condition of on-site habitat at the time of occurrence versus existing habitat conditions.

High: Both a valid historical record exists of the species within the Study Area or its “immediate vicinity” (within 1 mile) and the habitat requirements associated with the species occur within the Study Area and are of high quality.

Observed: Species, habitat, or community was observed within the Study Area at the time of the biological field survey.

Howell's Montia

Howell's montia (*Montia howellii*) is a tiny winter-growing annual plant that germinates when the cold rains arrive in late fall. It grows through the early spring, flowers from March to May, then sets seed and quickly disappears. Its preferred habitats are vernal wet, compacted soils, meadows and seeps, vernal pools, and vernal mesic areas in the North Coast coniferous forest. On Humboldt Redwood Company (HRC) land, it is found on roads, roadsides, skid trails, turnouts, landings, grazed meadows, and other areas where compacted soils maintain a vernal wet area and competing vegetation is minimal during its growing season. It is always associated with disturbance. Howell's montia is ranked G3-G4, S3, and is a CRPR 2B.2.

CNDDDB, HRC coordination, and field surveys confirmed the presence of a population of Howells' montia along the HRC logging road that the project would use for staging and storage. Being an annual plant, population numbers and specific locations in the project area vary each year based upon annual conditions.

Humboldt County Milk-vetch

Humboldt County milk-vetch (*Astragalus agnicidus*) is a state endangered species. The plant is a coarse, leafy perennial herb of *Fabaceae* (pea family) that blooms in the summer to early fall. The geographical distribution of this species in California includes the outer North Coast ranges in Mendocino and Humboldt counties. It ranges in elevation from 635 to 2,624 feet. The largest populations are on Humboldt Redwood Company (HRC) land in Humboldt County. These populations are very close to each other in the Larabee Creek drainage, which is located on the mainstem Eel River about ten miles to the northwest of the project site, and may actually be part of a single population. It is described as occupying disturbed areas in the broad-leaved upland forest and North Coast coniferous forest and open soil in woodland.

Seasonally-appropriate floristic surveys were completed within the project area in 2017 and 2018 for Humboldt County milk-vetch and other regionally-occurring special-status plants. CNDDDB records the nearest detection 10 miles southeast of the ESL. While the project site may support suitable habitat for Humboldt County milk-vetch, the species has not been found within the project area.

Siskiyou Checkerbloom

Siskiyou checkerbloom (*Sidalcea malviflora*) has a CRPR of 1B.2 and is somewhat variable in appearance with many subspecies. In general, it is a perennial herb growing from a woody caudex and rhizome, its stem reaching about 23 inches (60 centimeters) in maximum height. It is sparsely to densely hairy in texture. The leaf blades are variable in shape but are often divided deeply into several lobes. The inflorescence is a dense or loose array of several flowers that bloom in May and June. The flower has five petals in shades of bright to dark pink, often with white veining, and measuring one to over 1 inch (3 centimeters) in length.

Habitat for the species includes North Coast coniferous forest, coastal prairie, open coastal forest generally less than 2,300 feet (700 meters) in elevation, broad-leaved upland forest, along the coast on stable dunes and sea bluffs, sunny openings of foothill woodland, and redwood forest plant communities. It occurs in Mendocino, Humboldt, and Del Norte counties in California, and north into Oregon. HRC botanists have found Siskiyou checkerbloom along grassy roadsides, in prairies, and at the prairie interface with redwood or mixed evergreen forests.

Seasonally-appropriate floristic surveys were completed within the project area in 2017 and 2018 for Siskiyou checkerbloom and other regionally-occurring special-status plants. CNDDDB, HRC coordination, and Caltrans field surveys confirmed the presence of a population of Siskiyou checkerbloom within the ESL along SR 36 and along a nearby county road—Riverside Park Road.

Animal and Threatened/Endangered Species

Animals are considered to be of special concern based on (1) federal, state, or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of special-status animals occurring on-site. Several special-status animal species have the potential to be present within the BSA/ESL. Special-status species occurrences within the project region are included on the CNDDDB query and USFWS and NMFS species lists (Appendix F). Species listed or proposed for listing as threatened or endangered by regulatory agencies, and all other special-status animal species, are discussed in this section (Chapter 2.6—Biological Resources), including CDFW species of special concern. All listed and sensitive species are identified in Table 3.

Table 3. Special-status Animals Potentially Occurring or Known to Occur in the Project Area

Common Name	Scientific Name	Status** Federal/State	General Habitat Description	Habitat Present/ Absent/ Critical Habitat	Potential for Occurrence and Rationale
Amphibians					
Foothill yellow-legged frog	<i>Rana boylei</i>	PT/SSC/--	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats.	Absent	Low. This species is present in the BSA, primarily in the Van Duzen River. However, suitable breeding habitat is not present in the ESL and dispersal habitat in the ESL is of low quality.
Northern red-legged frog	<i>Rana aurora</i>	--/SSC/--	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	Present	High. Species has been observed in ESL.
Pacific tailed frog	<i>Ascaphus truei</i>	--/SSC/--	Occurs in montane hardwood-conifer, redwood, Douglas-fir and ponderosa pine habitats. Restricted to perennial montane streams. Tadpoles require water below 59°F (15°C).	Absent	Low. Suitable breeding habitat does not exist in the ESL.
Southern torrent salamander	<i>Rhyacotriton variegates</i>	--/SSC/--	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 rock within trickling water.	Absent	Low. Suitable habitat does not exist in the ESL

Common Name	Scientific Name	Status** Federal/State	General Habitat Description	Habitat Present/ Absent/ Critical Habitat	Potential for Occurrence and Rationale
Reptiles					
Western pond turtle	<i>Emys marmorata</i>	--/SSC/--	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6,000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to .31 mile (0.5 km) from water for egg-laying.	Absent	Low. Suitable habitat does not exist on-site. Suitable nesting habitat is not present in the ESL.
Birds					
American peregrine falcon	<i>Falco peregrinus anatum</i>	DL/FP/--	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	Present	Moderate. Nesting habitat is present in the BSA. No signs of nesting or potential nest structures have been detected in the ESL.
Bald eagle	<i>Haliaeetus leucocephalus</i>	DL/SE/--	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.	Present	Moderate. Nesting habitat is present in the BSA. No signs of nesting or potential nest structures have been detected in the ESL.
Bank swallow	<i>Riparia</i>	--/ST/--	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, or ocean to dig nesting hole.	Absent	Low. Suitable breeding habitat does not exist in the ESL.

Common Name	Scientific Name	Status** Federal/State	General Habitat Description	Habitat Present/ Absent/ Critical Habitat	Potential for Occurrence and Rationale
Golden eagle	<i>Aquila chrysaetos</i>	--/FP/--	Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Absent	Low. Suitable breeding habitat does not exist in the ESL
Little willow flycatcher	<i>Empidonax traillii brewsteri</i>	--/SE/--	Prefers mountain meadows and riparian habitats. Nests near the edges of vegetation clumps and near streams in mountain meadows and riparian habitats.	Absent	Low. Suitable breeding habitat does not exist in the ESL
Marbled murrelet	<i>Brachyramphus marmoratus</i>	FT/SE/--	(Nesting) feeds nearshore; nests inland along coast, from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas-fir trees.	Present	High. Nesting habitat is present in the BSA. No signs of nesting or potential nest structures have been detected in the ESL. MAMU occupancy in the BSA is presumed; no surveys were conducted.
Northern goshawk	<i>Accipiter gentilis</i>	--/SSC/--	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.	Present	Low. Suitable habitat is present in the BSA; however, this species is not known to nest in the BSA and project locations are likely too close to human disturbance for goshawk nesting.

Common Name	Scientific Name	Status** Federal/State	General Habitat Description	Habitat Present/ Absent/ Critical Habitat	Potential for Occurrence and Rationale
Northern spotted owl	<i>Strix occidentalis caurina</i>	FT/ST/--	Old-growth forests or mixed stands of old-growth and mature trees. Occasionally in younger forests with patches of big trees. High, multistory canopy dominated by big trees, many trees with cavities or broken tops, woody debris and space under canopy.	Present	High. This species was detected in the BSA. No signs of nesting or potential nest structures have been detected in the ESL. The BSA contains suitable NSO nesting/roosting habitat that may be exposed to elevated sound levels.
Osprey	<i>Pandion haliaetus</i>	--/WL/--	Large nests built in tree-tops within 15 miles of a good fish-producing body of water.	Present	Moderate. Nesting habitat is present in the BSA. No signs of nesting or potential nest structures have been detected in the ESL.
Vaux's swift	<i>Chaetura vauxi</i>	--/SSC/--	Forages over most terrains and habitats but shows a preference for foraging over rivers and lakes. Prefers redwood, Douglas-fir, and other coniferous forests where it nests in large hollow trees and snags. Often nests in flocks.	Present	High. This species was observed in the BSA. No signs of nesting or potential nest locations have been detected in the ESL.
Western snowy plover	<i>Charadrius alexandrinus nivosus</i>	FT/SSC/--	Breeds above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely-vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries.	Absent	Low. Suitable breeding habitat does not exist in the ESL.

Common Name	Scientific Name	Status** Federal/State	General Habitat Description	Habitat Present/ Absent/ Critical Habitat	Potential for Occurrence and Rationale
Western yellow-billed cuckoo	<i>Coccyzus americanus</i>	FT/SE/--	(Nesting) 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.	Absent	Low. Suitable breeding habitat does not exist in the ESL.
White-tailed kite	<i>Elanus leucurus</i>	--/FP/--	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Prefers open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Absent	Low. Suitable breeding habitat does not exist in the ESL.
Yellow-breasted chat	<i>Icteria virens</i>	--/SSC/--	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 feet of ground.	Absent	Low. Suitable breeding habitat does not exist in the ESL.
Yellow warbler	<i>Setophaga petechial</i>	--/SSC/--	Prefers riparian plant associations near water. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	Absent	Low. Suitable breeding habitat does not exist in the ESL.
Fish					

Common Name	Scientific Name	Status** Federal/State	General Habitat Description	Habitat Present/ Absent/ Critical Habitat	Potential for Occurrence and Rationale
Coastal cutthroat trout	<i>Oncorhynchus clarkii</i>	--/SSC/--	Small, low-gradient coastal streams and estuaries from the Eel River to the Oregon border. Needs shaded streams with water temperatures <64°F (<18°C), and small gravel for spawning.	Absent	None. Suitable breeding habitat does not exist in the ESL.
Chinook salmon - California Coastal ESU – pop. 17	<i>Oncorhynchus tshawytscha</i>	FT/SSC/--	Coastal, spring and fall river runs between Redwood Creek in Humboldt County and Russian River in Sonoma County.	Absent	None. Suitable breeding habitat does not exist in the ESL.
Coho salmon - Southern Oregon /Northern California Coast ESU pop. 2	<i>Oncorhynchus kisutch</i>	FT/ST/--	Streams, rivers between Cape Blanco, OR, and Punta Gorda, Humboldt County, CA.	Absent	None. Suitable breeding habitat does not exist in the ESL.
Green sturgeon Southern DPS	<i>Acipenser medirostris</i>	FT/SSC/--	The most marine species of sturgeon. Abundance increases northward of Point Conception. Spawns in the Sacramento, Klamath, and Trinity Rivers. Spawns at temps between 46-57°F (8-14°C). Preferred spawning substrate is large cobble, can range from clean sand to bedrock.	Absent	None. Suitable breeding habitat does not exist in the ESL.

Common Name	Scientific Name	Status** Federal/State	General Habitat Description	Habitat Present/ Absent/ Critical Habitat	Potential for Occurrence and Rationale
Pacific lamprey	<i>Entosphenus tridentatus</i>	--/SSC/--	Found in Pacific Coast streams north of San Luis Obispo County. Swift-current gravel-bottomed areas for spawning with water temps between 53-64°F (12-18°C). Ammocoetes need soft sand or mud.	Absent	None. Suitable breeding habitat does not exist in the ESL.
Steelhead-Northern California Distinct Population Segment (DPS) – pop. 16	<i>Oncorhynchus mykiss irideus</i>	FT/--/--	Coastal basins from Redwood Creek south to the Gualala River, inclusive. Does not include summer-run steelhead	Absent	None. Suitable breeding habitat does not exist in the ESL.
Steelhead-Northern California DPS – summer run pop. 36	<i>Oncorhynchus mykiss irideus</i>	--/SSC/--	Northern California coastal streams south to Middle Fork Eel River. Within range of Klamath Mountains province DPS and Northern California DPS. Cool, swift, shallow water and clean, loose gravel for spawning, and suitably large pools in which to spend the summer.	Absent	None. Suitable breeding habitat does not exist in the ESL.
Mammals					
Pacific Fisher - West Coast DPS	<i>Pekania pennanti</i>	PT/SSC/--	Intermediate to large-tree stands of coniferous forests and deciduous-riparian areas with high percent canopy closure. Uses cavities, snags, logs and rocky areas for cover and	Present	High. Habitat present within the BSA; consists of large redwood trees, cavities, snags, and logs.

Common Name	Scientific Name	Status** Federal/State	General Habitat Description	Habitat Present/ Absent/ Critical Habitat	Potential for Occurrence and Rationale
			denning. Needs large areas of mature, dense forest.		
Fringed myotis	<i>Myotis thysanodes</i>	--/--/--	Optimal habitats are pinyon-juniper, valley foothill hardwood, and hardwood-conifer. Uses caves, mines, buildings or crevices for maternity colonies and roosts.	Present	High. This species was detected in the ESL. No known roosts have been observed in the ESL.
Humboldt marten	<i>Martes caurina humboldtensis</i>	FPT/SCT/--	Occurs only in the coastal redwood zone from the Oregon border south to Sonoma County. Associated with late-successional coniferous forests, prefer forests with low, overhead cover.	Present	Low. Habitat present within the BSA consists of large redwood trees, cavities, snags, and logs. However, the project is outside the current range of this species.
Little brown bat	<i>Myotis lucifugus</i>	--/--/--	Uses a variety of habitats. Hibernates in mines or caves. Will use buildings for roosts. Forages near water. Females return to same nursery colonies year after year.	Present	High. This species was detected in the ESL. No roosts have been observed in the ESL.

Common Name	Scientific Name	Status** Federal/State	General Habitat Description	Habitat Present/ Absent/ Critical Habitat	Potential for Occurrence and Rationale
Long-eared Myotis	<i>Myotis evotis</i>	--/--/--	Found in all brush, woodland and forest habitats from sea level to about 9,000 ft. Prefers coniferous woodlands and forests. Nursery colonies in buildings, crevices, spaces under bark, and snags. Caves used primarily as night roosts.	Present	Moderate. This species was not detected in the ESL, but the project is within the known range of this species. No roosts have been observed in the ESL.
Long-legged Myotis	<i>Myotis Volans</i>	--/--/--	Most common in woodland and forest habitats above 4,000 ft. Trees are important day roosts; caves and mines are night roosts. Nursery colonies usually under bark or in hollow trees, but occasionally in crevices or buildings.	Present	Moderate. This species was not detected in the ESL, but the project is within the known range of this species. No roosts have been observed in the ESL.
Ring-tailed cat	<i>Bassariscus astutus</i>	--/FP/--	A mixture of forest and shrubland in close association with rocky areas or riparian habitats. Dens in rock recesses, hollow trees, logs, snags, abandoned burrows, or woodrat nests at low to middle elevations. Usually not found more than 0.6 mile (1 km) from permanent water.	Present	Moderate. Suitable habitat is present in the BSA and ESL.

Common Name	Scientific Name	Status** Federal/State	General Habitat Description	Habitat Present/ Absent/ Critical Habitat	Potential for Occurrence and Rationale
Sonoma tree vole	<i>Arborimus pomo</i>	--/SSC/--	North Coast fog belt from Oregon border to Sonoma County. In Douglas-fir, redwood and montane hardwood-conifer forests. Feeds almost exclusively on Douglas-fir needles. Will occasionally take needles of grand fir, hemlock or spruce.	Present	Moderate. Suitable habitat is present on-site. No signs of Sonoma tree vole use were observed in the ESL.
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	--/SSC/--	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites are limiting factor. Extremely sensitive to human disturbance.	Present	Moderate. This species was not detected in the ESL, but the project is within the known range of this species. No roosts have been observed in the ESL.
White-footed vole	<i>Arborimus albipes</i>	--/SSC/--	Mature coastal forests in Humboldt and Del Norte counties. Prefers areas near small, clear streams with dense alder and shrubs. Occupies the habitat from the ground surface to the canopy. Feeds in all layers and nests on the ground under logs or rock.	Present	Low. Suitable habitat is present; however, the project is on the edge of the known range of this species.

Common Name	Scientific Name	Status** Federal/State	General Habitat Description	Habitat Present/ Absent/ Critical Habitat	Potential for Occurrence and Rationale
Western red bat	<i>Lasiurus blossevillei</i>	--/SSC/--	Roosts primarily in trees, 2-40 ft above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	Present	Moderate. This species was not detected in the ESL, but the project is within the known range of this species. No roosts have been observed in the ESL.
Yuma myotis	<i>Myotis yumanensis</i>	--/--/--	Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices.	Present	High. This species was detected in the ESL. No roosts have been observed in the ESL.

Common Name	Scientific Name	Status** Federal/ State	General Habitat Description	Habitat Present/ Absent/ Critical Habitat	Potential for Occurrence and Rationale
Invertebrates					
Obscure bumblebee	<i>Bombus caliginosus</i>	--/--/--	Inhabits open grassy coastal prairies and Coast Range meadows. Nesting occurs underground as well as above ground in abandoned bird nests. Food plant genera include <i>Baccharis</i> , <i>Cirsium</i> , <i>Lupinus</i> , <i>Lotus</i> , <i>Grindelia</i> and <i>Phacelia</i> .	Absent	Low. Marginal habitat is present on-site. No prairie or meadow habitat would be impacted by proposed project.
Western bumblebee	<i>Bombus occidentalis</i>	--/--/--	Typically nests underground in abandoned rodent burrows or other cavities, mostly in open west-southwest slopes bordered by trees although a few nests have been reported from above ground locations such as in logs among railroad ties.	Present	Moderate. Suitable habitat is present on-site. Nesting on-site is not likely to occur in the low-lying wetland environments of the project area.
Western pearlshell mussel	<i>Margaritifera falcate</i>	--/--/--	Perennial rivers, streams, and creeks at depths of 1.5 to 5 feet, in areas with boulders and gravel substrate, with some sand, silt and clay. Prefers clear, cold water, and has been found at multiple elevations, including waterways above 5,000 feet and even 8,000 feet. Species occurs in waterways with low velocities, low shear stress, and stable substrates. Frequently found in eddies, pools, and areas with stones or boulders that likely shelter mussel beds from scour during flood events.	Absent	None. Suitable habitat does not exist on-site.

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

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

“Likelihood of Occurrence within the Study Area”, unless noted within the analysis, is derived from the following formula:

None: Species, habitat, or community was not observed during biological field surveys conducted at an appropriate time for identification of the species; or species is restricted to habitats that do not occur within the Study Area.

Low: No records exist of the species occurring within the Study Area or its “vicinity” (within 5 miles); or, on-site habitats needed to support the species are of poor quality.

Moderate: Both a historical record exists of the species within the vicinity of the Study Area and the habitat requirements associated with the species occur within the Study Area. The validity of a historical occurrence is weighted by the condition of on-site habitat at the time of occurrence versus existing habitat conditions.

High: Both a valid historical record exists of the species within the Study Area or its “immediate vicinity” (within 1 mile) and the habitat requirements associated with the species occur within the Study Area and are of high quality.

Observed: Species, habitat, or community was observed within the Study Area at the time of the biological field survey.

American Peregrine Falcon

American peregrine falcon (*Falco peregrinus*) is a CDFW fully protected species. The peregrine falcon feeds mainly on birds (doves, shorebirds, pigeons, ducks), as well as some mammals, such as bats, rabbits, and rodents, and occasionally insects, reptiles, and fish. Peregrine falcons are usually found alone or in breeding pairs, with each pair maintaining a breeding territory and often remaining together throughout the year. Nesting in northern California may begin in March, with young leaving the nest by early July. Although peregrine falcons often nest on cliff faces, they will select a wide variety of other structures for nest sites, including buildings, bridges, electrical transmission structures, and occasionally the abandoned nests of large raptors or ravens.

No species-specific surveys were performed for this species. CNDDB lists one observation approximately 0.9 mile to the southwest of the ESL. The eBird database lists four detections within 2.5 miles of the project area. No peregrine falcons or potential nests were observed in the BSA.

Bald Eagle

Though the bald eagle (*Haliaeetus leucocephalus*) was delisted from federal status, it is still considered state endangered. They remain federally protected by the Bald and Golden Eagle Protection Act (16 U.S.C. §668). Bald eagles typically nest in large trees within one mile of fishable waters, within or directly adjacent to forests with large trees that provide suitable nesting structures. Active breeding occurs February through August. Bald eagles are known to feed on a wide variety of fish, small mammals, amphibians, reptiles, and small birds. They are also documented to scavenge for food and eat carrion. In Humboldt County, bald eagles are strongly tied to open water and undisturbed shorelines. River corridors and estuaries attract scattered individuals thought to be migrants, or otherwise nonresident, from October to March.

No species-specific surveys were performed for this species. CNDDB lists no observations within the twelve-quad search. The eBird database lists one detection within 2.5 miles of the project area. No bald eagles or their nests were observed in the BSA.

Bat Species

Bats can roost in culverts, on rocky banks, or in nearby trees such as those in adjacent riparian habitat. These trees represent potential roosting sites for foliage roosting bats (e.g., hoary bats (*Lasiurus cinereus*)) and western red bats (*Lasiurus blossevillei*), as well as for many species of crevice roosting bats. Buildings and other structures that are adjacent to a transportation project may also provide potential habitat for crevice or cavern roosting species. In the mild northern California coastal climate, bats are present year-round. In colder areas they are often migratory.

In California, nine species of bats are considered Species of Special Concern (SSC) by CDFW and three additional species are proposed for that status. Additionally, the Forest Service and Bureau of Land Management list some species as sensitive and the Western Bat Working Group lists some as high priority for consideration of conservation measures. Under CEQA, state agencies, local governments, and special districts are required to evaluate and disclose impacts from projects in the state. Section 15380 of the CEQA Guidelines clearly indicates that SSC should be included in an analysis of project impacts. California Fish and Game Code Section 4150 provides further protection to bats (non-game mammals) from take or possession. Disturbances by humans, especially in areas bats seek refuge and maternity roosts, are a serious threat to most of the species.

The forested woodlands and Van Duzen River adjacent to the project area offer foraging and roosting habitat for bats. On-site, the logging road offers an opening in the forest for edge-foraging bats. Both day and night roosting habitat could occur within crevices and cavities of trees and snags within the forested landscape.

The CNDDDB RareFind database (Appendix F) shows two detections of Townsend's big-eared bat approximately 3 miles east of the project area. Caltrans biologists conducted visual emergence surveys to determine if any roosting was occurring within the ESL. Sonobat was used to conduct acoustic surveys to identify bats foraging in or over the ESL on June 6, 2019, and October 3-16, 2019. Species detected during acoustical surveys include California myotis, fringed myotis, little brown bat, long-eared myotis, Mexican free tailed, silver-haired bat, and Yuma myotis. Many of these bat species are not special status or listed (state or federally), so not all of these species identified are listed in Table 3. Based upon the relatively low frequency of acoustical detections within the first two hours after sunset during the survey periods, it is unlikely any day roosting colonies were within the ESL during the dates surveyed.

Biologists also inspected trees within the ESL for signs of roosting activity. Trees were inspected for cavities, guano accumulations, staining, and observable crevices. No signs of bat colonies were detected within the ESL. No trees marked for removal had signs of bat roosting activity or observable roosting cavities or crevices. Caltrans biologists will conduct more emergence surveys and acoustical sampling in 2020 to continue to monitor for new potential bat roosts in the ESL.

Foothill Yellow-legged Frog

Foothill yellow-legged frog (FYLF) (*Rana boylei*) is a state SSC² and a federally proposed threatened endangered species. The species is characteristically found very close to water in association with perennial streams and ephemeral creeks that retain perennial pools through the end of summer. Adults prefer shallow edgewater areas with low water velocities for breeding and egg laying, usually characterized by gravel, cobble, and boulder substrate. Reproduction is aquatic, however mating and egg-laying occurs exclusively in streams and rivers (not in ponds or lakes) from April to early July when stream flows are decreasing in velocity. Eggs hatch within 5 to 37 days, depending on temperature. Tadpoles transform in three to four months, typically from July to October. Juvenile and non-breeding adult frogs may be found adjacent to riffles, cascades, main channel pools, and plunge pools that provide escape cover. During cold weather, individuals seek cover under rocks in the streams or on shore within a few meters of water.

The CNDDDB documents 39 occurrences of this species within a twelve-quad search radius, with the closest detection recorded 0.5 mile to the southeast in the Van Duzen River. Due to the lack of suitable FYLF breeding habitat within the ESL, no FYLF egg mass surveys were conducted. No FYLF were observed in the ESL.

Humboldt Marten

The Humboldt marten (*Martes caurina humboldtensis*) is a federally proposed threatened and state candidate endangered species. It is a carnivorous mammal that historically occupied the coastal mountains of California from Sonoma County north to the Oregon border. The current distribution is limited to areas of Humboldt, Del Norte, and Siskiyou counties. Humboldt marten are associated with late successional conifer stands with dense shrub layers with abundant downed tree structures used for resting, denning, and escape cover. They are

² Northwest/ North Coast Foothill yellow-legged frog was removed from the petition for state threatened listing on 3/10/2020.

also associated with serpentine soil communities of various seral stages with variable tree cover, dense shrubs, and rock piles and rock outcrops used for resting, denning, and escape cover. Natal and maternal dens would likely be occupied from late March or April, when females give birth until the young disperse in late summer or autumn.

The CNDDDB RareFind database shows the nearest Humboldt marten detection approximately 3.6 miles north and 3.7 miles northwest of the project area. Protocol-level surveys were not performed for this species. Although the project is within the historic range of this species, there are no recent records of this species near the BSA and it is outside the current known population distribution.

Marbled Murrelet

Marbled Murrelet (MAMU) (*Brachyramphus marmoratus*) is a federally threatened and state endangered species. The MAMU is a small Pacific seabird that breeds along the Pacific coast of North America from the Aleutian Archipelago and southern Alaska south to central California. In the Pacific Northwest (Washington, Oregon, and California), they have a unique life history strategy in that they feed primarily in nearshore marine waters (within a few miles of shore) and fly inland to nest in mature conifers. Nesting habitat is primarily associated with large tracts of old-growth forest, typically within 50 miles from shore, characterized by large trees, a multistoried stand, and moderate to high canopy closure. They are commonly absent from stands less than 60 acres in size. Nests are not built, but an egg is laid in a depression of moss or other debris on the limb of a large conifer. Suitable nest structures include large mossy horizontal branches, mistletoe (*Phoradendron spp.*) infections, witch's brooms (structural deformities of the tree), and other such structures. During the March to September breeding season, MAMU typically fly along river corridors for their morning and evening nest visits.

Protocol-level surveys were not conducted for MAMU. CNDDDB lists the nearest MAMU detections in Cheatham Grove, approximately 1.5 miles southeast of the project footprint. However, for the purpose of this document, Caltrans assumes the old-growth redwoods present in Pamplin Grove (0.2 mile east of the project boundary) to be occupied by nesting MAMU. The eBird database lists MAMU detections in Grizzly Creek Redwoods State Park and in the Yager Creek watershed. No suitable nesting habitat is present within the ESL.

Migratory Birds

No point count surveys were conducted to specifically observe and record all migratory birds. However, all migratory birds observed during other surveys and site visits were recorded. A comprehensive list of avian species observed can be found in the Natural Environment Study (NES) (Caltrans 2019 h) for this project.

Northern Goshawk

The Northern goshawk (*Accipiter gentilis*) is a state SSC and is the largest of the three accipiters of North America, possessing short, broad wings and a long, rounded tail. These secretive birds are mostly gray with bold white “eyebrow” stripes over piercing orange to red eyes. Northern goshawks can be fierce and vocal when defending their nestlings and will attack human intruders and kill neighboring raptors they perceive as threats, including owls and hawks.

Northern goshawks nest in mature and old-growth forests with more than 60% closed canopy. Northern goshawks usually choose the largest trees in a stand for nest sites, placing the nest next to the trunk on a large horizontal branch or in a primary or secondary crotch. Western birds build nests in conifers, such as Douglas-fir, white fir (*Abies concolor*), California red fir (*Abies magnifica*), ponderosa pines (*Pinus ponderosa*), western larch (*Larix occidentalis*), and western hemlock (*Tsuga heterophylla*), along with deciduous trees including aspens (*Populus tremuloides*) and paper birch (*Betula papyrifera*). They often reuse nests from previous years or appropriate nests of other accipiters, ravens, or eagles.

Goshawks hunt in the forest, along riparian corridors, and flash through forests chasing bird and mammal prey, pouncing silently or crashing feet first through brush to grab quarry. Northern goshawks eat a wider range of prey than other accipiters, including birds, mammals, and reptiles, as well as insects and occasionally carrion. Tree and ground squirrels, snowshoe hares, jackrabbits, and cottontails are the main mammal prey.

No species-specific surveys were performed for this species. CNDDB lists the nearest observations 11.2 miles east of the ESL. The eBird database lists no detections within 2.5 miles of the project area. No Northern goshawk or their nests were observed in the BSA.

Northern Red-legged Frog

The Northern red-legged frog (NRLF) (*Rana aurora*) is a state SSC that occurs along the California Coast ranges from Del Norte County to Mendocino County, usually below 3,936 feet (1,200 meters). NRLF use ephemeral, intermittent, and perennial creeks and streams, reservoirs, springs, wetlands, and man-made impoundments as breeding habitat and aquatic non-breeding habitat. Upland dispersal habitats are primarily utilized by NRLF in dispersal events, which can be triggered by both periods of wet weather and dry weather when breeding pools and other occupied aquatic habitats dry up and are no longer suitable. NRLF likely require rains for dispersal as individuals have been found considerable distances from breeding sites on rainy nights. This frog is highly aquatic and prefers shorelines with extensive vegetation. It uses deep-water habitat (three feet or more) at the bottom of pools to escape predation.

NRLF breed from January to July and require permanent or nearly permanent pools for larval development, which takes 11 to 20 weeks. Intermittent streams must retain surface water in pools year-round for frog survival.

No specific surveys were conducted by Caltrans biologists; however, this species has been observed within the ESL. There are three CNDDDB occurrences of NRLF within two miles of the work area. The wetlands within the ESL provide suitable habitat for NRLF. This species may be present in the ESL during construction activities.

Northern Spotted Owl

The Northern spotted owl (NSO) (*Strix occidentalis caurina*) is a federal and state threatened species. Northern spotted owls generally have large home ranges and use large tracts of land containing significant acreage of older forest. The attributes of superior Northern spotted owl nesting and roosting habitat typically include a moderate-to-high canopy closure (60 to 80 percent); a multi-layered, multi-species canopy with large overstory trees; a high incidence of large trees with deformities (large cavities, broken tops, mistletoe infections, and debris accumulation); large accumulations of fallen trees and other debris; and sufficient open space below the canopy for flight. In redwood forests and mixed conifer-hardwood forests along the coast of northwestern California, considerable numbers of NSO also occur in young forest stands. NSO tend to select broken-top trees and cavities in older forests for nest sites, although they will also use existing platforms such as abandoned raptor nests, squirrel nests, mistletoe brooms, and debris piles. In younger forests, existing platforms are more frequently utilized for nest sites. There is NSO critical habitat within the project

vicinity. Courtship begins in February or March and the first eggs laid between late March and April. Fledglings generally leave the nest in late May or in June but continue to be dependent on their parents into September when they are able to fly and hunt on their own. By September juveniles have left their natal area.

Protocol-level surveys were conducted at survey locations encompassing a 0.25-mile buffer from the project area in 2017. Survey methods and station placement were implemented based upon the 2012 revised USFWS protocol described in *Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls* for disturbance-only projects (USFWS 2012). The survey effort ended after the first survey when Caltrans biologists located an NSO pair in Flannigan Creek watershed, approximately 0.7-mile northwest of the project. CNDDDB records a solitary male NSO detection in 2001 approximately 0.1 mile north of the project. The nearest pair recorded in CNDDDB was in 1998 and approximately 0.38 mile south of the project.

CNDDDB does not document any known NSO Activity Centers (AC) within the ESL or BSA. Discussions with HRC (who survey the adjacent property, within the BSA) confirm no known nests are located within the ESL or BSA. However, suitable nesting habitat exists within 0.25 mile of the project location and within the BSA. Therefore, the potential for NSO to occur within the BSA exists and potential for presence is assumed.

Osprey

Osprey (*Pandion haliaetus*) are treated as “taxa to watch” by CDFW due to their former inclusion on special concern lists. While they have demonstrated population declines, they are still common and widespread in the state and are currently at low risk for extinction. Current population trends for osprey are steadily increasing.

Ospreys feed almost exclusively on fish and inhabit areas near shallow waters, either fresh or salt, that offer a steady source of food. Nests are usually built on snags, treetops, crotches between large branches and trunks, on cliffs, or human-built platforms. Nests are placed in open surroundings for easy approach and elevated for safety from ground predators.

No species-specific surveys were performed for this species. CNDDDB lists two observations within two miles of the ESL. The eBird database lists five detections within 2.5 miles of the project area. No osprey or their nests were observed in the BSA.

Pacific Fisher

The Pacific fisher (*Pekania pennanti*) is proposed for federal threatened status and is a species of special concern (SSC), and some California populations are regulated as state threatened. The 20160420 FGC Notice of Findings stated that the Pacific fisher Southern Sierra ESU (defined as California south of the Merced River) warranted listing as threatened, while the Northern California ESU does not currently warrant listing. The project would occur within the range of the SSC-Northern California ESU of Pacific fisher. The fisher is one of the larger members of the weasel family (*Mustelidae*) and are opportunistic, generalist predators with a diverse diet including mammalian and avian prey, ungulate carrion, vegetation, insects, and fungi. Fisher are known to occur in coniferous forest in the coastal ranges of northern California, including second growth and old-growth redwood forest, with a possible preference for stands with structural complexity, diversity, and large logs and snags for resting and denning. The fisher requires intermediate to large trees in coniferous forests that also have deciduous-riparian areas with a high percent canopy of closure. They require large areas of mature, structurally complex, conifer and mixed conifer hardwood forest and occupy home ranges that can exceed 14,826 acres. Fishers are generally solitary animals, except during the breeding season. They mate between February and May (usually late March), giving birth the following March.

CNDDDB RareFind database shows the nearest fisher detection approximately 6.4 miles east of the project area. Protocol-level surveys were not performed for this species. The ESL and BSA were surveyed for trees suitable for fisher resting habitat and maternity den sites. Trees suitable for fisher den sites include conifers (≥ 22 inches DBH) and hardwoods (≥ 18 inches DBH), not smaller trees. Day resting sites could include branches, platforms, and cavities of live trees. Suitably-sized trees with the following characteristics were considered as potential fisher den sites:

- Any broken-topped tree with a minimum diameter at the break of 18 inches or larger;
- Trees with one or more limbs 12 inches or greater in diameter;
- Trees with a cavity (or void within a tree bole or large limb) with a relatively small opening; includes all cavities with entrances 2.5 to 6 inches across the smallest direction (for example, a vertical slit-like opening 4 inches across would count, as would a more circular entrance).

The BSA contains numerous potential resting locations and large hollow redwoods with suitable denning cavities; however, there are no potential den structures or day resting locations within the ESL where work would be conducted. Fishers are averse to interacting

with humans. They would likely be absent from otherwise suitable habitat within the BSA due to high levels of human disturbance, such as areas bordering roads, trails, human habitation, etc. No signs of fisher occupation were observed.

Ring-tailed Cat

Ring-tailed cat (*Bassariscus astutus*) is a state fully protected mammal. It is a member of the raccoon family (*Procyonidae*) found in fragmented and disturbed areas, denning inside buildings and other manmade structures. Ring-tailed cats are nocturnal carnivores who forage at night for a variety of prey, primarily small mammals, invertebrates, birds, and reptiles. Ring-tail may supplement their diet with plants or fruit. In northwestern California, ring-tailed cats tend to select diurnal rest sites in proximity to steep slopes and water sources. They frequently change rest sites, although some may be revisited regularly. Most litters are born in May or June, with young beginning to forage outside the den site after two months. Dens can be located in rock crevices, living and dead hollow trees, logs, brush piles, buildings, and other manmade structures. Female ring-tailed cats may regularly move young between dens.

No species-specific surveys were conducted for this species. No CNDDDB occurrence information is available as CNDDDB does not track ring-tail cat observations. No potential natal dens were observed within the ESL, but potential den sites are present within the BSA.

Sonoma Tree Vole and White-footed Vole

Sonoma tree vole (*Arborimus pomo*) is a state SSC distributed along the north coast of California from Sonoma County to the Oregon border, being more or less restricted to the fog belt. It is reported to be rare to uncommon throughout its range, but the difficulty of locating nests and capturing individuals make abundance difficult to assess. Sonoma tree voles occur in old-growth and other forests, mainly Douglas-fir, redwood, and montane mixed hardwood-conifer habitats.

Sonoma tree voles feed on needles of Douglas-fir and grand fir. Needles and twigs are gathered primarily at night, and are either consumed on site, or brought to the nest where the needle resin ducts are removed, and the remainder is eaten. The resin ducts may be used to line the nest cup. Young, tender needles are often eaten entirely. Food may be stored, and the tender bark of terminal twigs may be eaten as well.

Nests of Douglas-fir needles are constructed in trees, preferably tall trees. Nests may be situated on the whorl of the limbs against a trunk or at outer limits of branches. In young

second-growth Douglas-fir, the broken tops of trees are frequently used for nesting. The Sonoma tree vole breeds year-round; however, most breeding is from February through September. Gestation is 26 days for non-lactating females, up to 48 days for lactating females, including delayed implantation. Females may breed 24 hours after giving birth. Litter size ranges from one to four, with an average of two. There are one or more litters per year, and two litters of different ages may occupy a nest at the same time. Young are cared for by the female only. Weaning occurs at 30 to 40 days. The lengthy gestation and weaning periods may be related to the physiological cost of obtaining nutrients from coniferous foliage.

The spotted owl is the main predator of Sonoma tree voles throughout the geographical distribution. Saw-whet owls and racoons also prey on voles.

The white-footed vole (*Arborimus albipes*) is a state SSC and known only from Humboldt and Del Norte counties in California. This scarce resident of humid coastal forests is found in redwood, Douglas-fir, and riparian forests. Found from sea level to 3,500 feet (1,100 meters), white-footed voles feed principally on the leaves of green plants, including trees, shrubs, forbs, ferns, grasses, and aquatic plants. Red alder is the preferred food source overall, but most hardwoods, forbs, and shrubs are also consumed. This vole feeds mainly in trees, but also in shrubs and on the ground. The white-footed vole builds a nest on the ground, under stumps, logs, or rocks, and finds cover in dense vegetation near streams. The white-footed vole is probably preyed on by weasels, snakes, and owls.

No species-specific surveys were performed for this species; however, trees slated for removal were investigated for signs of tree vole use. No signs of tree vole use were detected. There are no CNDDDB records of white-footed tree vole in the twelve-quad CNDDDB query. One CNNDDB detection of the Sonoma tree vole is approximately 2.1 miles from the ESL.

Vaux's Swift

The Vaux's swift (*Chaetura vauxi*) is a state SSC. The range of the Vaux's swift in coastal California generally follows the distribution of redwood trees where it occurs primarily as a migrant and summer resident from mid-April to mid-October. Breeding typically occurs from early May to mid-August. The high-flying swift feeds in flight on flying insects as they forage over forests, fields, towns, and rivers. This is a gregarious species, with flocks of 30 or more birds, and is often with other swift species. Vaux's swift nest sites are usually inside hollow trees, reached via broken-off tops or woodpecker holes. This species also occasionally nests in chimneys and bridge structures.

No species-specific surveys were performed for this species, but Vaux's swift have been observed within the project area during other surveys in 2017 and 2018. There are no CNDDDB records of Vaux's swift within the twelve-quad search radius. The eBird database lists over 30 documented observations of Vaux's swift within two miles of the project area.

Western Bumblebee and Obscure Bumblebee

The Western bumblebee (*Bombus occidentalis*) is a species of bumblebee native to the Western United States and Canada. It is considered critically imperiled in the state (CDFW S1 species) because of extreme rarity (often five or fewer populations) or because of factor(s) such as very steep population declines making it especially vulnerable to extirpation from the state. This bumblebee is associated with several plant genera, including clover, thistle, lupine, knapweed and buckwheat. Queens of this species emerge from hibernation in late January and select a nest site in an existing hole in the ground (such as an abandoned rodent hole). The queen gathers pollen and nectar and stores them in wax containers. She then lays 8 to 16 eggs that hatch into larvae and tends to them until they spin cocoons, pupate and emerge as workers. Once they emerge, the queen stops foraging and devotes her time to egg laying. The first workers appear in early March and the drones and new queens emerge by the end of April. The colony dissolves in late October, when the old queen, workers, and drones die. The new queens mate and dig holes in which they will hibernate through the winter.

The obscure bumblebee (*Bombus caliginosus*) is a species of bumblebee native to the west coast of the United States where its distribution extends from Washington to southern California. It is critically imperiled due to rarity, few populations, and restricted range. The obscure bumblebee is associated with several plant genera, including baccharis, thistle, lupine, lotus, gumweed and phacelia. Queens of this species emerge from hibernation in late January, the first workers appear in early March, and the males follow by the end of April. Nests are usually well concealed, often underground, sometimes on the surface, and occasionally 30 to 39 feet (9 to 12 meters) above ground in trees. The colony dissolves in late October, when all the inhabitants die except the new queens.

Invasive Species

Introduction and naturalization of non-native species is one of the most important threats to global biodiversity. The Van Duzen watershed contains several invasive plant species that adversely affect ecologic functions. Some of the species that most threaten native ecosystem function and structure include giant reed (*Arundo donax*), yellow star-thistle (*Centaurea solstitialis*), jubata grass and pampas grass (*Cortaderia spp.*), Scotch broom, (*Cytisus scoparius*), French broom (*Genista monspessulana*), reed canary grass (*Phalaris arundinacea*), water primrose (*Ludwigia sp.*), and Spanish broom (*Spartium junceum*). Of these species, French broom and pampas grass were observed within the project area.

Invasive bird species identified in or adjacent to the ESL include the European starling (*Sturnus vulgaris*) and Eurasian collared dove (*Streptopelia decaocto*). These two species are known to compete with native species for resources and are typically associated with human disturbance. The starling is currently threatening at least two state species of special concern—the purple martin (*Progne subis*) and the Gila woodpecker (*Melanerpes uropygialis*). It may pose problems for other cavity-nesters as its population continues to increase.

Brown-headed cowbirds (*Molothrus ater*), a native North American species but invasive to California, were also detected auditorily during field visits. The expansion of agriculture in California has resulted in a phenomenal increase in cowbird populations and significant range expansions. Brown-headed cowbirds parasitize the nests of more than 220 bird species in their range. Each cowbird can lay up to 30 eggs per season and usually lay 1 or 2 (or occasionally more) eggs in each host nest. When parasitizing nests, they often remove the egg(s) of the host bird. Nest parasitism lowers the reproductive success of host birds and has led to population declines in several bird species. Currently, cowbirds are threatening the Bell's vireo (*Vireo bellii*), willow flycatcher (*Empidonax traillii*), yellow warbler, common yellowthroat (*Geothlypis trichas*), warbling vireo, yellow-breasted chat (*Icteria virens*), and possibly black-tailed gnatcatcher (*Poliophtila melanura*), blue-gray gnatcatcher (*Poliophtila caerulea*), and gray vireo (*Vireo vicinior*). California's vireos, warblers, and small flycatchers may be jeopardized if the cowbird population continues to increase and expand its range.

Discussion of Environmental Evaluation Questions Section 2.6—Biological Resources

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

Discussion of CEQA Checklist—Biological Resources, Question a)

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

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

American Peregrine Falcon

Given there would be no potential nest structure removal associated with this project, a determination was made that the project would have “No Impact” on American peregrine falcons or their habitat.

Given the project would not directly harm this species, per CESA, this project would have no “***Take***” of American peregrine falcons.

Bald Eagle

Given there would be no nest or nest structure removal associated with this project, and there are no nests in range of the project where noise disturbance could potentially impact bald eagles, a determination was made that the project would have “No Impact” on bald eagles or their habitat.

Given the project would not directly harm this species, per CESA, this project would have no “***Take***” of bald eagles.

Bat Species

No known maternity roosts or other colonial night roosts would be removed or altered during project activities. Furthermore, all tree removal would occur outside of the maternity season

to ensure no impacts would occur to any potentially unidentified maternity roosts. Additional emergence surveys in 2020 would ensure no bats are impacted by tree removal. Impacts to bat species are not anticipated given the specific trees to be removed, seasonal timing of the project, and the standard measures to avoid disturbing active colonies. Lights used for potential night work would not be anticipated to impact any known roosting colonies as lights would be pointed toward work areas, not bat roosts. Given these factors, a determination was made that the project would have a “Less Than Significant Impact” on bat species or their habitat.

Foothill Yellow-legged Frog

The habitat within the ESL does not contain suitable breeding habitat for FYLF. Adult FYLF may utilize the wetland within the ESL as low-quality dispersal habitat only and presence is not expected based upon habitat requirements of FYLF. Based upon this, it is anticipated that adult FYLF have low potential to be within the BSA during construction activities.

Given the small amount of habitat affected, the short duration/intermittent nature of the work, unlikely presence of FYLF, and implementation of standard measures to reduce project impacts, the determination was made that the project would have “No Impact” on FYLF or their habitat.

Howell's Montia

This project is proposing to use a private logging road located on Humboldt Redwood Company (HRC) property as a potential staging area. To avoid impacting Howell's montia, no vehicles or equipment would be allowed to utilize the private logging road between December 1 through June 1. The project would avoid road rocking, excavation, and deep grading where plants are known to occur, since these activities can alter the microsite conditions or bury the seed bank. Any alterations to the private logging road that could potentially result in altering the current drainage conditions of the road bed would be avoided as Howell's montia prefers vernal wet soils. Given this, a determination was made that the project would have a “Less than Significant Impact” on Howell's montia or its habitat.

Humboldt County Milk-vetch

Humboldt County milk-vetch has not been found within or adjacent to the project area. Given this, a determination was made that the project would have “No Impact” on this species or their habitat.

Given the project would not directly harm this species, per CESA, this project would have no “**Take**” of Humboldt County milk-vetch.

Humboldt Marten

Given its proximity to a heavily traveled roadway and human habitation, and as the habitat within the ESL does not contain suitable denning sites or day resting sites, it is unlikely martens would be present within the ESL. Additionally, this project is outside the current known population distribution. Given this, a determination was made that the project would have “No Impact” on Humboldt marten or their habitat.

Per FESA, a determination was made that this project would have “**No Effect**” on Humboldt marten.

Given the project would not directly harm this species, per CESA, this project would have no “**Take**” of Humboldt marten.

Marbled Murrelet

Based on the results of the noise analysis in the NES (Caltrans 2019 h), construction noise levels for the proposed project are anticipated to exceed the threshold of 20 or more decibels above the ambient conditions (81-90 dB) and exceed the maximum of 90 decibels overall. However, by implementing the required species-specific standard protection measures and the MAMU avoidance and minimization measures listed below, this project would comply with the guidelines in the *Programmatic Informal Consultation for the California Department of Transportation's Routine Maintenance and Repair Activities, and Small Projects Program for Districts 1 and 2* (AFW0-128000 1-121000I USFWS– Arcata Field Office 2014). Given this, a determination was made that this project would have a “Less Than Significant Impact” on marbled murrelets or their habitat.

Given the above, per FESA, Caltrans anticipates the proposed project **may affect, not likely to adversely affect** MAMU or their critical habitat, and Caltrans would adhere to the avoidance and minimization measures listed in the *Programmatic Informal Consultation for the California Department of Transportation's Routine Maintenance and Repair Activities, and Small Projects Program for Districts 1 and 2*.

Given the project would not directly harm this species, per CESA, this project would have no “**Take**” of marbled murrelet.

Migratory Birds

No nests would be removed or altered during project activities, though small shrub removal and work in close proximity to an active nest could affect nesting birds. Pre-construction nesting bird surveys would be performed. Impacts to migratory birds would not be substantial given the minimal amount and type of vegetation to be removed, the temporary nature of the project, and standard migratory bird measures. Given this, a determination was made that the project would have a “Less Than Significant Impact” on migratory bird species or their habitat.

Northern Goshawk

No nests would be removed or altered during project activities. Pre-construction nest surveys would be performed to identify potential threats to Northern goshawk from project activities and to provide opportunity to develop appropriate avoidance measures. Given the highly unlikely presence of goshawk, minimal amount of vegetation to be removed, temporary nature of the project, and the standard measures to avoid disturbing active nests, a determination was made that the project would have “No Impact” on goshawk or their habitat.

Northern Red-legged Frog

Due to the timing of work, temporary nature of construction, standard measures, and the abundance of suitable habitat in the project vicinity to which frogs could relocate if necessary, a determination was made that the project would have a “Less Than Significant Impact” on Northern red-legged frog and their habitat.

Northern Spotted Owl

Based on the results of the noise analysis NES (Caltrans 2019 d), the proposed project construction noise levels are anticipated to exceed the threshold of 20 or more decibels above the ambient conditions (81-90 dB) and exceed the maximum of 90 decibels overall. However, by implementing the required species-specific standard protection measures and the Northern Spotted Owl (NSO) avoidance and minimization measures listed below, this project would comply with the guidelines in the *Programmatic Informal Consultation for the California Department of Transportation's Routine Maintenance and Repair Activities, and Small Projects Program for Districts 1 and 2* (AFW0-128000 1-121000I U.S. Fish and Wildlife Service– Arcata Field Office 2014). Given this, a determination was made that this project would have a “Less Than Significant Impact” on NSO and their habitat.

Given the above, per FESA, Caltrans anticipates the proposed project ***may affect, not likely to adversely affect*** NSO or their critical habitat, and Caltrans would adhere to the avoidance and minimization measures listed in the *Programmatic Informal Consultation for the California Department of Transportation's Routine Maintenance and Repair Activities, and Small Projects Program for Districts 1 and 2*.

Given the project would not directly harm this species, per CESA, this project would have no ***“Take”*** of NSO.

Osprey

No nests would be removed or altered during project activities. Pre-construction nest surveys would be performed to identify potential threats to osprey from project activities and to provide opportunity to develop appropriate avoidance measures. Given the highly unlikely presence of osprey, minimal amount of vegetation to be removed, temporary nature of the project, and the standard measures to avoid disturbing active nests, a determination was made that the project would have “No Impact” on osprey or their habitat.

Pacific Fisher

Given the habitat within the ESL does not contain suitable denning sites or day resting sites, it is unlikely that fishers are present in the ESL. Additionally, the proximity to a heavily traveled roadway and human habitation likely deter fisher from utilizing the ESL. No trees would be removed during the critical denning period (March 1st through July 31st). Given this, a determination was made that the project would have “No Impact” on Pacific Fisher or their habitat.

Ring-tailed Cat

This project would not remove ring-tailed cat denning or nesting habitat. The presence of a highly traveled roadway and occupied human structures in the proximity of the BSA are likely to preclude ring-tailed cats from denning in the project area. Given this, a determination was made that the project would have “No Impact” on ring-tailed cat or their habitat.

Given the project would not directly harm this species, per CESA, this project would have no ***“Take”*** of ring-tailed cat.

Siskiyou Checkerbloom

Siskiyou checkerbloom has been documented adjacent to the project area; however, not within the project area. Therefore, the proposed construction would not be expected to directly or indirectly impact this species. The only construction-related activity that may potentially occur near the areas occupied by Siskiyou checkerbloom would be the placement of temporary, portable, construction warning signs on the existing roadway. Given this, a determination was made that this project would have “No Impact” on Siskiyou Checkerbloom or its habitat.

Sonoma Tree Vole and White-footed Vole

Any trees slated for removal for this project would be adjacent to a highly traveled roadway that would provide low quality habitat and limit use for nesting voles. Of the 32 trees slated for removal, only 3 are Douglas-fir, which the Sonoma tree vole feeds on almost exclusively. White-footed tree vole prefer areas near small, clear streams with dense alder and shrubs and this habitat is not present in the ESL. Additionally, the project is on the edge of the known range of this species. Given this, a determination was made that this project would have a “Less Than Significant Impact” on tree voles and their habitat.

Vaux's Swift

Given there would be no vegetation or nest structure removal during the nesting season, a determination was made that the project would have “No Impact” on Vaux's swift or their habitat.

Western Bumblebee and Obscure Bumblebee

Most ground disturbance for this project would occur in areas seasonally flooded during the hibernation period of bumblebees. Because the areas are inundated with water during the hibernation period, bumblebees are not anticipated to be overwintering in areas proposed for project access. Areas that are not seasonally flooded are routinely disturbed by mowing and road grading.

Given potential ground disturbance would likely not impact bumblebee habitat and all vegetated disturbed areas would be restored, a determination was made that the project would have “No Impact” on bumblebee species or their habitat.

Mitigation Measures

As the CEQA determinations are either “No Impact” or “Less Than Significant Impact”, mitigation measures have not been proposed.

Discussion of CEQA Checklist—Biological Resources, Question b)

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

- b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?***

Natural Communities

Redwood (*Sequoia sempervirens*) Forest Alliance

Redwood forest habitat is present throughout the project limits. Almost all of the vegetation removal required for this project would be within the *Sequoia sempervirens* Forest Alliance. The arborist’s analysis (ICF 2019) found that 51 large-diameter trees (≥ 2 feet DBH) contain a potential effect zone (PEZ)³ that overlaps project cut or fill impact areas to some degree (ranging from 3 to 100 percent impacts). Of these ≥ 2 feet DBH, up to 22 are planned to be removed.

The DBH and species of each tree and the details of project effects on the absorber root zone (ARZ)⁴ and structural root zone (SRZ)⁵ are summarized in Table 4. The table includes percent of root zone affected by road alignment (permanent or temporary). Trees that would be removed for project construction are shaded in gray. The project proposes to remove 32 trees to allow for project construction and equipment access. There are 10 trees not shown or described below because these trees were found to be below 24-inch DBH.

³ PEZ is the area around a tree that includes the ARZ and SRZ.

⁴ ARZ is the area of a tree made up of finer roots that absorb nutrients, minerals and water.

⁵ SRZ is the area of a tree made up of large roots that support the tree.

Table 4. Summary of Potential Impacts on Trees at Carlotta Curve

Tree	Species	DBH (feet, tenths)	Permanent Impact (Cut) within the Structural Root Zone (SRZ)	Temporary Impact (Fill) within the Absorbing Root Zone (ARZ)	Permanent Impact (Cut) within the Absorbing Root Zone (ARZ)
ID_02	Coast redwood	3.4	0.0%	57.0%	0.0%
ID_03	Coast redwood	5.8	0.0%	23.0%	0.0%
ID_04	Coast redwood	5.1	0.0%	51.0%	0.0%
ID_05	Coast redwood	4.4	0.0%	52.0%	0.0%
ID_06	Coast redwood	3.3	0.0%	41.0%	0.0%
ID_07	Coast redwood	4.8	0.0%	51.0%	0.0%
ID_08	Coast redwood	4.7	0.0%	49.0%	0.0%
ID_09	Coast redwood	2.5	0.0%	22.0%	0.0%
ID_10	Coast redwood	3.4	0.0%	79.0%	0.0%
ID_11	Coast redwood	3.6	0.0%	60.0%	0.0%
ID_12	Coast redwood	3.7	0.0%	66.0%	0.0%
ID_13	Coast redwood	3.3	0.0%	58.0%	0.0%
ID_14	Coast redwood	3.6	0.0%	58.0%	0.0%
ID_15	Coast redwood	3.4	0.0%	47.0%	0.0%
ID_16	Douglas-fir	2.0	0.0%	69.0%	0.0%
ID_17	Coast redwood	2.5	0.0%	0.0%	0.0%
ID_19	Douglas-fir	2.5	0.0%	100.0%	0.0%
ID_20	Douglas-fir	4.2	0.0%	28.0%	0.0%
ID_21	Coast redwood	2.9	0.0%	9.0%	0.0%
ID_22	Douglas-fir	2.0	0.0%	0.0%	0.0%
ID_25	Coast redwood	2.4	0.0%	16.0%	0.0%
ID_26	Coast redwood	2.9	15.0%	0.0%	32.0%
ID_27	Coast redwood	2.8	0.0%	28.0%	0.0%

Tree	Species	DBH (feet, tenths)	Permanent Impact (Cut) within the Structural Root Zone (SRZ)	Temporary Impact (Fill) within the Absorbing Root Zone (ARZ)	Permanent Impact (Cut) within the Absorbing Root Zone (ARZ)
ID_28	Coast redwood	2.5	0.0%	17.0%	0.0%
ID_30	Coast redwood	2.5	0.0%	0.0%	3.0%
ID_31	Coast redwood	2.9	0.0%	0.0%	7.0%
ID_32	Coast redwood	2.5	0.0%	18.0%	0.0%
ID_34	Coast redwood	2.4	0.0%	16.0%	0.0%
ID_35	Coast redwood	2.7	0.0%	20.0%	0.0%
ID_37	Coast redwood	2.0	0.0%	11.0%	0.0%
ID_38	Douglas-fir	2.7	0.0%	4.0%	0.0%
ID_39	Coast redwood	2.8	0.0%	21.0%	0.0%
ID_40	Douglas-fir	2.3	0.0%	34.0%	0.0%
ID_41	Coast redwood	3.7	0.0%	21.0%	0.0%
ID_42	Coast redwood	2.6	0.0%	31.0%	0.0%
ID_43	Douglas-fir	2.1	0.0%	29.0%	0.0%
ID_44	Douglas-fir	3.2	0.0%	23.0%	0.0%
ID_45	Douglas-fir	2.7	0.0%	10.0%	0.0%
ID_46	Douglas-fir	2.0	0.0%	0.0%	0.0%
ID_47	Douglas-fir	2.0	0.0%	0.0%	7.0%
ID_48	Douglas-fir	2.6	0.0%	0.0%	3.0%
ID_49	Coast redwood	3.8	6.0%	0.0%	12.0%
ID_50	Coast redwood	3.4	0.0%	0.0%	6.0%
ID_51	Coast redwood	2.8	1.0%	0.0%	12.0%
ID_52	Douglas-fir	2.0	16.0%	0.0%	42.0%
ID_53	Coast redwood	3.0	0.0%	0.0%	10.0%
ID_54	Coast redwood	2.1	0.0%	0.0%	15.0%

Tree	Species	DBH (feet, tenths)	Permanent Impact (Cut) within the Structural Root Zone (SRZ)	Temporary Impact (Fill) within the Absorbing Root Zone (ARZ)	Permanent Impact (Cut) within the Absorbing Root Zone (ARZ)
ID_55	Coast redwood	8.3	tree is dead	18.0%	0.0%
ID_56	Coast redwood	3.4	0.0%	3.0%	0.0%
ID_57	Coast redwood	6.0	0.0%	8.0%	0.0%

Specifically, as currently designed, trees listed in the paragraphs below would be removed due to severe, temporary impacts on the ARZ that would reduce the overall fitness of the trees. Tree IDs and mapping information can be found in Appendix D.

Tree IDs 02, 06, 10, 11, 12, 13, 14, and 15: These are healthy coast redwood trees in the 3-foot DBH range along the southern side of SR 36. Temporary impacts on the ARZs of these trees would be from 41% to 79% due to the proposed highway realignment. Impacts on these trees are unavoidable given the proposed alignment, and removal of these trees is planned.

Tree IDs 04, 05, 07, and 08: These are healthy coastal redwood trees with slightly larger diameters, ranging from 4.4 to 5.1-foot DBH along the southern side of SR 36. Temporary impacts on the ARZs of these trees would be from 49% to 52% due to the proposed highway realignment. Impacts on these trees are unavoidable given the proposed alignment, and removal of these trees is planned.

Tree IDs 16 and 19: These are healthy 2-foot DBH and 2.5-foot DBH Douglas-fir along the southern side of SR 36. Temporary impacts on the ARZs of these trees would be from 69% to 100% due to the proposed highway realignment. Impacts on these trees are unavoidable given the proposed alignment, and removal of these trees is planned.

Tree 40: A poor-health, 2.3-foot DBH, 115-foot-tall Douglas-fir along the north side of SR 36. Temporary impacts on 34% of its ARZ are anticipated from realignment of SR 36. This tree currently has a declining average of 60% live crown with root structure decay. Removal of this tree is planned.

Tree 43: A fair-health, 2.1-foot DBH, 125-foot-tall Douglas-fir along the north side of SR 36. Temporary impacts on 29 percent of its ARZ are anticipated from realignment of SR 36. This tree currently has a declining average of 50% live crown with a forked two-spar top. Removal of this tree is planned.

Tree 44: A fair-health, 3.2-foot DHB, 135-foot-tall Douglas-fir along the north side of SR 36. Temporary impacts on 23% of its ARZ are anticipated from realignment of SR 36. This tree currently has an increasing lean toward the highway and a mid-bole decay defect. The tree also has a declining average of 50% live crown. Removal of this tree is planned.

Tree 45: A fair-health, 2.7-foot DBH, 130-foot-tall Douglas-fir along the north side of SR 36. Temporary impacts on 10% of its ARZ are anticipated from realignment of SR 36. This tree is currently growing on the highway cut bank and has an increasing lean toward the highway with 30% of its roots exposed. The tree also has a declining average of 50% live crown. Removal of this tree is planned.

Tree 46: A fair-health, 2-foot DBH, 85-foot-tall Douglas-fir along the north side of SR 36. This tree is currently growing on the highway cut bank with an increasing lean toward the highway. The tree has a declining average of 40% live crown that is anticipated to continue to decline in the near future. Removal of this tree is planned.

Tree 47: A poor-health, 2-foot DBH, 110-foot-tall Douglas-fir along the north side of SR 36. Permanent impacts on 7% of its ARZ are anticipated from the proposed realignment. This tree is currently growing on the highway cut bank and at the edge of an old highway cut bank failure. The tree has an increasing sweep lean toward the highway with 25% of its roots exposed. The tree also has a declining average of 30% live crown that is anticipated to continue to decline. Removal of this tree is planned.

Tree 52: A healthy, 2-foot DBH, 125-foot-tall Douglas-fir along the northern side of SR 36. Permanent impacts on 16% of this tree's SRZ and 42% of its ARZ are anticipated from the proposed highway realignment. Impacts on this tree are unavoidable. Removal of this tree is planned.

Tree 55: A dead, 8.3-foot DBH coast redwood with the top of the trunk missing at 15-20 feet. Removal of this tree is planned.

Some of the trees currently planned for removal may not be removed during project construction. The above presents the most conservative assessment of potential project impacts to trees. During final project design and construction, refinements to project design may allow fewer trees to be removed than currently proposed. In addition, these 32 trees are a very small fraction of the total trees in this forested area.

An additional 24 coast redwoods and two Douglas-fir could have mild to moderate impacts on their ARZ, ranging from 3% to 31% (Table 4). It is believed that those trees with impacts to less than one-third of their ARZs are of a healthy enough state to remain along the roadside; therefore, their removal is not planned (Table 4). It is expected, given the resiliency of coast redwood and Douglas-fir trees and the good health of the large-diameter trees at Carlotta Curve, that the impacts would not substantially affect the structural integrity, health, or life expectancy of these remaining trees. Additionally, with implementation of BMPs, these trees are considered likely to survive impacts from construction activities and are not discussed further.

A Revegetation Plan would be prepared to address impacts to trees. Where feasible, Coast redwood and Douglas-fir trees would be replanted at a 1:1 ratio. Redwood duff and bark mulch would likely be spread over the ground to slow surface water run-off and invasive plant growth. Additionally, biotechnical measures may be utilized at some locations to further protect the slopes from erosion. These measures would also reduce the spread of invasive or non-native species along the roadway.

Given the above, a determination was made that the project would have a “Less Than Significant Impact” on the Redwood Forest Alliance natural community.

Invasive Species

There are numerous invasive species within the project area. Many invasive plant species are disturbance-related and could recolonize or increase population sizes through construction activities; however, the Standard Measures listed in Section 1.5 of this document would be implemented to ensure invasive species would not proliferate. Given this, a determination was made that this project would have “No Impact” to invasive species proliferation.

Mitigation Measures

As the CEQA determination has resulted in either “No Impact” or “Less Than Significant Impact”, mitigation measures have not been proposed.

Discussion of CEQA Checklist—Biological Resources, Question c)

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

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

Wetlands and Other Waters

A total of 0.477 acre of potential jurisdictional wetlands and other Waters, consisting of 0.442 acre of wetlands and 0.035 acre of roadside ditches, was mapped within the Environmental Study Limits (ESL) (Table 5). The locations and area of each aquatic feature can be found in Figures 6 and 7. The map includes the total area of each delineated feature and distinguishes the acreage located inside the ESL and outside the ESL. Potential jurisdictional waters of the U.S. are present in approximately 8.70% of the 5.48-acre ESL.

Table 5. Wetlands and Waters within the ESL

Aquatic Feature	Feature Type	Cowardin Type^a	Length (feet)	Width (Feet)	Area (acres)
FO-1	Forested wetland	PFO7E			0.121
FO-2	Forested Wetland	PFO7E			0.018
FO-3	Forested Wetland	PFO7E			0.303
				Total wetland area	0.442
D-1	Roadside Ditch	R4SBx	60	0.6	0.001
D-2	Roadside Ditch	R4SBx	36	2	0.002
D-3	Roadside Ditch	R4SBx	100	2	0.005
D-4	Roadside Ditch	R4SBx	211	5	0.024
D-5	Roadside Ditch	R4SBx	55	2	0.003
				Total non-wetland waters	0.035
				Total Potential Waters of the U.S.	0.477

^aCowardin Types

R4SBx = Riverine (R), Intermittent (4), Streambed (SB), excavated (x)

PFO7E = Palustrine (P), Forested (FO), Evergreen (7), Seasonally flooded/saturated (E)



Appendix A
Delineation of Aquatic Resources

Figure 6. Jurisdictional Water Features within the ESL



Appendix A
Delineation of Aquatic Resources

Figure 7. Jurisdictional Water Features within the ESL

The proposed project would have both temporary and permanent impacts to jurisdictional waters of the U.S. and State (Figures 8, 9 and Table 6). Temporary impacts refer to those areas that would be restored on-site and in-kind upon completion of construction. Typically, impacts lasting greater than two years are considered permanent. Temporary impacts to aquatic resources (Caltrans 2019 c) could occur during construction activities, such as temporary placement of fill and equipment staging; however, these impacts would be minimal through implementation of Caltrans construction BMPs and project avoidance and minimization measures.

Temporary wetland impacts would be incurred along the southern side of SR 36 where approximately 0.293 acre of Palustrine (freshwater) forested wetland and 0.015 acre of jurisdictional roadside ditches are located.

The forested wetlands and roadside ditches that would be permanently affected are within the limits of the proposed fill slope. Permanent wetland impacts would be incurred along the southern side of SR 36 where approximately 0.029 acre of Palustrine (freshwater) forested wetland and 0.020 acre of jurisdictional roadside ditches would be impacted by road widening, retaining wall construction, and culvert replacement.

Table 6. Permanent and Temporary Wetland Impacts

Feature Type	Permanent (acres)	Temporary (acres)
Forested Wetland	0.029	0.293
Roadside Ditch	0.020	0.015
Total	0.049	0.308

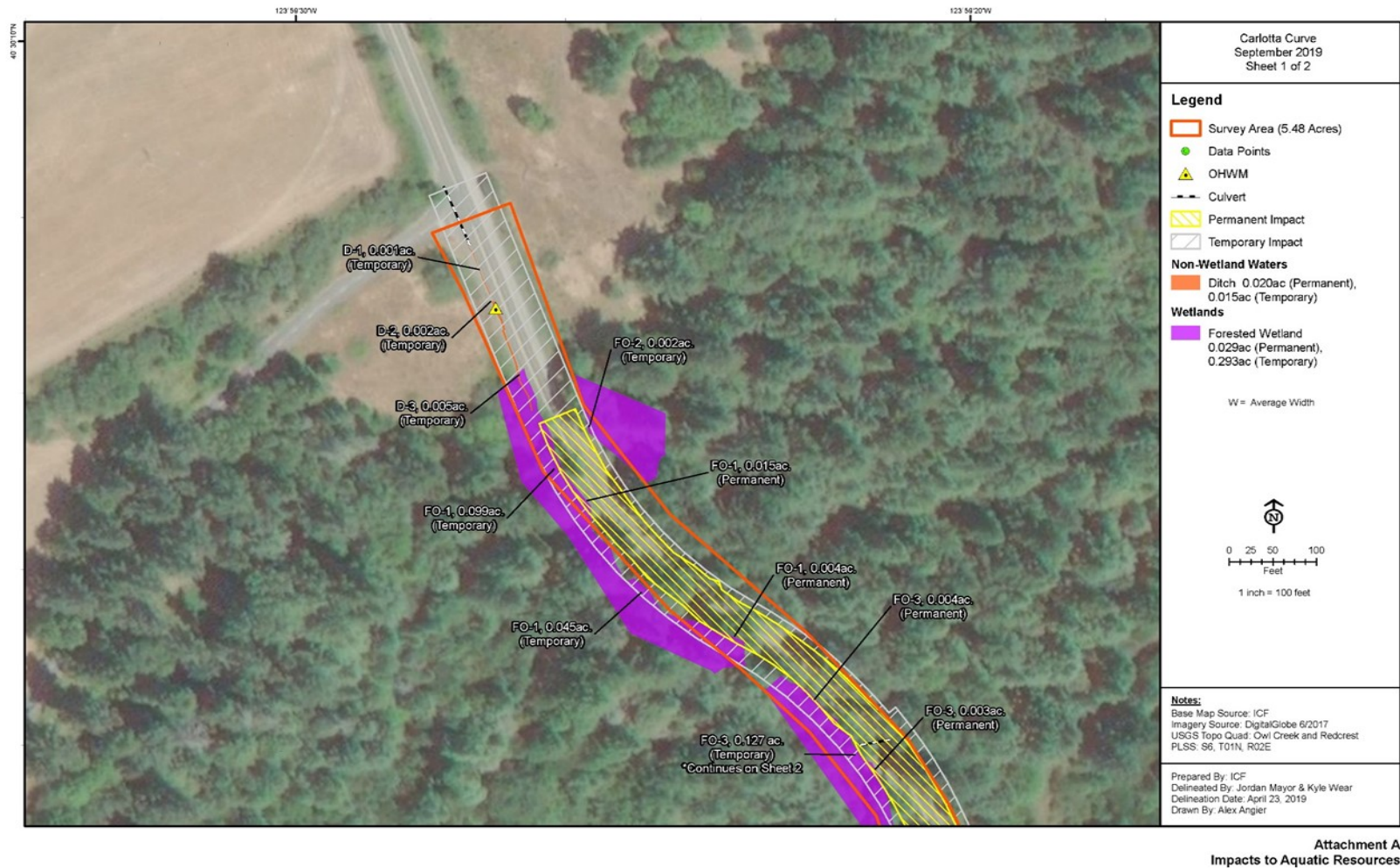
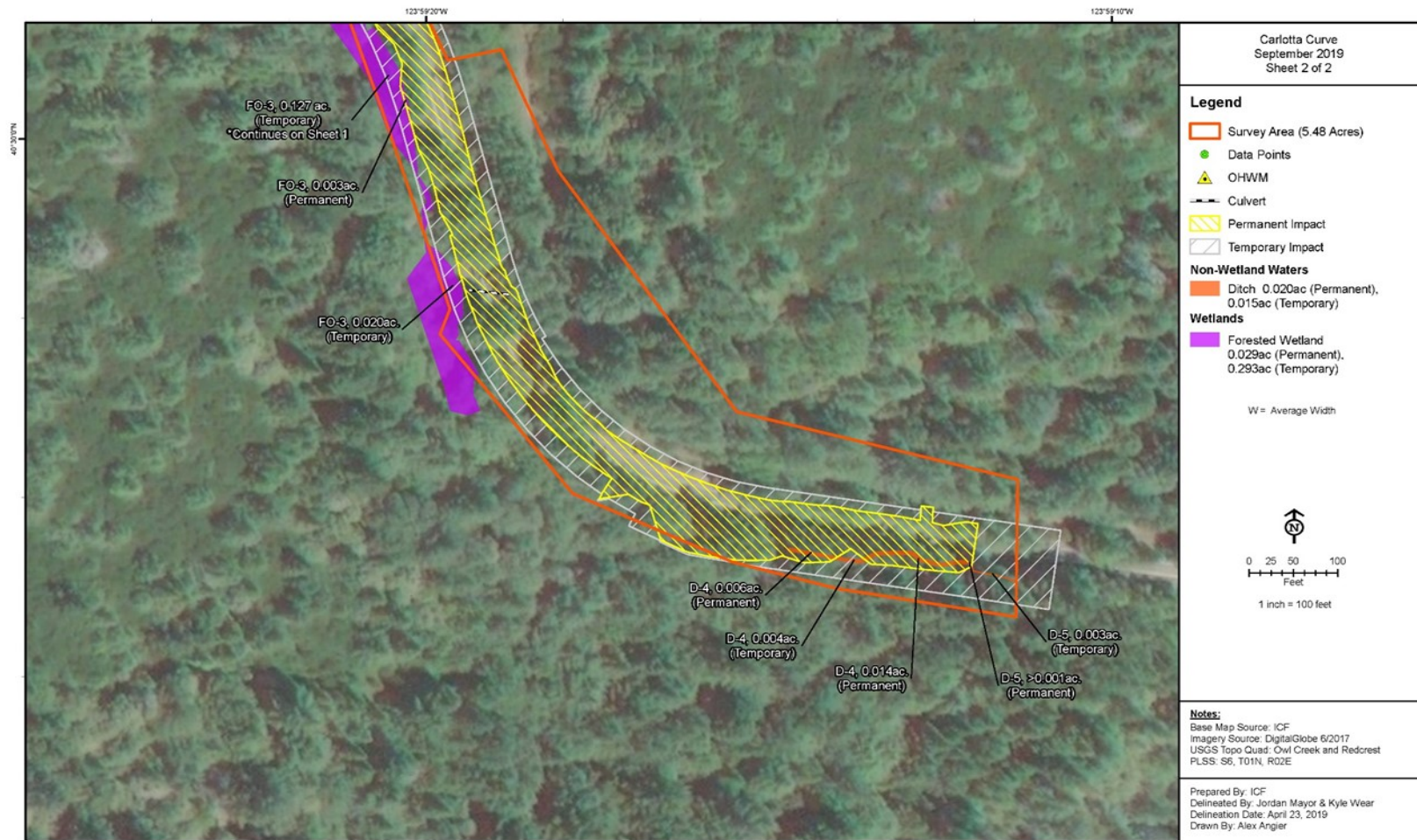


Figure 8. Mapped Permanent and Temporary Wetland Impacts



Attachment A
Impacts to Aquatic Resources

Figure 9. Mapped Permanent and Temporary Wetland Impacts

Project impacts to jurisdictional waters and riparian vegetation would be offset with incorporation of the standard measures identified in Section 1.5. These standard measures would ensure that applicable Best Management Practices (BMPs) are used to stabilize all bare soil areas over both the short and long term and to minimize adverse effects to water quality, aquatic habitat, and aquatic species. BMPs include treatment controls, soil stabilization practices, and weather-appropriate scheduling. High-visibility temporary fencing would be used to limit ground disturbance to the project footprint, and debris containment plans would be implemented (if needed) to ensure construction debris does not enter adjacent waters.

Mitigation Measures

Due to the location of the project and lack of safe access, on-site restoration opportunities and long-term monitoring are neither safe nor feasible. Therefore, to mitigate for permanent wetland impacts, off-site restoration would be implemented at a ratio of three to one (3:1). The appropriate measures would be identified and coordinated with the USACE, NCRWQCB, CDFW and any other administering agencies. Caltrans would use some of the 5.95 acres of credit it would receive for purchasing a parcel in CDFW's name.

Given these factors, a determination was made that the project would have a "Less Than Significant Impact with Mitigation" on wetlands and other waters.

Discussion of CEQA Checklist—Biological Resources, Question d)

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

- d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?***

American Peregrine Falcon

Please reference Section 2.6. Biological Resources—*Discussion of CEQA Checklist, Question a)*. Based on the discussion of American peregrine falcon in Question a), a determination was made that the project would have "No Impact" on American peregrine falcon or their habitat.

Given the project would not directly harm this species, per CESA, this project would have no “**Take**” of American peregrine falcons.

Bald Eagle

Please reference Section 2.6. Biological Resources—*Discussion of CEQA Checklist, Question a)*. Based on the discussion of bald eagle in Question a), a determination was made that the project would have “No Impact” on bald eagle or their habitat.

Given the project would not directly harm this species, per CESA, this project would have no “**Take**” of bald eagles.

Bat Species

Please reference Section 2.6. Biological Resources—*Discussion of CEQA Checklist, Question a)*. Based on the discussion of bat species in Question a), a determination was made that the project would have a “Less Than Significant Impact” on bat species or their habitat.

Foothill Yellow-legged Frog

Please reference Section 2.6. Biological Resources—*Discussion of CEQA Checklist, Question a)*. Based on the discussion of Foothill yellow-legged frog in Question a), a determination was made that the project would have “No Impact” on FYLF or their habitat.

Humboldt Marten

Please reference Section 2.6. Biological Resources—*Discussion of CEQA Checklist, Question a)*. Based on the discussion of Humboldt marten in Question a), a determination was made that the project would have “No Impact” on Humboldt marten or their habitat.

Per FESA, a determination was made that this project would have **no effect** on Humboldt marten.

Given the project would not directly harm this species, per CESA, this project would have no “**Take**” of Humboldt marten.

Marbled Murrelet

Please reference Section 2.6. Biological Resources—*Discussion of CEQA Checklist, Question a)*. Based on the discussion of marbled murrelet in Question a), a determination was made that the project would have a “Less Than Significant Impact” on marbled murrelet or their habitat.

Given this, per FESA, Caltrans anticipates the proposed project ***may affect, not likely to adversely affect*** MAMU or their critical habitat, and Caltrans would adhere to the avoidance and minimization measures listed in the *Programmatic Informal Consultation for the California Department of Transportation's Routine Maintenance and Repair Activities, and Small Projects Program for Districts 1 and 2*.

Given the project would not directly harm this species, per CESA, this project would have no “***Take***” of Marbled Murrelet.

Migratory Birds

No nests would be removed or altered during project activities, though small shrub removal and work in close proximity to an active nest could affect nesting birds. Pre-construction nesting bird surveys would be performed. Impacts to migratory birds would not be substantial given the minimal amount and type of vegetation to be removed, the temporary nature of the project, and standard migratory bird measures. Given this, a determination was made that the project would have a “Less Than Significant Impact” on migratory bird species and their habitat.

Northern Goshawk

Please reference Section 2.6. Biological Resources—*Discussion of CEQA Checklist, Question a)*. Based on the discussion of Northern goshawk in Question a), a determination was made that the project would have “No Impact” on Northern goshawk or their habitat.

Northern Red-legged Frog

Please reference Section 2.6. Biological Resources—*Discussion of CEQA Checklist, Question a)*. Based on the discussion of Northern red-legged frog in Question a), a determination was made that the project would have a “Less Than Significant Impact on Northern red-legged frog or their habitat.

Northern Spotted Owl

Please reference Section 2.6. Biological Resources—*Discussion of CEQA Checklist, Question a)*. Based on the discussion of Northern spotted owl in Question a), a determination was made that the project would have a “Less Than Significant Impact” on NSO and their habitat.

Given this, per FESA, Caltrans anticipates the proposed project **may affect, not likely to adversely affect** NSO or their critical habitat, and Caltrans would adhere to the avoidance and minimization measures listed in the *Programmatic Informal Consultation for the California Department of Transportation's Routine Maintenance and Repair Activities, and Small Projects Program for Districts 1 and 2*.

Given the project would not directly harm this species, per CESA, this project would have no “**Take**” of northern spotted owl.

Osprey

Please reference Section 2.6. Biological Resources—*Discussion of CEQA Checklist, Question a)*. Based on the discussion of osprey in Question a), a determination was made that the project would have “No Impact” on osprey or their habitat.

Pacific Fisher

Please reference Section 2.6. Biological Resources—*Discussion of CEQA Checklist, Question a)*. Based on the discussion of Pacific fisher in Question a), a determination was made that the project would have “No Impact” on Pacific fisher or their habitat.

Ring-tailed Cat

Please reference Section 2.6. Biological Resources—*Discussion of CEQA Checklist, Question a)*. Based on the discussion of ring-tailed cat in Question a), a determination was made that the project would have “No Impact” on ring-tailed cat or their habitat.

Given the project would not directly harm this species, per CESA this project would have no “**Take**” of ring-tailed cat.

Sonoma Tree Vole and White-footed Vole

Please reference Section 2.6. Biological Resources—*Discussion of CEQA Checklist, Question a)*. Based on the discussion of Sonoma tree vole and white-footed vole in Question a), a determination was made that the project would have “No Impact” on both vole species or their habitat.

Vaux’s Swift

Please reference Section 2.6. Biological Resources—*Discussion of CEQA Checklist, Question a)*. Based on the discussion of Vaux’s swift in Question a), a determination was made that the project would have “No Impact” on Vaux’s swift or their habitat.

Western Bumblebee and Obscure Bumblebee

Please reference Section 2.6. Biological Resources—*Discussion of CEQA Checklist, Question a)*. Based on the discussion of Western bumblebee and obscure bumblebee in Question a), a determination was made that the project would have “No Impact” on bumblebee species or their habitat.

Mitigation Measures

As the CEQA determination has resulted in either “No Impact” or “Less Than Significant Impact”, mitigation measures have not been proposed.

Discussion of CEQA Checklist– Biological Resources, Questions e) and f)

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

- e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?***
- f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?***

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the NES dated October 2019 (Caltrans 2019 h).

2.7. Cultural Resources

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

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the Archaeological Survey Report (Caltrans 2018 b), Extended Phase 1 Investigation (Caltrans 2019 e) and the Historic Property Survey Report (Caltrans 2019 f).

2.8. Energy

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	No	No	No	✓
Would the project: b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	No	No	No	✓

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the energy analysis completed in the Air Quality and Noise Analysis (Caltrans 2019 d). Potential impacts to energy are not anticipated as this project would help conserve energy by reducing grades and curvatures of the highway.

2.9. Geology and Soils

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: I) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	No	No	No	✓
Would the project: a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: ii) Strong seismic ground shaking?	No	No	No	✓
Would the project: a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: iii) Seismic-related ground failure, including liquefaction?	No	No	No	✓
Would the project: a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: iv) Landslides?	No	No	No	✓

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: b) Result in substantial soil erosion or the loss of topsoil?	No	No	No	✓
Would the project: 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?	No	No	No	✓
Would the project: d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	No	No	No	✓
Would the project: e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	No	No	No	✓
Would the project: f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	No	No	✓	No

Regulatory Setting—Paleontological Resources

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

Environmental Setting—Paleontological Resources

This project lies within the Coast Ranges Geomorphic Province. The Coast Ranges are largely northwest-southeast mountains and valleys roughly parallel to the San Andreas Fault Zone. The cores of the mountains of the Coast Ranges are typically Mesozoic⁶ to Cenozoic⁷ in age (less than 250 million years old) and consist of metamorphic and sedimentary rocks. The project is mapped as Holocene alluvial deposits (river channel deposits) and as the undifferentiated late Miocene to Pliocene Wildcat Group (Figure 10).

Holocene Alluvial Deposits

These deposits are less than 11,700 years old. Sediments are non-hardened to poorly hardened clays, silts, sands, pebbles, and cobbles, with occasional boulders. Based on the local topography, geology, and the greater hardness of the Wildcat Group compared to nearby areas mapped as late Pleistocene alluvium (sediments), it is more likely that the surface alluvium is entirely Holocene in the areas of greater topography. The westernmost 0.1 mile of the study area where SR 36 is topographically flat has a greater potential to overlie late Pleistocene sediments. These sediments have the potential to contain the fossils of extinct animals.

Late Miocene to Pliocene Wildcat Group Deposits

These deposits may be as old as late Miocene, between 11.6 and 5.3 million years old, or may be entirely Pliocene, between 5.3 and 2.6 million years old. Pliocene foraminifera (single-celled marine animals) and mollusks are abundant within the undifferentiated Wildcat Group. The undifferentiated Wildcat Group is limited to the Ferndale-Fortuna area around the Eel River. The largest exposure of undifferentiated Wildcat Group sediments extends northwest to the ocean from the town of McCann located 14.4 miles south-southeast of the study area. Another large outcrop of the Wildcat Group extends 7.5 miles to the northwest and 5 miles to the southeast of Garberville along U.S. 101. The undifferentiated Wildcat Group is 800 feet thick at most; however, is typically less than 500 feet thick.

⁶ An interval of geologic time from about 250 to 66 million years ago.

⁷ An interval of geologic time from 66 million years ago to present day.

These sediments thin with increasing distance from the ocean. While portions of the group have been broken out into formations, the areas where it is mapped as undifferentiated were noted to be typically inaccessible, covered by dense vegetation, and the sediments are not distinctive. Sediments of the undifferentiated Wildcat Group appear to be entirely marine or brackish water, although the group transitions to terrestrial deposits in some of the named formations. The poorly to moderately hardened sediments consist of primarily well-bedded, grey siltstone or mudstone with some sandstone and conglomerate. Several thin beds of white volcanic ash are present within the undifferentiated Wildcat Group and if encountered they would aid in determining the age of the group in the study area.

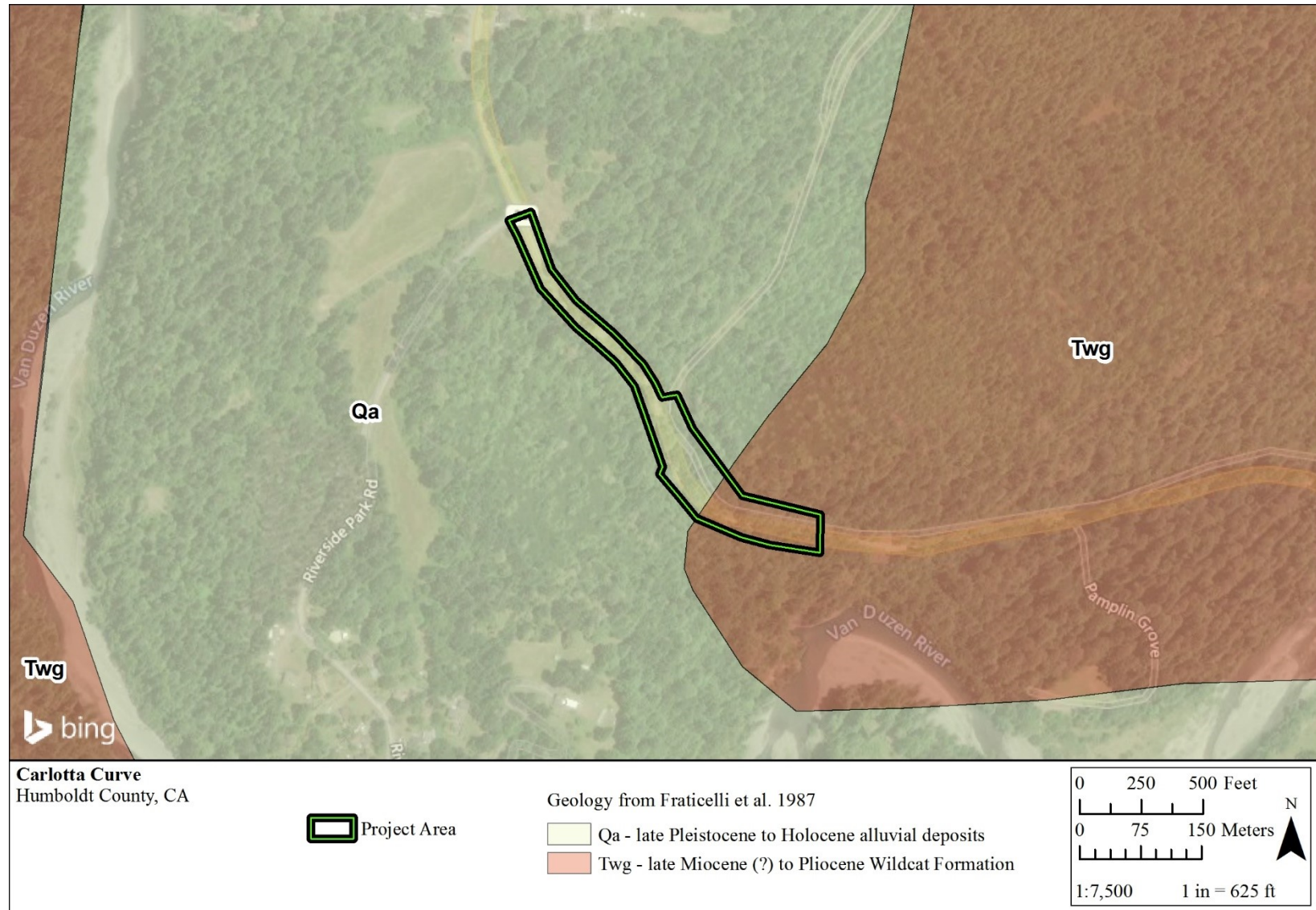


Figure 10. Geologic Map

Discussion of CEQA Checklist—Geology and Soils, Questions 2.9 a) to e)

A “No Impact” determination for these items is based on the scope, description, location of the proposed project, and review by a Caltrans Geologist.

Discussion of CEQA Checklist—Geology and Soils, Question 2.9 f)

A Paleontological Identification/Evaluation Report (Caltrans 2019 i) was completed for this project to determine the likelihood of fossils being encountered during construction. Paleontological resources are considered to be scientifically relevant if they provide new data on fossil animals, distribution, evolution, or other scientifically important information. Knowledge of the geological formations gleaned from the survey and records of previous fossils recovered from the area are the basis for determining the paleontological potential of projects. Caltrans utilizes a three-part scale to characterize this potential (Table 7).

Table 7. Caltrans Paleontology Sensitivity Scale

Caltrans Sensitivity	Description
High Potential	Rock units which, based on previous studies, contain or are likely to contain significant vertebrate, significant invertebrate, or significant plant fossils. These units include, but are not limited to, sedimentary formations that contain significant nonrenewable paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. These units may also include some volcanic and low-grade metamorphic rock units. Fossiliferous deposits with very limited geographic extent or an uncommon origin (e.g., tar pits and caves) are given special consideration and ranked as highly sensitive. High sensitivity includes the potential for containing: 1) abundant vertebrate fossils; 2) a few significant fossils (large or small vertebrate, invertebrate, or plant fossils) that may provide new and significant taxonomic, phylogenetic, ecologic, and/or stratigraphic data; 3) areas that may contain datable organic remains older than Recent, including <i>Neotoma</i> (sp.) middens; or 4) areas that may contain unique new vertebrate deposits, traces, and/or trackways. Areas with a high potential for containing significant paleontological resources require monitoring and mitigation.
Low Potential	This category includes sedimentary rock units that: 1) are potentially fossiliferous, but have not yielded significant fossils in the past; 2) have not yet yielded fossils, but possess a potential for containing fossil remains; or 3) contain common and/or widespread invertebrate fossils if the taxonomy, phylogeny, and ecology of the species contained in the rock are well understood. Sedimentary rocks expected to contain vertebrate fossils are not placed in this category because vertebrates are generally rare and found in more localized stratum. Rock units designated as low potential generally do not require monitoring and mitigation. However, as excavation for construction gets underway, it is possible that new and unanticipated paleontological resources might be encountered. If this occurs, a Construction Change Order (CCO) must be prepared in order to have a qualified Principal

Caltrans Sensitivity	Description
	Paleontologist evaluate the resource. If the resource is determined to be significant, monitoring and mitigation is required.
No Potential	Rock units of intrusive igneous origin, most extrusive igneous rocks, and moderately to highly metamorphosed rocks are classified as having no potential for containing significant paleontological resources. For projects encountering only these types of rock units, paleontological resources can generally be eliminated as a concern when the PEAR is prepared and no further action taken.

No previous fossil localities have been recorded within one mile of the project area. The Wildcat Group is ranked low because it contains well-known invertebrate fossils. The Holocene alluvial deposits are assigned a low potential for fossils as the sediments are too young to contain the remains of extinct animals. Pleistocene alluvium potentially present subsurface is ranked low as it has not been demonstrated to yield fossils in the local area. Minor grading is unlikely to impact resources due to shallow depth and previous disturbance. Trenching for drainage systems and excavations for the retaining wall may have vertical impacts up to 20 feet. No scientifically important fossils are currently known in the vicinity. Given this, a determination was made that the project would have a “Less Than Significant Impact” on Paleontological Resources.

Mitigation Measures

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

2.10. Greenhouse Gas Emissions

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

Climate Change

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

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF₆), and various hydrofluorocarbons (HFCs). CO₂ is the most abundant GHG; while it is a naturally occurring component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO₂.

Two terms are typically used when discussing how we address the impacts of climate change: "greenhouse gas mitigation" and "adaptation." Greenhouse gas mitigation covers the activities and policies aimed at reducing GHG emissions to limit or "mitigate" the impacts of climate change. Adaptation, on the other hand, is concerned with planning for and responding to impacts resulting from climate change (such as adjusting transportation

design standards to withstand more intense storms and higher sea levels). This analysis will include a discussion of both.

Regulatory Setting

This section outlines federal and state efforts to comprehensively reduce greenhouse gas 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. Therefore, the FHWA 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 no date). 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 on the basis of each manufacturer’s average fuel economy for the portion of its vehicles produced for sale in the United States.

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

The U.S. 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.

NHTSA and U.S. EPA issued a Final Rule for “Phase 2” for medium- and heavy-duty vehicles to improve fuel efficiency and cut carbon pollution in October 2016. The agencies estimate that the standards will save up to 2 billion barrels of oil and reduce CO₂ emissions by up to 1.1 billion metric tons over the lifetimes of model year 2018–2027 vehicles.

State

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

EO S-3-05 (June 1, 2005): The goal of this EO is to reduce California’s GHG emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3) 80 percent below year 1990 levels by 2050. This goal was further reinforced with the passage of Assembly Bill (AB) 32 in 2006 and Senate Bill (SB) 32 in 2016.

AB 32, Chapter 488, 2006, Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 codified the 2020 GHG emissions reduction goals outlined in EO S-3-05, while further mandating that the California Air Resources Board (CARB) create a scoping plan and implement rules to achieve “real, quantifiable, cost-effective reductions of greenhouse gases.” The Legislature also intended that the statewide GHG emissions limit continue in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020 (Health and Safety Code [H&SC] Section 38551(b)). The law requires CARB adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

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

SB 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires CARB set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan how it will achieve the emissions target for its region.

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

EO B-16-12 (March 2012): Orders State entities under the direction of the Governor, including CARB, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

EO B-30-15 (April 2015): Establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. It also directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO₂e).⁸ 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.

⁸ GHGs differ in how much heat each trap in the atmosphere (global warming potential, or GWP). CO₂ is the most important GHG, so amounts of other gases are expressed relative to CO₂, using a metric called "carbon dioxide equivalent" (CO₂e). The GWP of CO₂ is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO₂.

SB 32, Chapter 249, 2016: Codifies the GHG reduction targets established in EO B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.

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

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

SB 743, Chapter 386 (September 2013): This bill changes the metric of consideration for transportation impacts pursuant to CEQA from a focus on automobile delay to alternative methods focused on vehicle miles 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 CARB 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 CARB to encourage automakers to produce more clean vehicles, formulate ways to help Californians purchase them, and propose strategies to increase demand for zero-emission vehicles.

Environmental Setting

The proposed project is in a rural area, with a primarily natural resources-based timber production and agricultural economy. State Route (SR) 36 is a two-lane, conventional highway used primarily for access to a few small, unincorporated communities in northern Humboldt and southern Trinity counties. The nearest alternate route is SR 299, 31 miles to the north. Traffic counts are low, and SR 36 is rarely congested. The Humboldt County Association of Governments (HCOAG) 2017 Regional Transportation Plan guides transportation development in Humboldt County. The Humboldt County General Plan, adopted in 2017 (Humboldt County 2017), addresses GHG in the Air Quality Element.

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

National GHG Inventory

The U.S. EPA prepares a national GHG inventory every year and submits it to the United Nations in accordance with the Framework Convention on Climate Change (Figure 11). The inventory provides a comprehensive accounting of all human-produced sources of GHGs in the United States, reporting emissions of CO₂, CH₄, N₂O, HFCs, perfluorocarbons, SF₆, and nitrogen trifluoride. It also accounts for emissions of CO₂ that are removed from the atmosphere by “sinks” such as forests, vegetation, and soils that uptake and store CO₂ (carbon sequestration). The 1990–2016 inventory found that of 6,511 MMTCO₂e GHG emissions in 2016, 81% consist of CO₂, 10% are CH₄, and 6% are N₂O; the balance consists of fluorinated gases (U.S. EPA 2018). In 2016, GHG emissions from the transportation sector accounted for nearly 28.5% of U.S. GHG emissions.

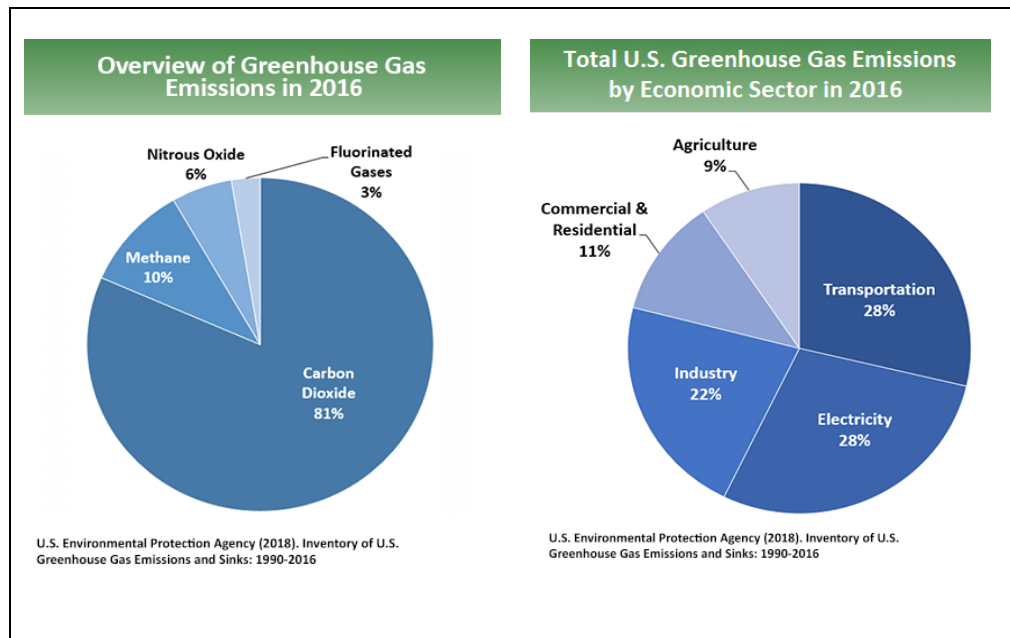


Figure 11. U.S. 2016 Greenhouse Gas Emissions

State GHG Inventory

The California Air Resources Board (CARB) collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its GHG reduction goals. The 2019 edition of the GHG emissions inventory found total California emissions of 424.1 MMTCO₂e for 2017, with the transportation sector responsible for 41% of total GHGs. It also found that GHG emissions have declined from 2000 to 2017 despite growth in population and state economic output (CARB 2019).

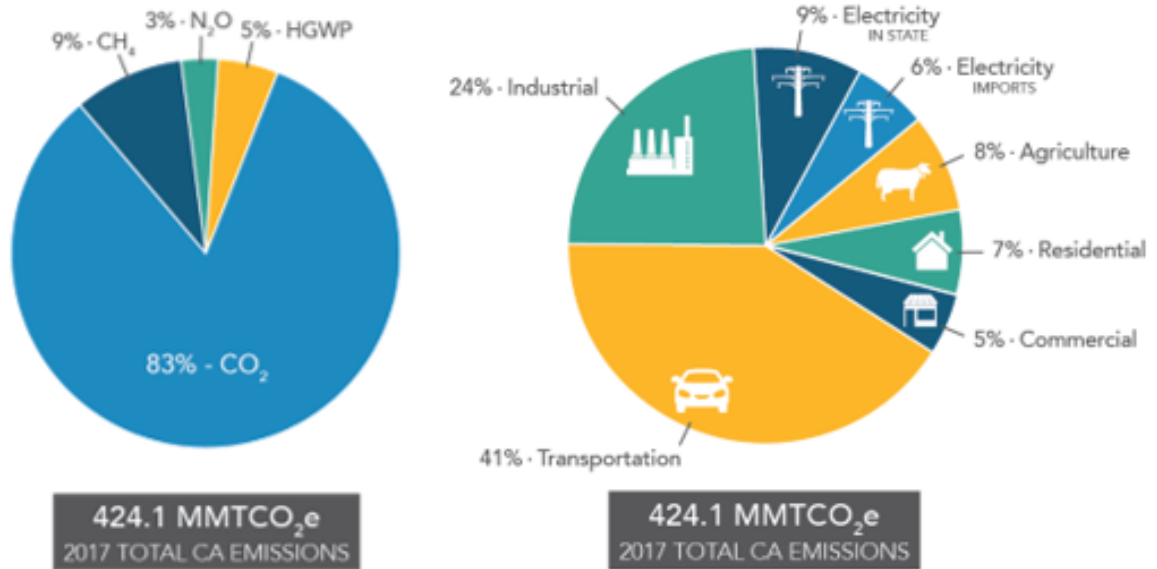


Figure 12. California 2017 Greenhouse Gas Emissions

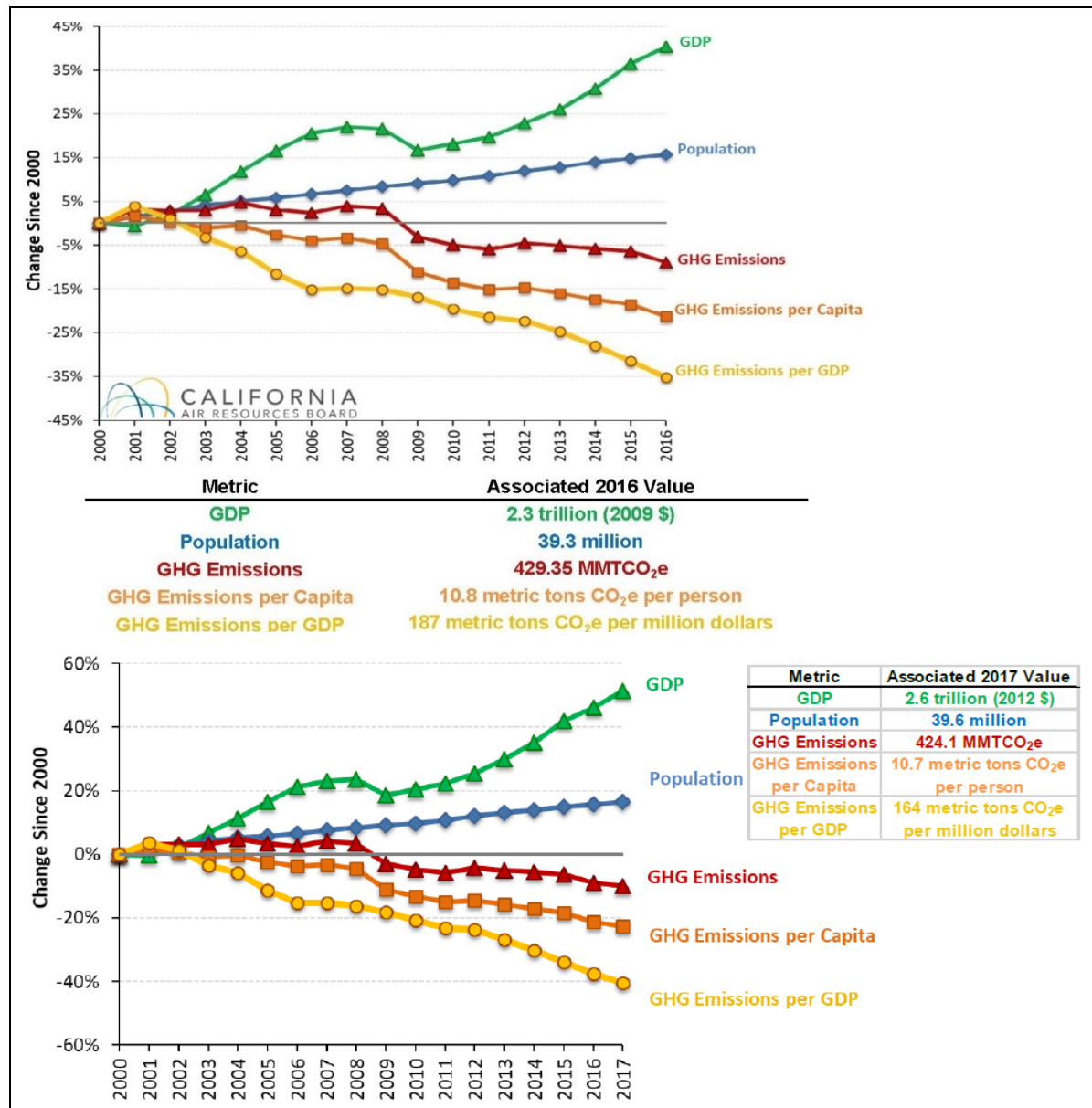


Figure 13. Change in California GDP, Population, and GHG Emissions since 2000

AB 32 required the CARB 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. The CARB 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 subsequent updates contain the main strategies California will use to reduce GHG emissions.

Regional Plans

The proposed project is within the jurisdiction of the Humboldt County Association of Governments (HCOAG) Regional Transportation Plan (RTP). HCOAG is not a metropolitan planning organization and is therefore not required to produce a sustainable communities strategy under SB 375. The HCOAG 2017 RTP identifies the need to reduce GHG emissions on a regional level.

Humboldt County is in the process of developing a Climate Action Plan. The Humboldt County General Plan identifies GHG strategies. GHG reduction policies and strategies identified in these planning documents are outlined in Table 8 below.

Table 8. Regional Plans Air Quality Goals

Title	GHG Reduction Policies or Strategies
<i>Draft Climate Action Plan: A Strategy for Greenhouse Gas Reduction and Adaptation to Global Climate Change</i> (Humboldt County 2012)	<ul style="list-style-type: none"> • Identify and prioritize infrastructure improvements needed to support reductions in vehicle miles traveled • Reduce length and frequency of vehicle trips
<i>Humboldt County General Plan for Areas Outside the Coastal Zone</i> (Humboldt County 2017)	<ul style="list-style-type: none"> • Reduce GHG emissions to 10% below 2003 levels by 2020 • AQ-P1. Reduce length and frequency of vehicle trips through land use and transportation policies by encouraging mixed-use development, compact development patterns in areas served by public transit, and active modes of travel. • AQ-P9. Develop and implement a multi-jurisdictional Climate Action Plan to achieve reductions in GHG emissions consistent with the state Global Warming Solutions Act and subsequent implementing legislation and regulations.

Title	GHG Reduction Policies or Strategies
<i>Regional Transportation Plan 2017 Update, Variety in Rural Options of Mobility (VROOM) (HCOAG 2017)</i>	<ul style="list-style-type: none"> • Policy Climate 1: Put forth strategies that shift travel to be more transit-focused and rideshare-oriented to achieve more road safety benefits. • Policy C-2: Promote active transportation, ridesharing, rail, and public/mass transit policies for the benefit of reducing air pollution when they replace motor vehicle trips. • Policy C-3: Support local communities in developing integrated transportation and land use strategies for responding resiliently to climate change, and codifying such strategies in General Plans, Regional Transportation Plans, and Local Coastal Programs. • Policy C-4: HCAOG will support and plan transportation projects that provide safe and convenient travel modes for people who cannot or choose not to drive. • Policy C-5: HCAOG will promote and support land use policies that accommodate or reinforce planning, designing, and building a truly multimodal transportation network. • Policy C-6: HCAOG shall encourage partnerships to develop adaptation strategies that address sea-level rise in Humboldt County.

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 CO₂, CH₄, N₂O, and HFCs. CO₂ emissions are a product of the combustion of petroleum-based products, like gasoline in internal combustion engines. Relatively small amounts of CH₄ and N₂O are emitted during fuel combustion. In addition, a small amount of HFC emissions are included in the transportation sector.

The CEQA Guidelines generally address greenhouse gas emissions as a cumulative impact due to the global nature of climate change (Public 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 proposed project is a safety project and would not increase highway capacity, change travel demands or traffic patterns. While some GHG emissions during the construction period would be unavoidable, no increase in operational GHG emissions is anticipated.

Construction Emissions

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

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

The 2018 Caltrans Construction Emissions Tool (CAL-CET 2018) version 1.2 was used to estimate carbon dioxide (CO₂), methane (CH₄), hydrofluorocarbons (HFCs) and nitrous oxide (N₂O) emissions from construction activities. Table 9 summarizes estimated GHG emissions generated by on-site equipment for the project.

Table 9. Estimate of Greenhouse Gas Emissions During Construction

Construction Year 2022	CO₂	CH₄	N₂O	HFC	CO_{2e}*
Total: Tons (US)	69	0.0022	0.0044	0.0022	103

*A quantity of GHG is expressed as carbon dioxide equivalent (CO_{2e}) that can be estimated by the sum after multiplying each amount of CO₂, CH₄, N₂O, and HFCs by its global warming potential (GWP). Each GWP of CO₂, CH₄, N₂O, and HFCs is 1, 25, 298, and 14,800 respectively.

All construction contracts include Caltrans Standard Specifications Sections 7-1.02A and 7 1.02C, Emissions Reduction (Caltrans 2018 a), which require contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all CARB emission reduction regulations; and Section 14-9.02, Air Pollution Control, which requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce GHG emissions. A Transportation Management Plan (TMP) during construction will help further reduce emissions from idling traffic.

CEQA Conclusion

The following CEQA Checklist items were used to evaluate the impacts of the proposed project on greenhouse gas emissions.

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

The proposed project would not result in an increase in operational emissions. GHG emissions generated during construction would be minimized by the use of Best Management Practices, discussed in the *Project-Level Greenhouse Gas Reduction Strategies* section below. Therefore, the project would result in a “Less Than Significant Impact”.

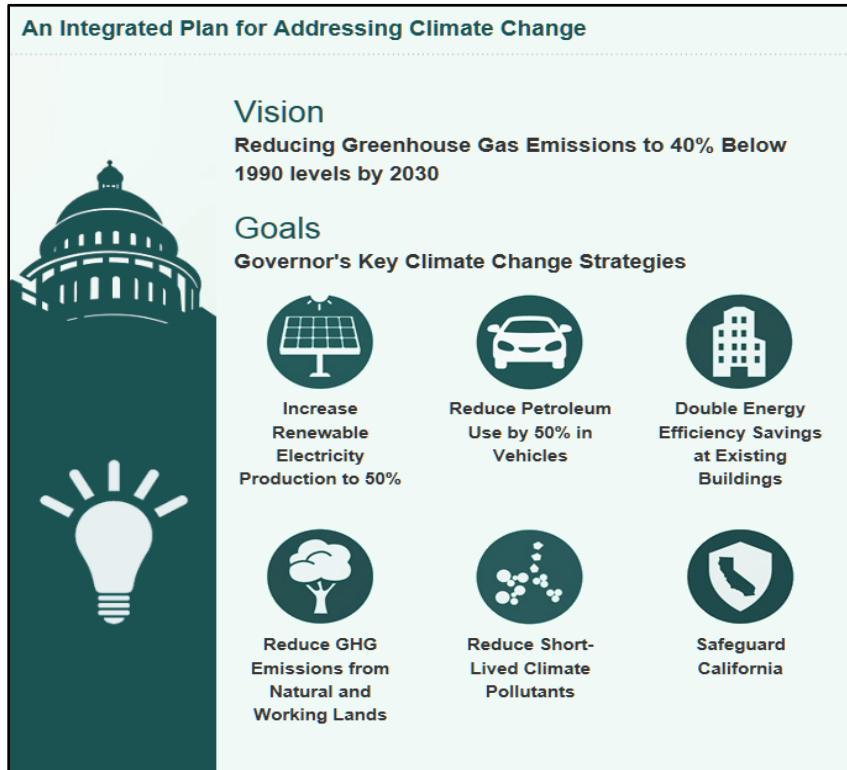
b) Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gas?

The proposed project is not anticipated to increase operational GHG emissions over the existing conditions. However, the project would incorporate measures that would support the goals and GHG reduction strategy outlined in the *Humboldt County General Plan*. The proposed project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHGs. Therefore, the project would result in a “Less Than Significant” impact.

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

Greenhouse Gas Reduction Strategies

Statewide Efforts



Major sectors of the California economy, including transportation, will need to reduce emissions to meet the 2030 and 2050 GHG emissions targets. Former Governor Edmund G. Brown promoted GHG reduction goals (see Figure 14) 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 14. 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 50 percent by 2030 (State of California 2019).

In addition, SB 1386 (*Wolk 2016*) established as state policy the protection and management of natural and working lands and requires state agencies to consider that policy in their own decision making. Trees and vegetation on forests, rangelands, farms, and wetlands remove carbon dioxide from the atmosphere through biological processes and sequester the carbon in above- and below-ground matter.

Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as the CARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. EO B-30-15, issued in April 2015, and SB 32 (2016), set an interim target to cut GHG emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

California Transportation Plan (CTP 2040)

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. In 2016, Caltrans completed the *California Transportation Plan 2040*, which establishes a new model for developing ground transportation systems, consistent with CO₂ reduction goals. It serves as an umbrella document for all the other statewide transportation planning documents. Over the next 25 years, California will be working to improve transit, reduce long-run repair and maintenance costs of roadways, and developing a comprehensive assessment of climate-related transportation demand management and new technologies, rather than continuing to expand capacity on existing roadways.

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

Caltrans Strategic Management Plan

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

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

Funding and Technical Assistance Programs

In addition to developing plans and performance targets to reduce GHG emissions, Caltrans also administers several sustainable transportation planning grants. These grants encourage local and regional multimodal transportation, housing, and land use planning that furthers the region's RTP/SCS; contribute to the State's GHG reduction targets and advance transportation-related GHG emission reduction project types/strategies; and support other climate adaptation goals (e.g., Safeguarding California).

Caltrans Policy Directives and Other Initiatives

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) is intended to establish a Department policy that will ensure coordinated efforts to incorporate climate change into Departmental decisions and activities. *Caltrans Activities to Address Climate Change* (April 2013) provides a comprehensive overview of Caltrans' statewide activities to reduce GHG emissions resulting from agency operations.

Project-Level Greenhouse Gas Reduction Strategies

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

- Caltrans Standard Specifications, Section 7-1.02C, Emissions Reduction: requires the contractor to certify awareness of, and comply with, the emissions reduction regulations mandated by the California Air Resources Board.
- Caltrans Standard Specifications, Section 14-9.02, Air Pollution Control: requires contractors to comply with all air-pollution-control rules, regulations, ordinances, and statutes of the CARB and the local air pollution control district.
- Standard construction Best Management Practices for air quality would also apply. Certain air pollution control measures can also help reduce construction GHG emissions.
- Traffic and Transportation measures would also reduce/minimize GHG emissions during construction:
 - TT-1: Pedestrian and bicycle access would be maintained during construction, to avoid such users having to transfer to using motor vehicles.
 - TT-3: A Transportation Management Plan would be implemented in the project to maintain traffic flow and minimize delays and idling that would generate extra GHG emissions.
- Measures to preserve and restore trees and vegetation would help prevent loss of carbon storage potential in the project area:
 - Tree and vegetation removal would be minimized to the extent necessary to construct the project. Where feasible, large trees would be protected in place. A Revegetation Plan would be implemented, to the extent feasible, to restore the project area to pre-construction conditions.

Adaptation Strategies

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 a facility be relocated or redesigned. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

Federal Efforts

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

The U.S. Global Change Research Program (USGRCP) 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).

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. The FHWA has developed guidance and tools for transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels (FHWA 2019).

State Efforts

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

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

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

EO S-13-08, issued by then-governor Arnold Schwarzenegger in November 2008, focused on sea-level rise and resulted in the California Climate Adaptation Strategy (2009), updated in 2014 as Safeguarding California: Reducing Climate Risk (Safeguarding California Plan). The Safeguarding California Plan offers policy principles and recommendations and continues to be revised and augmented with sector-specific adaptation strategies, ongoing actions, and next steps for agencies.

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

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

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

Caltrans Adaptation Efforts

Caltrans Vulnerability Assessments

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

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

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

Project Adaptation Analysis

Sea Level Rise Analysis

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

Floodplain

This segment of roadway is at an elevation of roughly 300 feet. According to the Hydraulics Recommendations memo (Caltrans 2019 g), the project area receives mean annual precipitation of approximately 54 inches and is located in an area of minimal flood hazard. The Caltrans District 1 Climate Change Pilot Study (2014) estimated an increase of 5% to more than 10% in average daily precipitation (2.0 inches to more than 2.5 inches) in the

project area between 2035 and 2099 under a wet global climate model, compared to the 1970–1999 historic period (Caltrans and Humboldt County Association of Governments 2014). However, different models produce different results, ranging from increasing to decreasing rainfall. The report explains that “Rainfall and runoff changes varied depending upon models. Models predicting increased rainfall were used as a conservative measure to assess asset exposure.” Adding to the uncertainty, many other factors (such as local geology, geography, and slopes) influence the potential effects of higher rainfall on a roadway asset.

The proposed project activities are not expected to change hydrology in the project area or to have floodplain impacts. The project hydraulics recommendations are to replace the two existing 24-inch-diameter culverts in kind, with adjustments as necessary to avoid the proposed new retaining wall, and to perpetuate the existing drainage pattern. Water spread would be analyzed to ensure the project meets drainage requirements specified in the Highway Design Manual.

Wildfire

Based on the fire hazard severity maps provided by the California Department of Forestry and Fire Protection (CAL FIRE), no parts of the project are within Very High Fire Hazard Severity Zones in state or local responsibility area (CAL FIRE 2007). Furthermore, the proposed project would not construct any new features or induce uses that would be vulnerable to wildfire. This project would not impact the current infrastructure’s vulnerability to wildfire and the roadway improvements would facilitate improved access for emergency vehicles.

2.11. Hazards and Hazardous Materials

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	No	No	No	✓
Would the project: b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	No	No	No	✓
Would the project: c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	No	No	No	✓
Would the project: d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	No	No	No	✓
Would the project: e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	No	No	No	✓

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	No	No	No	✓
Would the project: g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	No	No	No	✓

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the Preliminary Site Investigation (Caltrans 2019 j). There are no indications of hazardous waste within the project limits and no hazardous waste sites or businesses commonly associated with hazardous waste generation nearby.

2.12. Hydrology and Water Quality

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	No	No	✓	No
Would the project: b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	No	No	No	✓
Would the project: c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (i) result in substantial erosion or siltation on- or off-site;	No	No	No	✓
Would the project: c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	No	No	No	✓

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	No	No	No	✓
Would the project: c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (iv) impede or redirect flood flows?	No	No	No	✓
Would the project: d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	No	No	No	✓
Would the project: e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	No	No	No	✓

Regulatory Setting

Federal

Clean Water Act

In 1972, Congress amended the federal Water Pollution Control Act, making the addition of pollutants to waters of the United States from any point source⁹ unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of stormwater from municipal and industrial/construction point sources to comply with the NPDES permit program. The following are important CWA sections.

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

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

USACE issues two types of 404 permits: General and Standard Permits. There are two types of General Permits: Regional Permits and Nationwide Permits. Regional permits are issued for a general category of activities when they are similar and cause minimal environmental

⁹ A point source is any discrete conveyance such as a pipe or a human-made ditch.

effect. Nationwide Permits are issued to allow a variety of minor project activities with no more than minimal effects.

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

According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures have been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent¹⁰ standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the United States. In addition, every permit from the USACE, even if not subject to the Guidelines, must meet general requirements. See 33 CFR Part 320.4.

State

Porter-Cologne Water Quality Control Act

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

¹⁰ The U.S. EPA defines *effluent* as "wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall."

“pollutant.” Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

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

State Water Resources Control Board and Regional Water Quality Control Boards

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

National Pollutant Discharge Elimination System Program

Municipal Separate Storm Sewer Systems

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

Board or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

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

1. Caltrans must comply with the requirements of the Construction General Permit (see below);
2. Caltrans must implement a year-round program in all parts of the state to effectively control stormwater and non-stormwater discharges; and
3. Caltrans' stormwater discharges must meet water quality standards through implementation of permanent and temporary (construction) BMPs, to the maximum extent practicable, and other measures the State Water Board determines necessary to meet the water quality standards.

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

Construction General Permit

The Construction General Permit (Order No. 2009-009-DWQ), adopted on September 2, 2009, became effective on July 1, 2010. The Construction General Permit was amended by 2010-0014-DWQ and 2012-0006-DWQ on February 14, 2011, and July 17, 2012, respectively. The permit regulates stormwater discharges from construction sites that result in a disturbed soil area (DSA) of 1 acre or greater and/or are smaller sites that are part of a larger common plan of development. By law, all stormwater discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at

least 1 acre must comply with the provisions of the Construction General Permit. Operators of regulated construction sites are required to develop Storm Water Pollution Prevention Plans (SWPPPs); to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The 2009 Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases and are based on potential erosion and transport to receiving waters and whether the receiving water has been designated by the SWRCB as sediment-sensitive. SWPPP requirements vary according to the risk level.

For example, a Risk Level 3 (highest risk) project would require compulsory stormwater runoff pH and turbidity monitoring and certain BMPs, and, in some cases, before-construction and after-construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective SWPPP. In accordance with Caltrans' Standard Specifications, a Water Pollution Control Program rather than a SWPPP is necessary for projects with a DSA of less than 1 acre.

Section 401 Permitting

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

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

Environmental Setting

The project area is within the Eel River Hydrologic Unit (HU), the Van Duzen River Hydrologic Area (HA), and the Hydesville Hydrologic Sub-Area (HSA). The surrounding terrain is mountainous with steep forested slopes on the north side of the highway and the Van Duzen River on the south side.

The project discharges directly to wetlands. Based on the general topography of the project area, runoff from the project indirectly discharges to the Van Duzen River. Approximately 10 miles northwest of the project location, the Van Duzen River joins the Eel River, which flows to the west and eventually discharges to the Pacific Ocean.

According to the California Department of Water Resources, the proposed facility is located within the Eel River Valley groundwater basin. The surface area of the Eel River Valley basin is approximately 73,700 acres or 115 square miles. Groundwater depths in the alluvium range from 3 to 20 feet.

Average annual precipitation at the project location is 56.02 inches. Most of the precipitation occurs from November to March. The average annual maximum temperature is 61.1°F, and the average annual minimum temperature is 44.5°F.

Discussion of CEQA Checklist—Hydrology and Water Quality, Question a)

The following CEQA Checklist item was used to evaluate the impacts of the proposed project on Hydrology and Water Quality.

a) Would this project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

As indicated in the Water Quality Assessment Report (WQAR) (Caltrans 2019 l), the project could potentially have minor temporary and permanent impacts to water quality. Potential impacts to water quality standards or waste discharge requirements include:

Temporary, minor, short-term increases in turbidity to receiving waters could occur during construction. Soil erosion, especially during heavy rainfall, can increase the suspended solids, dissolved solids, and organic pollutants in stormwater runoff generated within the project limits. These conditions would persist until the completion of construction activities, as well as implementation of long-term erosion control measures and the proposed permanent structures.

Potential permanent impacts related to increased turbidity may result from fill material and added impervious surface areas. These permanent impacts will be minimal and will be addressed by compliance with the sediment wasteload allocations stated in the Caltrans MS4 permit.

Given this, a determination was made that the project would have a “Less Than Significant Impact” on water quality standards or waste discharge requirements.

Discussion of CEQA Checklist—Hydrology and Water Quality, Questions b) to e)

A “No Impact” determination was made for questions b), c), d), and e) of the CEQA Checklist for Hydrology and Water Quality. This determination was made based on the scope, description, location of the proposed project, and the WQAR (Caltrans 2019 l) and Hydraulics Recommendations (Caltrans 2019 g). The WQAR determined the proposed project is not expected to result in long-term impacts to water quality. The Hydraulics Recommendations contain a Floodplain Evaluation Report Summary which found there would be no significant floodplain encroachment and no significant impacts on natural or beneficial floodplain values.

Mitigation Measures

As the CEQA determination has resulted in either “No Impact” or “Less Than Significant Impact”, mitigation measures have not been proposed.

2.13. Land Use and Planning

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Physically divide an established community?	No	No	No	✓
Would the project: b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	No	No	No	✓

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to Land Use and Planning are not anticipated as the proposed project would not divide a community, conflict with the established land use plan, nor affect conservation.

2.14. Mineral Resources

Question:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	No	No	No	✓
Would the project: b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	No	No	No	✓

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to mineral resources are not anticipated as there are no mineral resources present.

2.15. Noise

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project result in: a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	No	No	No	✓
Would the project result in: b) Generation of excessive groundborne vibration or groundborne noise levels?	No	No	No	✓
Would the project result in: c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	No	No	No	✓

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the noise analysis completed in the Air and Noise Analysis (Caltrans 2019 d). Potential noise impacts are not anticipated. The project meets the criteria for a Type III project as defined in CFR 772. Potential impacts are not anticipated as traffic volumes, composition, and speeds would remain the same for the build and no build alternatives.

2.16. Population and Housing

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	No	No	No	✓
Would the project: b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No	No	No	✓

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to Population and Housing are not anticipated as the project does not involve activities that would directly or indirectly affect population growth or housing.

2.17. Public Services

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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:	No	No	No	✓
Fire protection?	No	No	No	✓
Police protection?	No	No	No	✓
Schools?	No	No	No	✓
Parks?	No	No	No	✓
Other public facilities?	No	No	No	✓

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Impacts to Public Services are not anticipated as the proposed project does not have the potential to adversely affect public services, including the ability of Caltrans (the Department) to operate and maintain the State Highway System.

2.18. Recreation

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	No	No	No	✓
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	No	No	No	✓

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Due to the scope and footprint of the project, potential impacts to recreation are not anticipated. Van Duzen County Park is adjacent to the project area; however, no work or access to the project site would occur on park property. Noise from construction equipment fades over distance. The closest campsite in the park is a little over 1,000 feet away from the construction area. There are numerous trees and a hill between the campsite and the project. Noise generated from construction equipment would be similar to current noise generated from roadway traffic.

2.19. Transportation and Traffic

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

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to Transportation and Traffic are not anticipated as this project is a safety project correcting curves and would not impact traffic and circulation.

2.20. Tribal Cultural Resources

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

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the Archaeological Survey Report (Caltrans 2018 b), and the Historic Property Survey Report (Caltrans 2019 f). Native American coordination took place in September 2017 and May 2018 through written notifications sent from Caltrans to representatives of the Bear River Band of Rohnerville, Blue Lake Rancheria and the Table Bluff Rancheria of the Wiyot Tribe. Potential impacts to Tribal Cultural Resources are not anticipated as no concerns were expressed by the tribes.

2.21. Utilities and Service Systems

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities—the construction or relocation of which could cause significant environmental effects?	No	No	No	✓
Would the project: b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	No	No	No	✓
Would the project: c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	No	No	No	✓
Would the project: d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	No	No	No	✓
Would the project: e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	No	No	No	✓

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to Utilities and Service Systems are not anticipated as the project would not create new sources of wastewater or solid waste. Proposed minor drainage work would not negatively affect the environment. AT&T service would not be interrupted during the minor utility relocation.

2.22. Wildfire

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:</p> <p>a) Substantially impair an adopted emergency response plan or emergency evacuation plan?</p>	No	No	No	✓
<p>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:</p> <p>b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?</p>	No	No	No	✓
<p>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:</p> <p>c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?</p>	No	No	No	✓
<p>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:</p> <p>d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?</p>	No	No	No	✓

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. This project is in an area that receives high rainfall totals (average 56 inches per year) and has an average maximum temperature of 61°F. Also, the project would make it safer for emergency services to access this area if a wildfire did occur. In addition, this project is not located in a very high fire severity zone as shown on the CAL FIRE website: <https://egis.fire.ca.gov/FHSZ/>.

2.23. Mandatory Findings of Significance

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	No	No	No	✓
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	No	No	No	✓
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	No	No	No	✓

California Environmental Quality Act of 1970 (CEQA) requires preparation of an Environmental Impact Report (EIR) when certain specified impacts may result from construction or implementation of a project. The analysis indicated the potential impacts associated with this project would not require an EIR. Mandatory Findings of Significance are not required for projects where an EIR has not been prepared.

2.24. Cumulative Impacts

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

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

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

Aesthetics

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

Agriculture and Forest Resources

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

Air Quality

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

Biological Resources

Given that the project would result in a less than significant impact on biological resources, the project would not be expected to have a cumulative impact on biological resources.

Cultural Resources

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

Energy

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

Geology and Soils

Given that the project would result in a less than significant impact on geology and soils, the project would not be expected to have a cumulative impact on geology and soils.

Greenhouse Gas Emissions

Given that the project would result in a less than significant impact on greenhouse gas emissions, the project would not be expected to have a cumulative impact on greenhouse gas emissions.

Hazards and Hazardous Materials

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

Hydrology and Water Quality

Given that the project would result in a less than significant impact on hydrology and water quality, the project would not be expected to have a cumulative impact on hydrology and water quality.

Land Use and Planning

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

Mineral Resources

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

Noise

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

Population and Housing

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

Public Services

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

Recreation

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

Transportation and Traffic

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

Tribal Cultural Resources

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

Utilities and Service Systems

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

Wildfire

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



Chapter 3. Coordination and Comments

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

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

Coordination with Resource Agencies

September 19, 2017 - Site visit and early consultation with Greg Schmidt from USFWS.

February 3, 2017 - Project was discussed during Agency Coordination Meeting with CDFW, USFWS, and NMFS.

June 20, 2019 - Site visit and early consultation with Greg Schmidt from USFWS and Jamie Jackson from CDFW.

December 5, 2019 - Project was discussed during Agency Coordination Meeting with CDFW, USFWS, and NMFS.

January 15, 2020 - Site visit with USACE.

January 28, 2020 – Site visit with CDFW.

Coordination with Property Owners

March 19, 2018 - Obtained a permit to enter from Humboldt Redwood Company to perform environmental studies.

February 20, 2019 - Obtained a permit to enter from Humboldt Redwood Company for further studies.

A copy of this document will be mailed to Humboldt County Environmental Services, the agency that manages Van Duzen County Park, which is adjacent to the project area.

Chapter 4. List of Preparers

The following individuals performed the environmental work on the project:

California Department of Transportation, District 1

Alex Arevalo	NPDES Coordinator
Jen Buck	Project Manager
Caren Coonrod	Design Chief
Celeste Redner	Hydraulics Engineer
Julie East	Senior Environmental Planner
Christian Figueroa	Geologist
Jason Frederickson	Associate Environmental Planner, Coordinator
Tina Fulton	Associate Environmental Planner, Cultural
Laura Lazzarotto	Landscape Associate
Ryan Pommerenck	Transportation Engineer, Air and Noise
Siraj Saredidine	Design Engineer
Jeff Wright	Associate Environmental Planner, Biologist

Consultants

Michael Greer	Project Engineer (Dokken Engineering)
Justin Thornber	Associate Engineer (Dokken Engineering)
Jordan Mayer	Biologist (ICF)
Lisa Webber	Senior Biologist (ICF)
Andrew David Funk	Certified Arborist (ICF)
Kyle Wear	Biologist (RMM)
Andrew Chin	Water Quality Specialist (WRECO)



Chapter 5. Distribution List

Federal and State Agencies

California State Clearinghouse
P.O. Box 3044
Sacramento, CA 95812-3044

Dan Breen
USACE, San Francisco District
1455 Market Street, Suite 500
San Francisco, CA 94103

Gordon Leppig
CDFW
619 Second Street
Eureka, CA 95501

Greg Schmidt
USFWS
1655 Heindon Road
Arcata, CA 95518

Susan Stewart
NCRWQCB
5550 Skylane Blvd, Suite A
Santa Rosa, CA 95403-1072

Regional/County/Local Agencies

Humboldt County Environmental Services
1106 2nd Street
Eureka, CA 95501

Interested Groups, Organizations and Individuals

John Kuhry
Mendocino-Humboldt Redwood Company
P.O. Box 996
Ukiah, CA 95482



Chapter 6. References

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Appendix A. State Historic Preservation Officer Concurrence





**DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION**

Lisa Ann L. Mangat, Director

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

November 05, 2019

VIA ELECTRONIC MAIL

In reply refer to: FHWA_2019_1009_001

Ms. Alex Bevk Neeb
Section 106 Coordinator
Cultural Studies Office
Caltrans Division of Environmental Analysis
1120 N Street, MS-27
Sacramento, CA 95814

Subject: Finding of No Adverse Effect Submittal for the Proposed HUM-36 Carlotta
Curve Correction Project, Humboldt County, California

Dear Ms. Bevk Neeb:

The California Department of Transportation (Caltrans) is consulting with the State Historic Preservation Officer (SHPO) in accordance with the January 1, 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration (FHWA), the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (2014 PA), regarding the above referenced undertaking.

Pursuant to Stipulation X.B.2.b of the Section 106 PA, Caltrans is seeking SHPO comment on a finding of no adverse effect without standard conditions. Enclosed with Caltrans' letter is a Historic Property Survey Report (HPSR), Archaeological Survey Report (ASR), Extended Phase I (XPI), Finding of No Adverse Effect (FNAE) and the Environmentally Sensitive Area (ESA) Action Plan outlining avoidance efforts to be implemented during construction. The ASR contains more detailed information on the archaeological resources Within the APE, and the FNAE contains measures that will minimize effects to resources within the APE.

Caltrans proposes a curve correction project to improve both the horizontal and vertical curve radius of a section of Route 36, which is a curvilinear two-lane rural conventional highway. Shoulder widening will be done to achieve this improvement, with anticipation that this will reduce the frequency and severity of vehicular collisions in the area. A complete project description is included in the Historic Property Survey Report (HPSR).

Caltrans' efforts to identify historic properties that may be affected by the undertaking included a formal record search, Native American consultation, an archaeological pedestrian survey, and archaeological testing. Results indicate that the APE includes two historic period resources, both of which Caltrans considers eligible for the purposes of this project only, in accordance with Section 106 PA Stipulation VIII.C.4 (as noted in Attachment 5):

- PL-3227-18-001 - an agricultural and historic dump site
- P-12-002561 - a previously recorded section of the Hammond Lumber Company railroad grade/logging road with several newly recorded features. (Caltrans notes that the ASR identifies newly recorded features as PL-3227-18-002, which were later determined to be part of P-12-002561.)

Pursuant to Stipulation X.B.2 of the Section 106 PA, Caltrans has made a finding of no adverse effect (without standard conditions). Based on review of the submitted documentation, **I do not object.**

Should there be any questions, please contact State Historian Natalie Lindquist at (916) 445-7014 or at natalie.lindquist@parks.ca.gov or Associate State Archaeologist Jeanette Schulz at (916) 445-7031 or at jeanette.schulz@parks.ca.gov.

Sincerely,



Julianne Polanco
State Historic Preservation Officer

Appendix B. Title VI Policy Statement



DEPARTMENT OF TRANSPORTATION

OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
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Making Conservation
a California Way of Life.

November 2019

**NON-DISCRIMINATION
POLICY STATEMENT**

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

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

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

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

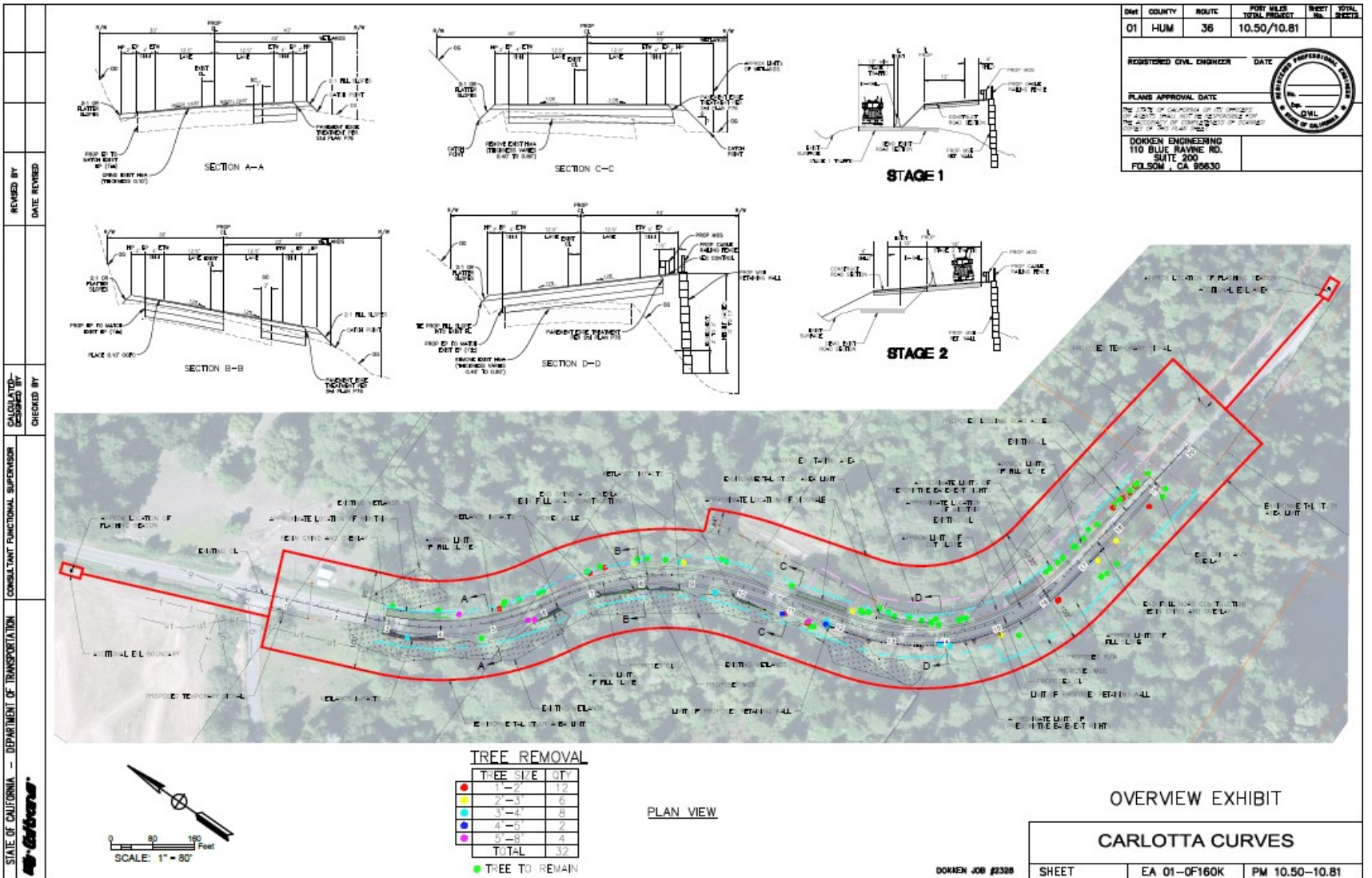
A blue ink signature of Toks Omishakin, consisting of a stylized 'T' followed by a series of loops and a horizontal line.

Toks Omishakin
Director



Appendix C. Layouts of Proposed Work

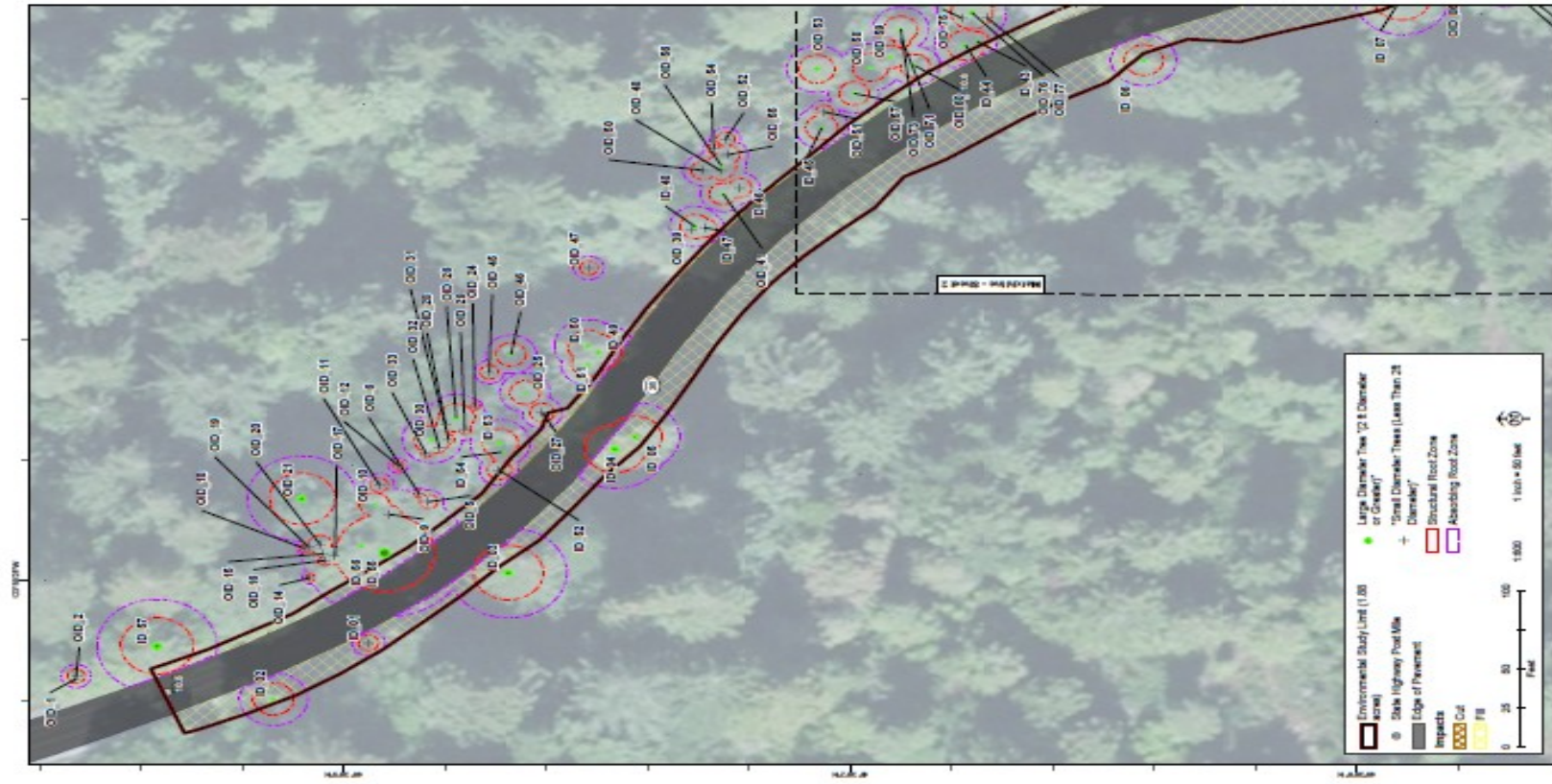




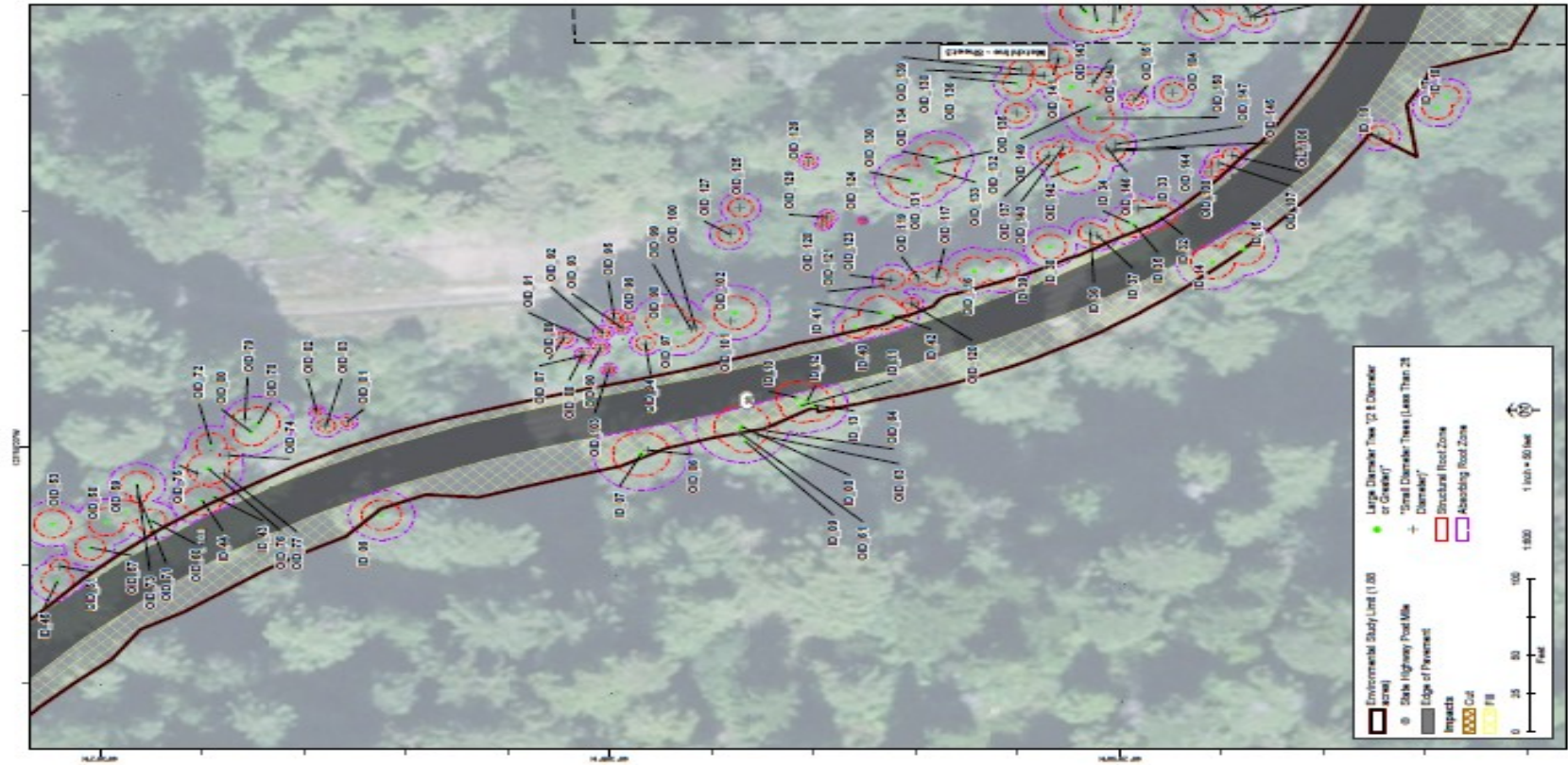


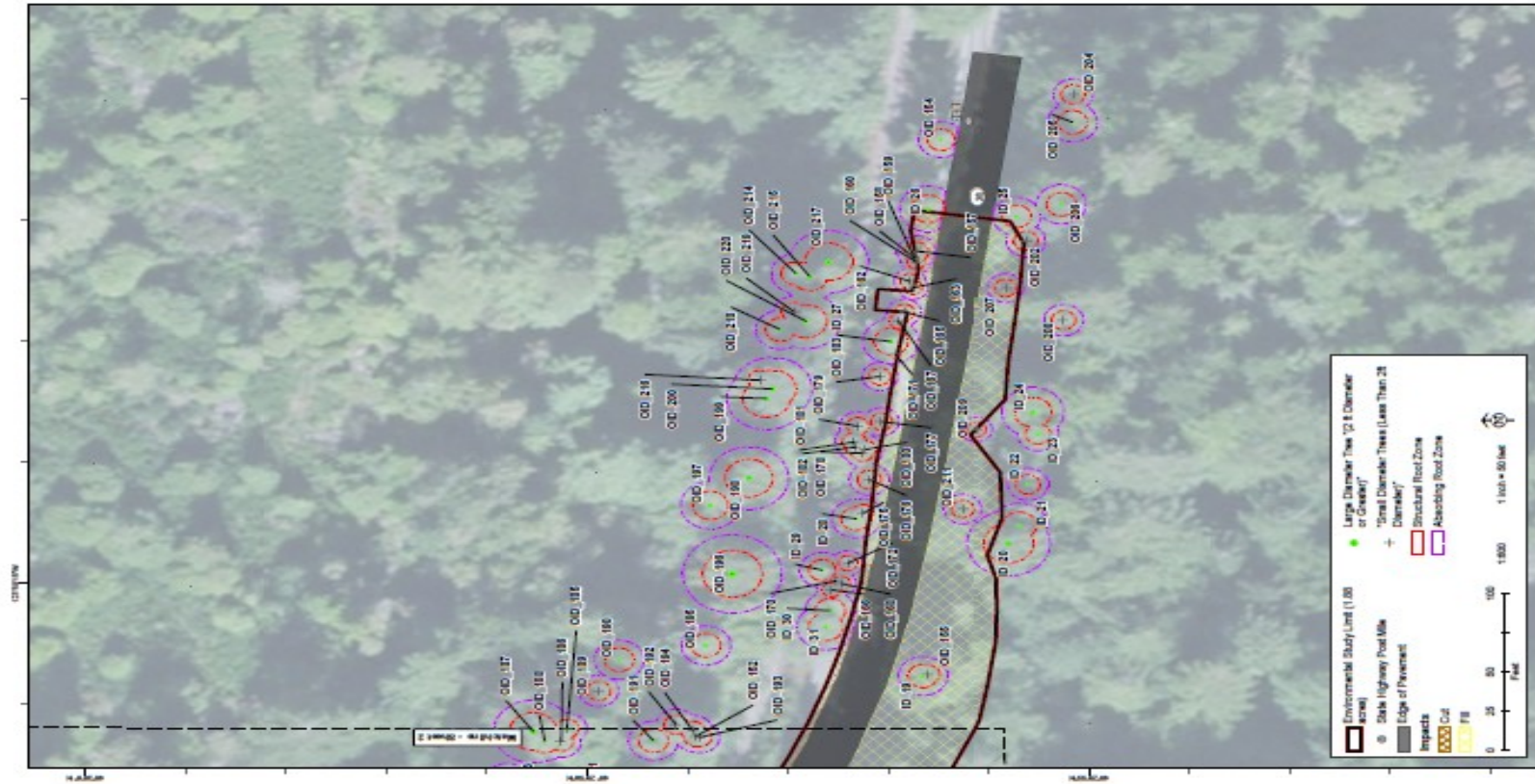
Appendix D. Tree Rootzone Maps





Impacts on Tree Root Zones
 Carlotta Curve Project - Sheet 1
 Humboldt County EA 01-05-160K







Appendix E. Public Comments



From: [Roman, Isabella@DTSC](mailto:Roman.Isabella@DTSC)
To: Frederickson, Jason@DOT
Subject: Carlotta Curve Improvement Project IS/MND Comment
Date: Monday, March 9, 2020 12:39:03 PM

EXTERNAL EMAIL. Links/attachments may not be safe.

Hello,

I represent the Department of Toxic Substances Control reviewing the Initial Study with Proposed Mitigated Negative Declaration for the Carlotta Curve Improvement Project.

All of the topics under Hazards and Hazardous Materials are marked as “no impact” based on “the scope, description, and location of the proposed project, as well as the Preliminary Site

1. Investigation...” Part of the explanation is that the Preliminary Site Investigation deemed that these topics weren’t of concern for the project, yet there is no mention or description of the Preliminary Site Investigation elsewhere in the text and it is also not provided as an attachment or appendix. Please provide the Preliminary Site Investigation as an appendix and/or explain its findings in the text of the IS/MND.

A discussion needs to be provided addressing each individual topic in the Hazards and Hazardous Materials section. This discussion doesn’t have to be elaborate, but the rationale needs to be explained. For question c, is there no impact because there are no schools within ¼ mile of the project area? For question d, is there no impact because a search of the Cortese List was conducted and there were no Cortese List projects in the project area? For questions a and b, we know there would at least be a “Less than significant impact” rather than “no impact.” Most construction projects would use hazardous materials such as fuels and lubricants; however, these shouldn’t be too concerning if used in accordance with applicable regulations (which should be noted in the text). It should also be discussed whether any impact is anticipated once construction ends. Further, we know that hazardous materials are going to be used onsite, because the document states that there will be a Stormwater Pollution Prevention Plan in place preventing these hazardous materials from spreading. Please provide an explanation for each question posed under Hazards and Hazardous Materials.

- 2.
3. The text doesn’t include a discussion of past land uses. Past land uses could have resulted in hazardous materials releases within the project area that should be investigated prior to development for public health protection. Past land uses could indicate the need for collecting environmental samples and/or preparing a Phase 2 Environmental Site Assessment (ESA). If sampling has occurred or if a Phase 2 ESA has been prepared, I would like to see a copy of this documentation. Please revise the text to include a discussion of past land uses.

4. The text doesn’t acknowledge the potential for hazardous materials to be present in the soil itself. The Hazards and Hazardous Materials topics are deemed to be “no impact” because “there are no indications of hazardous waste within the project limits and no hazardous waste sites or businesses commonly associated with hazardous waste generation nearby.” There are no known sources of hazardous materials nearby the project site; however, it is important to note that there is a potential for the project site to itself be contaminated, unless proven otherwise.

5. The text mentions that “excavated material would either be used as needed backfill material during construction or hauled away to an approved permitted disposal site.” Is there a plan to profile this excavated material for reuse and disposal? If so, this information should be added to the text.

6. A mitigation measure (HW-1) is discussed on page 33, but is not discussed in the Hazards and Hazardous Materials discussion on pages 142-143. The Lead Compliance Plan is said to be in place to “reduce worker exposure to lead-impacted soil.” Why is believed that the soil is impacted with lead? This needs to be explained in the text, specifically in the hazards section. It also briefly mentions “the plan would include protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other health and safety-protocols and procedures for the handling of lead-impacted soil.” More information is needed in this document regarding monitoring, personal protective equipment and health and safety procedures. Please provide this additional information in the text.

Please feel free to reach out with any questions or concerns.

Sincerely,

Isabella Roman
Environmental Scientist
Site Mitigation and Restoration Program
Department of Toxic Substances Control
700 Heinz Avenue Suite 200
Berkeley, CA 94710
(510)-540-3879

1. The Preliminary Site Investigation (PSI) is listed in the Reference section and, like all technical studies, is available upon request. Including every technical study with environmental documents would make the documents unmanageably long and complicated. When Caltrans makes a determination of “No Impact”, there is no need for further discussion. A copy of the PSI has been provided to the commenter.
2. The no impact determinations were based on the project description (including the standard protective measures Caltrans employs on all similar projects), project scope, and the March 2019 Initial Site Assessment. When a “No Impact” determination is made, no further discussion is warranted.
3. Though no historical use of the surrounding area is discussed in the environmental document, current land use can be found on page 7. An Initial Site Assessment (ISA) and cursory review of State Water Resources Control Board (SWRCB) Geotracker and the Department of Toxic Substances Control (DTSC) EnviroStor, plus review of historical documentation (county and Caltrans) indicated that no Hazardous Waste and Substances Site List (Cortese List) parcels are within the job site. Caltrans prepared a PSI, which is equivalent to a Phase II Environmental Site Assessment. A copy of the PSI has been provided to the commenter.
4. Page 7 of the Initial Study describes the surrounding land use, which is timber production, parks and rural residential properties. In addition, the ISA conducted a search and found no hazardous waste, hazardous waste sites or businesses associated with hazardous materials. The PSI found low lead levels in the soil, which would be classified under “non-hazardous” for disposal and handling.
5. The proposed excavated material has been profiled for either reuse and or disposal.
6. HW-1 is a standard measure utilized by Caltrans on all similar projects. A lead compliance plan is a Caltrans standard specification that is required for all transportation projects that involve soil disturbance. The Preliminary Site Investigation shows that the soils contain Aerially Deposited Lead. Per section 7-1.02K(6)(j)(ii) Lead Compliance Plan (LCP) of The Caltrans Standard Specifications, the contractor would provide an LCP. The LCP would be developed by a Certified Industrial Hygienist that would include the specific protocols and measures related to personal monitoring, requirements for PPE, and other protocols/procedures for handling.



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

Survey	Dates	Staff
Botanical Survey	June 19 and 20, 2017	Jeff Barrett and Loriel Caverly
Botanical Survey	March 12, 2018	Hilary Sundeen, Jeff Wright, and Kelli Eldridge
Northern Spotted Owl and Bat Emergent Surveys	April 3, 2018	Jeff Wright and Jason Frederickson
Northern Spotted Owl Survey	April 4, 2018	Jeff Wright and Jason Frederickson
Botanical Survey	April 19, 2018	Jim McIntosh
Botanical Survey	June 19, 2018	Hilary Sundeen, Jeff Wright, and Kelli Eldridge
Botanical Survey and Wetland Scoping	August 13, 2018	Hilary Sundeen and Jeff Wright
Wetland Survey	April 23, 2019	Kyle Wear, biologist from RMM, and Dr. Jordan Mayor, ICF
Botanical Surveys	April 18, 2019	Kellie Eldridge
Bat Acoustic and Emergent Survey	June 6, 2019	Jeff Wright and Jason Frederickson
Nesting Bird Pre-Construction Surveys for Geotech Drilling	July 15, 2019	Jim McIntosh
Bat Acoustic and Emergent Survey	October 3, 2019	Jeff Wright and Jim McIntosh
Bat Acoustical Data Logger Survey Period	October 3 – 16, 2019	Jeff Wright and Jim McIntosh

Appendix G. CNDDB, CNPS, NMFS, and USFWS Species Lists



CALIFORNIA DEPARTMENT OF
FISH and WILDLIFE **RareFind**

Query Summary:

Quad **IS** (Redcrest (4012348) **OR** Fields Landing (4012462) **OR** McWhinney Creek (4012461) **OR** Iaqua Buttes (4012368) **OR** Fortuna (4012452) **OR** Owl Creek (4012358) **OR** Taylor Peak (4012442) **OR** Scotia (4012441) **OR** Hydesville (4012451) **OR** Yager Junction (4012357) **OR** Bridgeville (4012347) **OR** Weott (4012338) **OR** Myers Flat (4012337) **OR** Bull Creek (4012431))

Print

Close

CNDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
<i>Abronia umbellata</i> var. <i>breviflora</i>	pink sand-verbena	Dicots	PDNYC010N4	61	3	None	None	G4G5T2	S2	1B.1	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Coastal dunes
<i>Accipiter cooperii</i>	Cooper's hawk	Birds	ABNKC12040	118	8	None	None	G5	S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	Cismontane woodland, Riparian forest, Riparian woodland, Upper montane coniferous forest
<i>Accipiter gentilis</i>	northern goshawk	Birds	ABNKC12060	433	1	None	None	G5	S3	null	BLM_S-Sensitive, CDF_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive	North coast coniferous forest, Subalpine coniferous forest, Upper montane coniferous forest
<i>Accipiter striatus</i>	sharp-shinned hawk	Birds	ABNKC12020	22	10	None	None	G5	S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	Cismontane woodland, Lower montane coniferous forest, Riparian forest, Riparian woodland
<i>Acipenser medirostris</i>	green sturgeon	Fish	AFCOA01030	1	1	Threatened	None	G3	S1S2	null	AFS_VU-Vulnerable, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened, NMFS_SC-Species of Concern	Aquatic, Klamath/North coast flowing waters, Sacramento/San Joaquin flowing waters
<i>Agelaius tricolor</i>	tricolored blackbird	Birds	ABPBXB0020	955	1	None	Threatened	G2G3	S1S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern	Freshwater marsh, Marsh & swamp, Swamp, Wetland
<i>Ammodramus savannarum</i>	grasshopper sparrow	Birds	ABPBXA0020	27	1	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Valley & foothill grassland
<i>Anodonta californiensis</i>	California floater	Mollusks	IMBIV04020	6	1	None	None	G3Q	S2?	null	USFS_S-Sensitive	Aquatic
<i>Antrozous pallidus</i>	pallid bat	Mammals	AMACC10010	420	1	None	None	G5	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-	Chaparral, Coastal scrub, Desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Riparian woodland, Sonoran desert scrub, Upper montane coniferous forest, Valley & foothill grassland

											Sensitive, WBWG_H-High Priority	
Aplodontia rufa humboldtiana	Humboldt mountain beaver	Mammals	AMAF01017	28	6	None	None	G5TNR	SNR	null	null	Coastal scrub, Redwood, Riparian forest
Aquila chrysaetos	golden eagle	Birds	ABNKC22010	321	11	None	None	G5	S3	null	BLM_S-Sensitive, CDFW_S-Sensitive, CDFW_FP-Fully Protected, CDFW_WL-Watch List, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Broadleaved upland forest, Cismontane woodland, Coastal prairie, Great Basin grassland, Great Basin scrub, Lower montane coniferous forest, Pinon & juniper woodlands, Upper montane coniferous forest, Valley & foothill grassland
Arborimus pomo	Sonoma tree vole	Mammals	AMAFF23030	222	27	None	None	G3	S3	null	CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened	North coast coniferous forest, Oldgrowth, Redwood
Ardea alba	great egret	Birds	ABNGA04040	43	3	None	None	G5	S4	null	CDF_S-Sensitive, IUCN_LC-Least Concern	Brackish marsh, Estuary, Freshwater marsh, Marsh & swamp, Riparian forest, Wetland
Ardea herodias	great blue heron	Birds	ABNGA04010	156	7	None	None	G5	S4	null	CDF_S-Sensitive, IUCN_LC-Least Concern	Brackish marsh, Estuary, Freshwater marsh, Marsh & swamp, Riparian forest, Wetland
Ascaphus truei	Pacific tailed frog	Amphibians	AAABA01010	491	12	None	None	G4	S3S4	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Aquatic, Klamath/North coast flowing waters, Lower montane coniferous forest, North coast coniferous forest, Redwood, Riparian forest
Astragalus agnicidus	Humboldt County milk-vetch	Dicots	PDFAB0F080	64	1	None	Endangered	G2	S2	1B.1	SB_BerrySB-Berry Seed Bank, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Broadleaved upland forest, North coast coniferous forest
Bombus caliginosus	obscure bumble bee	Insects	IIHYM24380	181	9	None	None	G4?	S1S2	null	IUCN_VU-Vulnerable	null
Bombus occidentalis	western bumble bee	Insects	IIHYM24250	279	9	None	Candidate Endangered	G2G3	S1	null	USFS_S-Sensitive	null
Brachyramphus marmoratus	marbled murrelet	Birds	ABNNN06010	110	27	Threatened	Endangered	G3G4	S1	null	CDF_S-Sensitive, IUCN_EN-Endangered, NABCI_RWL-Red Watch List	Lower montane coniferous forest, Oldgrowth, Redwood
Calamagrostis foliosa	leafy reed grass	Monocots	PMPOA170C0	22	1	None	Rare	G3	S3	4.2	null	Coastal bluff scrub, North coast coniferous forest
Cardamine angulata	seaside bittercress	Dicots	PDBRA0K010	38	1	None	None	G4G5	S3	2B.1	null	Lower montane coniferous forest, North coast coniferous forest, Wetland
Carex arcta	northern clustered sedge	Monocots	PMCYP030X0	13	3	None	None	G5	S1	2B.2	null	Bog & fen, North coast coniferous forest, Wetland
Carex leptalea	bristle-stalked sedge	Monocots	PMCYP037E0	8	1	None	None	G5	S1	2B.2	null	Bog & fen, Freshwater marsh, Marsh & swamp, Meadow & seep, Wetland
Castilleja ambigua var. humboldtensis	Humboldt Bay owl's-clover	Dicots	PDSCR0D402	31	1	None	None	G4T2	S2	1B.2	BLM_S-Sensitive	Marsh & swamp, Salt marsh, Wetland
Castilleja litoralis	Oregon coast paintbrush	Dicots	PDSCR0D012	44	1	None	None	G3	S3	2B.2	null	Coastal bluff scrub, Coastal dunes, Coastal scrub
Charadrius alexandrinus nivosus	western snowy plover	Birds	ABNNB03031	138	1	Threatened	None	G3T3	S2S3	null	CDFW_SSC-Species of Special Concern, NABCI_RWL-Red Watch List,	Great Basin standing waters, Sand shore, Wetland

											USFWS_BCC-Birds of Conservation Concern	
Charadrius montanus	mountain plover	Birds	ABNNB03100	90	1	None	None	G3	S2S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern	Chenopod scrub, Valley & foothill grassland
Chloropyron maritimum ssp. palustre	Point Reyes salty bird's-beak	Dicots	PDSCR0J0C3	76	2	None	None	G4?T2	S2	1B.2	BLM_S-Sensitive	Marsh & swamp, Salt marsh, Wetland
Clarkia amoena ssp. whitneyi	Whitney's farewell-to-spring	Dicots	PDONA05025	8	1	None	None	G5T1	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_UCBG-UC Botanical Garden at Berkeley	Coastal bluff scrub, Coastal scrub
Coptis laciniata	Oregon goldthread	Dicots	PDRAN0A020	122	3	None	None	G4?	S3?	4.2	null	Meadow & seep, North coast coniferous forest, Wetland
Corynorhinus townsendii	Townsend's big-eared bat	Mammals	AMACC08010	635	5	None	None	G3G4	S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive, WBWG_H-High Priority	Broadleaved upland forest, Chaparral, Chenopod scrub, Great Basin grassland, Great Basin scrub, Joshua tree woodland, Lower montane coniferous forest, Meadow & seep, Mojavean desert scrub, Riparian forest, Riparian woodland, Sonoran desert scrub, Sonoran thorn woodland, Upper montane coniferous forest, Valley & foothill grassland
Downingia willamettensis	Cascade downingia	Dicots	PDCAM060E0	8	4	None	None	G4	S2	2B.2	null	Cismontane woodland, Valley & foothill grassland, Vernal pool
Egretta thula	snowy egret	Birds	ABNGA06030	20	1	None	None	G5	S4	null	IUCN_LC-Least Concern	Marsh & swamp, Meadow & seep, Riparian forest, Riparian woodland, Wetland
Emys marmorata	western pond turtle	Reptiles	ARAAD02030	1385	18	None	None	G3G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable, USFS_S-Sensitive	Aquatic, Artificial flowing waters, Klamath/North coast flowing waters, Klamath/North coast standing waters, Marsh & swamp, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters, South coast standing waters, Wetland
Entosphenus tridentatus	Pacific lamprey	Fish	AFBAA02100	9	3	None	None	G4	S4	null	AFS_VU-Vulnerable, BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, USFS_S-Sensitive	Aquatic, Klamath/North coast flowing waters, Sacramento/San Joaquin flowing waters, South coast flowing waters
Erethizon dorsatum	North American porcupine	Mammals	AMAFJ01010	523	13	None	None	G5	S3	null	IUCN_LC-Least Concern	Broadleaved upland forest, Cismontane woodland, Closed-cone coniferous forest, Lower montane coniferous forest, North coast coniferous forest, Upper montane coniferous forest
Erythronium oregonum	giant fawn lily	Monocots	PMLIL0U0C0	38	7	None	None	G4G5	S2	2B.2	null	Cismontane woodland, Meadow & seep, Ultramafic
Erythronium revolutum	coast fawn lily	Monocots	PMLIL0U0F0	164	45	None	None	G4G5	S3	2B.2	null	Bog & fen, Broadleaved upland forest, North coast coniferous forest, Wetland
Eucyclogobius newberryi	tidewater goby	Fish	AFCQN04010	127	2	Endangered	None	G3	S3	null	AFS_EN-Endangered, CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable	Aquatic, Klamath/North coast flowing waters, Sacramento/San Joaquin flowing waters, South coast flowing waters
Falco peregrinus anatum	American peregrine falcon	Birds	ABNKD06071	56	1	Delisted	Delisted	G4T4	S3S4	null	CDF_S-Sensitive, CDFW_FP-Fully Protected, USFWS_BCC-Birds of Conservation Concern	null

Fissidens pauperculus	minute pocket moss	Bryophytes	NBMUS2W0U0	22	1	None	None	G3?	S2	1B.2	USFS_S-Sensitive	North coast coniferous forest, Redwood
Gilia capitata ssp. pacifica	Pacific gilia	Dicots	PDPLM040B6	83	26	None	None	G5T3	S2	1B.2	null	Chaparral, Coastal bluff scrub, Coastal prairie, Valley & foothill grassland
Gilia millefoliata	dark-eyed gilia	Dicots	PDPLM04130	54	1	None	None	G2	S2	1B.2	BLM_S-Sensitive	Coastal dunes
Haliaeetus leucocephalus	bald eagle	Birds	ABNKC10010	327	1	Delisted	Endangered	G5	S3	null	BLM_S-Sensitive, CDF_S-Sensitive, CDFW_FP-Fully Protected, IUCN_LC-Least Concern, USFS_S-Sensitive, USFWS_BCC-Birds of Conservation Concern	Lower montane coniferous forest, Oldgrowth
Hesperevax sparsiflora var. brevifolia	short-leaved evax	Dicots	PDASTE5011	72	1	None	None	G4T3	S2	1B.2	BLM_S-Sensitive	Coastal bluff scrub, Coastal dunes, Coastal prairie
Lampetra richardsoni	western brook lamprey	Fish	AFBAA02090	4	3	None	None	G4G5	S3S4	null	CDFW_SSC-Species of Special Concern, USFS_S-Sensitive	null
Lasiurus blossevillii	western red bat	Mammals	AMACC05060	128	3	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, WBWG_H-High Priority	Cismontane woodland, Lower montane coniferous forest, Riparian forest, Riparian woodland
Lasiurus cinereus	hoary bat	Mammals	AMACC05030	238	1	None	None	G5	S4	null	IUCN_LC-Least Concern, WBWG_M-Medium Priority	Broadleaved upland forest, Cismontane woodland, Lower montane coniferous forest, North coast coniferous forest
Layia carnosa	beach layia	Dicots	PDAST5N010	25	1	Endangered	Endangered	G2	S2	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden	Coastal dunes, Coastal scrub
Lilium occidentale	western lily	Monocots	PMLIL1A0G0	16	5	Endangered	Endangered	G1	S1	1B.1	SB_BerrySB-Berry Seed Bank	Bog & fen, Coastal bluff scrub, Coastal prairie, Coastal scrub, Freshwater marsh, Marsh & swamp, North coast coniferous forest, Wetland
Lycopodium clavatum	running-pine	Ferns	PPLYC01080	120	34	None	None	G5	S3	4.1	null	Lower montane coniferous forest, Marsh & swamp, North coast coniferous forest, Wetland
Margaritifera falcata	western pearlshell	Mollusks	IMBIV27020	78	1	None	None	G4G5	S1S2	null	null	Aquatic
Martes caurina humboldtensis	Humboldt marten	Mammals	AMAJF01012	44	3	None	Endangered	G5T1	S1	null	CDFW_SSC-Species of Special Concern, USFS_S-Sensitive	North coast coniferous forest, Oldgrowth, Redwood
Meesia triquetra	three-ranked hump moss	Bryophytes	NBMUS4L020	19	1	None	None	G5	S4	4.2	null	Bog & fen, Meadow & seep, Subalpine coniferous forest, Upper montane coniferous forest, Wetland
Mitellastra caulescens	leafy-stemmed mitrewort	Dicots	PDSAX0N020	21	1	None	None	G5	S4	4.2	null	Broadleaved upland forest, Lower montane coniferous forest, Meadow & seep, North coast coniferous forest
Montia howellii	Howell's montia	Dicots	PDPOR05070	114	63	None	None	G3G4	S2	2B.2	null	Meadow & seep, North coast coniferous forest, Vernal pool, Wetland
Myotis evotis	long-eared myotis	Mammals	AMACC01070	139	2	None	None	G5	S3	null	BLM_S-Sensitive, IUCN_LC-Least Concern, WBWG_M-Medium Priority	null
Myotis volans	long-legged myotis	Mammals	AMACC01110	117	1	None	None	G5	S3	null	IUCN_LC-Least Concern, WBWG_H-High Priority	Upper montane coniferous forest
Myotis yumanensis	Yuma myotis	Mammals	AMACC01020	265	2	None	None	G5	S4	null	BLM_S-Sensitive, IUCN_LC-Least	Lower montane coniferous forest, Riparian forest, Riparian woodland, Upper montane coniferous forest

											Concern, WBWG_LM-Low-Medium Priority	
Navarretia leucocephala ssp. bakeri	Baker's navarretia	Dicots	PDPLM0C0E1	64	1	None	None	G4T2	S2	1B.1	null	Cismontane woodland, Lower montane coniferous forest, Meadow & seep, Valley & foothill grassland, Vernal pool, Wetland
Noccaea fendleri ssp. californica	Kneeland Prairie pennycress	Dicots	PDBRA2P041	1	1	Endangered	None	G5?T1	S1	1B.1	null	Broadleaved upland forest, Coastal prairie, Ultramafic
North Central Coast Summer Steelhead Stream	North Central Coast Summer Steelhead Stream	Inland Waters	CARA2634CA	2	1	None	None	GNR	SNR	null	null	null
Northern Coastal Salt Marsh	Northern Coastal Salt Marsh	Marsh	CTT52110CA	53	1	None	None	G3	S3.2	null	null	Marsh & swamp, Wetland
Noyo intersessa	Ten Mile shoulderband	Mollusks	IMGASC5070	3	1	None	None	G2	S2	null	null	Coastal dunes, Coastal scrub, Redwood, Riparian forest
Nycticorax nycticorax	black-crowned night heron	Birds	ABNGA11010	37	3	None	None	G5	S4	null	IUCN_LC-Least Concern	Marsh & swamp, Riparian forest, Riparian woodland, Wetland
Oncorhynchus clarkii clarkii	coast cutthroat trout	Fish	AFCHA0208A	45	5	None	None	G4T4	S3	null	AFS_VU-Vulnerable, CDFW_SSC-Species of Special Concern, USFS_S-Sensitive	Aquatic, Klamath/North coast flowing waters
Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	Fish	AFCHA02032	10	3	Threatened	Threatened	G4T2Q	S2?	null	AFS_TH-Threatened	Aquatic, Klamath/North coast flowing waters, Sacramento/San Joaquin flowing waters
Oncorhynchus mykiss irideus pop. 16	steelhead - northern California DPS	Fish	AFCHA0209Q	12	3	Threatened	None	G5T2T3Q	S2S3	null	AFS_TH-Threatened	Aquatic, Sacramento/San Joaquin flowing waters
Oncorhynchus mykiss irideus pop. 36	summer-run steelhead trout	Fish	AFCHA0213B	20	2	None	Candidate Endangered	G5T4Q	S2	null	CDFW_SSC-Species of Special Concern	Aquatic, Klamath/North coast flowing waters, Sacramento/San Joaquin flowing waters
Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	Fish	AFCHA0205S	1	1	Threatened	None	G5	S1	null	AFS_TH-Threatened	Aquatic, Sacramento/San Joaquin flowing waters
Packera bolanderi var. bolanderi	seacoast ragwort	Dicots	PDAST8H0H1	70	44	None	None	G4T4	S2S3	2B.2	null	Coastal scrub, North coast coniferous forest
Pandion haliaetus	osprey	Birds	ABNKC01010	504	67	None	None	G5	S4	null	CDF_S-Sensitive, CDFW_WL-Watch List, IUCN_LC-Least Concern	Riparian forest
Pekania pennanti	fisher - West Coast DPS	Mammals	AMAJF01021	743	4	None	Threatened	G5T2T3Q	S2S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, USFS_S-Sensitive	North coast coniferous forest, Oldgrowth, Riparian forest
Piperia candida	white-flowered rein orchid	Monocots	PMORC1X050	222	32	None	None	G3	S3	1B.2	null	Broadleaved upland forest, Lower montane coniferous forest, North coast coniferous forest, Ultramafic
Plethodon elongatus	Del Norte salamander	Amphibians	AAAAD12050	151	1	None	None	G4	S3	null	CDFW_WL-Watch List, IUCN_NT-Near Threatened	Oldgrowth
Polemonium carneum	Oregon polemonium	Dicots	PDPLM0E050	16	1	None	None	G3G4	S2	2B.2	null	Coastal prairie, Coastal scrub, Lower montane coniferous forest
Rana aurora	northern red-legged frog	Amphibians	AAABH01021	292	34	None	None	G4	S3	null	CDFW_SSC-Species of Special Concern,	Klamath/North coast flowing waters, Riparian forest, Riparian woodland

											IUCN_LC-Least Concern, USFS_S-Sensitive	
<i>Rana boylei</i>	foothill yellow-legged frog	Amphibians	AAABH01050	2468	69	None	Endangered	G3	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened, USFS_S-Sensitive	Aquatic, Chaparral, Cismontane woodland, Coastal scrub, Klamath/North coast flowing waters, Lower montane coniferous forest, Meadow & seep, Riparian forest, Riparian woodland, Sacramento/San Joaquin flowing waters
<i>Rhyacotriton variegatus</i>	southern torrent salamander	Amphibians	AAAAJ01020	416	23	None	None	G3G4	S2S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive	Lower montane coniferous forest, Oldgrowth, Redwood, Riparian forest
<i>Riparia riparia</i>	bank swallow	Birds	ABPAU08010	298	3	None	Threatened	G5	S2	null	BLM_S-Sensitive, IUCN_LC-Least Concern	Riparian scrub, Riparian woodland
<i>Sidalcea malachroides</i>	maple-leaved checkerbloom	Dicots	PDMAL110E0	136	62	None	None	G3	S3	4.2	null	Broadleaved upland forest, Coastal prairie, Coastal scrub, North coast coniferous forest, Riparian forest
<i>Sidalcea malviflora</i> ssp. <i>patula</i>	Siskiyou checkerbloom	Dicots	PDMAL110F9	53	21	None	None	G5T2	S2	1B.2	null	Coastal bluff scrub, Coastal prairie, North coast coniferous forest
<i>Sidalcea oregana</i> ssp. <i>eximia</i>	coast checkerbloom	Dicots	PDMAL110K9	19	4	None	None	G5T1	S1	1B.2	null	Lower montane coniferous forest, Meadow & seep, North coast coniferous forest, Wetland
<i>Spergularia canadensis</i> var. <i>occidentalis</i>	western sand-spurrey	Dicots	PDCAR0W032	4	1	None	None	G5T4	S1	2B.1	null	Marsh & swamp, Wetland
<i>Spirinchus thaleichthys</i>	longfin smelt	Fish	AFCHB03010	46	4	Candidate	Threatened	G5	S1	null	null	Aquatic, Estuary
<i>Thaleichthys pacificus</i>	eulachon	Fish	AFCHB04010	10	1	Threatened	None	G5	S3	null	null	Aquatic, Klamath/North coast flowing waters
Upland Douglas Fir Forest	Upland Douglas Fir Forest	Forest	CTT82420CA	15	2	None	None	G4	S3.1	null	null	North coast coniferous forest
<i>Usnea longissima</i>	Methuselah's beard lichen	Lichens	NLLEC5P420	206	132	None	None	G4	S4	4.2	BLM_S-Sensitive	Broadleaved upland forest, North coast coniferous forest, Oldgrowth, Redwood

*The database used to provide updates to the Online Inventory is under construction. [View updates and changes made since May 2019 here.](#)

Plant List

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

Search Criteria

Found in Quads 4012462, 4012461, 4012368, 4012452, 4012358, 4012442, 4012441, 4012348, 4012451, 4012347, 4012357, 4012338 4012337 and 4012431;

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Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Abronia umbellata var. breviflora	pink sand-verbena	Nyctaginaceae	perennial herb	Jun-Oct	1B.1	S2	G4G5T2
Angelica lucida	sea-watch	Apiaceae	perennial herb	May-Sep	4.2	S3	G5
Astragalus agnicidus	Humboldt County milk-vetch	Fabaceae	perennial herb	Apr-Sep	1B.1	S2	G2
Calamagrostis foliosa	leafy reed grass	Poaceae	perennial herb	May-Sep	4.2	S3	G3
Carex arcta	northern clustered sedge	Cyperaceae	perennial herb	Jun-Sep	2B.2	S1	G5
Carex leptalea	bristle-stalked sedge	Cyperaceae	perennial rhizomatous herb	Mar-Jul	2B.2	S1	G5
Castilleja ambigua var. ambigua	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	Mar-Aug	4.2	S3S4	G4T4
Castilleja ambigua var. humboldtensis	Humboldt Bay owl's-clover	Orobanchaceae	annual herb (hemiparasitic)	Apr-Aug	1B.2	S2	G4T2
Castilleja litoralis	Oregon coast paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Jun-Jul	2B.2	S3	G3
Chloropyron maritimum ssp. palustre	Point Reyes bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Oct	1B.2	S2	G4?T2
Chrysosplenium glechomifolium	Pacific golden saxifrage	Saxifragaceae	perennial herb	Feb-Jun(Jul)	4.3	S3	G5?

<u>Clarkia amoena ssp. whitneyi</u>	Whitney's farewell-to-spring	Onagraceae	annual herb	Jun-Aug	1B.1	S1	G5T1
<u>Collomia tracyi</u>	Tracy's collomia	Polemoniaceae	annual herb	Jun-Jul	4.3	S4	G4
<u>Coptis laciniata</u>	Oregon goldthread	Ranunculaceae	perennial rhizomatous herb	(Feb)Mar-May(Sep-Nov)	4.2	S3?	G4?
<u>Downingia willamettensis</u>	Cascade downingia	Campanulaceae	annual herb	Jun-Jul(Sep)	2B.2	S2	G4
<u>Epilobium oreganum</u>	Oregon fireweed	Onagraceae	perennial herb	Jun-Sep	1B.2	S2	G2
<u>Epilobium septentrionale</u>	Humboldt County fuchsia	Onagraceae	perennial herb	Jul-Sep	4.3	S4	G4
<u>Erysimum menziesii</u>	Menzies' wallflower	Brassicaceae	perennial herb	Mar-Sep	1B.1	S1	G1
<u>Erythronium oregonum</u>	giant fawn lily	Liliaceae	perennial bulbiferous herb	Mar-Jun(Jul)	2B.2	S2	G4G5
<u>Erythronium revolutum</u>	coast fawn lily	Liliaceae	perennial bulbiferous herb	Mar-Jul(Aug)	2B.2	S3	G4G5
<u>Fissidens pauperculus</u>	minute pocket moss	Fissidentaceae	moss		1B.2	S2	G3?
<u>Gilia capitata ssp. pacifica</u>	Pacific gilia	Polemoniaceae	annual herb	Apr-Aug	1B.2	S2	G5T3
<u>Gilia millefoliata</u>	dark-eyed gilia	Polemoniaceae	annual herb	Apr-Jul	1B.2	S2	G2
<u>Glehnia littoralis ssp. leiocarpa</u>	American glehnia	Apiaceae	perennial herb	May-Aug	4.2	S2S3	G5T5
<u>Hesperervax sparsiflora var. brevifolia</u>	short-leaved evax	Asteraceae	annual herb	Mar-Jun	1B.2	S2	G4T3
<u>Hesperolinon adenophyllum</u>	glandular western flax	Linaceae	annual herb	May-Aug	1B.2	S2S3	G2G3
<u>Lathyrus glandulosus</u>	sticky pea	Fabaceae	perennial rhizomatous herb	Apr-Jun	4.3	S3	G3
<u>Layia carnosa</u>	beach layia	Asteraceae	annual herb	Mar-Jul	1B.1	S2	G2
<u>Lilium kelloggii</u>	Kellogg's lily	Liliaceae	perennial bulbiferous herb	May-Aug	4.3	S3	G3
<u>Lilium occidentale</u>	western lily	Liliaceae	perennial bulbiferous herb	Jun-Jul	1B.1	S1	G1
<u>Lilium rubescens</u>	redwood lily	Liliaceae	perennial bulbiferous herb	Apr-Aug(Sep)	4.2	S3	G3
<u>Listera cordata</u>	heart-leaved twayblade	Orchidaceae	perennial herb	Feb-Jul	4.2	S4	G5
<u>Lycopodium clavatum</u>	running-pine	Lycopodiaceae	perennial rhizomatous herb	Jun-Aug(Sep)	4.1	S3	G5
<u>Mitellastrum caulescens</u>	leafy-stemmed mitrewort	Saxifragaceae	perennial rhizomatous herb	(Mar)Apr-Oct	4.2	S4	G5
<u>Montia howellii</u>	Howell's montia	Montiaceae	annual herb	(Jan-Feb)Mar-May	2B.2	S2	G3G4
<u>Nocca fendleri ssp. californica</u>	Kneeland Prairie pennycress	Brassicaceae	perennial herb	May-Jun	1B.1	S1	G5?T1
<u>Packera bolanderi var. bolanderi</u>	seacoast ragwort	Asteraceae	perennial rhizomatous herb	(Jan-Apr)May-Jul(Aug)	2B.2	S2S3	G4T4
<u>Piperia candida</u>	white-flowered rein orchid	Orchidaceae	perennial herb	(Mar)May-Sep	1B.2	S3	G3
	California pinefoot	Ericaceae	perennial herb	(Mar-Apr)May-Aug	4.2	S4	G4G5

(achlorophyllous)

<u>Pityopus californicus</u>							
<u>Pleuropogon refractus</u>	nodding semaphore grass	Poaceae	perennial rhizomatous herb	(Mar)Apr-Aug	4.2	S4	G4
<u>Polemonium carneum</u>	Oregon polemonium	Polemoniaceae	perennial herb	Apr-Sep	2B.2	S2	G3G4
<u>Ribes laxiflorum</u>	trailing black currant	Grossulariaceae	perennial deciduous shrub	Mar-Jul(Aug)	4.3	S3	G5?
<u>Ribes roezlii var. amictum</u>	hoary gooseberry	Grossulariaceae	perennial deciduous shrub	Mar-Apr	4.3	S4	G5T4
<u>Sidalcea malachroides</u>	maple-leaved checkerbloom	Malvaceae	perennial herb	(Mar)Apr-Aug	4.2	S3	G3
<u>Sidalcea malviflora ssp. patula</u>	Siskiyou checkerbloom	Malvaceae	perennial rhizomatous herb	(Apr)May-Aug	1B.2	S2	G5T2
<u>Sidalcea oregana ssp. eximia</u>	coast checkerbloom	Malvaceae	perennial herb	Jun-Aug	1B.2	S1	G5T1
<u>Spergularia canadensis var. occidentalis</u>	western sand-spurrey	Caryophyllaceae	annual herb	Jun-Aug	2B.1	S1	G5T4
<u>Tiarella trifoliata var. trifoliata</u>	trifoliate laceflower	Saxifragaceae	perennial rhizomatous herb	(May)Jun-Aug	3.2	S2S3	G5T5
<u>Usnea longissima</u>	Methuselah's beard lichen	Parmeliaceae	fruticose lichen (epiphytic)		4.2	S4	G4

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NMFS Species List 01-0F160 Carlotta Curve

Quad Name **Owl Creek**

Quad Number **40123-E8**

ESA Anadromous Fish

SONCC Coho ESU (T) - **X**
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) - **X**
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) - **X**
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat - **X**
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat - **X**
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat - **X**
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -

Olive Ridley Sea Turtle (T/E) -

Leatherback Sea Turtle (E) -

North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -

Fin Whale (E) -

Humpback Whale (E) -

Southern Resident Killer Whale (E) -

North Pacific Right Whale (E) -

Sei Whale (E) -

Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -

Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -

X

Chinook Salmon EFH -

X

Groundfish EFH -

Coastal Pelagics EFH -

Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

**See list at left and consult the NMFS Long Beach office
562-980-4000**

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Redcrest**
Quad Number **40123-D8**

ESA Anadromous Fish

SONCC Coho ESU (T) - **X**
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) - **X**
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) - **X**
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat - **X**
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat - **X**
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat - **X**
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -

CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -	X
Chinook Salmon EFH -	X
Groundfish EFH -	

Coastal Pelagics EFH -

Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

**See list at left and consult the NMFS Long Beach office
562-980-4000**

MMPA Cetaceans -

MMPA Pinnipeds -



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Arcata Fish And Wildlife Office

1655 Heindon Road

Arcata, CA 95521-4573

Phone: (707) 822-7201 Fax: (707) 822-8411



In Reply Refer To:

July 20, 2020

Consultation Code: 08EACT00-2019-SLI-0322

Event Code: 08EACT00-2020-E-00716

Project Name: 01-0F160 Carlotta Curve Safety Project

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List
-

Official Species List

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

This species list is provided by:

Arcata Fish And Wildlife Office

1655 Heindon Road

Arcata, CA 95521-4573

(707) 822-7201

Project Summary

Consultation Code: 08EACT00-2019-SLI-0322

Event Code: 08EACT00-2020-E-00716

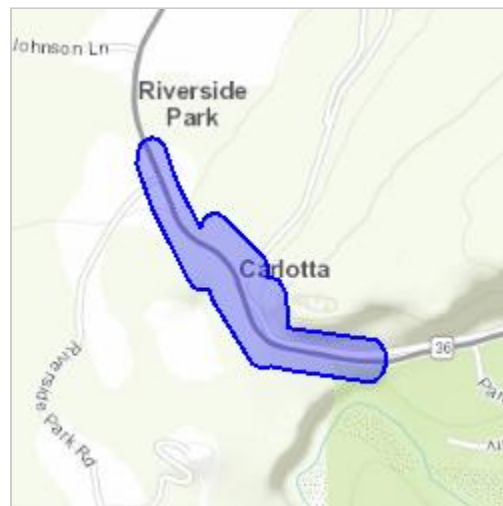
Project Name: 01-0F160 Carlotta Curve Safety Project

Project Type: TRANSPORTATION

Project Description: Adjust roadway, build retaining wall, and replace culverts in-kind

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/40.50069047196109N123.98930237062717W>



Counties: Humboldt, CA

Endangered Species Act Species

There is a total of 4 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

Birds

NAME	STATUS
Marbled Murrelet <i>Brachyramphus marmoratus</i> Population: U.S.A. (CA, OR, WA) There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Northern Spotted Owl <i>Strix occidentalis caurina</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Western Snowy Plover <i>Charadrius nivosus nivosus</i> Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is proposed critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Critical habitats

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