

Chapter 2. CEQA Environmental Checklist

2.1. Environmental Factors Potentially Affected

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

Potential Impact Area	Impacted: Yes / No
Aesthetics	Yes
Agriculture and Forest Resources	No
Air Quality	No
Biological Resources	Yes
Cultural Resources	Yes
Energy	No
Geology and Soils	No
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/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, the baseline for environmental impact analysis normally 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 (IS). CEQA allows for a “mitigated negative declaration (MND)” 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 (14 CCR §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 potentially significant impact (CEQA § 15370).

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

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

2.3. Aesthetics

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

Regulatory Setting

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

Environmental Setting

The project area is adjacent to U.S. 101 and within Redwood National Park (RNP) and Del Norte Coast Redwoods State Park (DNCRSP), on Green Diamond Resource Company (GDRC) land, and within Caltrans’ right of way (ROW); portions of work in RNP, DNCRSP, and Caltrans’ ROW are in the Coastal Zone. The area is highly rural and is characterized by mountainous terrain, redwood forest (including old-growth), and the adjacent Pacific Ocean, which is visible

from parts of the project area. Both the Pacific Ocean and old-growth redwood forests are considered scenic resources.

The section of U.S. 101 in the area is officially designated as a State Scenic Highway and is listed as a view corridor for the False Klamath Cove area by the Del Norte County General Plan Coastal Element. In addition, Redwood National and State Parks, which includes RNP and DNCRSP, is listed as a Natural Site in the United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage system. The project area also includes portions of the California Coastal Trail, and a backcountry campground known as the DeMartin Campground.

Discussion of Environmental Evaluation Question 2.3—Aesthetics

A Visual Impact Assessment (VIA) (Caltrans 2019i) was prepared to document potential impacts to visual resources.

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

A “No Impact” determination was made for this question based on the scope, description, and location of the proposed project, as well as the VIA.

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

A “No Impact” determination was made for this question based on the scope, description, and location of the proposed project, as well as the VIA.

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.)

The geotechnical investigation includes activities that would be accessed via U.S. 101, by off-highway roads and trails, and by helicopter:

- ***U.S. 101 Access:*** Bore locations B-23 and B-24 would be accessed directly from U.S. 101 and, though accessed by helicopter, location B-22 is close to the highway. Views of construction activities are common on the highway within the project area; therefore, it is not anticipated highway viewers would have a high level of sensitivity to seeing construction equipment.

- **Existing Roads and Trails:**
 - **GDRC:** Two locations would require minor grading. Because the land is actively managed for timber production (where tree and vegetation removal and grading are typical activities), it is anticipated that viewers on Green Diamond land would have very low sensitivity and exposure to the project activities, and subsequently have a very low viewer response.
 - **RNP:** During work activities at drilling sites B-19, B-20, B-25, and B-26, a portion of the Coastal Trail and the DeMartin Campground would be closed for approximately six to eight weeks. Trail users would not have access or views of the work areas until construction activities are over. It is anticipated that trail users would not be sensitive to specific changes, but rather broad changes that visually stand out when compared with the rest of the trail, such as areas with uncharacteristic vegetation trimming. Park staff would likely have a higher level of viewer exposure as they actively use and manage the access roads and trails, and are overall more sensitive to construction work in the Park due to the nature of their work. This leads to a higher level of viewer response to any changes to the visual environment.
 - **DNCRSP:** No existing roads or trails would be used on State Park land.
- **Bore Locations:** Vegetation trimming would occur at each bore location, and standpipe monitoring wells and/or slope indicators would be installed. Bore locations B-16, B-22, B-23, B-24, B-26, B-28, B-29, B-30 (A or B), B-34 (A or B), B-35, and B-36 are in locations where Park visitors and Green Diamond employees typically do not access; therefore, no viewer response would be anticipated. Bore locations B-20 and B-25 are on the Coastal Trail and location B-19 is within the DeMartin Campground. The same viewer response is anticipated as what is described above under Existing Roads and Trails.
- **Seismic Refraction Lines:** With the exception of SL 23, which is partly in the DeMartin Campground, none of the seismic lines are in areas where Park visitors or Green Diamond employees would typically access. Minimal vegetation trimming would be required for SL 23. Given this, it is anticipated there would be very low to no viewer response.

Based on the bulleted items below, the VIA concluded the visual impacts would be low. Given this, a “Less Than Significant Impact” determination was made for this question.

- Standpipe monitoring wells and/or slope indicators would have low visibility and would not detract from views of the area.
- Seismic line work would not likely be visible to viewers.
- Areas with vegetation trimming would result in changes to visual resources adjacent to the Coastal Trail and DeMartin Campground; however, it is anticipated that project areas would have a high rate of natural recruitment and disturbed areas would be restored.

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

A “No Impact” determination was made for this question based on the scope, description, and location of the proposed project, as well as the VIA.

Mitigation Measures

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

No Build Alternative

The existing condition would remain the same if the geotechnical investigation did not occur; therefore, per CEQA, “No Impact” would occur.

2.4. Agriculture and Forest Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection (Cal Fire) 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?				√
Would the project: b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				√
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))?				√
Would the project: d) Result in the loss of forest land or conversion of forest land to non-forest use?				√

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p>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?</p>				√

“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 the scope of work would not conflict with the zoning of or result in the loss or conversion of timberland (although there is timberland within the project area).

Mitigation Measures

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

No Build Alternative

The existing condition would remain the same if the geotechnical investigation did not occur; therefore, per CEQA, “No Impact” would occur.

2.5. Air Quality

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

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

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the project’s analysis on air quality (Caltrans 2019c). Conformity requirements do not apply as Del Norte County is designated as attainment or is unclassified for all current National Air Quality Standards.

Mitigation Measures

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

No Build Alternative

The existing condition would remain the same if the geotechnical investigation did not occur; therefore, per CEQA, “No Impact” would occur.

2.6. Biological Resources

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p>Would the project: a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or NOAA Fisheries?</p>			√	
<p>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?</p>			√	
<p>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?</p>				√
<p>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?</p>				√
<p>Would the project: e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</p>				√
<p>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?</p>				√

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 (CFGF, § 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 (SNC) in the California Natural Diversity Database (CNDDB). SNC 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 SNC 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 U.S. (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 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) 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 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 (CFGC) 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) would be required. CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

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

Plant Species

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

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

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

Animal Species

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

Federal laws and regulations pertaining to wildlife include the following:

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

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act (CEQA)
- Sections 1600–1603 of the CFGC
- Sections 4150 and 4152 of the CFGC

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), CFGC Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. CDFW is the agency responsible for implementing CESA. Section 2080 of the CFGC prohibits “Take” of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the CFGC 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 CFGC.

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 guidance issued August 10, 1999, directs the use of the State’s invasive species list, maintained by the California Invasive Species Council (Cal-IPC) to define the invasive species that must be considered as part of the NEPA analysis for a proposed project.

Environmental Setting

To comply with the provisions of various state and federal environmental statutes and executive orders, potential impacts to natural resources in the project area were investigated and documented. Field reviews were conducted to identify existing habitat types and natural communities, waters and wetlands, rare species and/or factors indicating the potential for rare species (i.e., presence of suitable habitat). Information on survey dates and personnel are listed in Appendix F.

A Natural Environment Study (NES) (Caltrans 2019g) was prepared to summarize the studies conducted for the project, including a Botanical Survey and Habitat Assessment Report (Caltrans 2019b), Aquatic Resources Delineation (Caltrans 2019a), and an Environmentally Sensitive Habitat Assessment (Caltrans 2019d). Caltrans coordinated with fisheries biologists and water quality specialists, as well as agency personnel from DNCRSP, RNP, CDFW, USFWS, NMFS, and USACE. See Chapter 3 for a summary of these coordination efforts and professional contacts.

Environmental Study Limits (ESL) and a Biological Study Area (BSA) (see Figure 3) were established to evaluate the potential presence of SNC, aquatic resources, and special-status plants and animals. The ESL includes all areas of potential impacts and is defined as 100 feet from all project components in the Coastal Zone and 50 feet from all project components outside the Coastal Zone. The 100-foot ESL within the Coastal Zone is to satisfy the California Coastal Zone Conservation Act and Del Norte County local coast permit requirements of 100-foot buffer from all Environmentally Sensitive Habitat Areas (ESHAs). The ESL covers approximately 66 acres.

Portions of the project are located within the Coastal Zone. Redwood National Park is under State jurisdiction, whereas areas outside NPS land are under “Local” jurisdiction (i.e., Del Norte County).

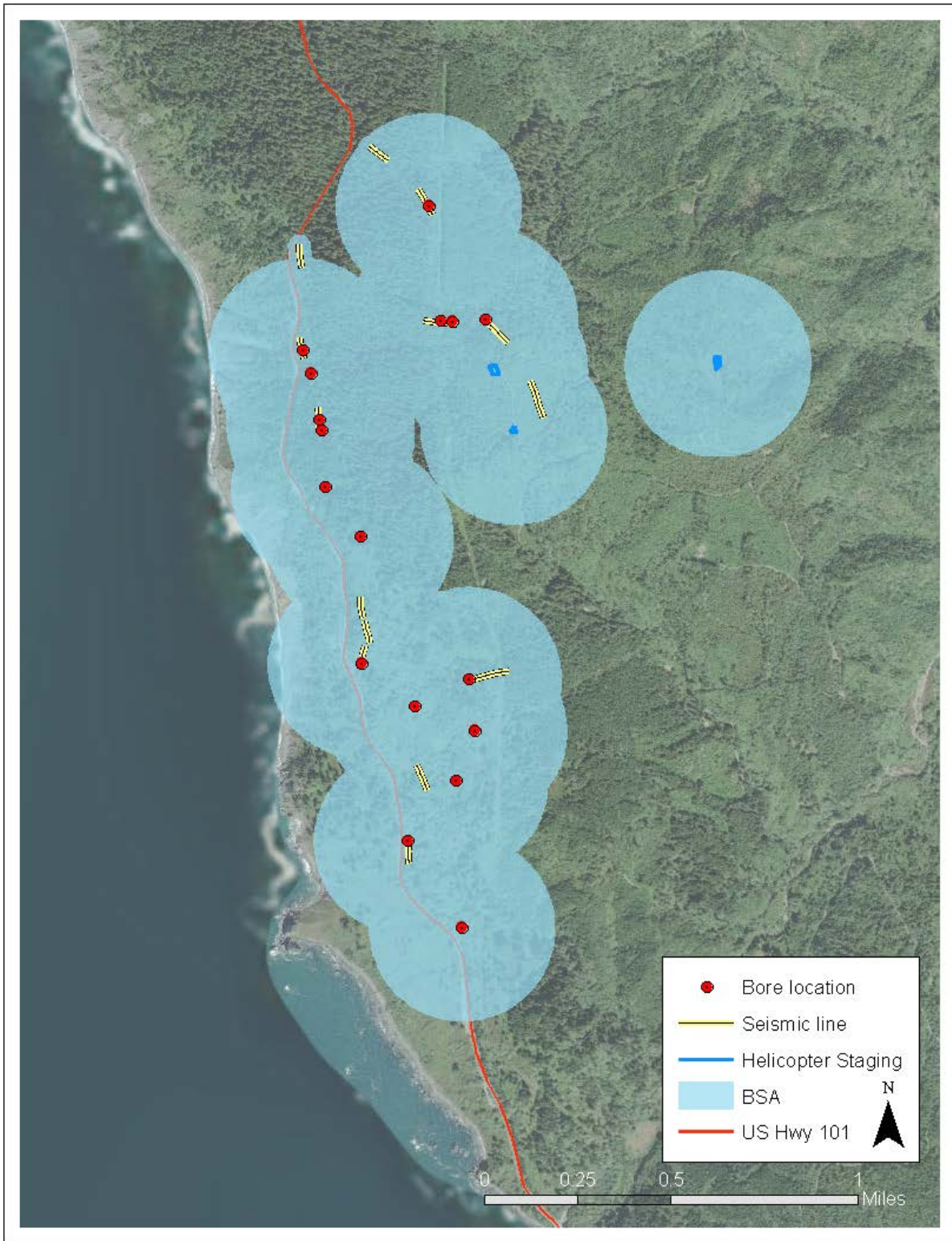


Figure 3. Biological Study Area

The BSA includes all areas of potential indirect effects and consists of the project footprint (e.g., bore holes, seismic lines, staging areas and road work) and a 165- to 1,320-foot buffer zone for terrestrial resources. The 165-foot buffer³ was used to assess the portion of the project that would be accessed from vehicles and on foot. The 1,320-foot buffer was used to assess work sites that would be accessed via helicopter. The BSA covers approximately 1,200 acres⁴. Both the ESL and BSA comprise the DNCRSP, RNP, GDRC, and ROW land.

The project is located in northwest California within a mountainous region comprising elongated ranges and valleys that trend in a northwesterly direction. The region typically experiences wet, cool winters and moist, mild, foggy summers. Within the project limits, the average high temperature is 61 degrees Fahrenheit (°F), ranging from 66.8°F in July to 54.1°F in January; the average low temperature is 44.7°F, ranging from 39.6°F in January to 50.9°F in August. The average annual precipitation is 70.1 inches, with precipitation falling entirely as rain, mostly between October and May, but with an average of at least one inch of rain every month except July (0.44 inch) and August (0.61 inch). Marine fog is also a key component in providing moisture to the area, averaging 35-40 days of heavy fog per year (Midwestern Regional Climate Center).

The primary source of hydrology in the project limits is direct precipitation, runoff, and marine fog. The survey area is at the south end of the Smith River watershed (hydrologic unit code 18010101) (U.S. Geological Survey 2019). Aquatic resources in the BSA consist of small, intermittent streams, ephemeral streams, wetlands, and coastal features.

Natural Communities

Based on CDFW's Vegetation Classification and Mapping Program's (VegCamp) list of SNC (CDFW 2018b), the area contains the following SNC and associated alliances: Redwood Forest Alliance (G3/S3), Sitka Spruce Forest Alliance (G5/S2), Coastal Brambles Shrubland Alliance (G4/S3), and Red Alder Forest Alliance (G5/S4) (the sensitive *Alnus rubra* / *Rubus spectabilis* – *Sambucus racemosa* Association was present within the non-sensitive Red Alder Forest Alliance).

³ This distance is based on an analysis from the Programmatic Letter of Concurrence for potential impacts to the marbled murrelet and northern spotted owl (USFWS 2014) that compares the estimated ambient sound levels with anticipated sound levels resulting from construction activities. The buffers are based on sound-related harassment distances of various activities for these species.

⁴ The BSA has been updated to reflect the use of helicopters at additional project locations.

Other communities within the ESL not considered sensitive or not recognized by VegCamp are Douglas-fir forest (G5/S4), cascara forest (undescribed), and ruderal vegetation and non-vegetated areas (undescribed).

Vegetation types within the ESL (see Figures 4 through 6) were identified and mapped according to SNC mapping protocols (CSP 2018a), a modified version of the *Survey of California Vegetation Classification and Mapping Standards* (CDFW 2018a), SNC list (CDFW 2018b), and established botanical survey protocols (CDFW 2018c) (see Appendix I). The vegetation alliance types in the ESL were identified based on vegetation data collected in the field, which were used later to classify the alliances using keys and descriptions available in the online edition of *The Manual of California Vegetation* (CNPS 2019b) and comparing the data to the CNPS alliance descriptions and membership rules.

Early seral (young-growth) and late seral (old-growth) redwood (*Sequoia sempervirens*) forests are the most dominant natural communities within the region, and constitute approximately 4.4 acres and 13.5 acres of the Environmental Study Limit (ESL), respectively. Recently logged redwood forest on GDRC land constitutes approximately 1.4 acres of the ESL.

Late-seral redwood forests are primarily found within DNCRSP and are characterized by dense stands of tall, needle-leaved evergreen trees dominated by redwood and with Sitka spruce (*Picea sitchensis*), western hemlock (*Tsuga heterophylla*), and Douglas-fir (*Pseudotsuga menziesii*) scattered throughout the forest. The shaded sub-canopy within the late seral forest is typically occupied by occasional red alder (*Alnus rubra*) and tanoak (*Notholithocarpus densiflorus*). The shrub layer frequently comprises dense understory of evergreen huckleberry (*Vaccinium ovatum*) and Pacific rhododendron (*Rhododendron macrophyllum*) with salal (*Gaultheria shallon*), false azalea (*Menziesia ferruginea*) and California red huckleberry (*Vaccinium parvifolium*) also present. Within the herbaceous layer, sword fern (*Polystichum munitum*), deer fern (*Struthiopteris spicant*), wild ginger (*Asarum caudatum*), western wake robin (*Trillium ovatum* ssp. *ovatum*), redwood violet (*Viola sempervirens*), Smith's fairy bells (*Prosartes smithii*), purple sweet cicely (*Osmorhiza purpurea*), baneberry (*Actaea rubra*), and redwood sorrel (*Oxalis oregana*) are the most common species.

Sitka spruce forest is common along the immediate coast within the region; however, it is only represented by approximately 0.7 acre within the ESL. Late seral Sitka spruce forests are found within DNCRSP and are characterized by dense stands of tall, needle-leaved evergreen trees dominated by Sitka spruce with the occasional redwood, western hemlock, and Douglas-fir. Scattered patches of red alder and cascara (*Frangula purshiana* spp. *Purshiana*) typically occupy the sub-canopy of Sitka spruce forests. A dense understory of brambles (*Rubus* spp.) frequently

occupies the shrub layer while the herbaceous layer is often dominated by dense patches of sword fern. Wild ginger, redwood sorrel, two-leaved false-Solomon's-seal (*Maianthemum dilatatum*), and various mosses are the most common species within the herbaceous layer.

Coastal brambles are typically found within mesic meadows and forest openings within the ESL. Coastal brambles are common along the immediate coast and are represented by approximately 3.5 acres within the ESL. Dense patches of salmonberry (*Rubus spectabilis*) dominate most coastal bramble patches although California blackberry (*Rubus ursinus*) is more common in open herb and grass-dominated meadows. Thimbleberry (*Rubus parviflorus*) patches are common within disturbed open sites under power lines. Red alder and cascara occasionally occur within coastal bramble patches, although trees are typically restricted to the edges of these patches. Additional species found within the shrub layer include red elderberry (*Sambucus racemosa* var. *racemosa*), creambush ocean-spray (*Holodiscus discolor*), salal, and thimbleberry. The herbaceous layer within salmonberry-dominated brambles is typically sparsely populated by a handful of species that include sword fern, deer fern, soft Athyrium (*Athyrium filix-femina*), pig-a-back plant (*Tolmiea diplomenziesii*), Smith's fairy bells, milkmaids (*Cardamine californica*), coast man-root, and Mexican hedge-nettle (*Stachys mexicana*). Within California-blackberry dominated meadows, herbaceous species diversity is typically higher and includes species such as bracken fern (*Pteridium aquilinum* var. *pubescens*), Pacific reed-grass (*Calamagrostis nutkaensis*), coast man-root, giant horsetail (*Equisetum telmateia* ssp. *braunii*), cow parsnip (*Heracleum maximum*), stinging nettle (*Urtica dioica*), giant vetch (*Vicia gigantea*), Douglas iris (*Iris douglasiana*), Mexican hedge-nettle, sword fern, Hall's bentgrass (*Agrostis hallii*), and other species.

Red alder forests had the highest acreage of any natural community within the ESL, comprising approximately 24.1 acres. Red alder forests typically occur within drainages, intermittent streams, creeks, and mesic slopes and roadsides within the ESL. Occasional associates of these deciduous forests include cascara and Sitka spruce. Several species of brambles (*Rubus spectabilis*, *R. parviflorus*, *R. ursinus*) and red elderberry often form a dense impenetrable wall of vegetation within the understory. Sword fern, coast man-root (*Marah oregana*), stinging nettle, Mexican hedge-nettle, curled starwort (*Stellaria crispa*), candy flower (*Claytonia sibirica*), milkmaids, taper fruit short scale sedge (*Carex leptopoda*), and two-leaved false-Solomon's-seal are typical components of the herbaceous layer.

Douglas-fir forest represents approximately 9.4 acres within the ESL making this one of the more common natural communities within the ESL (Appendix L). This community is common and widespread throughout the ESL and surrounding area. It occurs as early-seral (young growth) forest and as mid- to late-seral (mature and old-growth) forest within the ESL. Red

alder is often a codominant within the canopy while redwood, Sitka spruce and tanoak are present in lesser abundance. Depending on the aspect and seral stage, the shrub layer frequently comprises evergreen huckleberry, red elderberry, coyote brush (*Baccharis pilularis*), creambush oceanspray, salal, bush monkeyflower (*Diplacus [Mimulus] aurantiacus*) and several species of brambles. Other than a high cover of sword fern, the understory herbaceous layer is typically sparsely occupied by three-flowered bedstraw (*Galium triflorum*), Pacific starflower (*Lysimachia latifolia*), Mexican hedge-nettle, two-leaved false-Solomon's-seal, nodding trisetum (*Trisetum cernuum*), Henderson's sedge (*Carex hendersonii*), and mosses such as Oregon beaked moss (*Kindbergia oregana*). Festoons of sweet-licorice fern (*Polypodium glycyrrhiza*) and leather-leaved polypody (*Polypodium scolieri*) often occur on large branches of old-growth Douglas-fir trees.

Cascara forests, comprising dense, monodominant stands of cascara, are typically found within previously disturbed habitats and along the edges of meadows adjacent to the coast. These forests are represented by approximately 7.4 acres within the ESL. Red alder, Douglas-fir and Sitka spruce occasionally occur within these deciduous forests and especially where cascara forests intergrade with forests dominated by these species. The shrub layer is often dominated by red elderberry and several species of brambles. California blackberry is frequently the most dominant understory shrub species, comprising up to 70% of the shrub cover. The herbaceous layer is typically sparsely populated by a handful of species, with sword fern being the most common species. Coast man-root, cow parsnip, stinging nettle, Mexican hedge-nettle, curled starwort, candy flower, narrow-flowered brome (*Bromus vulgaris*), Pacific reed grass, taper fruit short scale sedge, fringe cups (*Tellima grandiflora*), bentgrass, ox-eye daisy (*Leucanthemum vulgare*), and common creeping buttercup (*Ranunculus repens*) are typical components of the herbaceous layer.

Ruderal vegetation is characterized by a dominance of non-native or invasive species. Ruderal vegetation occurs along the immediate shoulders of U.S. 101 and along GDRC roads and constitutes approximately 0.7 acre within the ESL. Non-vegetated areas, such as the pavement and shoulder of U.S. 101, constitute approximately 1.3 acres of the ESL.

Habitat Connectivity

The California Essential Habitat Connectivity (CEHC) Project has identified large, relatively natural blocks of habitat (natural landscape blocks) across California and Essential Connectivity Areas (ECAs) that provide essential connectivity between the habitat blocks. ECAs are identified as lands likely to be important to wildlife movement between large, mostly natural areas at the statewide level. The BSA is located within the North Coast Ecoregion and is within a natural landscape block and an ECA. The terrain and vegetation provide connectivity primarily to the south and east of the project area.

Some areas within the BSA are too steep (e.g., cliffs) to support wildlife movement corridors. The presence of vehicle traffic, ongoing roadway maintenance, and steep topography may limit or alter wildlife dispersal and migration through segments of the BSA, particularly along the existing U.S. 101 alignment.

Environmentally Sensitive Habitat Areas

Environmentally sensitive habitat areas are defined by the California Coastal Act as “any area in which plant or animal life or their habitats are either rare, especially valuable because of their special nature or role in an ecosystem, and which could be easily disturbed or degraded by human activities and developments (Section 30107.5).” Del Norte County’s General Plan, Coastal Element (1983), does not define or identify an ESHA; however, offshore rocks, intertidal areas, estuaries, wetlands, riparian vegetation systems, sea cliffs, and coastal sand dunes are identified as sensitive habitat types. ESHAs identified within the ESL are wetlands and riparian areas.

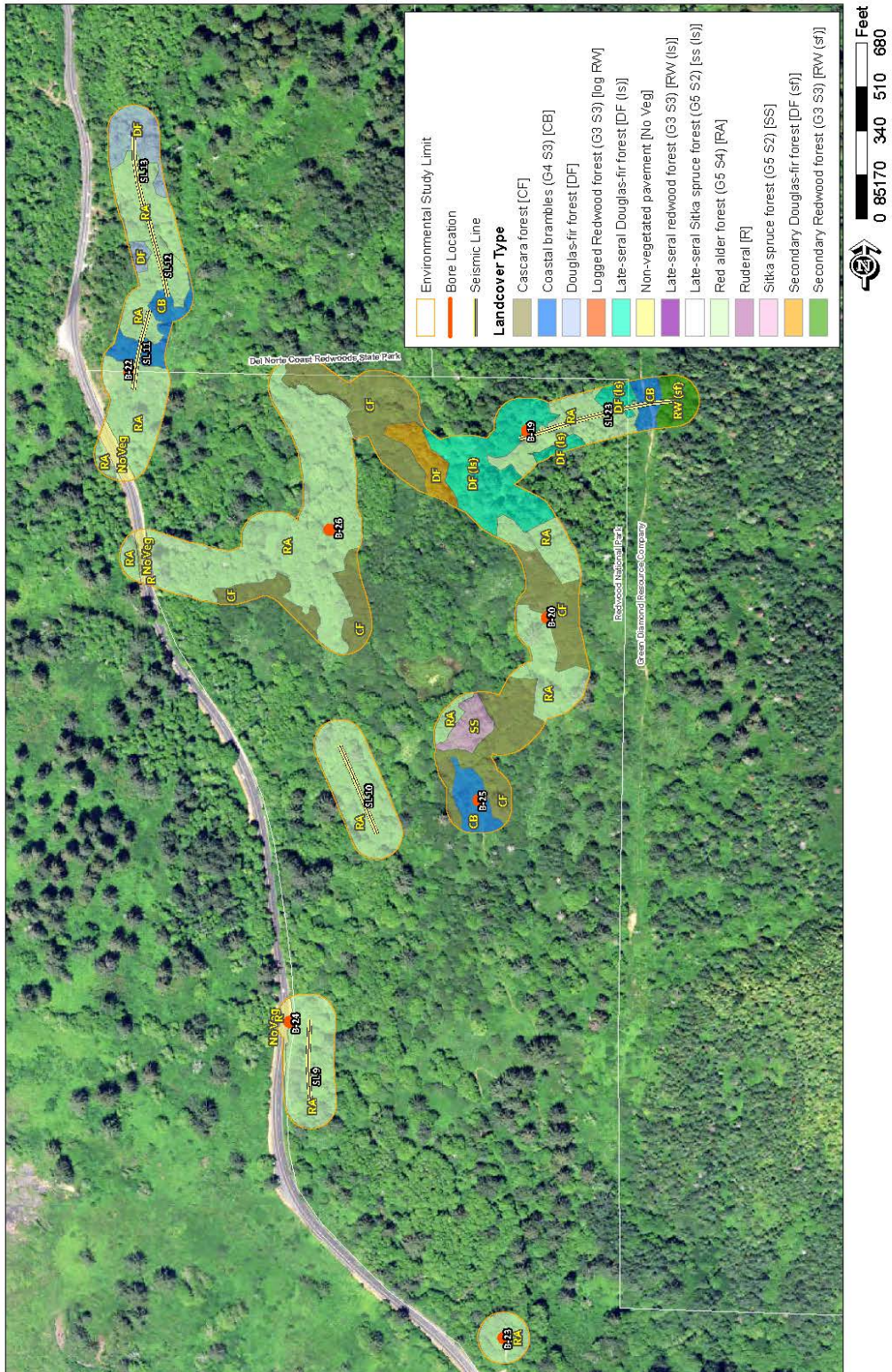


Figure 4. Vegetation Types Within The ESL

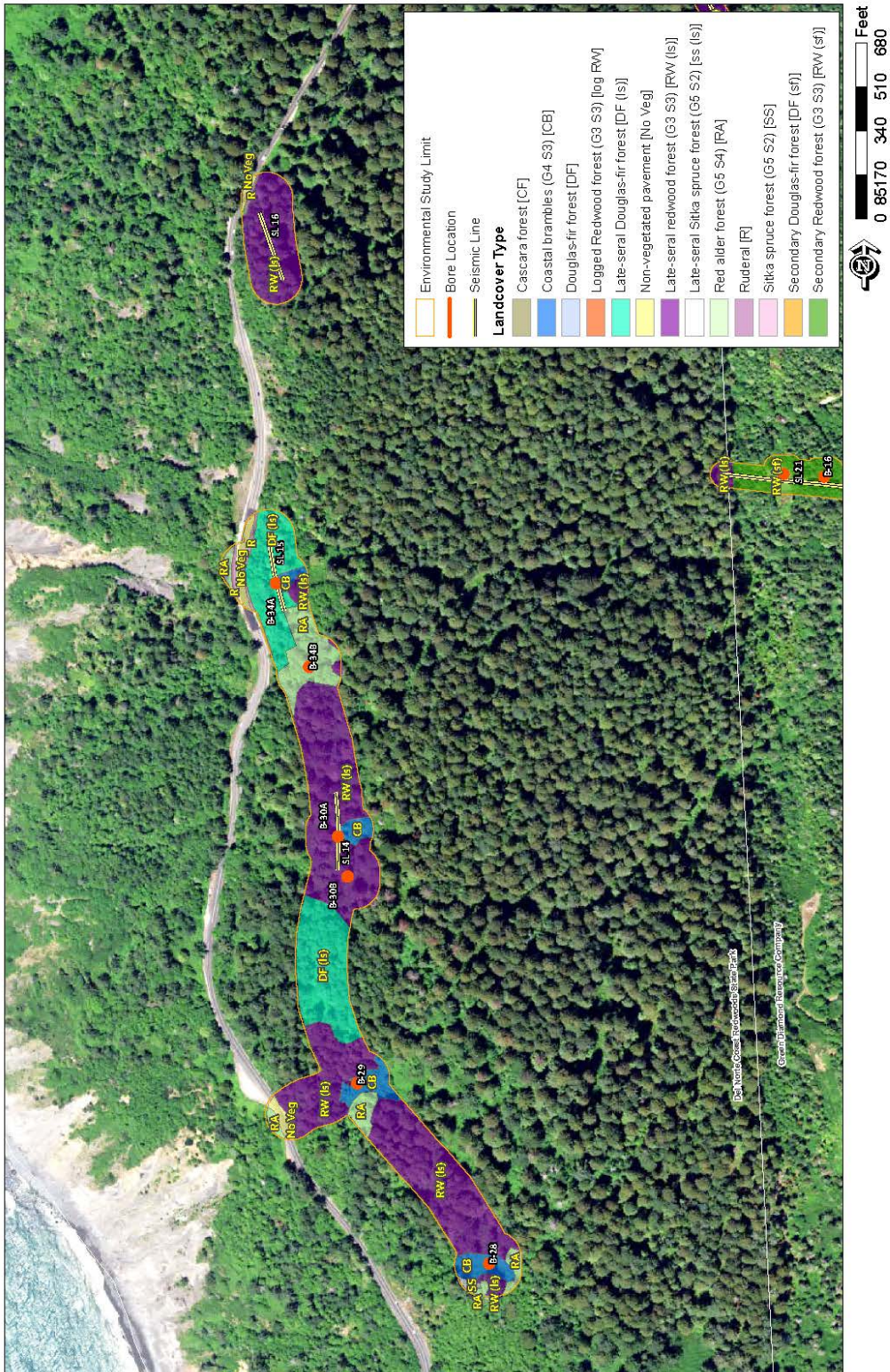


Figure 5. Vegetation Types Within The ESL

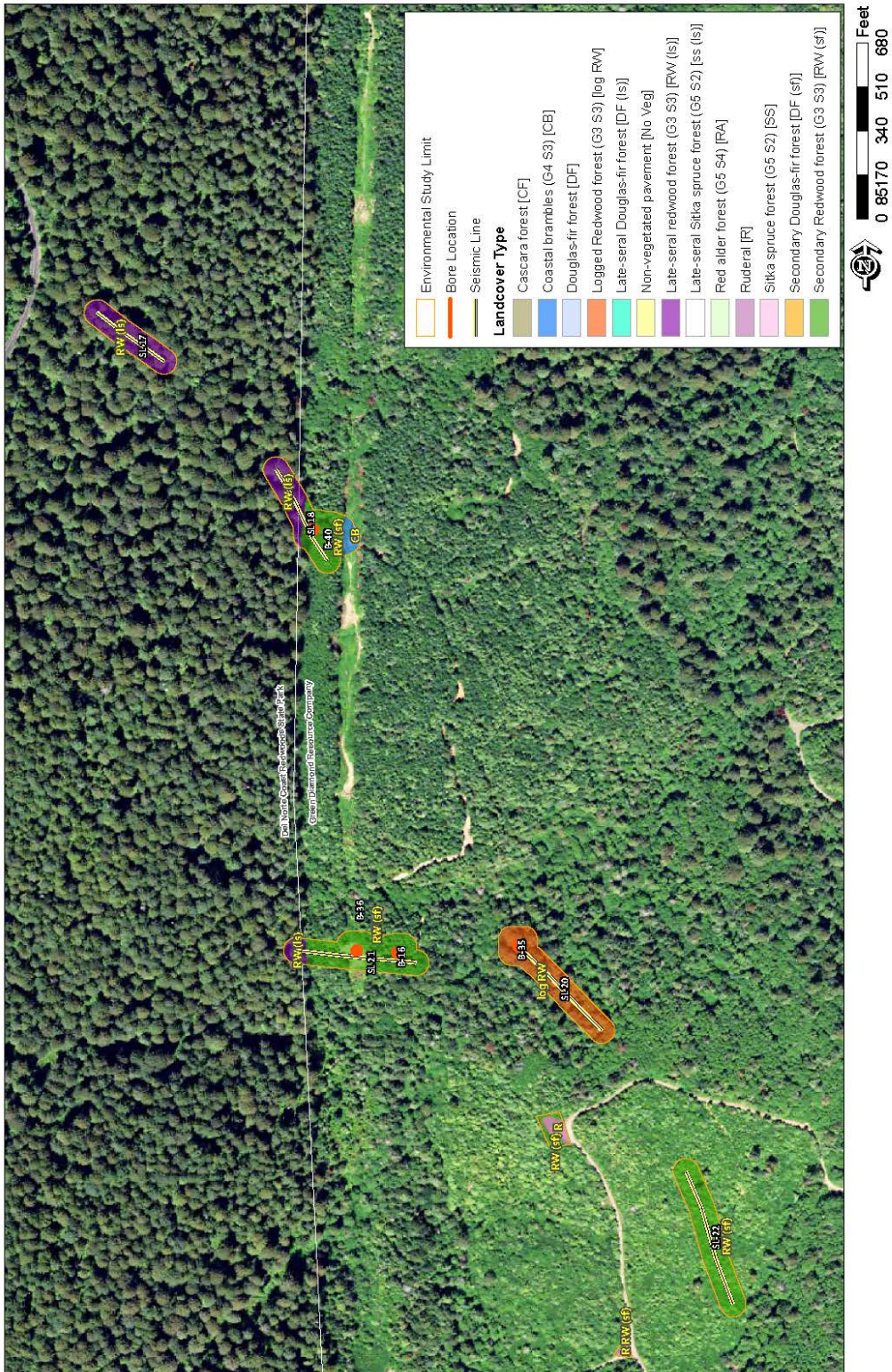


Figure 6. Vegetation Types Within The ESL

Wetlands and Other Waters

The ESL supports aquatic features that are likely jurisdictional waters of the U.S. and waters of the state, and regulated coastal features (Caltrans 2019a), including Relatively Permanent Waters (RPW), Non-Relatively Permanent Waters (Non-RPW), Clean Water Act Section 404 Wetlands, and coastal features, per Coastal Commission guidelines. The USACE, Regional Water Quality Control Board (RWQCB), CDFW, California Coastal Commission (CCC), and/or U.S. Environmental Protection Agency (U.S. EPA) regulate some or all of these features.

In total, 0.186 acre of potential waters of the U.S. and state were identified in the survey area, consisting of 0.135 acre of palustrine emergent nonpersistent wetland and 0.051 acre of non-wetland waters. Of these, 0.172 acre are within the Coastal Zone and would also be considered coastal jurisdictional features (0.014 acre of non-wetland waters of the U.S. is outside of the Coastal Zone). In addition, 0.451⁵ acre of potentially jurisdictional coastal features were also identified, for a total of 0.623 acre of coastal waters (Caltrans 2019a). See Appendix I for wetland and other waters mapping.

Wetlands and waters of the U.S. and state, and coastal jurisdictional features regulated by the California Coastal Commission (CCC), would not be impacted by the geotechnical investigation.

Plant Species

Several databases⁶ were consulted to determine which special-status plant species may occur in the BSA (see Appendix B). Aerial photography, topographic maps, and field survey data were reviewed. Analysis of the searches and additional rare plant records revealed 59 California Rare Plant Rank (CRPR⁷) 1 through 4 plant taxa with the potential to occur within the vegetation and

⁵ Based on further field reviews, an additional feature was identified within the project's ESL. This feature would not be impacted by project activities. The project maps have been updated.

⁶ USFWS Information for Planning and Conservation Report for the Project Area (USFWS 2019), CDFW California Natural Diversity Database (CNDDDB) for the Childs Hill and Requa quadrangles and surrounding U.S. Geological Survey 7.5-minute topographic quadrangles (CDFW 2019a), and the California Native Plant Society's Inventory of Rare and Endangered Plants Database for Childs Hill and Requa quadrangles and surrounding U.S. Geological Survey topographic quadrangles (CNPS 2019a).

⁷ **California Rare Plant Rank (CRPR)**

1B = Rank 1B species: rare, threatened, or endangered in California and elsewhere.

2B = Rank 2B species: rare, threatened, or endangered in California but more common elsewhere.

3 = Review List: Plants about which more information is needed.

4 = Watch List: Plants of limited distribution.

Threat rank extensions:

.1 = Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat).

.2 = Moderately threatened in California (20%-80% occurrences threatened/ moderate degree and immediacy of threat).

.3 = Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats).

habitat types present in the BSA (Caltrans 2019b). See Appendix G for a list of special-status plants with potential to occur in project vicinity.

Comprehensive, systematic botanical surveys were conducted throughout all accessible areas of the ESL between April 15 through July 31, 2019 (see Appendix F for survey dates), and timed to coincide with the flowering and identification periods of the potentially occurring special-status plant species. The field surveys followed the CDFW guidelines (CDFW 2018c), as well as the CSP floristic survey and invasive species mapping protocols required when surveying on CSP land (CSP 2018a, 2018b). All special-status plant species potentially occurring in the ESL bloom during the range of dates when surveys were conducted or would otherwise be evident and identifiable.

All plant species observed during the surveys were recorded (see Appendix J). Within the ESL, the surveys identified 239 vascular and nonvascular plant and lichen taxa within 72 plant families, including 9 tree species, 36 shrub species, 126 herbaceous species, 44 graminoid species, 9 fern species, 7 lichen taxa, and 8 bryophyte taxa. No special-status plants (CRPR 1 and 2) were identified in the ESL, though six CRPR 4 plants were found. The CRPR 4 species do not qualify as special-status species under CEQA based on their documented distribution and abundance within the region (Caltrans 2019b).

Animal Species

Record searches⁸ and habitat assessments were conducted to determine whether special-status⁹ wildlife species have the potential to occur in the BSA. Species that were queried but do not have potential habitat in the BSA are not discussed in this document as CEQA, FESA, and CESA only require analysis of species that could potentially be affected by a project. Special-status wildlife species with the potential to occur in the BSA are discussed further below. See

⁸ USFWS Information for Planning and Conservation Report for the Project Area (USFWS 2020; accessed March 2020), CDFW CNDDDB for the Childs Hill and Requa quadrangles and surrounding U.S. Geological Survey 7.5-minute topographic quadrangles (CDFW 2020a; accessed February 2020), and the NMFS Species List (NMFS 2016; accessed February 2020).

⁹ **Federal**

FE = listed as endangered under FESA

FT = listed as threatened under FESA

FD = removed from the FESA list

FPT = Federally proposed threatened

State

SE = listed as endangered under CESA

ST = listed as threatened under CESA

SFP = designated as a fully protected endangered species under the CFGC

SCE = State candidate endangered

SCT = State candidate threatened

SSC = State species of special concern

Appendix H for the list of special-status species with the potential to occur in the project vicinity based on queries, and the rationale on whether or not there was potential habitat in the BSA.

The special-status species not listed as threatened or endangered include the Pacific tailed-frog (*Ascaphus truei*, SSC), northern red-legged frog (NRLF) (*Rana aurora*, SSC), southern torrent salamander (*Rhyacotriton variegatus*, SSC), ring-tailed cat (*Bassariscus astutus*, SFP), Sonoma tree vole (*Arborimus pomo*, SSC), white-footed vole (*Arborimus albipes*, SSC), Townsend's big-eared bat (*Corynorhinus townsendii*, SSC), and the fisher West Coast Distinct Population Segment (DPS) (*Pekania pennanti*, FPT/SSC):

- **Pacific tailed frog:** a SSC that occurs in coastal Northern California and inland to the Cascade Mountains. It inhabits cold, clear, rocky perennial montane streams in wet forests. They may also occur in watercourses that dry intermittently. Reproduction is aquatic and, on the coast, occurs in the spring and summer. Upland, non-reproductive habitat for this species consists of moist areas with undergrowth vegetation and/or litter for refugia within several hundred feet of an aquatic feature.

There are 14 occurrences within approximately five miles of the ESL, with the nearest occurrences reported from Wilson Creek or its tributaries (CDFW 2019a). There is potentially suitable habitat throughout the project area; therefore, presence is assumed throughout the ESL.

- **Northern red-legged frog (NRLF):** a SSC that occurs in coastal Northern California. It inhabits streams and rivers in forests that have deep pools and riffles and sunny sandy or rocky banks for basking. The species is considered highly terrestrial, often inhabiting moist areas far from water. Reproduction is aquatic and, in Northern California, occurs from November to March. There are 18 occurrences reported within five miles of the ESL. NRLF was observed within the ESL during summer botanical surveys and there is suitable habitat throughout the project area; therefore, presence is assumed throughout the ESL.
- **Southern torrent salamander:** a SSC that is found in coastal drainages from Oregon south to Mendocino County. It inhabits cold streams and seeps that are shaded by trees or shrubs, typically with moist rock and talus. The species is primarily aquatic, although they may use moist, riparian areas for non-reproductive habitat. Reproduction is aquatic and occurs throughout the year, with peak egg laying in August and September. There are 14 occurrences reported within five miles of the ESL, with multiple occurrences associated with Wilson Creek (CDFW 2019a). There is potentially suitable habitat throughout the project area; therefore, presence is assumed throughout the ESL.

- **Ring-tailed cat:** a SFP species. It is a member of the raccoon family (*Procyonidae*) that may be found in fragmented and disturbed areas throughout the western U.S, including most temperate forests in California. Ring-tailed cats are nocturnal carnivores that forage at night for a variety of prey (primarily small mammals, invertebrates, birds, and reptiles), but 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. Dens can be located in rock crevices, living and dead hollow trees, logs, brush piles, buildings, and other manmade structures (Myers 2010). This species gives birth between May and June. Female ring-tailed cats may regularly move young between dens (Poglayen-Neuwall and Toweill 1988). No occurrence information is available, as CNDDDB does not track ring-tailed cat observations (CDFW 2019a). No potential natal dens were observed within the ESL, however there are potential den sites throughout the project area. Given this, presence is assumed throughout the ESL.
- **Sonoma tree vole:** a SSC that is found in Douglas-fir, redwood, and montane hardwood-conifer forest habitat types (Zeiner et al., 1990) along the north coast from Sonoma County to the Oregon border. The voles are primarily nocturnal and spend the majority of their time in the tree canopy where they nest and feed on fir needles. Male voles have been documented building nests at the base of trees beneath duff but are typically arboreal (Zeiner et al., 1990). Their home range is small, involving one to several trees. The species breeds year-round but mostly February through September. There are two occurrences recorded within five miles of the ESL. There is potentially suitable habitat throughout the project area; therefore, presence is assumed throughout the ESL.
- **White-footed vole:** a SSC that within California is only known to occur in Humboldt and Del Norte counties. White-footed voles are found in coastal forests dominated by redwood, Douglas-fir, and within riparian forest with dense alders and other deciduous trees and shrubs. They are primarily nocturnal. The species breeds year-round; however, primarily February through September. The vole has not been reported within five miles of the ESL (CDFW 2019a). However, there is potentially suitable habitat throughout the project area; therefore, presence is assumed throughout the ESL.
- **Townsend's big-eared bat:** a SSC that is distributed from the southern portion of British Columbia south along the Pacific Coast to central Mexico and east into the Great Plains. Townsend's big-eared bat uses a variety of habitat types that include coniferous forests, riparian communities, and active agricultural areas. It primarily roosts in caves, but has been documented roosting in rock crevices, trees, buildings, and bridges. Their prey is

primarily moth species, and they forage along edge habitat near streams and in forested areas (Western Bat Working Group 2017). Maternity colonies form between March and June (based on local climactic factors), with a single pup born between May and July. The nearest CNDDDB occurrence for Townsend's big-eared bat was recorded in 1945 approximately 8 miles south of the BSA near the town of Klamath and the Klamath River (CDFW 2019a). There is potentially suitable habitat for Townsend's big-eared bat; therefore, presence is assumed throughout the ESL.

- **Fisher, West Coast DPS:** an FPT and SSC species; given it is listed as FPT, it is discussed in the next section.

Migratory Birds: though not considered special-status, migratory birds and raptors are protected by several regulations, including the Federal Migratory Bird Treaty Act (MBTA) (15 USC 703-711), Title 50 CFR Part 21 and 50 CFR Part 10, and the CDFG Game Code Sections 3503, 3513, and 3800. The MBTA provides protection in part by restricting the disturbance of nests during the bird nesting season. Some species of birds, primarily raptors, have additional protections for their unoccupied nests because they may be reused year after year. Habitat for migratory birds and raptors is present within and adjacent to the BSA.

Non-Listed Bat Species: other non-listed species have the potential to occur in the project area, including the fringed myotis (*Myotis thysanodes*) and long-eared myotis (*Myotis evotis*). These species generally occur in caves and other crevices and have been documented in old-growth redwood in and near the project area (CDFW 2019a). Though non-listed, CDFW often takes special considerations for bats. There is potentially suitable habitat for the fringed myotis and long-eared myotis throughout the area; therefore, presence is assumed throughout the ESL.

Threatened and Endangered Species

Record reviews⁸ indicate special-status⁹ wildlife species have the potential to occur in the project area (See Appendix B). Habitat assessments and agency coordination determined that several threatened and endangered wildlife species have the potential to occur in the BSA. Species that do not have the potential to occur in the BSA are not discussed. See Appendix H for the list of potential special-status species with the potential to occur in the project vicinity based on queries, and the rationale on whether or not there was potential habitat in the BSA.

Threatened and endangered species with potential to occur in the BSA include the foothill yellow-legged frog (FYLF) (*Rana boylei*, SCT), fisher West Coast DPS (*Pekania pennanti*, FPT/SSC), Humboldt marten (*Martes caurina humboldtensis*, FPT/SE), northern spotted owl (NSO) (*Strix occidentalis caurina*, FT/ST), and marbled murrelet (MAMU) (*Brachyramphus*

marmoratus, FT/SE). See the section above for special-status species that are not threatened or endangered.

- ***Foothill yellow-legged frog (FYLF)***: a SCT species with a range from northern Oregon (Santiam River) west of the Cascade Mountains south to the San Gabriel Mountains (San Gabriel River) and along the western side of the Sierra Nevada range to Kern County. FYLF is found primarily in forests and woodlands in slow, shallow, gravel-bottomed streams and rivers from sea level to 6,700 feet (Jennings and Hayes, 1994; Stebbins 2003). During their different life stages, the FYLF use aquatic habitat types that vary in temperature and comprise riffles, pools, and glides. Reproduction is aquatic and typically occurs between March and May. Upland, non-reproductive habitat for the FYLF consists of moist areas with undergrowth vegetation and/or litter for refugia, often within several hundred feet of an aquatic feature. There is one occurrence within five miles of the ESL and two occurrences within six and seven miles of the ESL, respectively. There is potentially suitable habitat throughout the project area; therefore, presence is assumed throughout the ESL.
- ***Fisher, West Coast DPS***: a FPT species, the Northern California Evolutionary Significant Unit is a SSC. Fisher occurs in mature, second growth, and old-growth redwood and Douglas-fir stands (Slauson et al., 2003; Zielinski et al., 2004). Characteristics of fisher habitat include coniferous forests with high canopy closure, multiple canopy layers, and large trees, with snags, cavities, and hollow logs for resting and natal and maternal dens (Zielinski et al., 2004). Fisher hunt exclusively in forested habitats and generally avoid openings (Buskirk and Powell, 1994). The species generally gives birth in March and April. Home range size varies but in California is thought to be roughly 50 square miles for males and 18 square miles for females (Buskirk and Powell, 1994). Trees suitable for fisher den sites include conifers greater or equal to 22 inches diameter at breast height (dbh) and hardwoods greater or equal to 18 inches dbh. Suitably-sized trees with the following characteristics were considered 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, with brooms, deformities, or mistletoe; and trees with a cavity (or void within a tree bole or large limb), with a relatively small opening; includes all cavities with entrances 1.8 to 3.8 inches (USFWS 2016b).

There are no CNDDDB records within five miles of the ESL; however, fisher surveys have been conducted within the vicinity of the project by GDRC. The surveys included 26

survey stations, and fisher were positively detected at 17 sites. Fourteen survey stations were within five miles of the project's ESL. There is potentially suitable foraging, resting, and denning habitat in the BSA and potential for the fisher West Coast DPS to occur in or move through the BSA; therefore, presence is assumed throughout the ESL. USFWS has not identified critical habitat for fisher.

- **Humboldt marten**: a SE and FPT species. The current range of Humboldt marten is a fraction of its former range, and it is now only found in small areas of Del Norte County, northern Humboldt County, and western Siskiyou County (CDFW 2018d). Humboldt marten live in old-growth coast redwood and Douglas-fir forest with dense shrub understory and in dense to open forest in rocky serpentine areas, also with dense shrub cover. Both habitats provide structures (tree cavities, large snags and logs, and rock piles) for denning, resting, and cover (CDFW 2018d).

There are no CNDDDB records within five miles of the ESL; however, marten surveys have been conducted within the vicinity of the project by GDRC. The surveys included 26 survey stations, and marten were positively detected at 1 site. Fourteen survey stations were within five miles of the project's ESL. The single marten detection occurred in the Hunter Creek Watershed approximately 3.3 miles southeast of the ESL (GDRC 2018, unpublished data). There is potentially suitable foraging, resting, or denning habitat in the BSA and potential for the Humboldt marten to occur in or move through the BSA. Given this, presence is assumed throughout the ESL. USFWS has not identified critical habitat for marten.

- **Northern spotted owl (NSO)**: a FT and ST species. NSO is one of three subspecies of spotted owl [others are the Mexican spotted owl (*Strix occidentalis lucida*) and California spotted owl (*Strix occidentalis occidentalis*)]. NSO occur in Northern California, western Oregon and Washington, and southwestern British Columbia. In northern California, they inhabit structurally complex old-growth mixed conifer, redwood, and Douglas-fir forests, and primarily nest in the broken tops, cavities, or on platforms (e.g., mistletoe brooms) of old-growth Douglas-fir (83%) and redwood trees (9%), with a mean minimum dbh of 46.9 inches (LaHaye and Gutierrez, 1999). However, they have been recorded nesting in smaller diameter trees that contain the appropriate structural elements. Nesting typically begins in late March or April, and the young leave the nest in late May or June but are fed by their parents until late August or September, after which time they disperse to new territories (Forsman et al., 1984). NSO spend most of the day roosting in trees and generally forage at night.

CDFW's Spotted Owl Database (CDFW 2019c) contains 16 activity centers within 5 miles and 3 activity centers within 1.3 miles of the BSA. The three NSO activity centers nearest the BSA are associated with Wilson Creek. GDRC has surveyed and detected NSO west of Wilson Creek Road, however none of these recorded activity centers are near the project. Presence of NSO was assumed for the entire ESL due to the presence of suitable nesting and roosting habitat, as well as known occurrences in the vicinity of the project (CDFW 2019c). There is no designated NSO critical habitat within the BSA.

- **Marbled murrelet (MAMU):** a FT and SE species. MAMU is a small seabird that occurs in Alaska, British Columbia, Washington, Oregon, and California. Populations have declined, in part due to loss and fragmentation of nesting habitat from harvesting of old-growth coniferous forests. MAMU nest in old-growth coniferous forests within 52 miles of the coast and forage on small fish and crustaceans in nearshore ocean waters (Hamer 1995). They typically nest on large moss-covered branches high in old-growth coniferous trees. In California, nest initiation has been reported from mid-March to mid-August, and chicks fledge by mid-September (Hamer and Nelson, 1995). During the non-breeding season, MAMU spend most of their time at sea but may fly inland to visit nesting areas during early morning hours, presumably to locate and establish claims on nest sites and to establish pair-bonds for future nesting (Naslund 1993; Hébert and Golightly, 2006). Non-breeding MAMU fly inland above the canopy in groups and vocalize while flying, whereas nesting murrelets fly below the forest canopy in singles and pairs and approach nests silently (Jodice and Collopy, 2000). In one study in central California, the number of inland flights during the non-breeding season (fall and winter) was about half of those during the breeding season (spring and summer) (Naslund 1993). Few or no MAMU were detected from August to October, which corresponded with the flightless molting period (Naslund 1993). MAMU are thought to use inland old-growth or mature forests for roosting, courtship, and investigating nest sites during the non-breeding season (Paton and Ralph 1990).

There are six CNDDDB occurrences reported within five miles of the BSA. The nearest occurrence (#106) was reported in 1992 near an unnamed tributary to Wilson Creek (CDFW 2019a). Due to suitable habitat, MAMU presence was assumed for portions of the BSA.

Approximately 400 acres of critical habitat for MAMU are within the BSA. The primary constituent elements (PCE) of critical habitat for MAMU are individual trees with potential nesting platforms; forested areas within 0.5 mile of individual trees with potential nesting platforms; and canopy height of at least one-half the site-potential tree height (USFWS 2016a). These PCEs are present within some areas of the BSA.

Invasive Species

The California Invasive Plant Council (Cal-IPC) provides an overall rating for all plants listed in the Invasive Plant Inventory for California (Cal-IPC 2019). Appendix K lists the invasive plant species that were identified during the 2019 aquatic resources delineation and botanical report (Caltrans 2019a, b), with their California Department of Food and Agriculture (CDFA) and Cal-IPC ratings (CDFA 2019; Cal-IPC 2019).

Invasive bird species are known to exist within the project area. Record review indicates that house sparrows (*Passer domesticus*), European starling (*Sturnus vulgaris*), Eurasian collared dove (*Streptopelia decaocto*), and brown-headed cowbirds (*Molothrus ater*) may occur within or adjacent to the BSA. These species are primarily associated with human disturbance, including agricultural expansion and deforestation.

The barred owl (*Strix varia*) is another invasive bird species known to occur in the BSA. It is closely monitored by USFWS and CDFW for exacerbating NSO population declines by reducing NSO site occupancy, reproduction, and survival (Dark et al., 1998; Gutiérrez et al., 2004 and 2007; Courtney et al., 2004; Olson et al., 2005; Anthony et al., 2006). There are six occurrences of barred owl within 0.5 mile of the ESL, all on GDRC land, with the most recent observation in 2018. The closest occurrence was recorded in 2017, approximately 500 feet north of bore hole B-16.

Discussion of Environmental Evaluation Question 2.6—Biological Resources

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 CDFW, USFWS, or NOAA Fisheries?

Plant Species

Botanical surveys did not identify any special-status plant species within the ESL; however, six CRPR 4 plant species were identified: Methuselah's beard lichen (*Usnea longissima*), pacific golden-saxifrage (*Chrysosplenium glechomifolium*), nodding semaphore grass (*Pleuropogon refractus*), heart-leaved twayblade (*Listera cordata*), Suksdorf's wood-sorrel (*Oxalis suksdorfii*), and leafy-stemmed mitrewort (*Mitellastra caulescens*). These species were evaluated for local rarity or uniqueness to the region by reviewing distributional information available from herbarium records and regional records provided by CSP, RNP, GDRC and the CNDDDB. The data indicates that none of the six CRPR 4 species qualify as special-status species under CEQA

based on their documented distribution and abundance within the region (Caltrans 2019b). Given this, a “No Impact” determination was made for potential impacts to plant species.

Animal Species

Caltrans has determined that project activities would have “No Impact” on special-status species that were queried but did not have potential habitat in the BSA. However, as mentioned in the Environmental Setting, the following special-status wildlife species do have the potential to occur in the project vicinity (see Appendix H):

Pacific Tailed Frog, Northern Red-legged Frog, and Southern Torrent Salamander

Potential effects to the Pacific tailed frog (SSC), Northern red-legged frog (NRLF) (SSC), and the Southern torrent salamander (SSC) would be associated with vegetation removal in upland habitat. Work would occur in the fall and winter, outside of the peak breeding season for Pacific tailed-frog and southern torrent salamander (spring and summer), and no work would occur within aquatic breeding habitat. Work would occur during the NRLF breeding season; however, there is no suitable breeding habitat within the ESL.

Based on distance to aquatic habitat, most of the seismic lines, bore hole locations, access roads, and foot paths provide low- to medium-quality potential upland habitat for these species. Locations that may provide higher-quality upland habitat for these species include B-24, SL 16, SL 9, and sections of the access road along the Coastal Trail, based on proximity to streams, wetlands and the vegetation communities present. However, at B-24 no vegetation removal is proposed. At SL 16 and SL 9, work would be conducted on foot and no ground disturbance would occur. Access along higher-quality habitat of the Coastal Trail would be limited to foot traffic. Further, initial vegetation trimming/removal at each location would take approximately 1-2 days, and work at each location is anticipated to be approximately 1-2 weeks. As described in the project description (Section 1.4.), a qualified biologist would be present to survey for and relocate individuals to suitable habitat, if required.

Due to the limited disturbance, short-term nature of the activities, timing of work, and the abundance of suitable habitat in the BSA for which they could relocate if necessary, geotechnical investigation activities would not be anticipated to have a substantial impact on these species. Given this, a determination was made that the project would have a “Less Than Significant Impact” on these species and their habitat.

Ring-tailed Cat

Potential effects of the project on ring-tailed cat (SFP) include noise and visual disturbance from project activities and vegetation removal for equipment access, foot paths, seismic surveys, and bore holes. Helicopter boring locations were selected in areas with natural openings in the forest canopy, requiring limited tree removal. As such, vegetation scoped for removal largely comprises undergrowth (brambles, ferns, etc.) and small (<6-inch dbh) trees. This vegetation is unsuitable for denning but may provide foraging habitat. However, one mature alder tree and limbs of other mature trees scoped for removal may provide suitable denning habitat. Where suitable denning tree or limb removal is required, as a standard project measure (see Section 1.4), a qualified biologist would survey for potential dens prior to removal. If a potential den is identified, it would be monitored until absence was confirmed or CDFW would be contacted to establish appropriate steps. In addition, there is alternative suitable denning habitat that the ring-tailed cat could move to if necessary.

As described in the project description (Section 1.4.), all activities would occur in fall and winter, when ring-tailed cat would not be expected to have dependent young. Further, activities would occur during daylight hours (ring-tailed cats are primarily nocturnal), activities at each location would be short-term (approximately 1-2 weeks), and there is alternative suitable habitat available in the project vicinity that ring-tailed cat could temporarily move to if disturbed by project activities.

Due to the limited disturbance, short-term nature of the activities, timing of work, and the abundance of suitable habitat in the BSA, geotechnical investigation activities would not be anticipated to have a substantial impact on this species. Given this, a determination was made that the project would have a “Less Than Significant Impact” on the ring-tailed cat.

The ring-tailed cat SFP designation pre-dates CESA. The geotechnical investigation activities would not directly harm ring-tailed cat; therefore, there would be no State “Take” of this species as defined by CFGC.

Sonoma Tree Vole and White-footed Vole

Potential impacts on Sonoma tree vole (SSC) and white-footed vole (SSC) are noise and visual disturbance from project activities and vegetation removal for equipment access, foot paths, seismic surveys, and bore holes. Helicopter boring locations were selected in areas with natural openings in the forest canopy to limit tree removal required and, where possible, away from waters. As such, vegetation scoped for removal largely comprises undergrowth (brambles, ferns, etc.) and small (<6-inch dbh), and is low-quality habitat. This vegetation is largely unsuitable for these primarily arboreal species but may provide marginal habitat. A mature alder tree and several limbs of other mature trees that may provide suitable habitat are scoped for removal; however, these locations are surrounded by alternative suitable habitat. As stated in the project description, all activities would occur in fall and winter, which is outside of the peak breeding season for voles. Furthermore, activities would occur during daylight hours (voles are primarily nocturnal), activities at each location would take approximately 1-2 weeks, and there is alternative suitable habitat available in the project vicinity that the voles could temporarily move to if disturbed by project activities.

Due to the limited disturbance, short-term nature of the activities, timing of work, and the abundance of suitable habitat in the BSA for which they could relocate if necessary, geotechnical investigation activities would not be anticipated to have a substantial impact on these species. Given this, a determination was made that the project would have a “Less Than Significant Impact” on these species and their habitat.

Townsend’s Big-eared Bat

Potential impacts to Townsend’s big-eared bat (SSC) and other bats include noise and visual disturbance during daytime work activities, which could cause individuals to flush from daytime roosts. Large, late-seral and second-growth redwood and Douglas-fir are most likely to provide the tree hollows required for bat tree roosting. These higher-quality roosting trees exist within DNCRSP, with medium- to low-quality roosting habitat on GDRC land and within RNP. No mature redwoods, Douglas-fir, or other suitable bat roosting habitat would be removed for project activities. Furthermore, work locations are surrounded by areas of alternative suitable habitat, should noise and visual disturbances cause bats to flush from roosts.

As stated in the project description, all activities would occur between September 16 and January 31, which is outside of the breeding season for bats. Furthermore, activities at each location would take approximately 1-2 weeks, and there is alternative suitable habitat available in the project vicinity that the bats could temporarily move to if disturbed by project activities.

Due to the limited disturbance, minimal in-flight helicopter time, short-term nature of the activities, timing of work, and the abundance of suitable habitat in the BSA for which bats could relocate if necessary, geotechnical investigation activities would not be anticipated to have a substantial impact on these species. Given this, a determination was made that the project would have a “Less Than Significant Impact” on the Townsend’s big-eared bat.

Migratory Bird Treaty Act

No work or vegetation removal would occur during the nesting bird season (February 1 to September 15), therefore nesting migratory birds would not be affected.

Threatened and Endangered Species¹⁰

Caltrans has determined that project activities would have “No Impact” on special-status species that were queried but did not have potential habitat in the BSA. However, as mentioned in the Environmental Setting, the following threatened and endangered wildlife species do have the potential to occur in the project vicinity:

Foothill Yellow-legged Frog

Potential impacts to the foothill yellow-legged frog FYLF (SCT) would be associated with vegetation removal within upland habitat for equipment access, foot paths, seismic surveys, and bore holes. Work would occur in the fall and winter, outside of the breeding season for the FYLF (spring), and no work would occur within aquatic breeding habitat.

Based on distance to aquatic habitat, most of the seismic lines, bore hole locations, access roads, and foot paths provide low- to medium-quality potential upland habitat for FYLF. Locations that may provide higher-quality habitat for FYLF, based on their proximity to streams, wetlands, and the vegetation communities present, include: B-24, SL 16, SL 9, and sections of the access road along the Coastal Trail. At B-24, no vegetation removal is proposed. At SL 16 and SL 9, work would be conducted on foot and no ground disturbance would occur. Access along higher-quality habitat of the Coastal Trail would be limited to foot traffic. Furthermore, initial vegetation trimming/removal at each

¹⁰ A Biological Assessment (BA; Caltrans 2020) was submitted to USFWS on January 24, 2020 to initiate informal consultation for northern spotted owl, marbled murrelet, and marbled murrelet critical habitat and conferencing for Humboldt marten and fisher, West Coast DPS. The BA included the possibility of operating helicopters at sites previously scoped to be accessed by a drill rig. On February 10, 2020, USFWS provided a Letter of Concurrence that the project may affect, but is not likely to adversely affect these species and critical habitat (Appendix N). See the sections below for more information on these species and critical habitat.

location would take approximately 1-2 days, and work at each location is anticipated to be approximately 1-2 weeks.

As described by the measures listed in Section 1.4, a qualified biologist would be present to survey for and relocate individuals to suitable habitat if required. If FYLF are discovered in work areas, work would either be stopped until the species is out of the impact area, or CDFW would be contacted to establish the appropriate steps.

Due to the limited disturbance, short-term nature of the activities, timing of work, and the abundance of suitable habitat in the BSA for which they could relocate if necessary, geotechnical investigation activities would not be anticipated to have a substantial impact on FYLF. Given this, a determination was made that the project would have a “Less Than Significant Impact” on this species and their habitat.

The geotechnical investigation activities would not directly harm FYLF; therefore, per CESA, there would be no State “Take” of FYLF as defined by the CFGC.

Humboldt Marten and Fisher West Coast DPS

Potential effects of the project on Humboldt marten (FPT/SE) and fisher West Coast (DPS) (FPT/SSC) are noise and visual disturbance from project activities and vegetation removal for equipment access, foot paths, seismic surveys, and bore holes. Per FESA, there is no designated Humboldt marten or fisher critical habitat.

- ***Noise and Visual:*** Boring activities, seismic surveys, and helicopter flights could result in elevated noise and visual disturbance. The helicopter flights would occur between the helicopter staging areas and bore holes B-19, B-20, B-22, B-25, B-28, B-29, B-30 (A or B), B-34 (A or B), and B-35. Sound levels associated with the activities are estimated at 72.8 dB at 50 feet for bore hole drilling, 85 dB for seismic surveys, 81–90 dB for road grading, and 91–110 dB for helicopter flights (USFWS 2006). These levels may exceed ambient noise levels, estimated at ≤50 dB to 90 dB depending on the distance from U.S. 101.

Potential response of Humboldt marten and fisher to elevated noise and visual disturbance includes disruption of resting and foraging and displacement from the area. No known studies have been conducted to study potential noise and visual effects on these species; however, Zielinski et al. (2008) studied American marten (*Martes americana*) habitat use of areas open and closed to off-highway vehicles (OHV) such as trail bikes or trucks, which produce between 67 and 100 dB (USFWS 2006). There was no significant difference between marten use of open and closed OHV areas. With the exception of summer months, martens were consistently

active during nighttime hours (Zielinski et al. 2008) in both open and closed OHV areas, which may be a strategy to avoid daytime noise disturbance and high levels of human activity. Though not conclusive, as recommended by the USFWS (Schmidt pers. comm. 2019), the American marten study is provided as a possibility on how the Humboldt marten and fisher might be expected to respond to geotechnical investigation activities.

Work locations are surrounded by areas of alternative suitable habitat, should noise and visual disturbances cause marten or fisher to be displaced.

- **Habitat Modification:** Drilling locations have been selected in areas with natural openings in the forest canopy, which limits tree removal required, and away from waters where possible. As such, vegetation scoped for removal largely comprises undergrowth (brambles, ferns, etc.) and small (<6-inch dbh) trees. This vegetation is unsuitable for denning but may provide foraging habitat. A mature alder tree scoped for removal may provide suitable denning cavities. Several limbs of other mature trees that may be removed for helicopter bore locations or along access roads may also provide denning habitat.

A study conducted on the Sierra Nevada population of fisher provides evidence that fisher appear to be most common in areas with small levels (2.6%) of vegetation removal (Zielinski et al., 2013). Therefore, fisher are unlikely to relocate due to the minimal amount of vegetation removal caused by the project.

No studies were identified that provide data on the response of Humboldt marten to undergrowth vegetation removal. However, martens are known to rely heavily on mature forests with dense canopy closure and abundant quantities of large, woody debris on the ground (Buskirk and Zielinski, 1997). There would be minimal disturbance to these habitat characteristics.

Work locations are surrounded by areas of alternative suitable habitat, should the temporary habitat modification cause the marten or fisher to be displaced.

As described in the project description (Section 1.4.), all activities would occur between September 16 and January 31, which is outside of the reproductive season for marten and fisher. Furthermore, activities would occur during daylight hours (when these species are less likely to be active), activities at each location would take approximately 1-2 weeks, and there is alternative suitable habitat available in the project vicinity that marten and fisher could temporarily move to if disturbed by project activities. Where potentially suitable denning tree or limb removal is required, as a standard project measure, a qualified biologist would survey for potential denning cavities prior to removal and, if a

potential den is identified, it would be monitored until absence was confirmed or USFWS and/or CDFW would be contacted to establish appropriate steps.

Due to the limited disturbance, minimal in-flight helicopter time, short-term nature of the activities, timing of work, and the abundance of suitable habitat in the BSA for which they could relocate if necessary, geotechnical investigation activities would not be anticipated to have a substantial impact on these species. Given this, a determination was made that the project would have a “Less Than Significant Impact” on the Humboldt marten or fisher West Coast DPS.

Based on the standard measures included as part of the project description and technical assistance with USFWS, per FESA, Caltrans determined the proposed project *may affect, but is not likely to adversely affect* Humboldt marten and fisher West Coast DPS. Caltrans requested informal conferencing with USFWS on January 24, 2020, on these species and received concurrence with the determination on February 10, 2020 (see Appendix N).

The geotechnical investigation activities would not directly harm Humboldt marten or fisher; therefore, per CESA, there would be no State “Take” of Humboldt marten or fisher as defined by the CFGC.

Northern Spotted Owl

Potential effects of the project on NSO (FT/ST) are noise and visual disturbance, vegetation removal for equipment access, foot paths, seismic surveys, and bore holes, and tree damage from helicopter rotor wash. Per FESA, there is no designated NSO critical habitat within the BSA.

- ***Noise and Visual:*** Boring activities, seismic surveys, and helicopter flights could result in elevated noise and visual disturbance. The helicopter flights would occur between the helicopter staging areas and bore holes B-19, B-20, B-22, B-25, B-28, B-29, B-30 (A or B), B-34 (A or B), and B-35. The sound levels associated with the activities are estimated at 72.8 dB at 50 feet for bore hole drilling, 85 dB for seismic surveys, 81–90 dB for road grading, and 91–110 dB for helicopter flights (USFWS 2006). These levels may exceed ambient noise levels, estimated at ≤50 dB to 90 dB depending on the distance from U.S. 101.

Potential response of NSO to elevated noise and visual disturbance may include temporary displacement from roost sites and disruption of foraging during the non-breeding season. Spotted owls have been shown to habituate to noise, including noise from low-flying aircraft and chainsaws. Low-intensity chainsaw activity one hour in duration 328 feet from California spotted owl roost sites did not elicit a significant behavioral response or increased levels of fecal corticosterone (Temple and Gutierrez, 2003). Delaney et al. (1999) found that the Mexican spotted owl exhibited a strong site tenacity response from helicopter disturbance during both

nesting and non-nesting seasons (flushing only 13% of the time in both seasons), and did not flush at all when the noise stimuli was at least 344 feet away. Though not conclusive, the California and Mexican spotted owl data is provided as a possibility on how non-breeding NSO might be expected to respond to geotechnical investigation activities.

Work locations are surrounded by areas of alternative suitable habitat, should noise and visual disturbances cause NSO to be temporarily displaced.

- **Habitat Modification:** Boring locations are in areas with natural openings in the forest canopy; therefore, tree removal would be limited. Vegetation removal would largely comprise undergrowth (brambles, ferns, etc.) and small (<6-inch dbh) trees, and alders. This vegetation is unsuitable for nesting and roosting but may provide foraging habitat. No potentially suitable nest trees or limbs would be removed or trimmed.

The nine bore holes that require a helicopter for equipment delivery and pick up could be exposed to helicopter rotor wash, which could damage potential nest tree limbs. However, this is not expected to occur because the helicopter to be used, an AS350 Airbus Helicopter or similar, has a low downdraft and a 100- to 200-foot cable from the helicopter would be used to lower equipment below the forest canopy.

Work locations are surrounded by areas of alternative suitable habitat, should the temporary habitat modification cause NSO to be displaced.

As described in the project description (Section 1.4.), all activities would occur between September 16 and January 31, which is outside of the NSO breeding season. Further, activities would occur during daylight hours (NSO are primarily nocturnal), activities at each location would take approximately 1-2 weeks, no potentially suitable nest trees or limbs would be removed or trimmed, and there is alternative suitable habitat available in the project vicinity that NSO could temporarily move to if disturbed by project activities.

Due to the limited disturbance, minimal in-flight helicopter time, short-term nature of the activities, timing of work, and the abundance of suitable habitat in the BSA for which NSO could relocate if necessary, geotechnical investigation activities would not be anticipated to have a substantial impact on these species. Given this, a determination was made that the project would have a “Less Than Significant Impact” on NSO and its habitat.

Based on the standard measures included as part of the project description and technical assistance with USFWS, per FESA, Caltrans determined the proposed project *may affect, but is not likely to adversely*

affect NSO. Caltrans requested informal consultation with USFWS on January 24, 2020, on NSO and received concurrence with the determination on February 10, 2020 (see Appendix N).

The geotechnical investigation activities would not directly harm NSO; therefore, per CESA, there would be no State “Take” of NSO as defined by the CFGC.

Marbled Murrelet

Potential effects of the project on MAMU (FT/SE) are noise and visual disturbance, vegetation removal for equipment access, foot paths, seismic surveys, and bore holes, and tree damage from helicopter rotor wash. Per FESA, there is MAMU critical habitat within the BSA.

- ***Noise and Visual:*** Boring activities, seismic surveys, and helicopter flights could result in elevated noise and visual disturbance. The helicopter flights would occur between the helicopter staging areas and bore holes B-19, B-20, B-22, B-25, B-28, B-29, B-30 (A or B), B-34 (A or B), and B-35. The sound levels associated with the activities are estimated at 72.8 dB at 50 feet for bore hole drilling, 85 dB for seismic surveys, 81–90 dB for road grading, and 91–110 dB for helicopter flights (USFWS 2006). These levels may exceed ambient noise levels, estimated at ≤ 50 dB to 90 dB depending on the distance from U.S. 101.

Potential response of MAMU to elevated noise and visual disturbance may include temporary displacement from roost sites to other inland areas or back to the ocean and a disruption to non-breeding socialization. MAMU have shown to habituate and/or tolerate anthropogenic noise, including nearby loud music, chainsaws, and slamming car doors (Long and Ralph, 1998). In response to airplanes and helicopters flying approximately 900 feet over canopy height, observers noted that MAMU chicks either did not respond or did not react (Chinnici unpubl. data 1992). In response to aircrafts flying at low altitudes, chicks have been observed laying “flat” (Kerns 1994). No known studies have been conducted to study visual effects or audio impacts of helicopter activities on non-breeding MAMU. Evidence provided in the NSO section for Mexican spotted owl to helicopter disturbance indicates that some species of bird may not flush when the noise stimuli is at least 344 feet away (Delaney et al. 1999). Though not conclusive, most birds have similar frequency ranges and thresholds and may respond similarly to disturbance (Awbrey and Bowles 1990); therefore, the data on breeding MAMU and breeding and nonbreeding Mexican spotted owl is provided as a possibility on how the non-breeding MAMU might be expected to respond to geotechnical investigation activities.

Work locations are surrounded by areas of alternative suitable habitat, should noise and visual disturbances cause MAMU to be temporarily displaced.

- **Habitat Modification:** Boring locations are in areas with natural openings in the forest canopy; therefore, tree removal would be limited. Vegetation removal would largely comprise undergrowth (brambles, ferns, etc.) and small (<6-inch dbh) trees, and alders. This vegetation is unsuitable for nesting, roosting, socializing activities, and foraging (since foraging occurs at sea). No potentially suitable nest trees or limbs would be removed or trimmed.

The nine bore holes that require a helicopter for equipment delivery and pick up could be exposed to helicopter rotor wash, which could damage potential nest tree limbs. However, this is not expected to occur because the helicopter to be used, an AS350 Airbus Helicopter or similar, has a low downdraft and a 100- to 200-foot cable from the helicopter would be used to lower equipment below the forest canopy.

Work locations are surrounded by areas of alternative suitable habitat, should the temporary habitat modification cause MAMU to be displaced.

- **Critical Habitat:** Bore holes B-23, B-28, B-29, B-30A, B-30B, B-34A, B-34B, and B-40 are within critical habitat for the MAMU. All or portions of seismic lines SL 11, SL 12, SL 13, SL 14, SL 15, SL 16, SL 17, SL 18, and SL 21 are also within designated critical habitat for the MAMU. Impacts to MAMU critical habitat are described above in Habitat Modification.

As described in the project description (Section 1.4.), all activities would occur between September 16 and January 31, which is outside of the MAMU breeding season. Further, activities would occur during daylight hours (MAMU are primarily active at inland habitat during early dawn hours), activities at each location would take approximately 1-2 weeks, no potentially suitable nest trees or limbs would be removed or trimmed, and there is alternative suitable habitat available in the project vicinity that MAMU could temporarily move to if disturbed by project activities.

Due to the limited disturbance, minimal in-flight helicopter time, short-term nature of the activities, timing of work, and the abundance of suitable habitat in the BSA for which MAMU could relocate if necessary, geotechnical investigation activities would not be anticipated to have a substantial impact on MAMU. Given this, a determination was made that the project would have a “Less Than Significant Impact” on MAMU and its Critical Habitat.

Based on the standard measures included as part of the project description and technical assistance with USFWS, per FESA, Caltrans determined the proposed project *may affect, but is not likely to adversely affect* MAMU or designated MAMU Critical Habitat. Caltrans requested informal consultation with USFWS on January 24, 2020, on MAMU and designated MAMU Critical Habitat, and received concurrence with the determination on February 10, 2020 (see Appendix N).

The geotechnical investigation activities would not directly harm MAMU; therefore, per CESA, there would be no State “Take” of MAMU as defined by the CFGC.

Endangered Species Act Determinations for Species Not Discussed in Section 2.6

The following species and critical habitats have been identified as potentially occurring in the project vicinity; however, given they do not have the potential to occur in the BSA, they were not discussed in Section 2.6 (see Appendix H). As a result, per FESA, Caltrans has determined the project would have “No Effect” on the following federally listed species and critical habitats: Green sea turtle (*Chelonia mydas*), East Pacific DPS and critical habitat; Leatherback sea turtle (*Dermochelys coriacea*) and critical habitat; Olive Ridley sea turtle (*Lepidochelys olivacea*); Western snowy plover (*Charadrius alexandrinus nivosus*) and critical habitat; Yellow-billed cuckoo (*Coccyzus americanus*) and critical habitat; Short-tailed albatross (*Phoebastria [=Diomedea] albatrus*); NSO (*Strix occidentalis caurina*) critical habitat; Sei whale (*Balaenoptera borealis*); Blue whale (*Balaenoptera musculus*); Fin whale (*Balaenoptera physalus*); North Pacific right whale (*Eubalaena japonica*) and critical habitat; Humpback whale (*Megaptera novaeangliae*); Southern resident killer whale (*Orcinus orca*) and critical habitat; Longfin smelt (*Spirinchus thaleichthys*); Sperm whale (*Physeter catodon [=microcephalus]*); Marine Mammal Protection Act Cetaceans and Pinnipeds; Green sturgeon (*Acipenser medirostris*) Southern DPS and critical habitat; Tidewater goby (*Eucyclogobius newberryi*) and critical habitat; Coho salmon (*Oncorhynchus kisutch*) Southern Oregon/Northern California Coast Evolutionary Significant Unit (ESU) and critical habitat; Chinook salmon (*Oncorhynchus tshawytscha*) California Coastal ESU and critical habitat; Steelhead (*Oncorhynchus mykiss irideus*) Northern California DPS and critical habitat; Eulachon (*Thaleichthys pacificus*) and critical habitat; Oregon silverspot butterfly (*Speyeria zerene hippolyta*) and critical habitat; Western lily (*Lilium occidentale*); and McDonald’s rockcress (*Arabis mcdonaldiana*).

The following species have been identified as potentially occurring in the project vicinity; however, given they do not have the potential to occur in the BSA, they were not discussed in Section 2.6. As a result, given the project would not directly harm the following species, per CESA, Caltrans has determined the project would not result in “Take” of the following state-listed or state candidate species: Yellow-billed cuckoo; Bald eagle (*Haliaeetus leucocephalus*); Longfin smelt; Coho salmon Southern Oregon/Northern California Coast ESU; Steelhead Northern California DPS; McDonald’s rockcress; and Western bumble bee (*Bombus occidentalis*).

Invasive Species

Potential effects of the project that may affect special-status species, by promoting the spread of invasive species, would include native animal stressors such as noise and visual disturbance, native vegetation removal, and invasive plant propagule transmission related to equipment and personnel access.

To prevent the spread of invasive animal species, including barred owl, project activities would occur between September 16 and January 31, avoiding the entirety or peak breeding seasons (when animals are most vulnerable to disturbance) of special-status animal species within the ESL. Vegetation removal within native plant and animal species' habitat, and noise and visual disturbances to animal species, would be limited to the extent necessary to achieve access and conduct geotechnical activities and would be minimal and temporary.

As identified in the project description (Section 1.4.), measures would be implemented as part of the proposed project to ensure invasive species do not proliferate and, therefore, would not result in a substantial adverse effect to special-status species or their habitat.

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?¹¹

As indicated in the Natural Environment Study (NES, Caltrans 2019g), the geotechnical activities would not be anticipated to impact any riparian habitat; however, the activities do have the potential to affect the following SNC: redwood forest, Sitka spruce forest, coastal brambles, and red alder forest.

Potential impacts on SNC are identified in Appendix L and consist of temporary impacts associated with vegetation removal for foot paths, seismic surveys, and bore holes. Impacts were conservatively calculated and include 4-foot-wide footpaths and seismic lines, 50- by 50-feet of disturbance for bore hole locations. It is unlikely that this level of disturbance would be required. Vegetation removal would be limited to the extent necessary to achieve access and conduct geotechnical activities.

¹¹ Temporary impacts to Sensitive Natural Communities have been updated to reflect the elimination of grading required on NPS land. Appendix L has also been updated with these changes, and the temporary impacts based on land ownership.

Redwood Forest (G3/S3)

- **Late-Seral:** Within the ESL, late-seral redwood forest is located within DNCRSP and Caltrans' ROW. Vegetation would be removed for access to and drilling at bore hole sites B-28, B-29, and B-30 (A or B) and for footpaths to seismic lines SL 14, SL 16, SL 17, SL 18, and SL 21.

No old-growth redwoods would be affected. At B-30B, clearing of small (<6-inch dbh) redwoods would be necessary. The redwoods at this site would likely re-sprout after cutting. Brushing and ground clearing around bore holes and seismic lines would potentially have temporary impacts on salmonberry, thimbleberry, sword fern, and other native plants that typically grow within the understory in these areas. All these species have the capacity to grow back from the root crown or rhizomes after cutting.

A maximum of approximately 0.35 acre of the 13.45 acres of late-seral redwood forest community within the ESL would be temporarily affected.

- **Secondary:** Within the ESL, secondary redwood forest is located on GDRC land. Vegetation would be removed for access to and drilling at bore hole sites B-16, B-36, and B-40 and footpaths to and equipment layout along seismic lines SL 18, SL 21, SL 22, and SL 23.

Primary access to these areas would be along existing logging roads and would require minor vegetation disturbance or removal. Access to B-40 would require road improvements that include brushing of thimbleberry, sword ferns and salal, and removing small trees up to 6-inch dbh. Mature and immature sword fern plants, salal, and thimbleberry would be brushed at other locations. All these species have the capacity to grow back from the root crown or rhizomes after cutting. The small redwoods scoped for removal would likely re-sprout after cutting.

A maximum of approximately 0.30 acre of the 4.35 acres of secondary redwood forest community within the ESL would be temporarily impacted by project activities.

- **Logged:** Within the ESL, logged redwood forest is located on GDRC land. Vegetation would be removed for helicopter bore site B-35 and a footpath to and equipment layout along seismic line SL 20. Brushing and trimming of immature sword ferns, salal, and brambles would be required. All these species have the capacity to grow back from the root crown or rhizomes after cutting. Any small redwoods removed at these sites would likely re-sprout after cutting.

A maximum of approximately 0.10 acre of the 1.44 acres of logged redwood forest community within the ESL would be temporarily impacted by project activities.

Sitka Spruce Forest (G5/S2)

Within the ESL, Sitka spruce forest is located within RNP and DNCRSP. There would be no impacts on this community within DNCRSP or RNP.

There would be no impact to Sitka spruce forest community within the ESL by project activities.

Coastal Brambles (G4/S3)

Within the ESL, coastal brambles are located within Caltrans' ROW, DNCRSP and RNP, and on GDRC land. Vegetation would be removed for access to and drilling at bore hole sites B-25, B-28, B-29, B-30A, and B-34A and footpaths to and equipment layout along seismic lines SL 11, SL 12, SL 14, SL 15, and SL 23. Additionally, a small amount of brushing and/or grading would be required for access to B-40.

Vegetation that would typically be cleared or brushed includes salmonberry, thimbleberry, cascara, and red elderberry, all of which have the capacity to grow back from the root crown or rhizomes after cutting. Therefore, investigation activities within coastal brambles along these seismic lines are expected to be minor and temporary.

A maximum of approximately 0.25 acre of the 3.54 acres of the coastal bramble community within the ESL would be temporarily impacted by project activities.

Red Alder Forest (G5/S4)

Within the ESL, red alder forest is located within DNCRSP, RNP and Caltrans' ROW. Vegetation would be removed for access to and drilling at bore hole sites B-19, B-20, B-22, B-26, B-34B and footpaths to and equipment layout along seismic lines SL 9, SL 10, SL 11, SL 12, SL 13, SL 15, SL 19, and SL 23.

To provide helicopter access for bore hole B-34B, removal of an approximately 30-inch dbh alder tree and cutting of limbs along one side of an approximately 18-inch dbh redwood are anticipated.

A maximum of approximately 0.37 acre of the 24.07 acres of the red alder forest within the ESL would be temporarily impacted by project activities.

ESHA

There are 0.623 acre of ESHAs within the ESL, consisting of 0.135 acre of wetland, 0.451 acre⁵ of potentially jurisdictional coastal features, and 0.037 acre of ephemeral and intermittent streams (Caltrans 2019d). There would be no permanent or temporary impacts to ESHAs. See Appendix I for wetland and other coastal feature mapping.

Invasive Species

The project that may promote the spread of invasive species to riparian habitat or other SNC through native animal stressors such as noise and visual disturbance, native vegetation removal, and invasive plant species propagule transmission related to equipment and personnel access. However, vegetation removal would be temporary and limited to the extent feasible. As identified in the project description (Section 1.4.), measures would be implemented as part of the proposed project to ensure invasive species do not proliferate, including the cleaning of all equipment prior to entering the ESL. Therefore, the project would not result in a substantial adverse effect to riparian habitat or SNC or their habitat through the spread of invasive species.

CEQA Question b) Determination

The potential effects on redwood forest, Sitka spruce forest, coastal brambles, red alder forest, and terrestrial special-status wildlife habitat would consist of vegetation trimming, minor tree removal and limbing. As discussed above, most of the species scoped for trimming have the capacity to grow back from the root crown or rhizomes after cutting. The small redwoods that would be removed would likely re-sprout after cutting, as their stumps would remain intact. The effects on these communities would be temporary and, as described by the measures in Section 1.4., all affected areas would be fully restored. Given this, a “Less Than Significant Impact” determination was made for this question.

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?

As indicated in the NES (Caltrans 2019g), wetlands and waters of the U.S. and state, and coastal jurisdictional features regulated by the California Coastal Commission (CCC), would not be affected by work activities, therefore no impacts to these resources would be anticipated. Additionally, as identified in the project description (Section 1.4.), measures would be implemented as part of the proposed

project to ensure invasive species do not affect these or the surrounding areas. Given this, a “No Impact” determination was made for this question.

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?

As discussed in the project description, the NES (Caltrans 2019g), and in question b above, potential impacts on animal habitat would be habitat modification caused by vegetation removal and noise and visual disturbance. Temporary vegetation impacts were conservatively calculated and include 4-foot-wide footpaths and seismic lines, and 50- by 50-feet of disturbance for bore hole locations. It is unlikely that this level of disturbance would be required. Vegetation removal would be limited to the extent necessary to achieve access and conduct geotechnical activities. Project activities that may cause noise or visual disruption to wildlife are limited in scope and temporary in nature (lasting only 1-2 weeks at each location). No new permanent features that may disrupt wildlife movement would result from project activities.

Due to the limited disturbance, short-term nature of the activities, and the abundance of suitable habitat immediately adjacent to all work locations for all potentially affected species, the geotechnical investigation activities would not be expected to interfere with wildlife connectivity, including 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. Given this, a “No Impact” determination was made for this question.

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

The proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Given this, a “No Impact” determination was made for this question.

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?

RNP and DNCRSP have several management plans; however, as they are Federal and State owned “Parks”, the missions of both agencies are inherently focused on preservation. GDRC has an Aquatic Habitat Conservation Plan that includes riparian management zones, slope stability measures, forest road management, and harvest related management. GDRC also has a Northern Spotted Owl Habitat Conservation Plan. All potential impacts would be temporary and, as described in the project

description (Section 1.4.), all affected areas would be fully restored. As a result, the proposed geotechnical investigation activities would not be anticipated to conflict with the provisions of any adopted plans. Given this, a “No Impact” determination was made for this question.

Mitigation Measures

Caltrans has determined that impacts to biological resources would have a “Less Than Significant Impact” for CEQA questions a and b, and would have “No Impact” for questions c, d, e, and f. Given this, Caltrans has determined that mitigation would not be required under CEQA. However, per CEQA (14 CCR § 15126.4(a)(3)), mitigation measures may be adopted, but are not required, for environmental impacts that are not found to be significant. During consultation and permitting, regulatory agencies may determine that measures may be needed to offset project impacts to biological resources.

No Build Alternative

The existing condition would remain the same if the geotechnical investigation did not occur; therefore, per CEQA, “No Impact” would occur.

2.7. Cultural Resources

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

Regulatory Setting

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

The National Historic Preservation Act (NHPA) of 1966, as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the National Register of Historic Places (NRHP). Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation (ACHP) the opportunity to comment on those undertakings, following regulations issued by the ACHP (36 Code of Federal Regulations [CFR] 800). The FHWA’s responsibilities under 36 CFR 800 have been assigned to the Department as part of the Surface Transportation Project Delivery Program (23 United States Code [USC] 327).

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

Historic properties may also be covered under Section 4(f) of the U.S. Department of Transportation Act, which regulates the “use” of land from historic properties (in Section 4(f) terminology—historic sites).

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

PRC Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the NRHP listing criteria. It further requires the Department to inventory state-owned structures in its rights-of-way.

Environmental Setting

The project is located in northwest California within a mountainous region comprising elongated ranges and valleys that trend in a northwesterly direction. Characterized by a coastal Mediterranean environment, temperatures typically range between 41 and 67°F. The region experiences high average winter precipitation, which can reach 100 inches per year. The low-lying coastal areas receive some of this precipitation in fog drip, which is frequent during the summers. Winter snow accumulations are generally sparse and confined to the region’s higher elevations. Named streams close to the project area include Wilson Creek just south of the project area, and Damnation Creek north of the project, both draining into the Pacific Ocean.

The combination of high rainfall, geology, and topographic diversity has yielded a variety of important subsistence resources, including fish, wildlife, and edible plants. Archaeological records indicate Native Americans have inhabited the area for upwards of 8000 years. Unlike other parts of California, the contact period between European settlers and Native Americans took place relatively late in northwestern California (late 1700’s to early 1800’s). Various historic-era cultural resources have been

documented within the project area and include a wagon road, the Old Redwood Highway, and the DeMartin Homestead.

Discussion of Environmental Evaluation Question 2.7—Cultural Resources

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

Caltrans initiated consultation with the State Historic Preservation Officer (SHPO) for the project on October 14, 2019. Three cultural resources, all state-owned resources pursuant to PRC Section 5024, have been identified within the Area of Potential Effect (APE) (Historic Property Survey Report [HPSR], Caltrans 2019e):

- 1) *1930's Alignment of the Old Redwood Highway (modern U.S. 101; PM 13.3/22.58)*: This resource was previously determined as not eligible for inclusion in the NRHP and/or the California Register of Historic Resources (CRHR) with SHPO concurrence on May 14, 2014, (see Appendix E) and those determinations remain valid. Given this, work may occur within this resource without need for further documentation.
- 2) *Road Grade and Drainage Ditch*: Caltrans has determined this resource is not eligible for inclusion in the NRHP and/or the CRHR, and is not a California Historical Landmark. Caltrans received SHPO concurrence in this determination on November 5, 2019 (see Appendix E). Given this, work may occur within this resource without need for further documentation.
- 3) *1884 Crescent City to Trinidad Wagon Road*: Per SHPO's recommendation, Caltrans is treating this resource as eligible for inclusion in the NRHP and the CRHR for the purposes of the project only (see Appendix E). Caltrans identified seven segments of the wagon road within the project's APE. Six of the seven segments in the APE lack historical integrity and would not be contributing elements to the wagon road's significance if the road was determined eligible in the future. The remaining segment identified in the APE, Segment 1, retains historic integrity and would be considered a contributing element to the resource's eligibility. Seismic refraction surveys would occur adjacent to Segment 1, but no direct ground disturbance would occur within the road or its adjacent cut slopes.

Although the 1884 Crescent City to Trinidad Wagon Road is within the APE, all segments retaining historical integrity would be avoided during the geotechnical investigation activities. Therefore, a “Less Than Significant Impact” determination was made for this question.

Caltrans received SHPO concurrence on a Finding of No Adverse Effect on January 9, 2020 (see Appendix E).

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

As indicated in the Historic Property Survey Report (Caltrans 2019e), no archaeological deposits or artifacts were identified within the APE. Given this, a “No Impact” determination was made for this question.

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

Human remains have not been identified within APE (HPSR, Caltrans 2019e). Given this, a “No Impact” determination was made for this question.

Mitigation Measures

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

No Build Alternative

The existing condition would remain the same if the geotechnical investigation did not occur; therefore, per CEQA, “No Impact” would occur.

2.8. Energy

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

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the project’s analysis on energy (Caltrans 2019c). Transportation energy is generally described in terms of direct and indirect energy. For direct energy, the geotechnical investigation would not increase capacity or provide congestion relief when compared to the no-investigation alternative. As such, it is unlikely to increase direct energy consumption through increased fuel usage.

For indirect energy, the geotechnical investigation would not result in maintenance activities which would result in long-term indirect energy consumption; thus, it is not anticipated to increase indirect energy consumption through increased fuel usage. Moreover, construction-related energy consumption would be temporary and not a permanent new source of energy demand. Therefore, the project would not result in an inefficient, wasteful, and unnecessary consumption of energy.

Mitigation Measures

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

No Build Alternative

The existing condition would remain the same if the geotechnical investigation did not occur; therefore, per CEQA, “No Impact” would occur.

2.9. Geology and Soils

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p>Would the project:</p> <p>a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:</p> <p style="padding-left: 40px;">i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.</p>				√
<p>ii) Strong seismic ground shaking?</p>				√
<p>iii) Seismic-related ground failure, including liquefaction?</p>				√
<p>iv) Landslides?</p>				√
<p>Would the project:</p> <p>b) Result in substantial soil erosion or the loss of topsoil?</p>				√
<p>Would the project:</p> <p>c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?</p>				√
<p>Would the project:</p> <p>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?</p>				√
<p>Would the project:</p> <p>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?</p>				√

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				√

The “No Impact” determinations for geology and soils made in this section are based on the scope, description, and location of the proposed project, and on the Paleontological Identification Report prepared for the project (Caltrans 2019h).

Mitigation Measures

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

No Build Alternative

The existing condition would remain the same if the geotechnical investigation did not occur; therefore, per CEQA, “No Impact” would occur.

2.10. Greenhouse Gas Emissions

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

Climate Change

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

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

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

Regulatory Setting

This section outlines federal and state efforts to comprehensively reduce 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. FHWA therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices (FHWA 2019). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—“the triple bottom line of sustainability” (FHWA 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. EPA¹², 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. The current standards require vehicles to meet an average fuel economy of 34.1 miles per gallon by 2016. EPA and NHTSA are currently considering appropriate mileage and GHG emissions standards for 2022–2025 light-duty vehicles for future rulemaking.

NHTSA and EPA issued a Final Rule for “Phase 2” for medium- and heavy-duty vehicles to improve fuel efficiency and cut carbon pollution in October 2016. The agencies estimate that the standards will save up to 2 billion barrels of oil and reduce 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 (ARB) create a scoping plan and implement rules to achieve “real, quantifiable, cost-effective reductions of greenhouse gases.” The Legislature also intended that the statewide GHG emissions limit continue in existence and be used to maintain and continue reductions

¹² U.S. EPA’s authority to regulate GHG emissions stems from the U.S. Supreme Court decision in Massachusetts v. EPA (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court’s ruling, U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six GHGs constitute a threat to public health and welfare. Thus, it is the Supreme Court’s interpretation of the existing Act and U.S. EPA’s assessment of the scientific evidence that form the basis for U.S. EPA’s regulatory actions (U.S. EPA 2009).

in emissions of GHGs beyond 2020 (Health and Safety Code [H&SC] Section 38551(b)). The law requires ARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

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

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

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

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

EO B-30-15 (April 2015): Establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. It also directs ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO₂e).¹³ 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.

¹³ 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 ARB to prepare a report that assesses progress made by each Metropolitan Planning Organization in meeting their established regional greenhouse gas emission reduction targets.

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

Environmental Setting

The project is located in a rural part of Del Norte County along the northern California coast. Traffic counts are low on this segment of U.S. 101, and the highway is rarely congested. Project activities would take place within RNP, DNCRSP, private GDRC land, and Caltrans’ ROW. The Del Norte Local Transportation Commission Regional Transportation Plan (RTP) guides transportation development in the project area. The proposed geotechnical investigation project does not involve changes to the roadway infrastructure and activities would take place primarily off the highway.

A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time, such as a calendar year. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. U.S. EPA is responsible for documenting GHG emissions nationwide, and the ARB does so for the state, as required by California Health & Safety Code (H&SC) 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 (see Figure 7). 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.

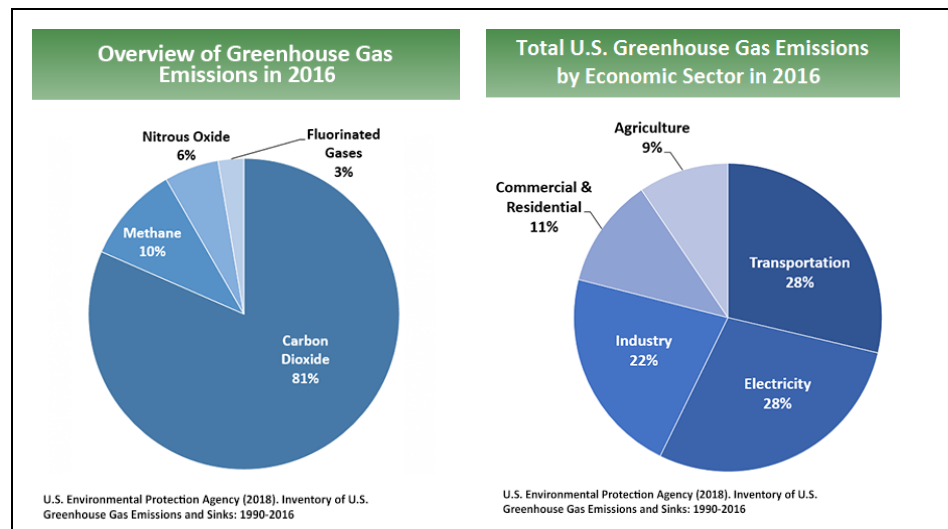


Figure 7. U.S. 2016 Greenhouse Gas Emissions

State GHG Inventory

ARB collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year (see Figure 8). 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 overall statewide GHG emissions declined from 2000 to 2017 despite growth in population and state economic output (see Figure 9) (ARB 2019a).

AB 32 required ARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. ARB adopted the first scoping plan in 2008. The second updated plan, *California's 2017 Climate Change Scoping Plan*, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and SB 32. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions.

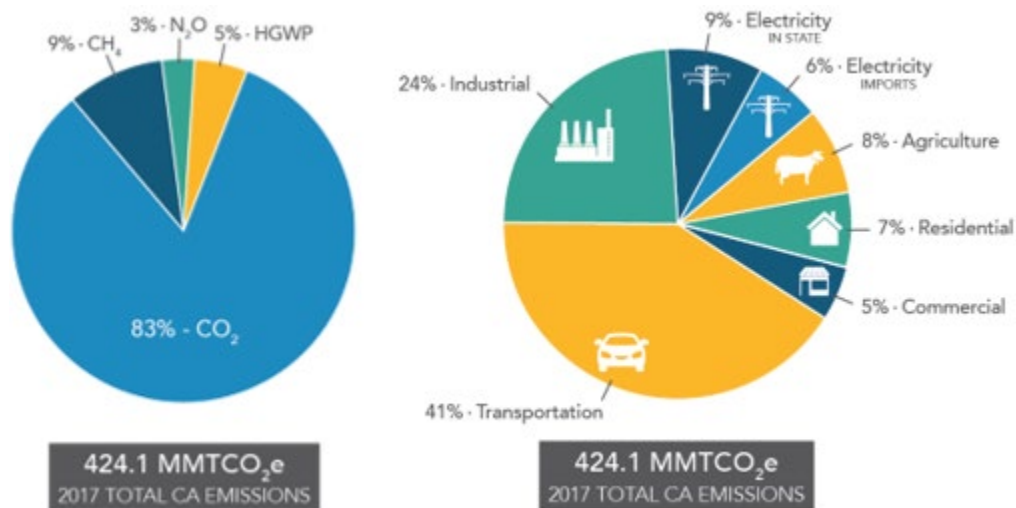


Figure 8. California 2017 GHG Emissions

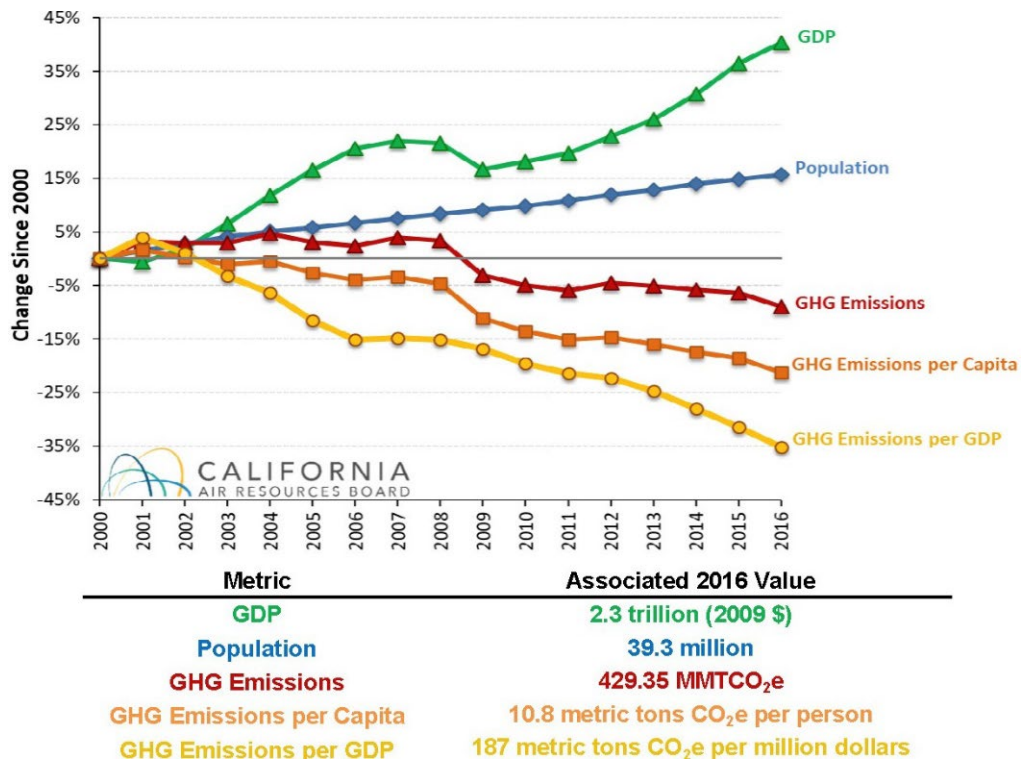


Figure 9. Change in California GDP, Population, and GHG Emissions Since 2000
 Source: ARB 2019b

AB 32 required ARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. ARB adopted the first scoping plan in 2008. The second updated plan, *California’s 2017 Climate Change Scoping Plan*, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and SB 32. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions.

Regional Plans

The proposed project is within the jurisdiction of the Del Norte County Local Transportation Commission which is the Regional Transportation Planning Agency for Del Norte County. The Commission is responsible for the development and adoption of the Regional Transportation Plan (RTP) and Transportation Improvement Program as required by state law. The County’s 2016 RTP identifies two specific GHG emission goals: ensure sensitivity to the environment in all transportation decisions, and include climate change strategies in transportation investment decisions. According to

the California Climate Adaptation Portal (<https://webmaps.arb.ca.gov/capmap/>), Del Norte County does not currently have a stand-alone Climate Action Plan; however, their 2016 RTP indicates the County relies on the guidance identified in the 2015 Climate Change and Stormwater Management Plan when developing transportation investment strategies.

The policies and goals related to GHG emissions identified in Del Norte County's 2016 RTP are:

- Prioritize and recommend transportation projects that minimize vehicle emissions while providing cost-effective movement of people and goods.
- Promote projects that can be demonstrated to reduce air pollution, such as active transportation projects, transit improvements and alternative fuel programs.
- Meet the standards of the California Clean Air Act and the Federal Clean Air Act and amendments in coordination with the local Air Pollution Control District when developing plans.
- Comply with state and federal climate change regulations and standards.
- Consider GHG emissions as part of every transportation capital improvement project decision.
- Pursue projects with positive GHG impacts that are realistic given the rural nature of Del Norte County, including transit programs, ridesharing programs, bicycle and pedestrian improvements, Intelligent Transportation System (ITS) strategies and maintenance of existing roadways to reduce vehicle emissions.

Project Analysis

GHG emissions from transportation projects can be divided into those produced during operation of the State Highway System (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 purpose of the proposed project is to conduct a geotechnical investigation and would not increase the vehicle capacity of the roadway. This type of project generally causes minimal or no increase in operational GHG emissions. Because the project would not increase the number of travel lanes on U.S. 101, no increase in vehicle miles traveled (VMT) would occur as result of project implementation. While some GHG emissions during the construction period would be unavoidable, no increase in operational GHG emissions is expected.

Construction Emissions

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

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

The proposed project is expected to last four months, with an estimated total release of 51 metric tons CO₂. To reduce GHG emissions during geotechnical investigation activities, Caltrans would comply with air pollution control rules, regulations, ordinances, and statutes that apply to the project.

Contractors would be required to comply with all laws applicable to the project and to certify they are aware of and would comply with all ARB emission reduction regulations and 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.

CEQA Conclusion

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

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 10) 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*.

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).

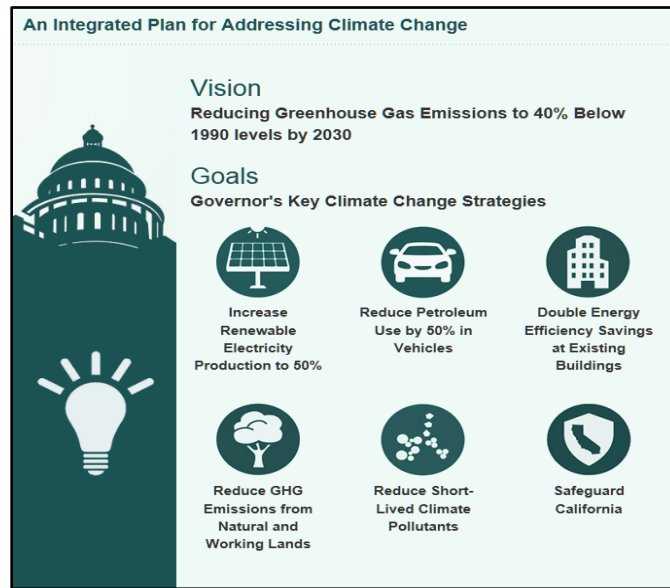


Figure 10. California Climate Strategy

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

Caltrans Activities

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

CALIFORNIA TRANSPORTATION PLAN

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

SB 391 (Liu 2009) requires the CTP to meet California's climate change goals under AB 32. Accordingly, the CTP 2040 identifies the statewide transportation system needed to achieve maximum feasible 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 to reduce GHG emissions include:

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

FUNDING AND TECHNICAL ASSISTANCE PROGRAMS

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

CALTRANS POLICY DIRECTIVES AND OTHER INITIATIVES

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

PROJECT-LEVEL GREENHOUSE GAS REDUCTION STRATEGIES

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

- Standard construction best management practices for air quality would apply. Such air-pollution control measures can also help reduce construction GHG emissions.

- All areas temporarily disturbed during construction would be revegetated with appropriate native species. Landscaping reduces surface warming and, through photosynthesis, decreases CO₂. This replanting would help offset any potential CO₂ emissions increase.
- Areas of disturbed vegetation would be replanted with regionally appropriate native plants. Plants absorb CO₂ from the atmosphere.
- Pedestrian and bicycle access would be maintained on U.S. 101 during project activities.

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

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)¹⁴ established FHWA policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. FHWA has developed guidance and tools for transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels (FHWA 2019).

State Efforts

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. *California’s Fourth Climate Change Assessment* (2018) is the state’s 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.

¹⁴ <https://www.fhwa.dot.gov/legsregs/directives/orders/5520.cfm>

- *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 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

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

According to the California Coastal Commission Statewide Sea Level Rise Vulnerability Synthesis (2016), due to coastal bluff erosion, the area to the west of the project limits is susceptible to sea-level rise; however, the proposed geotechnical investigation would not add new features that could potentially be affected by coastal erosion.

The proposed project does not conflict with any of the recommendations for sea-level rise planning and adaption approaches identified in the *State of California Sea-Level Rise Guidance 2018 Update*.

Floodplains

According to Federal Emergency Management Agency (FEMA) flood zone maps, the project limits are located in flood Zones D and X. The Zone D designation is used for areas where there are possible but undetermined flood hazards, as no analysis of flood hazards has been conducted. The Zone X designation is used for areas of minimal flood hazard. The specific geotechnical investigation sites are in upland mountainous terrain, which are not likely to experience flooding. Furthermore, the proposed project would be an “investigation”; therefore, no permanent features would be built or placed within a potential flood hazard zone.

Wildfire

Based on the fire hazard severity zone 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 lands. Furthermore, the proposed project would not construct any new features or induce uses that would be vulnerable to wildfire or increase risk of wildfire. Drilling contractors would be directed to take precautions against fire.

No Build Alternative

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

2.11. Hazards and Hazardous Materials

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p>Would the project: a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?</p>				√
<p>Would the project: b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?</p>				√
<p>Would the project: c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?</p>				√
<p>Would the project: d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?</p>				√
<p>Would the project: e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?</p>				√
<p>Would the project: f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?</p>				√
<p>Would the project: g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?</p>				√

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the Initial Site Investigation prepared for this project (Caltrans 2019f). 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.

Mitigation Measures

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

No Build Alternative

The existing condition would remain the same if the geotechnical investigation did not occur; therefore, per CEQA, “No Impact” would occur.

2.12. Hydrology and Water Quality

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

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 U.S. from any point source¹⁵ 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 intends to conduct any activity that may result in a discharge to waters of the United States to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the United States. RWQCBs administer this permitting program in California. Section 402(p) requires permits for discharges of stormwater from industrial/construction and municipal separate storm sewer systems (MS4s).
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by USACE.

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

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

¹⁵ A *point source* is any discrete conveyance, such as a pipe or a human-made ditch.

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

According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent¹⁶ standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the United States. In addition, every permit from the USACE, even if not subject to the Guidelines, must meet general requirements. See 33 CFR Part 320.4.

State

PORTER-COLOGNE WATER QUALITY CONTROL ACT

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

¹⁶The EPA defines *effluent* as "wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall."

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 would be programmed to follow the guidelines and procedures outlined in the latest SWMP to address stormwater runoff.

CONSTRUCTION GENERAL PERMIT

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 a Storm Water Pollution Prevention Plan (SWPPP) 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 would be in compliance with state water quality standards. The most common federal permits triggering a 401 Certification are CWA Section 404 permits issued by USACE. The 401 Certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before USACE issues a Section 404 permit.

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

Environmental Setting

The project is located in northwest California within a mountainous region comprising elongated ranges and valleys that trend in a northwesterly direction. The region experiences high average winter precipitation, which can reach 100 inches per year. The topography mainly consists of irregular outcrops that are prone to landslides. The dominant soil type in the area is "Group C" which consists mainly of sandy clay loams with low infiltration rates. With the exception of a small portion near the southern project limits which is in the Klamath River Hydrologic Unit, the project is located within the Smith River Hydrologic Unit.

Discussion of Environmental Evaluation Question 2.12—Hydrology and Water Quality

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

The project is exempt from needing a Water Quality Assessment (Caltrans 2019j) as there is no net new impervious surface (NNI), and the potential disturbed soil area (DSA) is less than one acre—both of which are triggers as defined in the Stormwater General Permit, Caltrans WQ 2015-0036-EXEC (NPDES Permit No. CAS000003) and the Construction General Permit, 2010-0014-DWQ (NPDES Permit No. CAS000002), respectively. The following was considered as part of this determination.

Boring Locations: The dimensions of the bore locations would be up to 50 by 50-foot, and, as described below, vegetation clearing may be required.

- Locations B-23 and B-24 would be accessed and drilled on existing roads. No vegetation removal or grading is anticipated at these locations.
- Locations B-16 and B-26 would be accessed from existing roads. Brushing and vegetation clearing would be required at these locations.
- Locations B-36 and B-40 would require grading (up to 24-36 inches), brushing, and small tree removal to access.
- Locations B-19, B-20, B-22, B-25, B-28, B-29, B-30 (A or B), B-34 (A or B), and B-35 would be accessed by helicopter. Brushing and small tree removal would be required at these locations; however, no “grading” would occur. Drilling platforms would be used at these locations, and minor ground disturbance (2 by 2-foot area) would occur at the platform leg locations. Each platform is anticipated to have up to 8 legs.

The bore locations are within mountainous terrain that contain nearby wetlands and water courses. Activities occurring at these locations (e.g., brushing, grading, and drilling operations) are not anticipated to affect these resources.

Given the scope of the proposed activities and the standard features included as part of the project description, access and other activities associated with the geotechnical investigation are not anticipated to result in any direct or indirect effects on wetlands, water courses, or surface waters. Given this, a “Less Than Significant Impact” determination was made for this question.

Questions b), c), d), and e)

“No Impact” determinations for questions b, c, d, and e are based on the scope, description, and location of the proposed project, and the water quality exemption prepared for the project (Caltrans

2019j). The geotechnical investigation activities would not affect groundwater, alter existing drainage patterns, place or build permanent features within a potential flood hazard zone, or conflict with any water quality control plan or sustainable groundwater management plan.

Mitigation Measures

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

No Build Alternative

The existing condition would remain the same if the geotechnical investigation did not occur; therefore, per CEQA, “No Impact” would occur.

2.13. Land Use and Planning

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Physically divide an established community?				√
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 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 conflict with the established land use plan or affect conservation planning.

Mitigation Measures

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

No Build Alternative

The existing condition would remain the same if the geotechnical investigation did not occur; therefore, per CEQA, “No Impact” would occur.

2.14. Mineral Resources

Question:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p>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?</p>				√
<p>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?</p>				√

“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 known mineral resources present.

Mitigation Measures

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

No Build Alternative

The existing condition would remain the same if the geotechnical investigation did not occur; therefore, per CEQA, “No Impact” would occur.

2.15. Noise

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p>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?</p>				√
<p>Would the project result in: b) Generation of excessive groundborne vibration or groundborne noise levels?</p>				√
<p>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?</p>				√

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the analyzing noise prepared for this project (Caltrans 2019c). The project meets the criteria for a Type III project as defined in 23 CFR 772. Potential impacts are not anticipated as traffic volumes, composition, and speeds would be same pre and post geotechnical investigation activities.

Mitigation Measures

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

No Build Alternative

The existing condition would remain the same if geotechnical investigation did not occur; therefore, per CEQA, “No Impact” would occur.

2.16. Population and Housing

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

“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.

Mitigation Measures

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

No Build Alternative

The existing condition would remain the same if the geotechnical investigation did not occur; therefore, per CEQA, “No Impact” would occur.

2.17. Public Services

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p>a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:</p> <p>Fire protection?</p>				√
Police protection?				√
Schools?				√
Parks?				√
Other public facilities?				√

“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 the Department to operate and maintain the State Highway System.

Mitigation Measures

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

No Build Alternative

The existing condition would remain the same if the geotechnical investigation did not occur; therefore, per CEQA, “No Impact” would occur.

2.18. Recreation

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

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to Recreation are not anticipated given the geotechnical investigation would not increase the use of the parks and the investigation would not include adding new recreational facilities.

Mitigation Measures

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

No Build Alternative

The existing condition would remain the same if the geotechnical investigation did not occur; therefore, per CEQA, “No Impact” would occur.

2.19. Transportation/Traffic

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

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to transportation/traffic are not anticipated as the project would be conducting a geotechnical investigation and would not impact traffic and circulation.

Mitigation Measures

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

No Build Alternative

The existing condition would remain the same if the geotechnical investigation did not occur; therefore, per CEQA, “No Impact” would occur.

2.20. Tribal Cultural Resources

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p>Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:</p> <p>a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or</p>				√
<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 Impact” determinations in this section are based on the scope, description, and location of the proposed geotechnical investigation activities. Native American coordination took place through written notifications sent from Caltrans to tribal representatives, and no tribal concerns were expressed. Potential impacts to tribal cultural resources are not anticipated because there are no tribal cultural resources, as defined in Questions a and b, within the project limits that would be affected (Caltrans 2019e).

Mitigation Measures

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

No Build Alternative

The existing condition would remain the same if the geotechnical investigation did not occur; therefore, per CEQA, “No Impact” would occur.

2.21. Utilities and Service Systems

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p>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?</p>				√
<p>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?</p>				√
<p>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?</p>				√
<p>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?</p>				√
<p>Would the project: e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?</p>				√

“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 due to the limited scope of the project and lack of utilities or service systems within the project limits.

Mitigation Measures

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

No Build Alternative

The existing condition would remain the same if the geotechnical investigation did not occur; therefore, per CEQA, “No Impact” would occur.

2.22. Wildfire

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:</p> <p>a) Substantially impair an adopted emergency response plan or emergency evacuation plan?</p>				√
<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>				√
<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>				√
<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 Impact” determinations in this section are based on the scope, description, and location of the proposed project. The project is located on the northern California coast. The area has a temperate climate, typically consisting of high humidity and high rain totals (average 63 inches per year), resulting in the area experiencing few fires. In addition, the project is not located in areas categorized as Very High Fire Hazard Severity Zones by CAL FIRE in either state or local responsibility areas.

Mitigation Measures

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

No Build Alternative

The existing condition would remain the same if the geotechnical investigation did not occur; therefore, per CEQA, “No Impact” would occur.

2.23. Mandatory Findings of Significance

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

Discussion of Environmental Evaluation Question 2.23—Mandatory Findings of Significance

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

The geotechnical investigation would occur in areas where sensitive resources are present; however, due to the limited and temporary scope of the investigation, the analysis indicates the investigation would not have the potential to substantially degrade the quality of the environment or to substantially reduce habitat or species populations to below self-sustaining levels. Based on this, a “Less Than Significant Impact” determination was made for this question.

b) Does the project have impacts that are individually limited, but cumulatively considerable?

Per Section 15130 of CEQA, a Cumulative Impact Analysis (CIA) discussion is only required in “...situations where the cumulative effects are found to be significant.” An Environmental Impact Report (EIR) is required in all situations when a project might result in a “significant” direct, indirect, or cumulative impact on any resource. Due to the limited and temporary scope of the geotechnical investigation, the investigation would not be anticipated to have a cumulative impact on any resource; therefore, an EIR and CIA were not required. Given this, a “No Impact” determination was made for this question.

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

A “No Impact” determination for this question is based on the scope, description, and location of the proposed project. The geotechnical investigation would occur where humans do not reside, and the investigation would not introduce any feature into the environment that has the potential to cause substantial adverse effects on human beings, either directly or indirectly.

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 impact 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 (CEQA, Section 15355).

Cumulative impacts to resources 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.

Per Section 15130 of CEQA, a Cumulative Impact Analysis (CIA) discussion is only required in “...situations where the cumulative effects are found to be significant.” An EIR is required in all situations when a project might result in a “significant” direct, indirect, or cumulative impact on any resource. The analysis indicates the activities associated with the geotechnical investigation do not have the potential to have a direct, indirect, or cumulative impact on any resource. Given this, an EIR and CIA were not required for this project.



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 the project have been accomplished through a variety of formal and informal methods, including Project Development Team (PDT) meetings, interagency coordination meetings, and stakeholder meetings.

Caltrans posted a Notice of Intent (NOI) to adopt a Negative Declaration on December 17, 2019 and circulated the draft Initial Study with proposed Negative Declaration and proposed Section 4(f) *de minimis* Determinations between December 17, 2019, and January 16, 2020. An open house was held in Crescent City on January 8, 2020. See Appendix M for the comments and response to comments.

The following table summarizes Caltrans' efforts to identify, address, and resolve project-related issues through early and continuing coordination.

Coordination Effort	Date	Personnel ¹⁷
Cultural Resource Working Group meeting to discuss cultural Programmatic Agreement for LCG	May 22, 2018	Caltrans Representatives CSP Representatives Elk Valley Representatives NPS Representatives Tolowa Dee-ni' Representatives Tolowa Nation Representatives Yurok Representatives

¹⁷CCC=California Coastal Commission, CDFW=California Department of Fish and Wildlife, CPS=California Park Service, EPIC=Environmental Protection Information Center, GDRC=Green Diamond Resource Company, NCRWQCB=North Coast Regional Water Quality Control Board, NMFS=National Marine Fisheries Service, NPS=National Parks Service, SHPO = State Historic Preservation Officer USACE=U.S. Army Corps of Engineers, USEPA=U.S. Environmental Protection Agency, USFWS=U.S. Fish and Wildlife Service

Coordination Effort	Date	Personnel ¹⁷
LCG Biological Resources Working Group	August 24, 2018	Aida Parkinson, NPS Carol Wilson, CPS Christine Hamilton, Caltrans Biologist Dan Free, NMFS Greg Schmidt, USFWS Jaime Matteoli, Caltrans Project Manager Jason Meyer, Caltrans Env. Senior Keith Benson, NPS Michael Van Hattem, CDFW Tamara Gedik, CCC
LCG presentation at various tribal meetings	September 5 and 26 and November 29, 2018, and March 13, 2019	Caltrans Representatives Elk Valley Representatives Resighini Representatives Tolowa Dee-ni' Representatives Yurok Tribe Representatives
LCG Biological Resources Working Group	February 5, 2019	Carol Wilson, CSP Dan Free, NMFS Denise Walker-Brown, Caltrans Biologist Greg Schmidt, USFWS Jaime Matteoli, Caltrans Project Manager Jason Meyer, Caltrans Env. Senior Keith Benson, NPS Michael Van Hattem, CDFW Mike Kelly, NMFS
Cultural Resource Working Group meeting to discuss cultural Programmatic Agreement for LCG and project updates	February 8, 2019	Caltrans Representatives CSP Representatives Elk Valley Representatives NPS Representatives Tolowa Dee-ni' Representatives Tolowa Nation Representatives Yurok Representatives
Circulation of permits for LCG Phase 2B cultural studies	March 15, 2019	Caltrans Representatives CSP Representatives Elk Valley Representatives NPS Representatives Resighini Representatives Tolowa Dee-ni' Representatives Tolowa Nation Representatives Yurok Representatives
Conference call to discuss cultural Programmatic Agreement	March 19, 2019	Caltrans Representatives CSP Representatives Elk Valley Representatives NPS Representatives Tolowa Dee-ni' Representatives Tolowa Nation Representatives Yurok Representatives

Coordination Effort	Date	Personnel ¹⁷
MAMU and NSO habitat assessment and helicopter work field review	March 26, 2019	Carol Wilson, CSP Christine Hamilton, Caltrans Biologist Greg Schmidt, USFWS
Cultural project coordination via email on LCG Phase 2A and 2B	May 7, 2019 to Present	Caltrans Representatives CSP Representatives Elk Valley Representatives NPS Representatives Resighini Representatives Tolowa Dee-ni' Representatives Tolowa Nation Representatives Yurok Representatives
Cultural Resource Working Group meeting to discuss cultural Programmatic Agreement for LCG and LCG geotechnical investigations	June 4, 2019	Caltrans Representatives CSP Representatives Elk Valley Representatives NPS Representatives Resighini Representatives Tolowa Dee-ni' Representatives Tolowa Nation Representatives Yurok Representatives
Circulation of the following reports, via e-mail, to the Cultural Resources Working Group: <i>Draft Archaeological Survey Report, Draft Historical Resources Evaluation Report and Draft Sensitivity Assessment/Research Design</i>	June 24, 2019	Caltrans Representatives CSP Representatives Elk Valley Representatives NPS Representatives Resighini Representatives Tolowa Dee-ni' Representatives Tolowa Nation Representatives Yurok Representatives

Coordination Effort	Date	Personnel ¹⁷
LCG stakeholder site visit to GDRC lands	August 8, 2019	Ali Thiel, Caltrans Biologist Amber Transou, CSP Annie Daly, Office of Jared Huffman Brad Mettam, Caltrans Deputy District Director Brandy Natt, Yurok Tribe Brett Silver, CSP Carol Wilson, CSP Charlene Storr, Tolowa Nation Craig Compton, GDRC David Roemer, NPS Eileen Cooper, Friends of Del Norte Gerry Hemmingsen, Del Norte County Gordon Johnson, Humboldt County Association of Governments Greg Schmidt, USFWS Jaime Matteoli, Caltrans Project Manager John Driscoll, Office of Jared Huffman Keith Slausen, CSP Kellie Eldridge, Caltrans Env. Coordinator Kurt Stremberg, LCG Stakeholder Group Laura Lalemand, Save the Redwoods League Leonel Arguello, NPS Logan Feree, Congressman Huffman's Office Lori Cowan, Del Norte County Matt Smith, Caltrans Design Matt Wakefield, Del Norte County Mike Kelly, NMFS Sabina Renner, Renner Petroleum Sebastian Cohen, Caltrans Construction Shannon Dempsey, CSP Steve Croteau, Caltrans Env. Senior Susan Stewart, NCRWQCB Tom Wheeler, EPIC Victor Bjelajac, CSP
Coordination for Section 7 effects determination for NSO, MAMU, Humboldt marten, and West Coast DPS of fisher.	August 15, 2019	Ali Thiel, Caltrans Biologist Greg Schmidt, USFWS
LCG Biological Resources Working Group	August 27, 2019	Ali Thiel, Caltrans Biologist Brandon Larsen, Caltrans Env. Office Chief Carol Wilson, CSP Carolyn Mulvihill, USEPA Christine Hamilton, Caltrans Biologist Dan Free, NMFS Greg Schmidt, USFWS Jaime Matteoli, Caltrans Project Manager Jamie Jackson, CDFW Jason Meyer, Caltrans Env. Senior Keith Benson, NPS Mike Kelly, NMFS Steve Croteau, Caltrans Env. Senior Tamara Gedik, CCC

Coordination Effort	Date	Personnel ¹⁷
LCG Stakeholder Meeting	September 11, 2018	Brett Silver, CSP Charlie Narwold, Caltrans Geotech Services Ciara Emery, Office of Jared Huffman Cindy Vosburg, Crescent City/Del Norte County Craig Compton, GDRC David Roemer, NPS Eileen Cooper, Friends of Del Norte Gerry Hemmingsen, Del Norte County Gordon Johnson, Humboldt County Association of Governments Jaimie Matteoli, Caltrans Project Manager Jason Greenough, Crescent City John Driscoll, Office of Jared Huffman Joy Keller-Weidman, US Institute for Environmental Conflict Resolution Karen Sanders, Caltrans Resident Engineer Laura Lalemand, Save the Redwoods League Lori Cowan, Del Norte County Matt Smith, Caltrans Design Steve Croteau, Caltrans Env. Senior Steve Madrone, Humboldt County Tim Keefe, Caltrans Env. Senior Tom Wheeler, EPIC Victor Bjelajac, CSP
Circulation of the following report to the Cultural Resources Working Group: <i>Historic Property Survey Report</i>	September 27, 2019	Caltrans Representatives CSP Representatives Elk Valley Representatives NPS Representatives Resighini Representatives Tolowa Dee-ni' Representatives Tolowa Nation Representatives
Caltrans initiated consultation with the State Historic Preservation Officer (SHPO) and seeks concurrence on determinations of eligibility of historic properties	October 14, 2019	Jody Brown, Caltrans Office Chief Cultural Studies Office Julianne Polanco, SHPO
Coordination with State Parks for DOT Section 4(f) <i>de minimis</i> Determination	October 14, 2019 through November 5, 2019	Victor Bjelajac, CSP Carol Wilson, CSP Amber Transou, CSP Shannon Dempsey, CSP Steve Croteau, Caltrans Env. Senior
Coordination with NPS for DOT Section 4(f) <i>de minimis</i> Determination	October 14, 2019 through November 7, 2019	Steve Mietz, NPS Dave Roemer, NPS Ben Littlefield, NPS Steve Croteau, Caltrans Env. Senior
Coordination for Section 7 effects determination for NSO and MAMU	October 17, 2019	Greg Schmidt, USFWS Christine Hamilton, Caltrans Biologist

Coordination Effort	Date	Personnel ¹⁷
LCG Partnering Meeting	October 24, 2019	Alexis Kelso, Caltrans Env. Senior Brett Silver, CSP David Roemer, NPS Jaimie Matteoli, Caltrans Project Manager Joan Chaplick, MIG, Inc. Maria Mayer, MIG, Inc. Steve Croteau, Caltrans Env. Senior Steve Mietz, NPS Victor Bjelajac, CSP Zack Chapman, Tolowa Dee-ni' Nation
Clarification of USACE jurisdiction	October 28 and November 11, 2019	Daniel Breen, USACE Rob Meade, Caltrans Senior Agency Liaison
Caltrans receives SHPO concurrence on determinations of eligibility	November 5, 2019	Jody Brown, Caltrans Office Chief Cultural Studies Office Julianne Polanco, SHPO
Circulation of the following reports to the Cultural Resources Working Group: <i>Finding of No Adverse Effect and Environmentally Sensitive Area and Monitoring Plan</i>	November 5, 2019	Caltrans Representatives CSP Representatives Elk Valley Representatives NPS Representatives Resighini Representatives Tolowa Dee-ni' Representatives Tolowa Nation Representatives
Coordination for coastal resources	November 12, 2019	Jaimie Matteoli, Caltrans Project Manager Kellie Eldridge, Caltrans Env. Coordinator Steve Croteau, Caltrans Env. Senior Taylor Carsley, Del Norte County Planner
USACE jurisdiction site review	November 14, 2019	Keith Hess, USACE Rob Meade, Caltrans Senior Agency Liaison
Coordination for coastal resources	December 2, 2019	Ali Thiel, Caltrans Biologist Heidi Kunstal, Del Norte County Jaimie Matteoli, Caltrans Project Manager Kellie Eldridge, Caltrans Env. Coordinator Steve Croteau, Caltrans Env. Senior Taylor Carsley, Del Norte County Planner Tamara Gedick, CCC
Caltrans seeks SHPO concurrence on finding of no adverse effect to historic properties.	December 12, 2019	Jody Brown, Caltrans Office Chief Cultural Studies Office Julianne Polanco, SHPO

Coordination Effort	Date	Personnel ¹⁷
LCG Biological Resources Working Group	January 6, 2020	Alex Arevalo, Caltrans Storm Water Ali Thiel, Caltrans Biologist Carol Wilson, CSP Greg Schmidt, USFWS Jaime Matteoli, Caltrans Project Manager Jeff Barrett, Caltrans Revegetation Specialist John Dixon, CCC Karen Radford, Caltrans Program Analyst Keith Slauson, CSP Kellie Eldridge, Caltrans Env. Coordinator Mike Kelly, NMFS Mike Van Hattem, CDFW Steve Croteau, Caltrans Env. Senior Stephanie Frederickson, Caltrans Senior Resource Specialist Tamara Gedik, CCC
Caltrans receives SHPO concurrence on finding of no adverse effect to historic properties	January 9, 2020	Julianne Polanco, SHPO Jody Brown, Caltrans Office Chief Cultural Studies Office
Field meeting with Coastal Commission	January 22, 2020	Ali Thiel, Caltrans Biologist John Dixon, CCC Kellie Eldridge, Caltrans Env. Coordinator Stephanie Frederickson, Caltrans Senior Resource Specialist Tamara Gedik, CCC
Biological Assessment submitted to USFWS	January 24, 2020	Ali Thiel, Caltrans Biologist Greg Schmidt, USFWS
Coordination with National Parks for DOT Section 4(f) <i>de minimis</i> Determination	January 28, 2020	David Roemer, NPS Jaimie Matteoli, Caltrans Project Manager Kellie Eldridge, Caltrans Env. Coordinator Saylor Moss, NPS Steve Croteau, Caltrans Env. Senior

Coordination Effort	Date	Personnel ¹⁷
LCG Stakeholder Meeting	February 5, 2020	Brett Silver, CSP Charlie Narwold, Caltrans Geotech Services Ciara Emery, Office of Jared Huffman Cindy Vosburg, Crescent City/Del Norte County Craig Compton, GDRC David Roemer, NPS Dina Potter, HNTB Don Gillespie, Friends of Del Norte Gerry Hemmingsen, Del Norte County Gordon Johnson, Humboldt County Association of Governments Jaimie Matteoli, Caltrans Project Manager Jason Greenough, Crescent City Joan Chaplick, MIG, Inc. John Driscoll, Office of Jared Huffman Joy Keller-Weidman, US Institute for Environmental Conflict Resolution Karen Sanders, Caltrans Resident Engineer Karin Lilienbecker, ICF Kurt Stremberg, Community Representative Laura Lalemand, Save the Redwoods League Lori Cowan, Del Norte County Megan Van Pelt, Resighini Rancheria Steve Croteau, Caltrans Env. Senior Steve Madrone, Humboldt County
Email clarification on Biological Assessment language and issuance of Letter of Concurrence	February 10, 2020	Ali Thiel, Caltrans Biologist Greg Schmidt, USFWS
Coastal Development Permit Discussion	February 25, 2020	Ali Thiel, Caltrans Biologist Kellie Eldridge, Caltrans Env. Coordinator Steve Croteau, Caltrans Env. Senior Taylor Carsley, Del Norte County Planner

Chapter 4. List of Preparers

The following individuals performed the environmental work on the project:

Phlora Barbash	Landscape Associate (Aesthetics)
Jeff Barrett	Associate Environmental Planner (Botanist, Revegetation Specialist)
Steve Croteau	Senior Environmental Planner (Environmental Project Manager)
Kellie Eldridge	Associate Environmental Planner (Coordinator)
Christian Figueroa	Engineering Geologist (Paleontology and Hazardous Waste)
Christine Hamilton	Associate Environmental Planner (Biologist)
Tim Keefe	Senior Environmental Planner (Cultural Resources)
Brandon Larsen	Supervising Environmental Planner (Environmental Office Chief)
Jaime Matteoli	Transportation Engineer (Project Manager)
Lorna McFarlane	Associate Environmental Planner (Water Quality)
Robert Meade	Senior Environmental Planner (Resource Specialist)
Karen Radford	Associate Government Program Analyst (Technical Editor)
Matt Smith	Transportation Engineer (Lead Project Engineer)
Ali Thiel	Associate Environmental Planner (Lead Biologist)
Eric Wilson	Engineering Geologist (Geotechnical)
Barbara Wolf	Senior Environmental Planner (Greenhouse Gas)
Saeid Zandian	Transportation Engineer (Air, Noise, GHG, and Energy)
Stacey Zolnoski	Associate Environmental Planner (Archaeologist)



Chapter 5. Distribution List

Federal, State, County and City Organizations

Daniel Alzamora, Federal Highway Administration (FHWA)
Victor Bjelajac, District Superintendent, North Coast Redwoods
Daniel Breen, Senior Regulatory Project Manager, U.S. Army Corps of Engineers
Greg Collins, Cultural Resources Program Manager, North Coast Redwoods District, California State Parks
Karin Grantham, Joint Chief Resource Management and Science, Redwood National Park
Jeff Jahn, Supervisory Fish Biologist, National Marine Fisheries Service
Gordon Johnson, Humboldt County Association of Governments
Mike Kelly, NMFS Caltrans Liaison, National Marine Fisheries Service
Gordon Leppig, Senior Environmental Scientist, California Department of Fish & Wildlife
Steve Mietz, Superintendent, Redwood National Park
Bob Merrill, District Manager, California Coastal Commission
Carolyn Mulvihill, NEPA Reviewer-Transportation, EPA
Jennifer Olson, CDFW Caltrans Liaison, California Department of Fish & Wildlife
David Roemer, Deputy Superintendent, Redwood National Park
Greg Schmidt, USFWS Caltrans Liaison, U.S. Fish and Wildlife Service
Susan Stewart, Environmental Scientist, North Coast Regional Water Quality Control Board
Lane Tavasci, Deputy Harbormaster, Crescent City Harbor Commission
Amber Transou, Senior Environmental Scientist, California State Parks
Michael Van Hattem, Senior Environmental Scientist, California Department of Fish & Wildlife
Lamin Williams, Federal Highway Administration (FHWA)
Carol Wilson, Environmental Scientist, California State Parks

Regional/County/Local Agencies

Taylor Carsley, Planner, Del Norte County Planning

Becky Crockett, Planning Director, Curry County, Oregon

Larry Depee, Lieutenant-Commander, California Highway Patrol

Heidi Kunstal, Director, Community Development Department, Del Norte County

Tamera Leighton, Executive Director, Del Norte County Local Transportation Commission

Tribal Officials

Rosie Clayburn, Tribal Historic Preservation Officer (THPO), Yurok Tribe

Joseph James, Tribal Council Chairman, Yurok Tribe

Kevin Mealue, Tribal Council Member, Elk Valley Rancheria

Dale A. Miller, Tribal Council Chairman, Elk Valley Rancheria

Fawn C. Murphy, Tribal Council Chairperson, Resighini Rancheria

Amanda O'Connell, Tribal Historic Preservation Officer (THPO), Tolowa Dee-ni' Nation

Denise Padgette, Tribal Council Chairperson, Tolowa Dee-ni' Nation

Crista Stewart, Tribal Historic Preservation Officer (THPO), Elk Valley Rancheria

Charlene Storr, Tribal Council Chairperson, Tolowa Nation

Meagan Van Pelt, Executive Director, Resighini Rancheria

Elected Officials

Bob Berkowitz, Supervisor, Del Norte County Board of Supervisors

Lori Cowan, Chair, Del Norte County Board of Supervisors

Peter DeFazio, Oregon Congressman, 4th District

John Driscoll, Congressman Jared Huffman's Office

Erin Dunn, Assembly Member Jim Wood's Office

Roger Gitlin, Supervisor, Del Norte County Board of Supervisors

Jason Greenough, Crescent City Council Member

Gerry Hemmingson, Supervisor, Del Norte County Board of Supervisors

Chris Howard, Supervisor, Del Norte County Board of Supervisors

Jared Huffman, U.S. House of Representatives, District 2
Steve Madrone, Supervisor, Humboldt County Board of Supervisors
Mike McGuire, California State Senator, District 2
Thomas Witzel, Senator Mike McGuire's Office
Jim Wood, Assembly member, California State Assembly, District 2

Interested Groups, Organizations and Individuals

Craig Compton, Green Diamond Resource Company
Eileen Cooper, Friends of Del Norte
Don Gillespie, Friends of Del Norte
Laura Lalemand, Save the Redwoods League
Sabina Renner, C. Renner Petroleum
Gary Smits, Rumiano Cheese
Kurt Stremberg, Last Chance Grade Advisory Committee
Cindy Vosburg, Executive Director, Crescent City Del Norte Chamber of Commerce
Tom Wheeler, Environmental Protection Information Center (EPIC)



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