

State Route 1 and State Route 84 Structures and Scour Mitigation Project

SAN MATEO COUNTY, CALIFORNIA
04-SM-1 – PM 28.9
04-SM-84 – PM 7.55
EA 04-2J790 / Project ID 04-1500-0014

DRAFT Initial Study with Proposed Mitigated Negative Declaration



Prepared by the
State of California, Department of Transportation



June 2020

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General Information about This Document

What's in this document:

The California Department of Transportation (Caltrans) has prepared this Initial Study (IS) with a proposed Mitigated Negative Declaration, which examines the potential environmental impacts of the proposed project located in San Mateo County, California. Caltrans is the lead agency under California Environmental Quality Act (CEQA). This document explains why the project is being proposed, what alternatives have been considered for the project; and how the existing environment could be affected by the project. It also presents the potential impacts of each of the alternatives and describes the proposed avoidance, minimization, and/or mitigation measures for each impact.

What you should do:

Please read this IS.

- Additional copies of this IS and related technical studies are available by request from Caltrans at the same contact for comments shown below. This IS may be downloaded at the following website: <https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs>.
- As a result of the COVID-19 emergency, the California Governor's Executive Orders N-33-20 and N-60-20, and San Mateo County's Order No. c19-5f, Caltrans is conducting public meetings via remote presence by video and teleconference to protect public health and safety. Participate in a public meeting on July 28, 2020, from 6:00 pm to 7:30 pm . Meeting information, including links to the online meeting and call-in numbers, is available at <https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs>. A copy of the presentation material will be available for download 24 hours before the meeting at the same website.
- We'd like to hear what you think. If you have any comments about the proposed project, please participate in the public meeting and/or send your written comments to Caltrans by the deadline.
 - Send comments via postal mail to:
Department of Transportation, District 4 Attn: Tanvi Gupta,
P.O. Box 23660 MS 8B, Oakland, CA 94623-0660
 - Send comments via email to: Tanvi.Gupta@dot.ca.gov.
- Be sure to send comments by the deadline: August 10, 2020.

What happens next:

Caltrans will circulate the Initial Study with Proposed Mitigated Negative Declaration for review for 30 days. During the 30-day public review period, the general public and responsible and trustee agencies can submit comments on this document to Caltrans. Caltrans will consider the comments and will respond to the comments after the 30-day public review period. After comments are received from the public and reviewing agencies, Caltrans may (1) give environmental approval to the proposed project, (2) do additional environmental studies, or (3) abandon the project. If the project is given environmental approval and funding is obtained, Caltrans could design and construct all or part of the project.

Alternative Formats:

For individuals with sensory disabilities, this document can be made available in braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to the California Department of Transportation, Attn: Tanvi Gupta, P.O. Box 23660 MS 8B, Oakland, CA, 94623-0660, e-mail Tanvi.Gupta@dot.ca.gov, call Zachary Gifford at 510-506-1264 (Voice) or use California Relay Service 1 (800) 735-2929 (TTY to Voice), 1 (800) 735-2922 (Voice to TTY), 1 (800) 855-3000 (Spanish TTY to Voice and Voice to TTY), 1-800-854-7784 (Spanish and English Speech-to-Speech) or 711. An ADA-compliant electronic copy of this document is available to download at: the Caltrans environmental document website (<https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs>).

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State Route 1 and State Route 84 Structures and Scour Mitigation Project.
(Post Miles 04-SM-1-29.9, 04-SM-84-7.55)

Initial Study with Proposed Mitigated Negative Declaration

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

THE STATE OF CALIFORNIA
Department of Transportation

Responsible Agencies:

United States Fish and Wildlife Service
California Department of Fish and Wildlife, Region 3
California Transportation Commission

June 25, 2020

Date



Christopher Caputo
Acting Office Chief
Environmental Planning and Engineering
California Department of Transportation
CEQA Lead Agency

The following persons may be contacted for more information about this document:

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Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to protect the Pilarcitos Creek Bridges on State Route 1, post mile 28.92, and the San Gregorio Creek Bridge on State Route 84, post mile 7.55. The bridges will be protected from scour by placing partially grouted rock slope protection (RSP). At the Pilarcitos Creek Bridges, partially grouted RSP will be placed around piers of the northbound and southbound bridges and will replace the earth stream bank, slope, and public trail between Pilarcitos Creek and the northern abutments of both bridges. The existing public trail along the north bank of Pilarcitos Creek will be removed during construction and replaced in kind at project completion. At the San Gregorio Creek Bridge, partially grouted RSP will be placed under the west end of the bridge along the slope between Pier 2 and Abutment 1 to restore the slope to a ratio no steeper than 1.5 horizontal to 1.0 vertical; and to construct a key around Pier 2 that will be filled with partially grouted RSP to protect the pier from erosion.

Determination

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

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

The proposed project would have no effect on agricultural lands and forest resources, cultural resources, land use and planning, mineral resources, population and housing, tribal cultural resources, and utilities and service systems.

The proposed project would have a less than significant impact on aesthetics, air quality, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise, public services, recreation, transportation and traffic, and wildfire.

With standard conservation measures, avoidance and minimization measures, and mitigation measures, the proposed project would have less than significant effects to biological resources, specifically the:

California red-legged frog (*Rana draytonii*): Federally Threatened (FT)

Central California Coast Coho Salmon (*Oncorhynchus kisutch*) evolutionarily significant unit (ESU): Federally Endangered (FE) and State Endangered (SE)

Central California Coast Steelhead (*Oncorhynchus mykiss irideus*) distinct population segment (DPS): FT

Marbled murrelet (*Brachyramphus marmoratus*): FT and SE

Foothill yellow-legged frog (*Rana boylei*): SE.

Melanie Brent
Deputy District Director
Environmental Planning and Engineering
California Department of Transportation, District 4

Date of Approval

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Environmental Factors Potentially Affected

The environmental factors marked below with a YES would be potentially affected by this project. Please see the completed CEQA evaluation and environmental checklist in Chapter 2, for additional information.

YES	Aesthetics
NO	Agriculture and Forest Sources
YES	Air Quality
YES	Biological Resources
NO	Cultural Resources
YES	Energy
YES	Geology and Soils
YES	Greenhouse Gas Emissions
YES	Hazards and Hazardous Materials
YES	Hydrology and Water Quality
NO	Land Use and Planning
NO	Mineral Resources
YES	Noise
NO	Population and Housing
YES	Public Services
YES	Recreation
YES	Transportation
NO	Tribal Cultural Resources
NO	Utilities and Service Systems
YES	Wildfire
NO	Climate Change

Determination

On the basis of this initial evaluation:

NO	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
YES	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
NO	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
NO	I find that the proposed project MAY have a "potentially significant impact" or a "potentially significant impact unless mitigated" impact on the environment, but at least one effect has been adequately analyzed in an earlier document pursuant to applicable legal standards, and has been addressed by mitigation measures based on the earlier analysis, as described on the attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
NO	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature:	Date:
Printed Name: Melanie Brent	For:

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Chapter 1 Proposed Project

1.1 Introduction

1.1.1 CEQA Lead Agency Status.

The State Route 1 and State Route 84 Structures and Scour Mitigation Project (proposed project) by the California Department of Transportation (Caltrans) is subject to state environmental review requirements. Project documentation has been prepared in compliance with California Environmental Quality Act (CEQA). Caltrans is the lead agency under CEQA and sponsor for the proposed project and has prepared this Initial Study with Proposed Mitigated Negative Declaration for the proposed project.

1.2 Project Location

The proposed project occurs at two distinct locations on separate roadways and over different creeks in San Mateo County (Figure 1). The Pilarcitos Creek Bridges are located on SR 1 at post mile (PM) 28.9 in the City of Half Moon Bay (Figure 2). The San Gregorio Creek Bridge is located on SR 84 over San Gregorio Creek at PM 7.6 (Figure 3)

1.3 Purpose and Need

1.3.1 Purpose

The purpose/goal of the proposed project is to restore the Pilarcitos Creek Bridges on California State Route (SR) 1 to their serviceable condition and to protect the structural integrity of the San Gregorio Creek Bridge on SR 84, thereby enhancing highway safety.

1.3.2 Need

The project is needed because the recent bridge inspection found that the Pilarcitos Creek Bridges are scour critical and because the San Gregorio Creek Bridge bank between the left pier and left abutment (as viewed looking downstream at the bridge) has eroded and needs additional protections to prevent roadway settlement.

1.4 Project Information

Caltrans proposes to mitigate scour impacts to the bridges at two locations in San Mateo County: the Pilarcitos Creek Bridges on SR 1 (Bridge No. 35-0139L and Bridge No. 35-0139R) and the San Gregorio Creek Bridge on SR 84 (Bridge No. 35-0166).

At the Pilarcitos Creek Bridges, Caltrans proposes to mitigate bridge scour by placing partially grouted rock slope protection (RSP) around structural elements. Work would include: removing existing material around all bridge piers and replacing it with partially grouted RSP; replacing the soil slope between the north creek bank and the north bridge abutments with partially grouted RSP; and replacing in-kind the portion of the existing Class I shared-used path (the Naomi Partridge Trail) that runs below the bridges on the north side of Pilarcitos Creek. The public trail will be temporarily rerouted during construction.



Figure 1 Project Vicinity



Figure 2 SR1 Pilarcitos Creek Bridges Location



Figure 3 SR 84 San Gregorio Creek Bridge Location

At the San Gregorio Creek Bridge, Caltrans proposes to mitigate bridge scour at the west pier of the bridge by removing existing material and replacing it with partially grouted RSP. To address scour and erosion at the slope between the west pier and the west abutment, Caltrans would place partially grouted RSP to restore the slope to the original as-built grade.

1.4.1 Existing Environmental Setting

1.4.1.1 Climate

The proposed project is in the Santa Cruz Mountains of the Central California Coast. As part of the Santa Cruz Mountains, the Pilarcitos and San Gregorio Creek watersheds generally have a Mediterranean climate, moderated by the Pacific Ocean marine layer, which is responsible for the regular fog conditions along the north-central California coast. Cooler temperatures predominate in winter between November and March, and the warmest temperatures typically occur during late summer.

Westerly precipitation systems deliver rain to the watersheds between November and April. In contrast, little to no rainfall occurs between late spring through early fall. Typically, a few large winter storms generate high flow events and increased sediment input to streams each year.

1.4.1.2 Topography

Pilarcitos Creek Bridge

Topography at the Pilarcitos Creek location is characterized by its presence in the alluvial coastal plain at Half Moon Bay. At the project location, SR 1 is relatively level and Pilarcitos Creek, where it crosses under two bridges, is incised within this alluvial plain.

San Gregorio Creek Bridge

At the San Gregorio Creek location, the topography is characterized by the northwest-trending Santa Cruz Mountains, with rounded ridges, steep sides, and narrow canyons. San Gregorio Creek drains a portion of the western slope of the mountains within a forested, sloped area of this drainage.

1.4.1.3 Land Use

Pilarcitos Creek Bridge

Land cover surrounding SR 1 at the Pilarcitos Creek Bridges consists primarily of commercial and residential development and agriculture, while the Pilarcitos Creek drainage crossed by SR 1 is a riparian corridor.

San Gregorio Bridge

Land cover adjacent to SR 84 at the San Gregorio Creek Bridge consists mainly of undeveloped redwood forest. The San Gregorio Creek riparian area intersects the project site, and there is scattered low-density residential housing near the site.

1.4.1.4 Natural Environment

Hydrology

Pilarcitos Creek Bridge

Pilarcitos Creek originates on the eastern side of Montara Mountain and flows about 12 miles to the Pacific Ocean at Half Moon Bay. It drains a watershed of approximately 17,900 acres (28 square miles) in San Mateo County. The creek is a source of drinking water for residents of the coast and the San Francisco Bay Area; it is diverted at the Pilarcitos Reservoir and Stone Dam complex in the upper watershed.

San Gregorio Creek Bridge

San Gregorio Creek is the second-largest watershed in San Mateo County. The mainstem of San Gregorio Creek is approximately 12 miles long from the confluence of Alpine and La Honda creeks to the Pacific Ocean. Unlike Pilarcitos Creek, San Gregorio Creek has a coastal lagoon at its mouth.

Vegetation and Wildlife

Both project locations are in riparian corridors and provide potential habitat for a diverse array of amphibious, bird, terrestrial and fish species. Although both sites present forested riparian habitat with grass and herbaceous plant species present in the understory, based on botanical surveys of the project sites, special-status plant species with potential to occur at the site were not found. No special-status plants are expected to be impacted by the project.

Pilarcitos Creek Bridge

The vegetated area beneath the Pilarcitos Creek Bridges and the adjacent riparian corridor consists of red alder and willow riparian forest vegetation (Figure 4). The understory of this vegetation community is dominated by invasive vines and a few other invasive shrubs. Pilarcitos Creek and its riparian corridor provide habitat connectivity from the coastal beach habitats of Half Moon Bay at Elmar Beach, approximately two-thirds of a mile downstream of the bridges, to the watershed upstream. The aquatic habitat at the Pilarcitos Creek Bridges location provides access for anadromous fish and other aquatic species to habitat both upstream and downstream. The existing bridge is not a barrier to fish passage. A table listing the special status species and habitats potentially occurring inside the biological study areas is provided in Appendix A.

San Gregorio Creek Bridge

The redwood forest around San Gregorio Creek Bridge (Figure 5) is characterized by second growth or younger redwood trees that are modest in height but provide shade and habitat for a wide variety of wildlife species. San Gregorio Creek is a key feature of the redwood forest habitats of the western slope of the Santa Cruz Mountains surrounding the bridge. The aquatic habitat at the San Gregorio Creek Bridge location provides access for anadromous fish and other aquatic species to habitat both upstream and downstream. The existing bridge is not a barrier to fish passage. A table listing the special status species and habitats potentially occurring inside the biological study areas is provided in Appendix A.

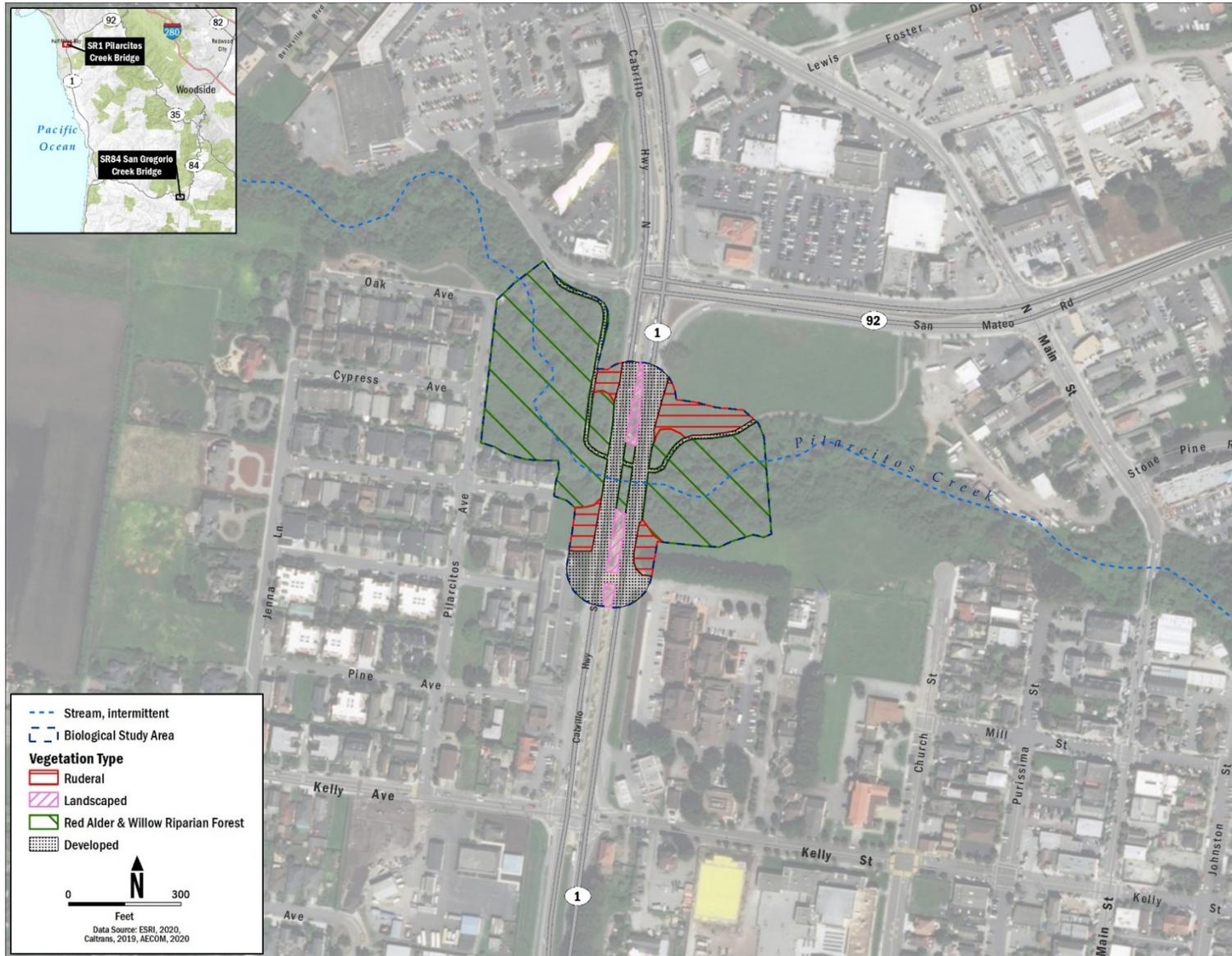


Figure 4 Pilarcitos Creek Bridge Vegetation



Figure 5 San Gregorio Creek Bridge Vegetation

1.4.2 Existing Facilities

1.4.2.1 Pilarcitos Creek Bridges (Bridge No. 35-0139L/R)

The two bridges (Bridge No. 35-0139 L/R) at Pilarcitos Creek were originally built in 1954. The structures are three-span continuous reinforced-concrete “T” girders (five) on reinforced-concrete pier walls and open-end diaphragm abutments. All are founded on reinforced-concrete piles. Both bridges were widened in 1992. Bridge No. 35-0139 L was widened 8 feet on the left side and Bridge No. 35-0139 R was widened 8 feet on the ride side. Both were widened with three-span continuous reinforced-concrete “T” girders (two) on reinforced-concrete pier walls and reinforced-concrete open-end diaphragm abutments. Each widening is founded on reinforced-concrete piles. The span configurations are 44.25 feet, 58 feet, and 44.25 feet for a total of 146.5 feet. The current bridge widths are 44.75 feet, consisting of 1 feet of bridge rail, 5 feet of sidewalk, 37 feet of roadway, and 1.75 feet of bridge rail.

1.4.2.2 San Gregorio Creek Bridge (Bridge No. 35-0166)

The San Gregorio Creek Bridge No. 35-0166 was built in 1957. The structure is three-span continuous reinforced-concrete “T” girders (five) on reinforced-concrete pier walls and reinforced-concrete diaphragm abutments with monolithic wingwalls. The bents are founded on reinforced-concrete spread footings, and the abutments are founded on steel “H” piles. The span configuration is 30 feet, 40 feet, and 30 feet for a total of 100 feet. The bridge width is 34.5 feet, which consists of 0.25 feet of bridge rail, 34 feet of roadway, and 0.25 feet of bridge rail.

1.4.2.3 Bike and Pedestrian Facilities

At the SR 1 Pilarcitos Creek Bridges location, a portion of the Naomi Partridge Trail crosses below both bridges (left and right) between Abutment 4 and Pier 3. The trail is a Class I shared-use path that runs along the north bank of Pilarcitos Creek (Figure 6) in the project area.

The SR 84 San Gregorio Creek Bridge location has no bike or pedestrian facilities.

Utility relocations are not anticipated at either of the project locations as part of this project and therefore existing utilities are not described.

1.5 Project Funding and Programming

The proposed project is funded through California Senate Bill 1 Program funds for the Highway Bridge Replacement and Rehabilitation Program as a State Highway Operation and Protection Program project.

1.6 Project Description

1.6.1 Work Sequence at Pilarcitos Creek Bridge

- Install construction-area signs.
- Conduct preconstruction biological surveys.
- Install environmentally sensitive area (ESA) fencing.
- Install wildlife exclusion fencing (WEF).



Figure 6 Portion of Naomi Partridge Trail below the Southbound Pilarcitos Creek Bridge between Pier 3 and Abutment 4

- Implement best management practices (BMPs) as appropriate.
- Perform clearing and grubbing.
- Install temporary creek access.
- Install temporary creek diversion system.
- Excavate around piers and abutments.
- Place RSP.
- Place grout material over RSP.
- Reconstruct the paved public trail.
- Implement permanent erosion control and replacement planting.
- Remove temporary creek diversion system.
- Perform site cleanup.
- Remove construction-area signs.
- Monitor and manage plant establishment (3 years).

1.6.2 Work Sequence at San Gregorio Creek Bridge

- Install construction area signs.
- Conduct preconstruction biological surveys.

- Install ESA fencing.
- Install WEF.
- Implement BMPs as appropriate.
- Perform clearing and grubbing.
- Install temporary creek access.
- Install temporary creek diversion system.
- Excavate around piers and abutments.
- Place RSP.
- Place grout material over RSP.
- Implement permanent erosion control and replacement planting.
- Remove temporary creek diversion system.
- Perform site cleanup.
- Remove construction area signs.
- Monitor and manage plant establishment (3 years).

1.6.3 Mobilization and Temporary Staging

Mobilization and staging areas will be used to store equipment and stockpile materials.

1.6.3.1 Temporary Staging at Pilarcitos Creek Bridges

Staging areas and creek access will be in the median (north and south of the structures) and the public trail running underneath the north end of the structures. There is also a potential stockpiling area southeast of the structures within the existing right-of-way (ROW).

1.6.3.2 Temporary Staging at San Gregorio Creek Bridge

Because accessing the creek is difficult, the project proposes that construction will take place under one-way traffic control via flagging. One lane/shoulder will be closed for staging and lowering equipment down to the creek.

1.6.4 Temporary Creek Diversion Systems

A temporary creek diversion system will be required for work at both Pilarcitos Creek and San Gregorio Creek. The system will be in place during the proposed in-water work window of June 15 to October 15. The system would be placed within the Caltrans ROW and would include placement of temporary cofferdams upstream and downstream of the construction area, possibly with a temporary diversion pipe running between them. The system would be in place for a single work season and removed after work and before the end of the in-water work window.

1.6.5 Excavation and Placement of Partially Grouted RSP and Trail Replacement at Pilarcitos Creek Bridges

Material around Pier 2 and Pier 3 and between Pier 3 and Abutment 4 would be excavated and replaced with partially grouted RSP. Preliminary design areas for placement of partially grouted RSP are shown in Figure 7.

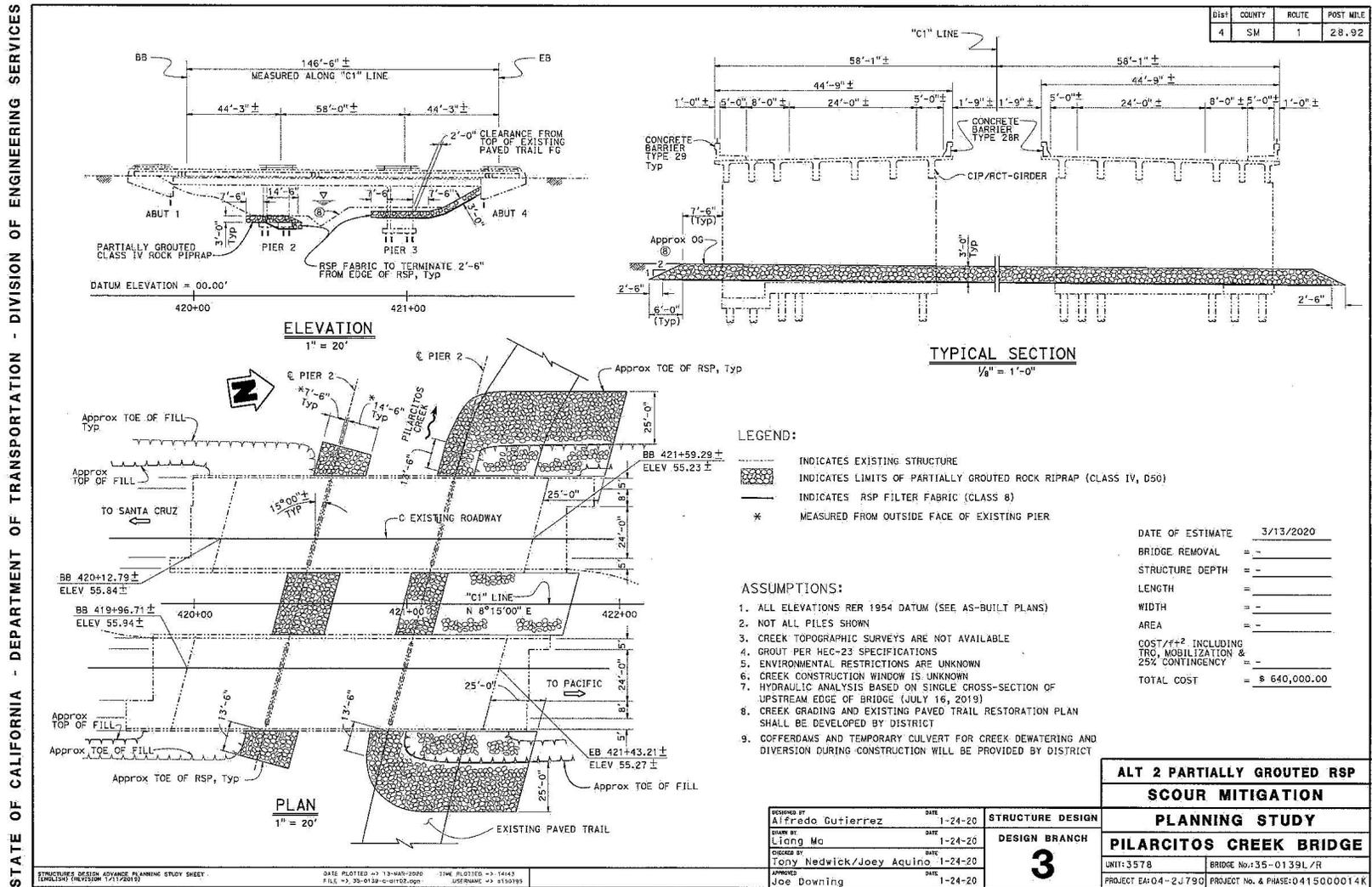


Figure 7 State Route 1 at Pilarcitos Creek Bridges Project Layout

1.6.5.1 Partially Grouted RSP Placement

Excavation would be approximately 3 to 5 feet deep, and the partially grouted RSP footprint would be approximately 20,710 square feet (0.48 acre) (Figure 7). Approximately 1,430 cubic yards of 15-inch quarry stone would be placed. After placement of the RSP, Portland concrete cement grout would be poured by grout hose, tremie, or automated mechanical means to fill one-third to one-half of the total void space. Partially grouted RSP would remain uncovered.

1.6.5.2 Replacement of Public Trail Below Pilarcitos Creek Bridges

At the Pilarcitos Creek Bridges only, the existing portion of the Naomi Partridge Trail would be replaced in kind after partially grouted RSP placement.

1.6.5.3 Temporary Trail Detour at Pilarcitos Creek Bridge

During construction, the existing Naomi Partridge Trail (Figure 8), which runs below the bridges, would be closed. Pedestrian and bicycle traffic would be rerouted along SR 92 over sidewalks and roads to allow passage across SR 1.)

1.6.6 Excavation and Placement of Partially Grouted RSP at San Gregorio Creek Bridges

Material between Abutment 1 and Pier 2 would be excavated and replaced with partially grouted RSP. Preliminary drawings for this location are shown in Figure 9.

1.6.6.1 Partially Grouted RSP Placement

Excavation would be approximately 2.5 feet deep, and the partially grouted RSP footprint would be approximately 4,300 square feet (0.10 acre) (Figure 9). Approximately 400 cubic yards of 15-inch quarry stone would be placed. After placement of the RSP, Portland concrete cement grout would be poured by grout hose, tremie, or automated mechanical means to fill one-third to one-half of the total void space. Partially grouted RSP would not be covered.

1.6.7 Site Cleanup and Restoration

Temporarily affected areas will be regraded to preconstruction contours or to match surrounding topography, to the extent practicable and where feasible. Construction-related materials will be removed after construction activities have been completed. The temporarily disturbed areas will be revegetated. Permanent erosion control, including soil stabilization measures such as hydroseeding, coir netting, and non-filament mesh fiber rolls, will be applied to affected areas to minimize erosion after construction has been completed. Creeks will be restored without any grade-control structures.

1.6.8 Equipment

Clearing and grubbing will be completed using hand tools, backhoes, and excavators as needed. A front loader or excavator will be used to load debris into trucks for off-site disposal. Equipment that may be used for excavation and importing materials include backhoes, excavators, trailered trucks, dump trucks, skid steers, drill rigs, concrete trucks and pumps, and water trucks.

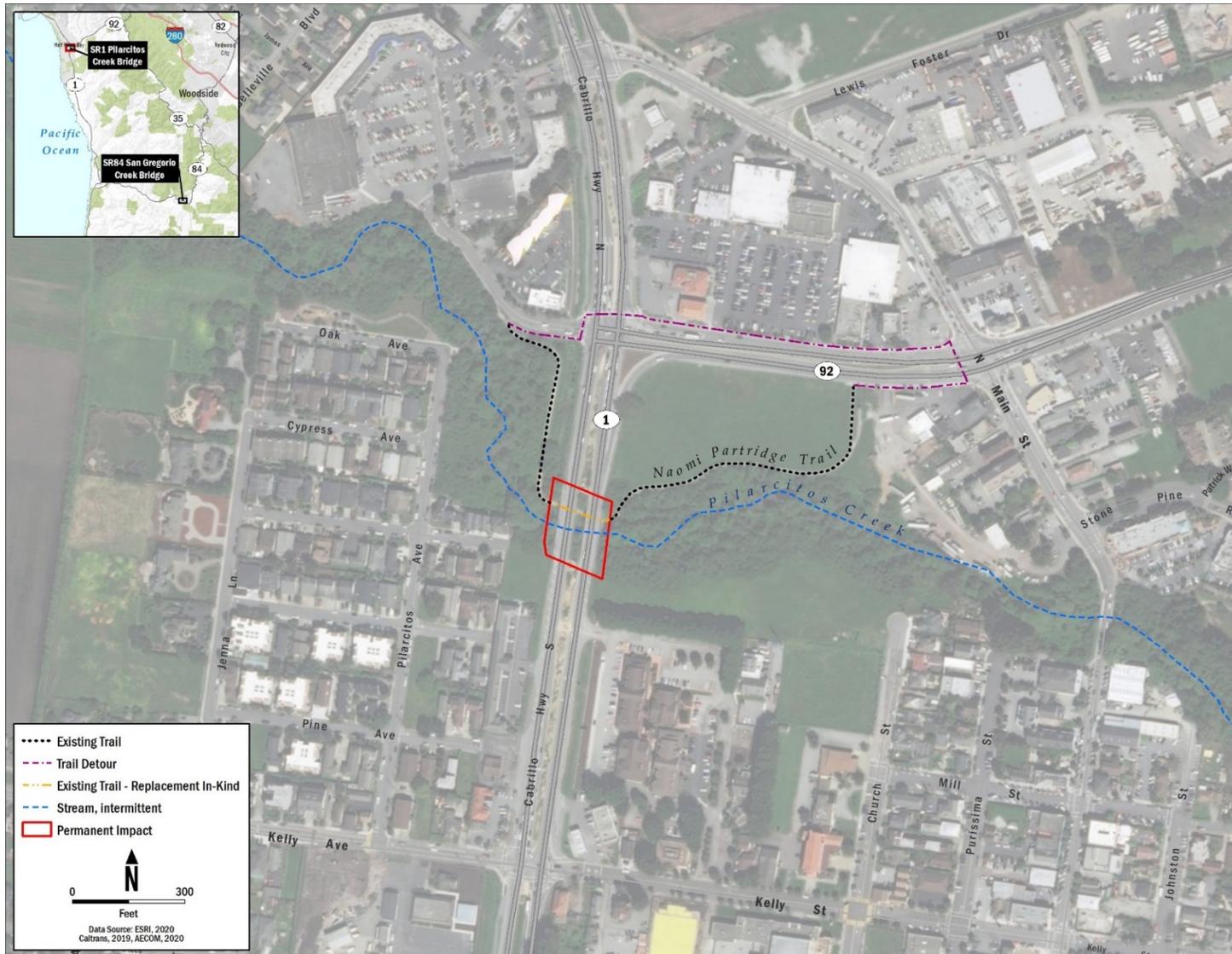


Figure 8 Naomi Partridge Trail Detour

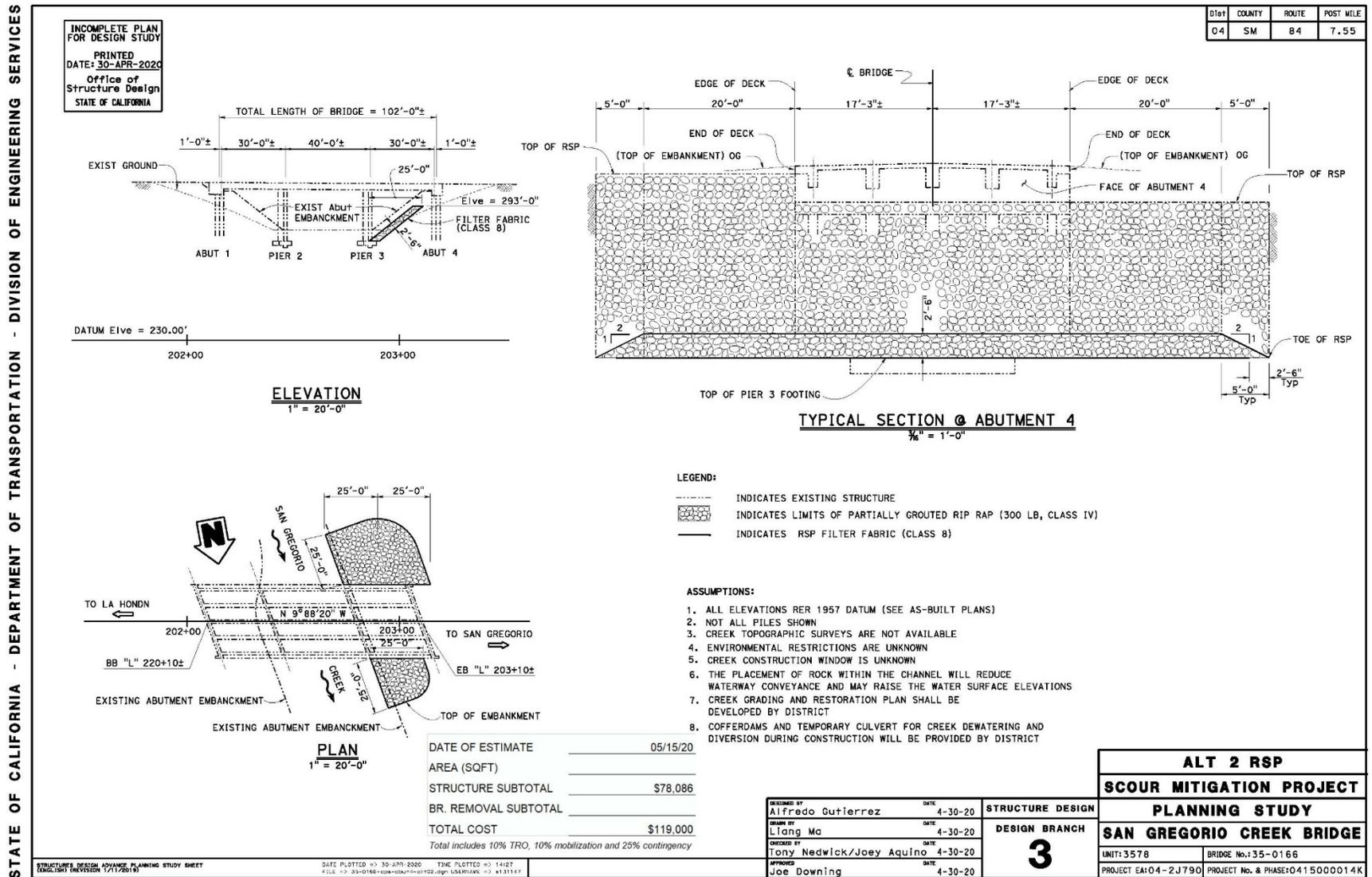


Figure 9 State Route 84 at San Gregorio Creek Bridge Draft Project Layout

1.6.9 Work Durations

Construction at both sites would occur from spring 2022 through autumn 2024. Construction would occur during a single work season at each location, but work may not take place concurrently at each location. In-water work would be restricted to a single season of work that would begin June 15 and end October 15. This work window is designed to avoid the wet season when construction activities in the creek would be more likely to impact the stream habitat and when the work area is more likely to be flooded. Construction activities may occur in both daytime and nighttime hours.

1.6.10 Transportation Management Plan for Use During Construction

No long-term roadway closures are proposed. During construction at the San Gregorio Bridge, single-lane and shoulder closures are anticipated because of the difficulty of accessing the creek. Single-lane/median closures and single-lane/shoulder closures are anticipated at the Pilarcitos Creek Bridges during mobilization and demobilization. Closure of the public trail will occur throughout the duration of construction at Pilarcitos Creek.

A Traffic Management Plan (TMP) will be required for this project. A TMP is used to minimize work-related traffic delays by the application of general traffic-handling practices and strategies. A TMP based on a detailed traffic operation analysis will be fully developed in the Plans, Specifications, and Estimates phase of the project to minimize and prevent delays and inconvenience to the traveling public during construction.

The TMP will include press releases that will notify and inform motorists, businesses, community groups, impacted cities, and emergency services of upcoming closures or detours. Various TMP elements such as portable Changeable Message Signs and a Construction Zone Enhanced Enforcement Program (COZEEP) will be used to alleviate and minimize the impacts of delays on the traveling public.

1.7 Project Features

Project features are design elements and/or standard measures that are incorporated into a project and are intended to reduce environmental effects resulting from proposed project activities. The proposed project contains several standardized project components which are employed on most, if not all, of Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed Project. These components are referenced as Project Features in this chapter as they pertain to different environmental resources, and are separated out from AMMs and Mitigation Measures, which directly relate to the impacts resulting from the proposed project.

Table 1 lists the Project Features that would be implemented by Caltrans to reduce or avoid potential impacts to the natural and human environments.

Table 1. Project Feature Summary

Resource Area	Project Feature Reference	Project Feature
Biology	Feature BIO-01	<p>Construction Site Best Management. The following site restrictions will be implemented to avoid or minimize potential effects on listed species and their habitats, pursuant to Caltrans Standard Specifications and Special Provisions.</p> <ul style="list-style-type: none"> • Speed Limit. Vehicles will not exceed 15 miles per hour in the Project footprint to reduce dust and excessive soil disturbance. • Trash Control. Food and food related trash items will be secured in sealed trash containers and removed from the site at the end of each day. • Pets. Pets will be prohibited from entering the project limits during construction. • Firearms. Firearms will be prohibited within the Project limits, except for those carried by authorized security personnel or local, state, or federal law enforcement officials.
Biology	Feature BIO-02	<p>Agency Approved Biologist. At least 30 days prior to the onset of activities, the name(s) and credentials of the biologist(s) who will conduct preconstruction surveys and relocation activities for listed species will be submitted to the appropriate regulatory agency or agencies (National Marine Fisheries Service [NMFS], U.S. Fish and Wildlife Service [USFWS] and/or California Department of Fish and Wildlife [CDFW]) for approval. No project activities will begin until the biologist(s) has received written approval from the agencies to conduct the work. An agency-approved biologist (hereafter referred to as the Approved Biologist) will be present on-site during the construction of any erosion-control fencing or cofferdams, and prior to and during the dewatering activities. Through communication with the Resident Engineer or designee, the Approved Biologist may stop work if that is deemed necessary for any reason to protect listed species and will advise the Resident Engineer or designee on how to proceed accordingly.</p>
Biology	Feature BIO-03	<p>Designated Construction Areas, Delineated ESAs, Work Areas, and Equipment and Materials Storage Sites. Caltrans will delineate construction areas and ESAs (areas containing sensitive habitats adjacent to or within the Project limits for which physical disturbance is not allowed) on the final construction plans. The agency-approved biologist will be onsite to direct the installation of ESA fencing, flagging, or other approved means of delineation prior to the start of construction, to prevent encroachment of personnel and equipment into sensitive areas during construction. When feasible staging, storage, and parking areas will be in designated areas a minimum of 150 feet from the ordinary high water mark (OHWM) on paved or graveled surfaces within the Caltrans ROW and away from any designated ESAs, to minimize construction impacts to protected resources. Equipment and materials storage sites will also be located as far away from residential uses as practicable. At the discretion of the agency-approved biologist, limits will also be defined near other environmentally sensitive locations, such as bird nests, when necessary. The ESA fencing, flagging, or other material will be removed when construction activities are complete in the immediate vicinity. Erosion control materials that use plastic or synthetic monofilament netting will not be used in the project area.</p>

Resource Area	Project Feature Reference	Project Feature
Biology	Feature BIO-04	<p>Worker Environmental Awareness Training. The resident engineer will contact the agency approved biologist seven calendar days before the initial preconstruction meeting to request environmental training. All construction personnel will attend a mandatory environmental education program facilitated by an agency approved biologist before construction begins. Training sessions will be repeated for all new personnel before they are allowed access to the job site. All personnel will complete the training and sign a form stating that they completed the training and understand all applicable agency regulations and consequences of noncompliance. Training will be provided in foreign languages as needed. Caltrans will keep the forms on file and make them available to regulatory agencies on request. The training will include a minimum of:</p> <ul style="list-style-type: none"> • A description of special-status species that could potentially occur on site. • A discussion of applicable agency regulations and consequences of noncompliance. • A review of the Project’s conservation measures (Project Features and AMMs) and how impacts will be avoided by implementing the measures.
Biology	Feature BIO-05	<p>Bird Protection Measures. To avoid take of migratory birds during the bird nesting season (February 1 to September 30), vegetation removal will only occur between October 1 and January 31 to the extent practicable. Vegetation trimming, or removal will not occur outside of the project footprint. Agency approved biologists will conduct preconstruction nesting bird surveys no more than three days prior to construction. If an active nest is discovered during construction, work within 50 feet of the nest of passerine species or 300 feet for raptor species will be avoided and an Approved Biologist will be contacted to investigate, upon inspection the Approved biologists will identify the bird to species, establish an appropriate exclusion buffer around the nest, and implement protective measures during construction. The area within the buffer will be avoided and monitored until the young are no longer dependent on the adults or the nest is no longer active. If a nesting special-status bird species is discovered, an Approved Biologist will notify the USFWS and/or CDFW for further guidance. Partially constructed and inactive nests will be removed to prevent occupation. Exclusion methods will be used to prevent migratory birds from nesting and roosting within the project area (February 1 to September 30).</p>
Biology	Feature BIO-06	<p>Species Relocation. When listed species are present and it is determined that they could be injured or killed by construction activities, the Approved Biologist in coordination with the appropriate state and Federal wildlife agencies will identify appropriate methods for capture, handling, exclusion, and relocation of individuals that could be affected. The Approved Biologist, with appropriate handling permits or licenses from state and/or Federal wildlife protection agencies as required, will conduct, monitor, and supervise all capture, handling, exclusion, and relocation activities; ensure that sufficient personnel are available for safe and efficient collection of listed species; and ensure that proper training and any required permitting or licensing is current for personnel identifying, handling, and conducting safe capture of listed species. Where listed species cannot be captured, handled, excluded, or relocated, actions that could injure or kill individual organisms will be avoided or delayed until the species leaves the affected area or the organism reaches a stage at which it can be captured, handled, excluded, or relocated</p>
Biology	Feature BIO-07	<p>Biologist Authority to Stop Construction. The agency-approved biologist will stop work, as directed by the RE, in the vicinity of any protected species that are discovered. Work will not begin again until the individual species is either relocated by the monitor or moves out of harm’s way by itself.</p>
Biology	Feature BIO-08	<p>Restoration/Revegetation of Disturbed Areas. Upon project completion, all temporarily disturbed previously vegetated areas will be contoured to preconstruction grades, where appropriate, and replanted with appropriate native vegetation as described in the revegetation plan.</p>

Resource Area	Project Feature Reference	Project Feature
Biology	Feature BIO-09	Reduce Spread of Invasive Species. Noxious weeds will be controlled within the Project construction site in accordance with Caltrans' Highway Design Manual Topic 110.5, "Control of Noxious Weeds – Exotic and Invasive Species," and Executive Order 13112 (Invasive Species), and by methods approved by a Caltrans' landscape architect or vegetation control specialist.
Biology	Feature BIO-10	Pre-construction Surveys and Biological Monitoring. An agency-approved biologist will conduct pre-construction surveys for special-status species. The biologist will be present during construction activities, including establishment of ESAs, vegetation clearing and grubbing, ground disturbance, and other work activities when special-status species may be harmed or harassed. If at any point, any listed species is discovered within the Project limits, a 50-foot-wide work restriction buffer will be applied until the animal moves out of the area or the animal is relocated out of harm's way; the regulatory agency(ies) will be notified. If any endangered plant is found, ESA fencing will be placed, to the extent practicable, around the area to ensure the areas will be avoided.
Biology	Feature BIO-11	Avoidance of Entrapment. To prevent inadvertent entrapment of animals during construction, excavated, steep-walled holes or trenches more than 1 foot deep will be covered at the close of each working day using plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they must be thoroughly inspected for trapped animals. Pipes, culverts, or similar structures stored in the Project limits overnight will be inspected before they are subsequently moved, capped, and/or buried
Biology	Feature BIO-12	No Pile Driving. To avoid impacts to listed species, no impact or vibratory driving on piles will occur for the project.
Biology	Feature BIO-13	Fish Passage. Stream width, depth, velocity, and slope that provide upstream and downstream passage of adult and juvenile fish will be preserved according to current NMFS and CDFW guidelines and criteria, or as developed in cooperation with NMFS and CDFW to accommodate site-specific conditions
Biology	Feature BIO-14	Temporary Lighting During Construction. All construction lighting will be limited to within the area of work and will avoid light spillage onto motorists and neighbors through directional lighting, shielding, and other measures, as needed. Should nighttime work be necessary, all lighting will be directed downwards and towards the active construction area. When nighttime work cannot be avoided, disturbance of listed species will be avoided and minimized by restricting substantial use of temporary lighting to the least sensitive seasonal and meteorological windows. Lights on work areas will be shielded and focused to minimize lighting of listed-species habitat. Construction personnel will turn portable tower lights on no more than 30 minutes before the beginning of civil twilight, and off no more than 30 minutes after the end of civil sunrise. Portable tower lights will have directional shields attached to them, and personnel will only direct lights downward and toward active construction and staging areas. Lighting per portable tower light will not exceed 2,000 lumens. To the extent practicable, personnel will only use enough coverage to light the work areas.
Biology	Feature BIO-15	Fish Relocation. Caltrans shall retain a qualified biologist with expertise in the areas of anadromous salmonid biology, including handling, collecting, and relocating salmonids, salmonid/habitat relationships and biological monitoring of salmonids. Caltrans shall ensure that all biologists working on a site-specific project will be qualified to conduct fish collections in a manner that minimizes all potential risks to listed salmonids. A NMFS-approved fish biologist will be on-site to observe dewatering activities and to capture/rescue any fish that are observed in an isolated area during dewatering activities.

Resource Area	Project Feature Reference	Project Feature
Biology	Feature BIO-16	Temporary Cofferdams and Creek Diversion System. Cofferdams and diversion cofferdams will affect no more of the stream channel than is necessary to support completion of the maintenance or construction activity. Temporary cofferdams and creek diversions systems will only be used for a single construction season and will be removed before the end of the in-water work window (June 15 to October 15). Immediately upon completion of in-channel work, temporary fills, cofferdams, creek diversion systems, and other in-channel structures that will not remain in the stream will be removed in a manner that minimizes disturbance to downstream flows and water quality. All structures and imported materials placed in the stream channel or on the banks during construction that are not designed to withstand high flows will be removed before such flows occur. For diversion from creeks bodies, any water intake structure will be installed, operated, and maintained in accordance with current NMFS, USFWS, and CDFW criteria or as developed in cooperation with NMFS, USFWS, and CDFW to accommodate site-specific conditions.
Biology	Feature BIO-17	Tree Impacts. Where tree removal is required to support construction activities, native tree species with a diameter at breast height greater than 4 inches that are removed will be replanted in kind at a ratio to be determined in consultation with appropriate wildlife agencies.
Cultural	Feature CUL-1	Discovery of Cultural Resources. If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a Caltrans qualified archaeologist can assess the nature and significance of the find.
Cultural	Feature CUL-2	Discovery of Human Remains. If remains are discovered during excavation, all work within 60 feet of the discovery will halt and Caltrans' Cultural Resource Studies office will be called. Caltrans' Cultural Resources Studies Office Staff will assess the remains and, if determined human, will contact the County Coroner as per Public Resources Code (PRC) Sections 5097.98, 5097.99, and 7050.5 of the California Health and Safety Code. If the Coroner determines the remains to be Native American, the Coroner will contact the Native American Heritage Commission who will then assign and notify a Most Likely Descendant. Caltrans will consult with the Most Likely Descendant on respectful treatment and reburial of the remains. Further provisions of PRC 5097.98 are to be followed as applicable
Noise	Feature NOI-1	Maintaining Internal Combustion Engines. All internal combustion engines will be maintained properly to minimize noise generation.
Noise	Feature NOI-2	Idling of Internal Combustion Engines. Unnecessary idling of internal combustion engines will be avoided within 100 feet of sensitive receptors
Transportation and Traffic	Feature TRA-1	Traffic Management Plan (TMP). A TMP will be developed by Caltrans. The TMP will include elements such as haul routes, one-way traffic controls to minimize speeds and congestion, flag workers, and phasing, to reduce impacts to residents as feasible and maintain access for police, fire, and medical services in the local area. Temporary pedestrian and bicyclist access will be provided during construction
Visual Aesthetic	Feature VIS-1	Visual Integrity. To maintain the visual integrity of the area the following measures will be implemented on site: <ul style="list-style-type: none"> • All disturbed ground surfaces shall be restored and treated with erosion control. • Existing Vegetation shall be preserved to the maximum extent feasible. • All other impacted vegetation shall be evaluated for replacement. Depending on the extent of removal, a one-year plant establishment period may be required. <ul style="list-style-type: none"> • During Construction operations, unsightly material and equipment in staging areas shall be placed where they are less visible and/or covered when possible

Resource Area	Project Feature Reference	Project Feature
Waters/Water Quality	Feature WQ-1	Water Pollution Control Plan (WPCP). A WPCP is required for the project. The WPCP will address potential temporary impacts via implementation of appropriate best management practices (BMPs) to the Maximum Extent Practicable. Further, sampling and monitoring of construction site discharge point(s) may be recommended by the San Francisco Bay RWQCB as part of the WPCP
Waters/Water Quality	Feature WQ-2	RSP Work. RSP work, which creates disturbed soil area and is a source of sediment, requires a dry work environment. Such work has a limited work window of June 15 to October 15. RSP will be prewashed to remove sediment and/or contaminants before placement.
Waters/Water Quality	Feature WQ-3	Water Quality BMPs: The contractor will adhere to the instructions, protocols, and specifications, outlined in the most current Caltrans Construction Site Best Management Practices Manual and Caltrans Standard Specifications. At a minimum, protective measures will include the following: <ul style="list-style-type: none"> • Disallowing discharging of pollutants from vehicle and equipment cleaning into storm drains or watercourses • Storing or servicing vehicles and construction equipment including fueling, cleaning and maintenance at least 50 feet from aquatic habitat unless separated by a topographic or drainage barrier. • Maintaining equipment to prevent the leakage of vehicle fluids such as gasoline, oils, or solvents and developing a Spill Response Plan. Hazardous materials such as fuels, oils, solvents, etc. will be stored in sealable containers in a designated location that is at least 50 feet from aquatic habitats. • Collecting and disposing of concrete wastes and water from curing operations in appropriate washouts located at least 50 feet from watercourses. • Covering temporary stockpiles. • Installing coir rolls or straw wattles along or at the base of slopes during construction to capture sediment. • Protecting graded areas from erosion using a combination of silt fences, fiber rolls, and erosion control netting (jute or coir) as appropriate.
Waters/Water Quality	Feature WQ-4	Water Diversion Plan. Caltrans will prepare a water diversion and dewatering plan and avoid any work in wetted creek channels.
Waters/Water Quality	Feature WQ-5	Stockpiles and Excavated Material Storage. Excavated material will not be stored or stockpiled in the channel. Any excavated material that will not be placed back in the channel or on the bank after construction will be end-hauled to an approved disposal site. Temporary imported material (e.g., RSP) will not be stockpiled in the 100-year floodplain during the rainy season (October 15 through May 31), unless material can be relocated within (i.e., before) 12 hours of the onset of a storm. Storage areas will not disturb wetlands or other special status plant communities.
Waters/Water Quality	Feature WQ-6	Uncured Concrete Grout. Concrete grout will be isolated from surface waters while pouting and curing. Ensure cure water does not flow to inlets or water courses but rather to collection areas for infiltration or other means of removal in accordance with all applicable permits.

1.8 Alternatives Considered but Eliminated from Discussion

The only other alternative considered is the no-build alternative. The no-build alternative does not satisfy the objectives, purpose, or need of this project. Caltrans considered use of non-grouted RSP at both locations. When examining this construction method for RSP placement in preliminary designs, it appeared to require a substantial increase to the area and elevation of

RSP placement in the creek channel, with no increase in benefits. Permanent environmental impacts associated with placement of non-grouted RSP were determined to be greater than placement of partially grouted RSP, particularly at the Pilarcitos Creek Bridges location, and were not further pursued. Caltrans considered use of temporary access and staging areas at the San Gregorio Creek Bridge location within the ROW where forest cover occurs. Caltrans determined that impacts to natural resources would be too great and could be avoided through accessing the site from the bridge deck by lowering equipment to the work area below. Caltrans has removed the staging areas at San Gregorio Creek location from the proposed project.

1.9 Permits and Approvals

Prior to construction activities, the proposed project will require the environmental permits, authorizations, or agreements shown in Table 2.

Table 2 Anticipated Environmental Permits, Authorizations or Agreements

Issuing Agency	Permit, Authorization or Agreement	Impacted Resource
U.S. Army Corps of Engineers	Section 404 Clean Water Act Permit	waters of the United States
San Francisco Regional Water Quality Control Board	Section 401 Water Quality Certification under the Clean Water Act	waters of the state
National Marine Fisheries Service	Section 7 Consultation and essential fish habitat consultation under the Federal Endangered Species Act and Magnuson-Stevens Fishery Conservation and Management Act Consultation, respectively	Coho Salmon-Central California Coast evolutionarily significant unit (ESU) Steelhead-Central California Coast distinct population segment (DPS) Essential Fish Habitat
U.S. Fish and Wildlife Service	Section 7 Consultation under the federal Endangered Species Act	California red-legged frog (<i>Rana draytonii</i>) marbled murrelet (<i>Brachyramphus marmoratus</i>)
California Department of Fish and Wildlife	Lake and Streambed Alteration Agreement under the Fish and Game Code Section 1602	Pilarcitos Creek and associated riparian habitat; and San Gregorio Creek and associated riparian habitat
California Department of Fish and Wildlife	Incidental Take Permit under the California Endangered Species Act and California Fish and Game Code Section 2081	No state-level take of California Endangered Species Act (CESA) species is anticipated at the time of this IS. However, if necessary, Caltrans would apply for an Incidental Take Permit pursuant to the CESA and California Fish and Game Code (CFG) Section 2081.
City of Half Moon Bay Local Coastal Plan / California Coastal Commission	Coastal Development Permit (CDP)	Local Coastal Plan and California Coastal Commission jurisdictional riparian areas at Pilarcitos Creek. A CDP application is not required at the San Gregorio Creek Bridge (outside of the California Coastal Zone).

Chapter 2 California Environmental Quality Act Evaluation

2.1 Determining Significance under CEQA

The proposed project by Caltrans is subject to state environmental review requirements. Project documentation has been prepared in compliance with CEQA. Caltrans is the lead agency under CEQA. This chapter evaluates potential environmental impacts of the proposed Project, as described in Chapter 1 as they relate to the CEQA checklist to comply with State CEQA Guidelines (Title 14 California Code of Regulations, Division 6, Chapter 3, Section 15091).

2.2 CEQA Environmental Checklist

This checklist (presented at the beginning of each resource section below in the form of a table listing the pertinent questions applicable to the resource and four columns where the degree of impact is indicated) 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 that there are no impacts on a particular resource. A “YES” response to the “No Impact” answer in the last column reflects this determination. The words "significant" and "significance" used throughout the following checklist are related to CEQA impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project and standardized measures that are applied to all or most Caltrans projects, such as 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 of the significance determinations documented below (see Section 1.6 for a detailed discussion of these features). All proposed AMMs and/or mitigation measures are provided in Appendix B.

2.2.1 Aesthetics

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

a) No Impact at the Pilarcitos Creek Bridges and No Impact at the San Gregorio Creek Bridge

The Naomi Partridge Trail is a pedestrian trail that passes under the Pilarcitos Creek Bridges and has a view of the project location. The trail would be temporarily closed and rerouted during one construction season. The trail would be replaced in kind and reopened at the completion of construction. Trees and riparian vegetation would be restored at project completion. The proposed project at Pilarcitos Creek does not exist in an area designated as a scenic corridor, and the project site is not visible from the roadway. During construction the presence of equipment and construction materials in the median will be noticeable to vehicular travelers, but this will be temporary and is therefore considered to have no impact.

The proposed project at the San Gregorio Creek Bridge is within San Mateo County’s State Highway 84/Portola State Park Road/Pescadero Creek/Alpine Road/La Honda Road designated scenic corridor. Except for temporary signage and temporary lane closures needed to access the site, work at this location would occur under the existing bridge and would not be visible from the roadway. The project changes will be noticeable in the short term but will not adversely affect visual character and quality in a lasting way. Because the changes are temporary and are not readily visible from the roadway or other publicly accessible location, there is no impact.

b) No Impact at Both Project Locations.

Neither of the locations is within a designated state scenic highway location, and other scenic resources are absent.

c) Less-Than-Significant Impact with Mitigation Incorporated at Pilarcitos Creek Bridges and No Impact at the San Gregorio Creek Bridge

At the SR 1 Pilarcitos Creek Bridges location, the project would temporarily impact the planted median between the bridges, the riparian habitat along the Naomi Partridge Trail that runs below the bridges, and the trail itself. The project location is in the California Coastal Zone and is subject to the City of Half Moon Bay's (City) General Plan and the Local Coastal Plan. The City's General Plan characterizes riparian corridors as positive attributes in recreational areas, and degraded trails and fences as negative attributes and conditions. The existing trail is currently seen as a degraded resource with low usage by the public due to ongoing health and safety concerns at the site associated with homeless camps and the dumping of debris into the riparian area and trail. The existing trail fencing at the project site is currently in poor condition and in need of replacement. Caltrans proposes to replace in-kind the portion of the trail that will be disturbed and all fencing within their existing ROW.

The proposed project would impact the riparian corridor through removal of existing riparian trees and vegetation and by placement of partially grouted RSP in riparian areas. The proposed project would temporarily impact the public's usage of the trail during construction. Planting within the median would also be impacted by vegetation removal.

A planting plan and a 3-year plant establishment and monitoring plan would be implemented at construction completion to help restore the vegetated creek setting and the median planting. With the replacement vegetation proposed at the Pilarcitos Creek Bridges location, these impacts are mitigated to a less-than-significant level.

No public views of the project are present at the San Gregorio Creek Bridge location, and therefore visual character and quality would not be impacted.

d) No Impact at Both Project Locations

No project elements are proposed that would create daytime or nighttime glare.

2.2.2 Agriculture and Forestry Resources

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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 nonagricultural use?	NO	NO	NO	YES
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	NO	NO	NO	YES
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	NO	NO	NO	YES
d) Result in the loss of forest land or conversion of forest land to non-forest use?	NO	NO	NO	YES
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use or conversion of forest land to non-forest use?	NO	NO	NO	YES

a) through e) No Impact at Both Project Locations

At both locations the project would not convert Farmland of Statewide Importance (Farmland) to nonagricultural use. The project footprint does not contain land under the Williamson Act. No Prime Farmland occurs in the project area. The project does not conflict with existing zoning for agricultural use, forest lands, timberland, or timberland-zoned production. There will be no loss or conversion of forest land to non-forest land or any other changes to the existing environment that would convert Farmland to nonagricultural use or forest land to non-forest use.

2.2.3 Air Quality

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

a) No Impact at Both Project Locations

The project sites are in the San Francisco Bay Area Air Basin and are within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD) and the California Air Resources Board (CARB). The proposed project would not interfere with any of the control measures described in the BAAQMD's clean air plan, *Spare the Air, Cool the Climate* (2017). The project is not a capacity-increasing project, and therefore it is not included in the current Regional Transportation Plan (RTP), *Plan Bay Area 2040* (MTC and 2017). Nonetheless, the project would not interfere with the implementation of goals set forth in the RTP. Furthermore, the project is exempt per 40 Code of Federal Regulations (CFR) 93.126, and an air quality conformity determination is therefore not required. During the operation of the project, air emissions would not be changed from existing levels. Therefore, the project would not conflict with or obstruct implementation of the applicable air quality plan.

b) Less-Than-Significant Impact at Both Project Locations

During construction of the project, there would be temporary air emissions from the use of gas- and diesel-powered construction equipment and vehicles. However, due to the relatively small size and the scope of the project, a substantial amount of pollutants would not be generated. The County of San Mateo is in nonattainment in 2020 for 8-Hour Ozone (2008), 8-Hour Ozone (2015), and particulate matter less than 2.5 microns in size (PM_{2.5}) (2006) (U.S. EPA 2020). The project would comply with federal and state ozone standards. It would not increase criteria pollutants or Mobile Source Air Toxics over existing conditions or exceed the BAAQMD's recommended thresholds for construction emissions. The project would not result in a cumulatively considerable net increase of ozone or PM_{2.5}. Therefore, the project would not cause or contribute to any state or federal air quality violations for criteria air pollutants. Furthermore, the project would not contribute substantially to an existing or a projected air quality violation.

c) No Impact at Both Project Locations

The proposed project would generate a less-than-significant amount of pollutants during construction. During the operation of the project, air emissions would not be changed from existing levels (no change in long-term traffic volumes). Therefore, the project would not expose sensitive receptors to substantial pollutant concentrations.

d) No Impact at Both Project Locations

The project would not introduce odors that are not already associated with existing traffic.

2.2.4 Biological Resources

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, or U.S. Fish and Wildlife Service, or National Oceanic and Atmospheric Administration/National Marine Fisheries Service?	NO	YES	NO	NO
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	NO	YES	NO	NO
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	NO	YES	NO	NO
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	NO	YES	NO	NO
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	NO	NO	NO	YES
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	NO	NO	NO	YES

a) Less than Significant with Mitigation Incorporated

Caltrans has completed a Natural Environment Study for the proposed project to examine protected species, habitat and natural resources with potential to occur in the project’s biological study area (BSA); to determine potential impacts to those resources; to establish appropriate measures to avoid and minimize potential impacts; and to propose compensatory mitigation for unavoidable impacts, as necessary.

Proposed AMMs to mitigate potential impacts are provided in Appendix B. Lists of species and habitats examined from the USFWS and NMFS databases and the California Natural Diversity Database (CNDDDB) are included as Appendix A. The following conclusions for these species are summarized below, including their protected status under federal and State laws:

Federal Endangered Species Act, Species and Designated Critical Habitat

Biological Assessments are being prepared pursuant to Federal Endangered Species Act

(FESA) Section 7 consultations with USFWS and NMFS. A complete list of federally listed species with potential to occur within the project's Action Area is provided in Appendix A.

Federally Listed Species

The proposed project may affect and is likely to adversely affect:

- California red-legged frog (*Rana draytonii*): Federally Threatened (FT)
- Central California Coast Coho Salmon (*Oncorhynchus kisutch*) evolutionarily significant unit (ESU): Federally Endangered (FE) and State Endangered (SE)
- Central California Coast Steelhead (*Oncorhynchus mykiss irideus*) distinct population segment (DPS): FT

The proposed project may affect but is not likely to adversely affect:

- Marbled murrelet (*Brachyramphus marmoratus*): FT and SE

No federally listed plant species were observed at either location during the floristic surveys.

Designated Critical Habitat

Designated Critical Habitat (DCH) is present in the Pilarcitos Creek BSA for the following:

- Central California Coast Coho Salmon ESU
- Central California Coast Steelhead DPS

The proposed project is not likely to adversely affect DCH for either species in the Pilarcitos Creek BSA.

DCH is present in the San Gregorio Creek BSA for:

- California red-legged frog
- Marbled murrelet
- Central California Coast Coho Salmon ESU
- Central California Coast Steelhead DPS

The proposed project is not likely to adversely affect DCH for any of these species in the San Gregorio Creek BSA.

Determination for Federally Listed Species and Habitats

With implementation of the project features and the proposed AMMs that follow, potential impacts to federally listed species and critical habitat would be less than significant with mitigation incorporated. Implementation of project features in Section 1.6 and the general and specific AMMs in Appendix B would mitigate any potential impacts to federally listed species and DCH to less than significant.

California Endangered Species Act Species and Habitat

California Endangered Species Act Listed Species

State-listed species are not expected to occur at the Pilarcitos Creek Bridges location. No State-protected plant species were observed at either location during the floristic surveys.

State-listed species that have the potential to occur in the project BSA at the San Gregorio Creek location include:

- Marbled murrelet: FT and SE
- Central California Coast Coho Salmon ESU: SE
- Foothill yellow-legged frog (*Rana boylei*): SE

No state-level take of California Endangered Species Act (CESA) species is anticipated. However, if necessary, Caltrans would apply for an Incidental Take Permit pursuant to CESA and CFGC Section 2081.

Creek and Riparian Habitat

Coordination with CDFW will occur during the planning phase, for a California Fish and Game Code (CFGC) Section 1602 Lake and Streambed Alteration Agreement.

Determination for State-Listed Species and Habitats

Implementation of the project features in Section 1.6 and the general and specific AMMs in Appendix B would mitigate any potential impacts to State-listed species to less than significant.

State Species of Special Concern

A species of special concern (SSC) is a species, subspecies, or distinct population of an animal (i.e., fish amphibian, reptile, bird or mammal) native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria:

- is extirpated from the state or, in the case of birds, is extirpated in its primary season or breeding role;
- is listed as federally, but not State-, threatened or endangered;
- meets the State definition of threatened or endangered but has not formally been listed;
- is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status;
- has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for State threatened or endangered status (CDFW 2020).

SSC have potential to occur at both project locations.

SSC at Pilarcitos Creek Bridges location

At Pilarcitos Creek Bridges, the following state SSC have potential habitat in the proposed project's BSA and potential to occur:

- San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*): Moderate potential to occur.
- Western pond turtle (*Actinemys marmorata* and *Clemmys marmorata pallida*): Low potential to occur.

SSC at San Gregorio Creek Bridges location

At the San Gregorio Creek Bridge, the following SSC have potential habitat in the project's BSA and potential to occur:

- San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*): Moderate potential to occur.
- Western pond turtle (*Actinemys marmorata* and *Clemmys marmorata pallida*): Low potential to occur.
- Santa Cruz black salamander (*Aneides niger*): Moderate potential to occur.
- Pallid bat (*Antrozous pallidus*): Low potential to occur.

Determination for SSC

Proposed AMMs and project features would reduce any potential impacts to negligible for SSC. Implementation of the project features in Section 1.6 and the general and specific AMMs in Appendix B would mitigate any potential impacts to SSC to less than significant.

b) Less than Significant with Mitigation Proposed at Both Locations.

Habitats and Natural Communities of Special Concern

Vegetation communities are ranked based on their global (G1 to G5) and state (S1 to S5) rarity. G1/S1 indicates the highest rarity, with fewer than six viable occurrences worldwide or statewide and up to 1,280 acres in California; G5/S5 indicates common communities that are demonstrably secure because of their worldwide and statewide abundance. Impacts to sensitive natural communities identified in local or regional plans, policies, and regulations, or by the CDFW or USFWS, must be considered and evaluated under CEQA (California Code of Regulations, Title 14, Division 6, Chapter 3). For the purpose of this Initial Study, sensitive vegetation communities are defined as those that are considered vulnerable, imperiled, or critically imperiled in California (S1 to S3). These categories contain native plant communities that are regarded by CDFW as having special significance under CEQA. The vegetation communities identified in the BSA that are considered natural communities of special concern by CDFW include the red alder and willow riparian forest (at Pilarcitos Creek BSA) and the redwood forest (at the San Gregorio BSA). Both the red alder and willow riparian forest and the redwood forest are ranked S3 and would therefore be considered sensitive for CEQA.

Redwood Forest

With the exception of the developed roadway (SR 1 and the bridge), the San Gregorio Creek BSA is entirely composed of redwood forest, dominated in the tree canopy by redwood (*Sequoia sempervirens*), bigleaf maple (*Acer macrophyllum*), California bay (*Umbellularia californica*), Douglas fir (*Pseudotsuga menziesii*), and red and white alder (*Rubus* spp.). Tan oak (*Notholithocarpus densiflorus*) is abundant in the shrub layer, along with other understory shrubs and vines, including California blackberry (*Rubus ursinus*), English ivy (*Hedera helix*), sword fern (*Polystichum munitum*), and French broom (*Genista monspessulana*). The redwood forest in the BSA is characterized by second growth or younger redwood trees that are modest in height but provide great shade and habitat for a

wide variety of wildlife species. This vegetation community is globally ranked G3 and State-ranked S3, according to CDFW’s Heritage Methodology, and would be considered a sensitive natural community (Natureserve 2020).

Red Alder and Riparian Forest

This vegetation type encompasses the entire vegetated area beneath the Pilarcitos Creek Bridges and the entire riparian corridor in the BSA adjacent to Pilarcitos Creek. The riparian vegetation community canopy is dominated by red alder (*Alnus rubra*), Arroyo willow (*Salix lasiolepis*), and red willow (*Salix laevigata*) thickets that encompass the tree/shrub layer. These tree species provide shade and habitat in the creek and riparian zone. The understory of this vegetation community is almost completely covered in vines, particularly invasive Himalayan blackberry (*Rubus armeniacus*) and cape ivy (*Delairea odorata*), with also some native California blackberry. A few other invasive shrubs exist, including the Jubata grass (*Cortaderia jubata*), poison hemlock (*Conium maculatum*), and, closer to the low flow channel of Pilarcitos Creek, nasturtium (*Tropaeolum majus*). This vegetation community is globally ranked G4 and State-ranked S3, according to CDFW’s Heritage Methodology, and would be considered a sensitive natural community (Natureserve 2020).

The proposed project would have direct impacts to the vegetation communities, including removal of trees and vegetation, ground disturbance, and pruning. Indirect impacts include disturbance caused by heavy equipment and construction. The acreages of the sensitive natural communities that would be impacted by the project are summarized in Table 3. Upon project completion, all temporarily disturbed vegetated areas will be contoured to preconstruction grades, where appropriate, and replanted with appropriate native vegetation.

Table 3 Sensitive Natural Communities in the BSA

Vegetation Community	Global and State Ranking	Impacted Acreage in the BSA
Red Alder and Willow Riparian Forest	G4/S3	0.32
Redwood Forest	G3/S3	0.28*

Notes:

*Acreage of redwood forest impacted will be substantially reduced in the final project design; the area estimate here includes temporary access and staging areas that are being removed from the proposed project at the San Gregorio Creek Bridge location.

Determination for Habitats and Communities of Natural Concern

Implementation of project features in Section 1.6 and the general and specific AMMs in Appendix B would mitigate any potential impacts to habitat and natural communities of special concern to less than significant.

Trees

A total of 108 trees were surveyed at the Pilarcitos Creek project site, and 98 trees at the San Gregorio Creek project site. All of the trees surveyed are native to California. The Pilarcitos Creek project footprint is dominated by red willow and arroyo willow, with scattered red alders immediately adjacent to the creek. The San Gregorio Creek project footprint is dominated by coast redwood and bigleaf maple. Most of the trees in the project sites are in fair to good health.

The proposed project would have permanent impacts on trees in the Caltrans ROW because of the removal of woodland habitat due to ground disturbance during construction or heavy pruning (described as removal of more than 30 percent of the canopy). The exact number of trees removed would depend on field conditions, such as the geology of the area where cut slopes are excavated, the condition of the trees, the location of supporting roots, and other considerations to ensure the post-construction stability of the permanent structures. Temporary impacts would be a result of minor tree trimming or staging of equipment in the critical root zone (CRZ).

Determination for Trees

Implementation of the project features in Section 1.6 and the general and specific AMMs in Appendix B would mitigate any potential impacts to trees to less than significant.

California Coastal Commission Wetlands and Riparian Areas at Pilarcitos Creek Bridges

The Pilarcitos Creek Bridges location is within California Coastal Zone jurisdiction (San Gregorio Creek Bridge is not in the Coastal Zone). The County of San Mateo Local Coastal Program (LCP) and California Coastal Commission (CCC) regulations establish a wetland definition that requires evidence of only one of three parameters (hydrophytic vegetation, hydric soils, or wetland hydrology) to establish wetland conditions (CCC 1981, 2011; City of Half Moon Bay 1993). No potentially CCC-jurisdictional wetlands (meeting the one-parameter test) were found outside of the areas identified as potential waters of the United States and waters of the state (following the three-parameter rule) identified in the BSA. San Mateo County LCP/CCC jurisdiction also extends to all potential waters of the United States. The City of Half Moon Bay LCP establishes a definition of riparian area as an “area of land bordering a stream or lake, including its banks.” The riparian area “includes land at least up to the highest point (in cross section) of an obvious channel or enclosure of a body of water,” and extends to “the outer edge of appropriate indicator plant species” (City of Half Moon Bay 1993). The LCP/CCC definition for the extent of riparian areas is consistent with the CDFW’s CFGC Section 1602 Lake and Streambed Alteration Agreement definition of “top of bank.”

Potential San Mateo County LCP and CCC riparian areas were delineated surrounding the Pilarcitos Creek channel in areas dominated by hydrophytic vegetation in Caltrans Aquatic Resources Delineation Report. Approximately 0.71 acre of CCC riparian habitat occurs in the proposed project area at Pilarcitos Creek. The project would have permanent impacts on the vegetation communities in the riparian zones, including removal of trees and vegetation, hardening of stream banks by the placement of partially grouted RSP, ground disturbance, and pruning. Temporary impacts include disturbance caused by heavy equipment and construction or effects on water quality. The proposed project would potentially impact 0.22 acre of LCP/CCC and CDFW riparian habitat.

Implementation of the project features in Section 1.6 and the general and specific AMMs in Appendix B would mitigate any potential impacts to CCC wetlands and riparian areas to less than significant.

c) Less Than Significant with Mitigation Incorporated at Both Project Locations

Waters of the United States and waters of the state occur at both the Pilarcitos Creek and San Gregorio Creek project sites in the BSA. The proposed project will require discharge of fill material (partially grouted RSP) into waters of the United States and waters of the state at both creeks, and therefore will require a Section 404 application for submittal to the U.S. Army Corps of Engineers (USACE) and a Clean Water Act (CWA) Section 401 Water Quality Certification from the San Francisco Bay RWQCB

Potential temporary impacts to the waters of the United States and waters of the state include:

- Temporary access and work in the creek bed at both locations below the OHWM.
- Installation and removal of a creek diversion system at each location.
- Turbidity and water quality impacts associated with trenching of existing material around bridge piers in the creek.
- Turbidity and water quality impacts associated with removing existing creek bank material at San Gregorio Creek Bridge between Abutment 1 and Pier 1.
- Turbidity and water quality impacts associated with backfilling of trenched locations with fill material.

Potential Permanent Impacts at Pilarcitos Creek Bridges Locations

Permanent impacts to waters of the United States and waters of the state are anticipated from the following proposed actions:

- Excavate approximately 20,710 square feet (0.48 acre) and 780 cubic yards of native material from the creek bed and banks around Piers 2 and 3 and between Pier 3 and Abutment 4. This includes the total impact area, some portions of which would occur in developed areas, uplands, and riparian habitat.
- Approximately 20,710 square feet (0.48 acre) and 1,430 cubic yards of rock fill in the excavated areas around Piers 2 and 3 and between Pier 3 and Abutment 4. After placement of RSP, Portland concrete cement grout would be poured by grout hose, tremie, or an automated mechanical means to fill one-third to one-half of the total void space. Quantities here include the total impact area, some portions of which would occur in uplands or riparian habitat.

Potential Permanent Impacts at San Gregorio Creek Bridge Location

Permanent impacts to waters of the United States and waters of the state are anticipated from the following proposed actions:

- Excavating approximately 4,300 square feet (0.10 acre) of native creek bank and bed material between Abutment 1 and Pier 2, and around Pier 2 to create a key at the base of the pier.
- Placing approximately 4,300 square feet (0.10 acre) and 400 cubic yards of rock fill in the excavated area around Pier 2 and the slope between Abutment 1 and Pier 2. After placement of RSP Portland concrete cement grout would be poured by grout hose, tremie or automated mechanical means to fill one-third to one-half of the total void space.

Quantities here include the total impact area, of which some would occur in uplands or riparian habitat.

Permanent impacts to waters of the United States and waters of the state are associated with the replacement of native soils with partially grouted RSP, which in some areas may extend above existing surface elevations. The proposed project would also cause temporary impacts to these waters from soil disturbance and placement of a stream diversion system during in-creek work. To offset these impacts, compensatory mitigation will be required. The amount of compensatory mitigation needed will be determined during permitting.

Compensatory mitigation and implementation of the project features in Section 1.6 and the general and specific AMMs in Appendix B would mitigate any potential impacts to state and federal waters to less than significant.

d) Less Than Significant with Mitigation Incorporated at Both Locations

Potential impacts and proposed mitigation measures for riparian habitat are discussed in response to items a through e above. Proposed placement of partially grouted RSP has the potential to affect fish passage at both project locations. Caltrans is currently preparing a fish passage assessment at both project locations to determine what, if any, effects may be realized by the proposed project. Caltrans is coordinating with NMFS and CDFW to prepare this assessment for their review and evaluation during the permitting phase of the project.

Implementation of the project features in Section 1.6 and the general and specific AMMs in Appendix B would mitigate any potential impacts to state and federally listed fish species to less than significant.

e) No Impact at Both Locations

The proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

f) No Impact at Both Locations

The proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

2.2.5 Cultural Resources

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

a) Through c) No Impacts at Both Project Locations

Caltrans District 4 Office of Cultural Resource Studies (OCRS) Archaeologist Britt Schlosshardt and Professionally Qualified Staff (PQS) Douglas Bright, Principal Architectural Historian, conducted research using the Caltrans Cultural Resource Database, aerial photographs, maps, and satellite imagery in accordance with the January 2014 First Amended Programmatic Agreement (PA) Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California (FHWA 2014).

Based upon the above-referenced review, OCRS staff determined that the proposed project has no potential to affect cultural resources and is exempt from further review pursuant to the PA, Stipulation VII, "Screened Undertakings." The undertaking has been screened and is exempt under Class 19 (any work on Category 5 bridges, including rehabilitation or reconstruction) of Attachment 2, "Screened Undertakings," in the PA.

2.2.6 Energy

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

a) Less Than Significant Impact at Both Project Locations

Energy in the form of gas and diesel will be consumed during construction and ongoing maintenance activities by construction vehicles and equipment operating on-site, trucks delivering equipment and supplies, and construction workers driving to and from the project site. Energy consumption during project construction would be temporary and minimized to the maximum extent practicable. BMPs such as providing ongoing maintenance of vehicles and equipment and limiting the idling of vehicles and equipment would be incorporated during construction activities. As such, the project would not result in an inefficient, wasteful, and unnecessary consumption of energy. Following construction activities, there would be no change in the amount of energy consumed. Therefore, no mitigation measures are required.

b) No Impact at Both Project Locations

The project would not have any long-term implications for energy consumption. Following construction activities, energy use would be unchanged by the project. Caltrans work would not conflict with the implementation of local and state plans related to energy and energy efficiency.

2.2.7 Geology and Soils

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	NO	NO	YES	NO
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	NO	NO	YES	NO
ii) Strong seismic ground shaking?	NO	NO	YES	NO
iii) Seismic-related ground failure, including liquefaction?	NO	NO	YES	NO
iv) Landslides?	NO	NO	YES	NO
b) Result in substantial soil erosion or the loss of topsoil?	NO	NO	YES	NO
c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	NO	NO	YES	NO
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	NO	NO	NO	YES
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	NO	NO	NO	YES
f) Directly or indirectly destroy a unique paleontological resource or site or a unique geologic feature?	NO	NO	NO	YES

a) and c) Less Than Significant Impact at Both Sites.

The project sites are located in a seismically active area but are not within an Alquist-Priolo Earthquake Fault Zone. The proposed project would not exacerbate the potential for seismic shaking. The intensity of the earthquake ground motion at the site would depend on the characteristics of the generating fault, distance to the earthquake epicenter, magnitude, and duration of the earthquake, and specific site geologic conditions. Caltrans design and construction guidelines incorporate engineering standards that address seismic risks, including ground failure related to liquefaction, landslides, and lateral spreading. Project elements will be designed and constructed to meet seismic design requirements for ground shaking and ground motions, as determined for the project vicinity and site conditions. Caltrans also requires additional geotechnical subsurface and design investigations to be

performed during the final project design and engineering phase. These standards and requirements would avoid the potential for adverse impacts related to seismic activity.

b) Less Than Significant Impacts at Both Sites

Project construction would involve excavation, trenching and tree/shrub removal. During soil disturbance and earth-moving activities, exposed soils could be subject to erosional forces from water and wind, especially in areas with steeper slopes. Implementation of standard Caltrans practices and BMPs for erosion control would be incorporated. Following construction activities, erosion control at the sites will be improved, as partially grouted RSP will be used to protect the bridges from scour.

d) No Impacts at Both Sites

The soils at the Pilarcitos Creek Bridges site consists of sandy loams and gullied land (alluvial soil material). These soils do not have a high shrink-swell potential. The soils at San Gregorio Creek Bridge consist of Mindego clay loam, which has a high shrink-swell potential (NRCS 2019). However, the project does not involve the construction of a building at either site. The project would protect existing bridges from scour by incorporating partially grouted RSP. Therefore, there would be no impacts related to expansive soil and no mitigation is required.

e) No Impacts at Both Sites

The proposed project would not involve incorporating septic tanks or other wastewater disposal systems. Therefore, there would be no impact and no mitigation would be required.

f) No Impacts at Both Sites

While ground-disturbing activities will occur at each site, the project will be limited to the Caltrans ROW. Soils that are paleontologically sensitive will not be encountered. Thus, the proposed project would not impact paleontological resources. No mitigation is required.

2.2.8 Greenhouse Gas Emissions

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

a) Less Than Significant Impacts at Both Project Locations

While the Project would not result in any increase in operational greenhouse gas (GHG) emissions, it is anticipated that the Project would result in GHG emissions during construction. Operational GHG emissions are emitted through the regular daily use of the highway, since the Project would not increase the capacity of the highway, operational emissions would not increase. During construction activities, GHG emissions would be generated from material processing by on-site construction equipment, workers commuting to the project sites, and traffic delays caused by construction work, as staging areas will be located in the public ROW. The amount of GHG emitted will change based on the construction activities and various phases of project implementation.

Caltrans has calculated construction GHG emissions using the Road Construction Emissions Model (RCEM), version 8.1.0, provided by the Sacramento Metropolitan Air Quality Management District. The analysis was focused on vehicle-emitted GHG and carbon dioxide (CO₂). It was estimated that the total amount of CO₂ produced for a construction duration of 4 months would be 110.89 tons. Caltrans would incorporate BMPs, such as regular maintenance to construction vehicles and equipment and limiting idling of vehicles and equipment on-site. Furthermore, Caltrans would comply with all local, State and federal regulations, ordinances, and statutes that apply to air pollution control.

Operation of the proposed project would not change GHG emissions. Therefore, there would be no long-term change in emissions.

b) Less Than Significant Impacts at Both Project Locations

Caltrans work would comply with all local (climate action plans), State and federal regulations, ordinances and statutes that apply to GHG emissions. Construction impacts would be short-term and temporary. Operation of the project will not change GHG emissions. Thus, the proposed project would not conflict with plans, policies, or regulations aimed at reducing GHG emissions.

2.2.9 Hazards and Hazardous Materials

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

a) and b) Less than Significant Impacts at Both Project Locations

Construction of the proposed project is not expected to involve the routine transport, use, or disposal of hazardous materials. However, the vehicles and equipment used during construction will be powered with fuels such as gasoline and diesel. These fuels are hazardous and could pose a significant threat to human health or the environment if not properly managed. Adherence to federal and State regulations during project construction and maintenance would reduce the risk of exposure to hazardous materials and accidental releases of hazardous materials. Compliance with existing regulations is mandatory. Therefore, construction of the proposed project is not expected to create a hazard to construction workers, the public, or the environment. Operation of the project would not involve the use of hazardous materials. No mitigation is required.

c) No Impacts at Both Project Locations

No schools are located within one-quarter mile of the San Gregorio Creek Bridge. A high school and intermediate school are located within one-quarter mile of the Pilarcitos Creek Bridges location. The project would be limited to construction areas at the two site locations. Emissions from vehicles and equipment would occur during project construction. However, given the relatively small size and the scope of the project, a substantial amount of pollutants would not be generated. Adherence to local, federal and State regulations during project construction would reduce the risk of exposure to hazardous materials and accidental hazardous materials releases, such as fuel. Thus, the project would not result in the spread of hazardous materials or expose sensitive receptors at schools to hazardous materials. Operation of the project would not involve the use of hazardous materials. No mitigation is required.

d) No Impacts at Both Project Locations

Neither site is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962. The proposed bridge scour mitigation will involve soil-disturbing work around the bridge columns in Pilarcitos Creek and San Gregorio Creek. Caltrans has determined that detectable soil contamination accumulation in the creek beds, such as aerially deposited lead, is not expected to be a factor.

e) No Impacts at Both Project Locations

Neither project location is within 2 miles of an airport or airstrip. Therefore, there would be no impacts.

f) No Impacts at Both Project Locations

The proposed project would not impair the implementation of an emergency response or emergency evacuation plan. The purpose of the project is to mitigate bridge scour at the Pilarcitos Creek Bridges and the San Gregorio Creek Bridge. No potential evacuation routes would be impeded or disrupted during project construction and operation. A TMP would be implemented to minimize construction-related delays. Therefore, a substantial reduction in emergency response times is not expected. Following construction of the project, there would be no changes in traffic patterns.

g) No Impacts at Both Project Locations

All project construction would take place in the Caltrans ROW. During construction, measures for minimizing fire risks would be incorporated. Section 2.3 describes wildfire impacts in more detail.

2.2.10 Hydrology and Water Quality

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	NO	NO	NO	YES
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	NO	NO	NO	YES
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	NO	NO	YES	NO
(i) result in substantial erosion or siltation on- or off-site;	NO	NO	NO	YES
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	NO	NO	NO	YES
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	NO	NO	NO	YES
(iv) impede or redirect flood flows?	NO	NO	NO	YES
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	NO	NO	YES	NO
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	NO	NO	NO	YES

The project features described in Section 1.6 would substantially contribute to the avoidance and minimization of potential water quality impacts from the proposed project. The proposed project will require the following water quality permits:

- CWA Section 404 permit from the USACE
- CWA Section 401 Water Quality Certification from the San Francisco Bay RWQCB

a) No Impact at Both Project Locations

The State Water Resources Control Board has issued a statewide Construction General Permit (2009-0009-DWQ, CAS000002, as amended by 2010-0014-DWQ and 2012-0006-DWQ), hereafter referred to as “CGP,” that applies to stormwater discharges from land

where clearing, grading, and excavation result in a disturbed soil area (DSA) of 1 acre or greater; the CGP applies to any developer, not solely Caltrans. Construction activity that results in a DSA of less than 1 acre is subject to the CGP if the construction activity is part of a larger Common Plan of Development totaling 1.0 acre or more of DSA or if there is the potential for significant water quality impairment resulting from the activity, as determined by the appropriate RWQCB. Projects subject to the CGP require a SWPPP. Construction that disturbs less than an acre of soil must comply with the Water Pollution Control Program (WPCP) section of Caltrans Standard Specifications. The project's disturbed soil area is estimated at 0.45 acre, and therefore the proposed project is subject to compliance with the WPCP section of Caltrans Standard Specifications. The WPCP addresses potential temporary impacts through implementation of appropriate BMPs to the Maximum Extent Practicable. Furthermore, sampling and monitoring of construction site discharge point(s) may be recommended as part of the WPCP during the subsequent design and permitting phase of the project. RSP work, which creates disturbed soil areas and is a source of sediment, requires a dry work environment. Such work has a limited work window of June 15 to October 15.

b) No Impact at Both Project Locations

Potential construction impacts to receiving bodies include sediment, turbidity, and pH. Caltrans will implement temporary construction site BMPs for sediment control and material management. These include temporary cover, drainage inlet protection, fiber roll, and silt fence. Both locations will require dewatering and a creek diversion system for construction. Details of the diversion system will be further developed during the design phase. Since the project does not exceed the threshold of one acre of new impervious surface, post-construction stormwater treatment BMPs will not be required for this project. The proposed project will not substantially deplete groundwater supplies or interfere substantially with groundwater recharge and the project will not impede sustainable groundwater management of the basin.

c) Less-Than-Significant Impact at Both Project Locations

At both locations the streambed would be altered and new partially grouted RSP would be placed. Potential wetlands and other waters of the United States and waters of the state regulated by USACE and the San Francisco Bay RWQCB, and riparian areas and Coastal Zone wetlands regulated by the CCC, were mapped in the June 2019 at both project sites. The proposed project's temporary and permanent impact areas occur within approximately 0.19 acre of jurisdictional waters of the United States and waters of the state at the Pilarcitos Creek Bridges, and within 0.04 acre at the San Gregorio Creek Bridge. Specific areas and volumes of impacts would be estimated during the permit application project for a CWA Section 404 permit. A CWA Section 401 Water Quality Certification from the San Francisco Bay RWQCB will be required for the proposed project's discharge into waters. The proposed project would have temporary and permanent impacts within approximately 0.22 acre of LCP/CCC jurisdictional riparian areas. Specific impacts would be estimated during the application for a Coastal Development Permit from the LCP or CCC. Construction work in the perennial and intermittent creek up to the top of bank and in any contiguous adjacent riparian habitat would also require a CFGC Section 1602 Lake and Streambed Alteration Agreement from CDFW.

i. No Impact at Both Locations

The proposed project's purpose is to address scour at the bridge location. Recently, the FHWA National Bridge Inventory (NBI) (FHWA 1995) Item 113 code (to identify the current status of the bridge regarding its vulnerability to scour) has been changed from a 5 to a 2 for the San Gregorio Creek Bridge. An NBI Item 113 code of 2 states "Bridge is scour critical; field review indicates that extensive scour has occurred at bridge foundations, which are determined to be unstable by: - a comparison of calculated scour and observed scour during the bridge inspection, or – an engineering evaluation of the observed scour condition reported by the bridge inspector in Item 60." For the Pilarcitos Creek Bridge, the FHWA NBI Item 113 code is rated a 5 for both bridges. An NBI Item 113 code of 5 states "the bridge foundations determined to be stable for assessed or calculated scour conditions - scour is determined to be within the limits of footings or piles by assessment, by calculations, or by installation of properly designed scour countermeasures." This NBI Item 113 code was given to these structures in 2001 and has not been reevaluated for the current scour/channel conditions. Caltrans is currently working on reevaluating the NBI Item 113 code and believe the assessment will conclude that with current scour conditions the bridges will be scour critical. Partially grouted RSP is proposed at both locations to address potential bridge scour.

ii. No Impact at Both Locations

The proposed project would not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or offsite;

iii. No Impact at Both Locations

The proposed project would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

iv. No Impact at Both Locations

The proposed project would not impede or redirect flood flows.

d) Less-Than-Significant Impact at the San Gregorio Creek Bridge Location and No Impact at the Pilarcitos Creek Bridges Locations

The project is not located in a tsunami or a seiche zone and there is no risk of pollutants being released due to project inundation. The proposed work at San Gregorio Creek Bridge takes place within a regulatory floodway. Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) numbers 06081C0260E cover the Pilarcitos Creek Bridges, and 06081C0391 E covers the San Gregorio Creek Bridge; all are dated October 16, 2012. FIRM 06081C0391E indicates that the San Gregorio Creek Bridge is located within a regulatory flood way. A regulatory floodway refers to the channel of a river or other watercourse and the adjacent land areas that must be reserved to discharge the base flood without cumulatively increasing the water surface elevation more than 1 foot. Development in these floodways must be regulated to ensure that there are no increases in upstream flood elevations. The base flood elevation is 293.2 feet. Partially grouted RSP placed within the channel of San Gregorio Creek is to rebuild the channel bottom and bank to the original grade. As a result, the impact to the regulatory floodway is expected to be minimal.

FIRM 06081 C0260E shows that the Pilarcitos Creek Bridges are not located within a base floodplain and are not within a regulatory floodway.

e) No Impact at Both Locations

The proposed project would not conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan.

2.2.11 Land Use and Planning

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

a) No Impact at Both Sites

The project would be constructed within the State ROW and would not physically divide an established community.

b) No Impact at Both Sites

The project would be generally consistent with all applicable land use plans, policies, and regulations. The project would not change the current land use of the sites. Furthermore, the project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted to avoid or mitigate an environmental effect.

2.2.12 Mineral Resources

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

a) and b) No Impact at Both Sites

The San Gregorio Creek Bridge is in MRZ-1, an area that is unlikely to contain mineral resources (Department of Conservation 1987). The Pilarcitos Creek Bridges are in a Mineral Resource Zone (MRZ) that has been designated as MRZ-3, an area containing mineral deposits the significance of which cannot be evaluated from available data. The mineral resources in this area are mainly sand and gravel (Department of Conservation 1987). However, the proposed project would not result in the loss of availability of mineral resources or the loss of locally important mineral resources. The project would not involve mining for these resources or require the acquisition of land where activities mining operations are occurring. Therefore, there would be no impact to mineral resources.

2.2.13 Noise

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

a) Less Than Significant at Both Sites

During the construction of the project, ambient noise levels would temporarily increase in the vicinity of the project area. Construction noise would primarily result from the operation of heavy construction equipment for excavation, trenching and tree removal, and from the removal and arrival and departure of heavy-duty trucks. However, construction noise would be short-term and intermittent. Construction work will occur within the Caltrans ROW and is not subject to local noise ordinances. Nonetheless, Caltrans will work with the contractor to meet local requirements where feasible. The Caltrans 2018 Standard Specifications 14-8.02 requires the Maximum Sound Level (L_{max}) not to exceed 86 dBA at 50 feet from the job site from 9:00 p.m. to 6:00 a.m.

The project is not a capacity-increasing project, so no changes to existing traffic will occur. Furthermore, the project would not change the existing vertical/horizontal alignment of the highways. Therefore, there would be no changes to the ambient noise levels following construction.

b) No Impact at Both Sites

No pile driving is proposed at either site. The project would not generate excessive vibration during or after construction or result in ground borne noise levels.

c) No Impact at Both Sites

There are no airports within 2 miles of the project.

2.2.14 Population and Housing

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

a) No Impact at Both Sites

The project involves placing partially grouted RSP to protect bridges from scour. It would not involve the building of new homes or businesses that could induce population growth. Furthermore, the project would not expand or extend transportation facilities that could indirectly induce population growth.

b) No Impact at Both Sites

The project would not require residential or business relocation, and therefore would not displace substantial numbers of existing people or housing, which would necessitate the construction of replacement housing elsewhere.

2.2.15 Public Services

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

a) Less-Than-Significant Impact at Both Project Locations

At the San Gregorio Creek Bridge location, temporary lane closures on SR 84 will be required to construct the project, which could affect emergency service providers. At the Pilarcitos Creek Bridges location, construction equipment would access the site through the median areas located on either side of the bridges. Equipment access to and from the median would require flaggers and reduced speed zones during construction. Emergency vehicles would be given priority by the flaggers. During final design, a TMP would be developed for the project to minimize construction-related delays. The TMP would include notification to emergency service providers and the public of lane closures and detours; coordination with the California Highway Patrol (CHP) and local law enforcement on contingency plans; and the use of portable Changeable Message Signs, the CHP’s COZEEP, and the Freeway Service Patrol where possible to minimize delays. Therefore, no emergency services would be temporarily affected by construction of the project. Law enforcement, fire, and/or emergency services would be maintained during project construction and operation of the lanes. The project is not expected to result in decreased response times.

At the Pilarcitos Creek Bridges location only, parks and schools are within 0.25 mile of the project area, but no schools are in the project area. The Naomi Partridge Trail below the bridge spans would be affected through its temporary closure during construction and would be replaced in kind and reopened when construction is completed. A temporary detour and temporary signage guiding the public through a safe alternate route would be put in place during the temporary trail closure.

No parks, schools or other public facilities are in or near the San Gregorio Creek Bridge location.

2.2.16 Recreation

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

a) No Impact at Both Locations

The project would not increase the use of existing parks or other recreational facilities such that physical deterioration of the facility would occur or be accelerated.

b) Less-Than-Significant Impact at the Pilarcitos Creek Bridges Location and No Impact at the San Gregorio Creek Bridge Location.

At Pilarcitos Creek Bridges, the existing Class I trail would be temporarily detoured during construction. The portion of the trail that would be temporarily impacted by construction will be replaced in kind, but would not expand existing recreational facilities.

At San Gregorio Creek Bridge, the project would not include recreational facilities or require the construction or expansion of recreational facilities.

2.2.17 Transportation

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

a) No Impact at Both Sites

The project would not result in any conflicts with a program, plan, ordinance or policy related to the transportation system. During construction activities, a TMP would be incorporated to address roadway impacts.

b) Less-Than-Significant Impact at Both Sites

SB 743 (2013) requires the Governor's Office of Planning and Research (OPR) to identify new metrics for identifying and mitigating transportation impacts within CEQA. Under SB 743, CEQA Guidelines Section 15064.3(b) was revised to identify Vehicle Miles Traveled (VMT) as the most appropriate measure of assessing transportation impacts. The Governor's Office of Planning and Research identified categories of highway projects that would not likely lead to a substantial or measurable increase in VMT and therefore generally should not require an induced travel analysis. These categories include "Rehabilitation, maintenance, replacement, safety, and repair projects designed to improve the condition of existing transportation assets... that do not add additional motor vehicle capacity." Bridge repair and replacement are defined categories of projects within this definition. No long-term increase in VMT would occur due to the project. VMT associated with construction would be temporary and would be a less-than-significant impact.

c) No Impact at Both Sites

The proposed project involves installing partially grouted RSP to protect bridges from scour. The project would not increase hazards due to a geometric design feature. In fact, the project would result in safer conditions at both sites by correcting structural deficiencies of the bridges. Therefore, there would be no impacts.

d) Less-Than-Significant Impact at Both Sites

No long-term roadway closures are proposed. Single lane and shoulder closures are anticipated at the San Gregorio Bridge during the construction because of the difficult creek

access. Single lane/median closures and single lane/shoulder closures are anticipated at the Pilarcitos Creek Bridges during mobilization and demobilization. The TMP will include notification to emergency service providers and the public of lane closures and detours; coordination with CHP and local law enforcement on contingency plans; and use of portable Changeable Message Signs, the CHP's COZEEP, and the Freeway Service Patrol where possible to minimize delays. Law enforcement, fire, and emergency services would be maintained during project construction and operation of the lanes. The project is not expected to result in inadequate emergency access.

2.2.18 Tribal Cultural Resources

<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>Significant and Unavoidable Impact</p>	<p>Less Than Significant with Mitigation Incorporated</p>	<p>Less-Than-Significant Impact</p>	<p>No Impact</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>NO</p>	<p>NO</p>	<p>NO</p>	<p>YES</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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.</p>	<p>NO</p>	<p>NO</p>	<p>NO</p>	<p>YES</p>

a) and b) No Impact at Both Locations

No California Native American Tribe has identified a Tribal Cultural Resource in the project area.

2.2.19 Utilities and Service Systems

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

a) No Impact at Both Locations

The Build Alternative would not result in relocation or construction of new utilities.

b) No Impact at Both Locations

The Build Alternative would not require new or expanded water entitlements.

c) No Impact at Both Locations

The Build Alternative would not affect public utilities for wastewater treatment.

d) No Impact at Both Locations

The Build Alternative would not generate or require solid waste disposal in excess of State or local standards, or in excess of the capacity of local infrastructure. Construction waste would be disposed of at a certified facility based on the waste type and would not affect landfill capacity.

e) No Impact at Both Locations

The Build Alternative would comply with statutes and regulations related to solid waste management and reduction.

2.2.20 Wildfire

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

a) No Impact at Both Sites

The project would not impair implementation of an emergency response or emergency evacuation plan. No potential evacuation routes would be impeded or disrupted during project construction and operation. A TMP would be implemented to minimize construction-related delays. Therefore, a substantial reduction in emergency response times is not expected. Following construction of the project, there would be no changes in traffic patterns.

b) Less-Than-Significant Impact at Both Sites

The Pilarcitos Creek Bridges are in the Local Responsibility Area. The project area is not in a moderate or high fire severity zone (CalFire 2008a). The San Gregorio Creek Bridge is in the State Responsibility Area and moderate fire severity zone (CalFire 2008b). Construction work would be limited to the Caltrans ROW. The project will not change fire risk conditions at either site, and it will not change the alignment of SR-1 and SR-84 or any adjacent land uses. During construction, measures for minimizing fire risks would be incorporated, such as clearing vegetation and trees from the work area or prohibiting the use of highly flammable chemicals. All project construction would follow State and federal fire regulations. Therefore, the project is not expected to exacerbate wildfire risks or expose project personnel to pollutants from a wildfire or the uncontrolled spread of a wildfire.

c) No Impact at Both Sites

The proposed project would not involve the installation or maintenance of electrical equipment, roads, fuel breaks or other utilities that could exacerbate fire risks. Therefore, there would be no impacts and mitigation will not be required.

d) Less-Than-Significant Impact at Both Sites

No recent fires have occurred in the project vicinity that could result in post-fire slope instability or drainage changes. During construction, there will be no creek diversion or changes to the drainage patterns of the site at the Pilarcitos Creek Bridges location. There will be a temporary cofferdam installed to divert areas of San Gregorio Creek where the work will occur. However, no changes will be made to the natural drainage of the area. The implementation of standard Caltrans practices for erosion control and other measures would avoid or minimize the project's potential to result in downslope or downstream flooding or landslides. These measures are incorporated into the project design as a matter of Caltrans practice and are not mitigation.

2.2.21 Mandatory Findings of Significance

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

a) a-c) Less-Than-Significant Impact at Both Sites

As noted in the previous CEQA checklist items, the proposed project would have a less-than-significant impact on the environment, including habitat and threatened and endangered species and cultural resources.

The proposed project would include construction impacts on human beings from temporary construction impacts, such as noise, dust, and visual changes. However, the proposed project would have a less-than-significant impact on all resource areas evaluated in this CEQA checklist and would, therefore, not have an environmental effect that will cause substantial adverse effects on human beings, either directly or indirectly.

2.3 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to 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 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 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 the Earth's atmosphere, fossil-fuel combustion is the main source of additional human-generated CO₂.

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

2.3.1 Regulatory Setting

This section outlines federal and State efforts to comprehensively reduce GHG emissions from transportation sources.

2.3.1.1 Federal

To date, no national standards have been established for nationwide mobile-source GHG reduction targets, and no regulations or legislation has been enacted specifically to address climate change and GHG emissions reduction at the project level.

NEPA (42 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.

FHWA recognizes the threats that extreme weather, sea-level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. FHWA therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices (FHWA 2019). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—“the triple bottom line of sustainability” (FHWA n.d.). Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects. The most important of these was the Energy Policy and Conservation Act of 1975 (42 USC Section 6201) and Corporate Average Fuel Economy (CAFE) Standards. This act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the CAFE program based on each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the United States.

The Energy Policy Act of 2005, 109th Congress H.R.6 (2005–2006) 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 United States Environmental Protection Agency (U.S. EPA) in conjunction with the National Highway Traffic Safety Administration is responsible for setting GHG emission standards for new cars and light-duty vehicles to significantly increase the fuel economy of all new passenger cars and light trucks sold in the United States. Fuel efficiency standards directly influence GHG emissions.

2.3.1.2 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 CARB create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." The Legislature also intended that the statewide GHG emissions limit continue in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020 (Health and Safety Code Section 38551(b)). The law requires CARB 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 for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by the year 2020. CARB re-adopted the low carbon fuel standard regulation in September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to

promote the low-carbon fuel adoption necessary to achieve the Governor's 2030 and 2050 GHG reduction goals.

SB 375, Chapter 728, 2008, Sustainable Communities and Climate Protection:

This bill requires CARB to set regional emissions reduction targets for passenger vehicles. The metropolitan planning organization for each region must then develop a “sustainable communities strategy” that integrates transportation, land-use, and housing policies to plan how each organization 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):

This order requires State entities under the direction of the Governor, including CARB, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

EO B-30-15 (April 2015):

This order establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It further orders all State agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. It also directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO_{2e}). Finally, it requires the Natural Resources Agency to update the State’s climate adaptation strategy, Safeguarding California, every 3 years and to ensure that its provisions are fully implemented.

SB 32, Chapter 249, 2016:

This bill 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:

This bill 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:

This bill 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 VMT, to promote the state's goals of reducing GHG emissions and traffic-related air pollution and promoting multimodal transportation while balancing the needs of congestion management and safety.

SB 150, Chapter 150, 2017, Regional Transportation Plans:

This bill requires CARB to prepare a report that assesses progress made by each metropolitan planning organization in meeting their established regional GHG emission reduction targets.

EO B-55-18 (September 2018):

This order sets a new statewide goal to achieve and maintain carbon neutrality no later than 2045. This goal is in addition to existing statewide targets for reducing GHG emissions.

EO N-19-19 (September 2019):

This order advances California's climate goals in part by directing the California State Transportation Agency to leverage annual transportation spending to reverse the trend of increased fuel consumption and reduce GHG emissions from the transportation sector. It orders a focus on transportation investments near housing, on managing congestion, and on encouraging alternatives to driving. This EO also directs CARB to encourage automakers to produce more clean vehicles, to formulate ways to help Californians purchase them, and to propose strategies to increase demand for zero-emission vehicles.

2.3.2 Environmental Setting

2.3.2.1 At Pilarcitos Creek Bridges

The proposed project is in the city of Half Moon Bay and urban area of San Mateo County, an area with a well-developed road and street network. The project area is mainly residential, with some light industrial and commercial buildings. Traffic congestion during peak hours is not uncommon in the project area. Traffic volumes on SR 1 near the SR 92 junction range from 28,000 to 34,000 Annual Average Daily Traffic, and 2,400 to 2,700 vehicles per hour at peak periods.

2.3.2.2 At San Gregorio Creek Bridge

The proposed project is in a rural area, with an economy that is primarily based on natural resources, agriculture, and tourism. State Route 84 is the main transportation route to and through the area between U.S. 101 and SR 1 for both passenger and commercial vehicles. The nearest alternate route is SR 92, 13.4 miles to the north. Traffic counts are low and SR 84 is rarely congested.

Plan Bay Area 2040, the regional planning document of the Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG) (MTC and ABAG 2017), guides transportation development in San Mateo County. To inform *Plan Bay Area 2050*, MTC and ABAG collaborated in 2018 on Horizon, a new initiative to explore issues and challenges the region may face by 2050. The BAAQMD’s 2017 clean air plan, *Spare the Air, Cool the Climate*, addresses GHGs in the project region.

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 CARB does so for the State, as required by California Health and Safety Code Section 39607.4.

2.3.2.3 National GHG Inventory

U.S. EPA has prepared *the Inventory of the US Greenhouse Gas Emissions and Sinks* every year since the 1990s and submits it to the United Nations in accordance with the Framework Convention on Climate Change. The inventory provides a comprehensive accounting of all human-produced sources of GHGs in the United States, reporting emissions of CO₂, CH₄, N₂O, HFCs, perfluorocarbons, SF₆, and nitrogen trifluoride. It also accounts for emissions of CO₂ that are removed from the atmosphere by “sinks,” such as forests, vegetation, and soils that uptake and store CO₂ (carbon sequestration). In 2018, GHG emissions from the transportation sector accounted for 28 percent of GHG emissions (Figure 10) in the United States (U.S. EPA 2020).

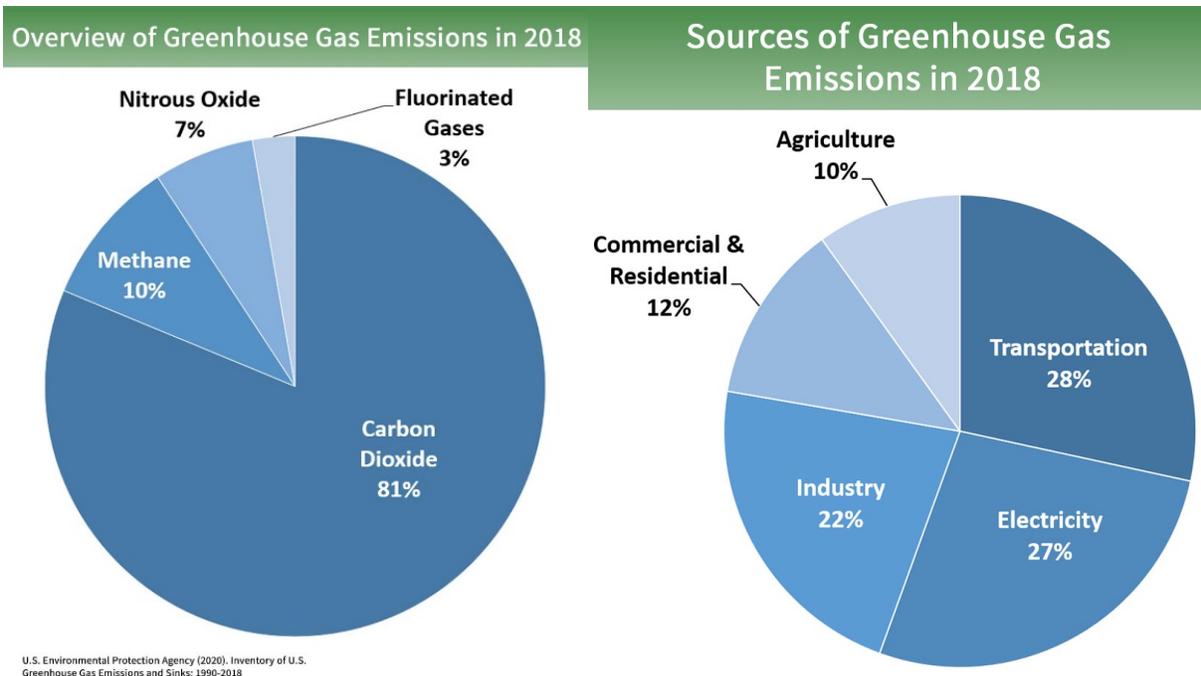


Figure 10 U.S. 2018 Greenhouse Gas Emissions

2.3.2.4 State GHG Inventory

CARB collects GHG emissions data for the transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state’s progress in meeting its GHG reduction goals. The 2019 edition of the GHG emissions inventory (CARB 2019a) found total California emissions of 424.1 MMTCO₂e for 2017, with the transportation sector responsible for 41 percent of the total GHGs (Figure 11). It also found that overall statewide GHG emissions declined from 2000 to 2017 (Figure 12) despite the growth in population and the state’s economic output (CARB 2019b).

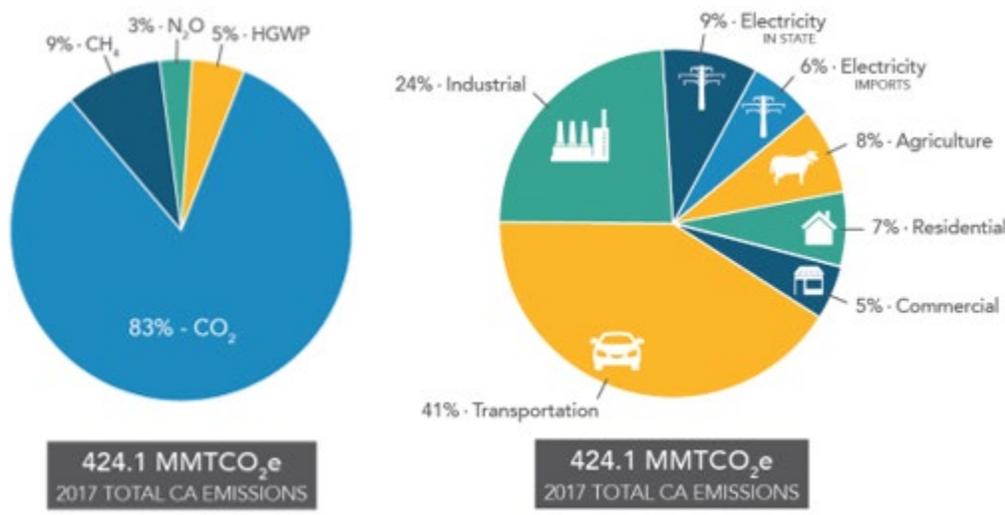


Figure 11 California 2017 Greenhouse Gas Emissions

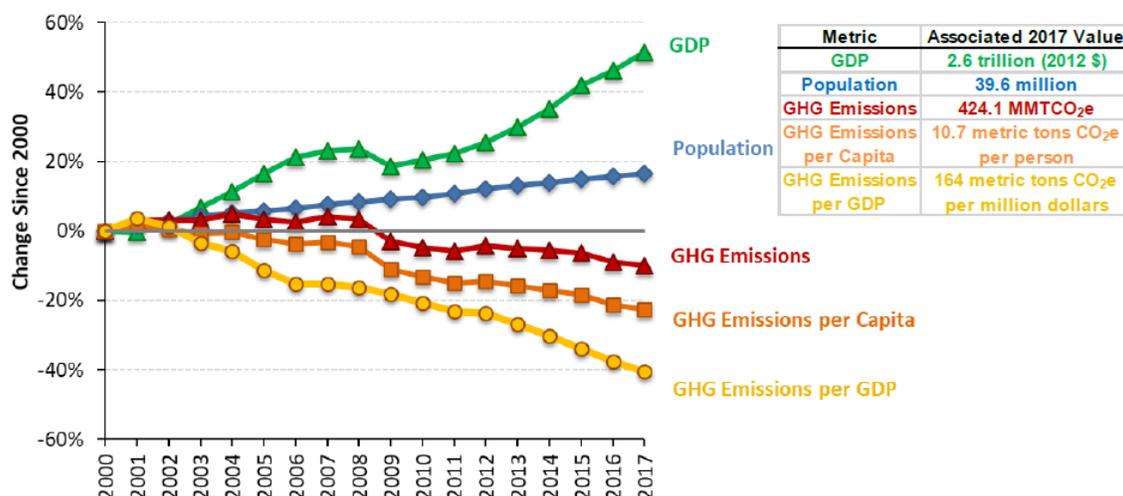


Figure 12 Change in California GDP, Population, and GHG Emissions since 2000

(Source: CARB 2019c)

AB 32 required CARB to develop a scoping plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update the goal

every 5 years. CARB adopted the first scoping plan in 2008. The second updated plan, California's 2017 Climate Change Scoping Plan, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and SB 32. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions.

2.3.2.5 Regional Plans

CARB sets regional targets for California's 18 metropolitan planning organizations to use in their Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) to plan future projects that will cumulatively achieve GHG reduction goals. Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels. MTC is the MPO and regional transportation planning agency for the project region, with GHG reduction targets of 10 percent by 2020 and 19 percent by 2035. However, the proposed project is not included in the *Plan Bay Area 2040* (MTC and ABAG 2017) because it is not a roadway project and would not result in an increase in vehicle traffic or volumes.

The 2017 clean air plan, *Spare the Air, Cool the Climate* (BAAQMD 2017), defines strategies for climate protection in the Bay Area that support goals laid out in *Plan Bay Area 2040* (MTC and ABAG 2017). Those goals include transforming the transportation sector to reduce motor vehicle travel, promote zero-emissions vehicles and renewable fuels, adopt fixed- and flexible-route transit services, and support infrastructure and planning that enable a large share of trips by bicycling, walking, and transit.

2.3.3 Project Analysis

GHG emissions from transportation projects can be divided into those produced during operation of the State Highway System 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.

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

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

2.3.3.1 Operational Emissions

The purpose of the proposed project is to address bridge scour and erosion below the bridge deck; the project will not increase the vehicle capacity of the roadway. As noted in Section 2.2.17(b), this project meets the definition of a rehabilitation category of projects that would not

add additional motor vehicle capacity and therefore would not result in an increase in VMT (projects that do not increase VMT do not increase GHG emissions). The proposed project would not increase the number of travel lanes on SR 1 or SR 84, and no long-term or post-construction increase in VMT would occur as result of the project’s implementation.

2.3.3.2 Construction Emissions

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

In addition, with innovations such as 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 analysis was focused on vehicle-emitted GHGs. CO₂ is the single most important GHG due to its abundance compared to other vehicle-emitted GHGs, including CH₄, N₂O, HFCs, and black carbon (BC). It was estimated that for a construction duration of 4 months, the total amount of CO₂ produced due to construction would be 110.89 tons. Table 4 summarizes the construction-related emissions, including the total carbon dioxide equivalent (CO₂e) emission. Gases are converted to CO₂e by multiplying by their global warming potential (GWP). Specifically, GWP is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of CO₂.

Table 4 Construction CO₂e Emissions

	CO₂ (Tons)	CH₄ (Tons)	N₂O (Tons)	CO₂e (Metric Tons)
Construction Emissions	110.89	0.02	0.00	101.53

CH₄ = methane
 CO₂ = carbon dioxide
 CO₂e = carbon dioxide equivalent
 N₂O = nitrous oxide

Implementation of Caltrans Standard Specifications, such as complying with air-pollution-control rules, regulations, ordinances, and statutes that apply to work performed under the contract and the use of construction BMPs (such as performing regular vehicle and equipment maintenance and limiting the idling of vehicles and equipment on-site), would result in a reduction of GHG emissions from construction activities.

2.3.3.3 CEQA Conclusion

While the proposed project will result in GHG emissions during construction, it is not expected to 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 GHGs. 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.

2.3.4 Greenhouse Gas Reduction Strategies

2.3.4.1 Statewide Efforts

Major sectors of the California economy, including transportation, will need to reduce emissions to meet the 2030 and 2050 GHG emissions targets. Former Governor Edmund G. Brown promoted GHG reduction goals that involved (1) reducing today’s petroleum use in cars and trucks by up to 50 percent; (2) increasing the electricity derived from renewable sources from one-third to one-half (30 percent to 50 percent); (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of CH₄, BC, and other short-lived climate pollutants; (5) managing farms and rangelands, forests, and wetlands so that they can store carbon; and (6) periodically updating the State's climate adaptation strategy, *Safeguarding California*. Figure 13 shows California’s climate strategy.

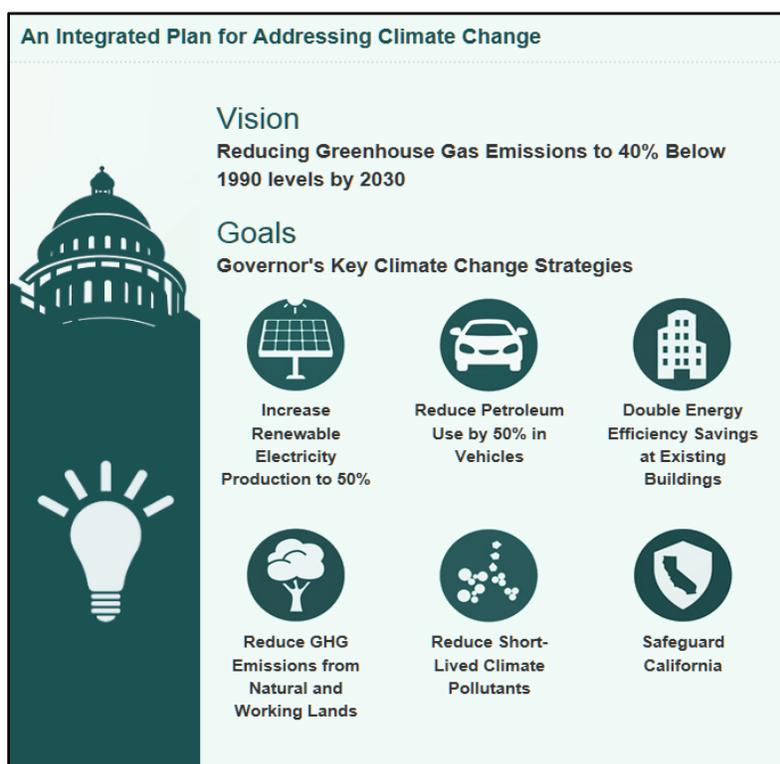


Figure 13 California Climate Strategy

The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that the State build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of VMT. A key State goal for reducing GHG emissions is to reduce today's petroleum use in cars and trucks by up to 50 percent by 2030 (State of California 2019).

In addition, SB 1386 (Wolk 2016) established as state policy the protection and management of natural and working lands and requires state agencies to consider that policy in their own

decision making. Trees and vegetation on forests, rangelands, farms, and wetlands remove CO₂ from the atmosphere through biological processes and sequester the carbon in above- and below-ground matter.

2.3.4.2 Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as CARB works to implement EOs S-3-05 and S-01-07. Caltrans also continues to 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* (CTP 2040) (Caltrans 2016), which establishes a new model for developing ground transportation systems that is 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 to develop a comprehensive assessment of climate-related transportation demand management and new technologies rather than continuing to expand capacity on existing roadways.

SB 391 (Liu 2009) requires the CTP to meet California's climate change goals under AB 32. Accordingly, the CTP 2040 identifies the statewide transportation system needed to achieve maximum feasible GHG emission reductions while meeting the state's transportation needs. While metropolitan planning organizations have primary responsibility for identifying land use patterns to help reduce GHG emissions, the CTP 2040 identifies additional strategies in pricing, transportation alternatives, mode shift, and operational efficiency.

Caltrans Strategic Management Plan

Caltrans Strategic Management Plan 2015 – 2020 (Caltrans 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 Caltrans decisions and activities.

Caltrans Activities to Address Climate Change (April 2013) provides a comprehensive overview of Caltrans' statewide activities to reduce GHG emissions resulting from agency operations.

Project-Level GHG Reduction Strategies

The proposed project will also implement the following measures to reduce GHG emissions and potential climate change impacts from the project:

1. Caltrans Standard Specifications such as Section 14-9.02, Air Pollution Control, require contractors to comply with all federal, State, and local air pollution control rules, regulations, and ordinances. Requirements such as idling restrictions and keeping engines properly tuned reduce emissions, including GHG emissions.
2. A TMP will be prepared during the design phase of the project to minimize traffic disruptions from project construction. Minimizing traffic delays during construction will help reduce GHG emissions from idling vehicles.

2.3.5 Adaptation

Reducing GHG emissions is only one part of an approach to addressing climate change. Caltrans must plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and variability in the frequency and intensity of wildfires. Flooding and erosion can damage or wash out roads; longer periods of intense heat can buckle pavement and railroad tracks; and 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 suffer landslides after a fire. Effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

2.3.5.1 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 USC Chapter 56A Section 2921 et seq.). The Fourth National Climate Assessment (USGCRP 2018), presents the foundational science and the "human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways." Chapter 12, "Transportation," presents a key discussion of vulnerability assessments. It notes that "asset owners and operators have increasingly conducted

more focused studies of particular assets that consider multiple climate hazards and scenarios in the context of asset-specific information, such as design lifetime” (USGCRP 2018).

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

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

2.3.5.2 State Efforts

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

- *Adaptation* to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
- *Adaptive capacity* is the “combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities.”
- *Exposure* is the presence of people, infrastructure, natural systems, and economic, cultural, and social resources in areas that are subject to harm.
- *Resilience* is the “capacity of any entity – an individual, a community, an organization, or a natural system – to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience”. Adaptation actions contribute to increasing resilience, which is a desired outcome or state of being.
- *Sensitivity* is the level to which a species, natural system, or community, government, etc., would be affected by changing climate conditions.
- *Vulnerability* is the “susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt.” Vulnerability can increase because of physical (built and environmental), social, political, and/or economic factor(s). These factors include, but are not limited to: ethnicity, class, sexual orientation and identification, national origin, and income inequality.² 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* 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: 2018 Update* (State of California 2018b).

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

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

2.3.5.3 Caltrans Adaptation Efforts

Caltrans Vulnerability Assessments

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

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

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

2.3.5.4 Project Adaptation Analysis

The January 2018 Caltrans Climate Change Vulnerability Assessment for the District 4 region (Caltrans 2018), which covers the nine-county San Francisco Bay Area, was consulted regarding climate stressors in the project area. The report and accompanying Climate Change Vulnerability Assessment map tool (Caltrans 2017) identified the following climate change conditions for the project area for the analysis years 2025, 2055, and 2085.

Sea Level Rise

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

At the Pilarcitos Creek Bridges location, the project is in the coastal zone. The National Oceanic and Atmospheric Administration (NOAA) Sea Level Rise viewer (<https://coast.noaa.gov/digitalcoast/tools/slr.html>) and the Cal-Adapt website (<https://cal-adapt.org/tools/slr-calflod-3d/>) were used to determine that the proposed project is not in an area subject to sea-level rise at the modeled highest potential sea level increase. Accordingly, direct impacts to transportation facilities due to projected sea-level rise are not expected.

Floodplains

Mapping in the Climate Change Vulnerability Assessment for the District 4 region (Caltrans 2018) shows that 100-year storm precipitation depth in the project area could change by up to 9.9 percent by 2055 and beyond. The proposed work at San Gregorio Creek Bridge takes place within a regulatory floodway. The Pilarcitos Creek Bridges are not located within a base floodplain and are not within a regulatory floodway. A complete discussion on floodplains at both project locations is provided in Section 2.2.10.

The project purpose is to protect the support structures of the bridges from scour at both locations by placing partially grouted RSP. The project would reduce the bridges' vulnerability to scour from current and future levels of stream flow, and would not impede or redirect flood flows.

Wildfire

The Pilarcitos Creek Bridges are in the Local Responsibility Area. The project area is not in a moderate or high fire hazard severity zone (CalFire 2007). The San Gregorio Creek Bridge is in a State Responsibility Area and moderate fire hazard severity zone (CalFire 2008). The Climate Change Vulnerability Assessment for the District 4 region (Caltrans 2018) shows the project is not in an area expected to experience an increased likelihood of wildfire through 2085. The project would not change fire risk conditions at either site. During construction, measures for minimizing fire risks would be incorporated, such as clearing vegetation and trees from the work area or prohibiting the use of highly flammable chemicals. All project construction would follow State and federal fire regulations. The partially grouted RSP does not burn and would be installed in the creeks and creek beds, which act as natural firebreaks. Thus, the project would be resilient to wildfire. The project is not anticipated to exacerbate the effects of climate change in terms of wildfire. A complete discussion on potential wildfire impacts at both project locations is provided in Section 2.2.20.

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Chapter 3 Comments and Coordination

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. Consultation and public participation for this project will be accomplished through a variety of formal and informal methods. This chapter summarizes the results of Caltrans' preliminary efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

3.1 Consultation and Coordination with Public Agencies

3.1.1 National Marine Fisheries Service

A NMFS species list was created for the project and was mostly recently updated May 2020 (Appendix A). Consultation with NMFS under Section 7 of FESA is anticipated because the project may affect listed species and Critical Habitat that fall within NOAA Fisheries jurisdiction. On September 12, 2019, NMFS staff Elena Meza and Rachel Roberts attended a site visit and interagency meeting with Caltrans staff to discuss potential impacts associated with placement of RSP. Caltrans followed with continued coordination and communication on the proposed project.

On April 12, 2020, NMFS staff Elena Meza participated in a meeting with Caltrans staff to review and discuss potential impacts associated with RSP placement materials and methods (i.e., placement of partially grouted RSP as opposed to non-grouted RSP).

3.1.2 U.S. Army Corps of Engineers

The proposed project will affect waters of the United States as defined in Section 404 of the CWA. An aquatic resources delineation report with a preliminary jurisdictional wetland delineation has been prepared dated October 2019. It will be submitted to USACE to gain confirmation of the jurisdictional resources at the project locations. A permit application will be submitted to USACE during the detailed design phase.

3.1.3 U.S. Fish and Wildlife Service

USFWS species lists were created for the project in June 2020 (Appendix A) and used to identify target species for reconnaissance-level surveys for terrestrial plants and animals. The project will require consultation with the USFWS under Section 7 of FESA. A Biological Assessment for the project is being prepared for the USFWS, to initiate consultation under Section 7.

On September 19, 2019, USFWS staff John Cleckler attended a site visit and interagency meeting with Caltrans staff to discuss potential impacts associated with placement of RSP. Caltrans followed with continued coordination and communication on the proposed project.

3.1.4 California Department of Fish and Wildlife

CDFW species lists were created for the project in June 2020 (Appendix A). A CFGC Section 1602 Lake or Streambed Alteration Agreement with CDFW is necessary when a project would alter the flow, bed, channel, or bank of a stream or lake. A 1602 application will be submitted to CDFW during the detailed design phase.

On July 31, 2019, CDFW staff Robert Stanley attended a site visit and interagency meeting.

On April 12, 2020, CDFW staff Robert Stanley participated in a meeting with Caltrans staff to review and discuss potential impacts associated with RSP placement materials and methods (i.e., placement of partially grouted RSP as opposed to non-grouted RSP).

3.1.5 San Francisco Bay Regional Water Quality Control Board

Project construction could affect waters of the state. Pursuant to Section 401 of the CWA, a Notice of Intent will be submitted to the San Francisco Bay RWQCB. The project would implement any general Waste Discharge Requirements issued by the San Francisco Bay RWQCB.

On July 31, 2019, San Francisco Bay RWQCB staff member Derek Beauduy attended a site visit and interagency meeting.

3.1.6 City of Half Moon Bay Local Coastal Program, and the California Coastal Commission

The Pilarcitos Creek Bridges are within the California Coastal Zone, within the City of Half Moon Bay (City), the San Gregorio Bridge is not within the Coastal Zone. The City has a Local Coastal Program (LCP) adopted as part of their General Plan, and the project would require review by the City and potentially a local Coastal Development Permit (CDP).

On July 31, 2019, CCC staff member Lauren Garske-Garcia attended a site visit and interagency meeting.

On June 13, 2019, CCC transmitted a letter from Peter Allen to Caltrans, which provided initial comments on the proposed project.

On April 28, 2020, City of Half Moon staff, including Bob Nesbit, Maziar Bozorginia, John Doughty, and Doug Garrison, met with Caltrans staff via web conference to discuss and provide preliminary feedback on the proposed project and clarify potential impacts at the Pilarcitos Creek Bridges location associated with flood risk, disturbance to protected species, impacts to the Naomi Partridge Trail, and processing a CDP through Half Moon Bay's LCP.

3.2 Circulation, Review, and Comment on the Draft Environmental Document

Public input on the project will be solicited during the review period for this IS, which will last a minimum of 30 days. The public will be notified of the availability of the IS by a number of methods, including postings on the Caltrans website and notifications to interested agencies and individuals. A Notice of Completion will be filed with the State Clearinghouse. During the review period, Caltrans will hold a public meeting to share information about the project and collect comments on the IS from interested parties. The review period and instructions for

submitting comments are included on the first page of this document. All formal comments will be addressed, and responses published in the Final IS. If the Final IS approved, an MND and a Categorical Exclusion (CE) will be signed and included with the Final IS.

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Chapter 6 References

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Appendix A. Species Lists

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Common Name	Scientific Name	Status	General Habitat Description/Bloom Period/Elevation Range	Habitat Present/Absent	Potential to Occur/Rationale
San Mateo thorn-mint	<i>Acanthomintha duttonii</i>	FE/SE/CRPR List 1B.1	Serpentine, chaparral and valley and foothill grassland. Blooms: April-June. Elevation range 50-300 m.	Absent	None. Outside the elevation range at Pilarcitos Creek and not suitable habitat at either site. Not observed during botanical surveys.
Blasdale's bent grass	<i>Agrostis blasdalei</i>	--/--/CRPR List 1B.2	Coastal bluff scrub, coastal dunes, coastal prairie. Blooms: May-July. Elevation range 0-150 m.	Absent	None. Outside the elevation range at San Gregorio Creek and not suitable habitat at either site. Not observed during botanical surveys.
Franciscan onion	<i>Allium peninsulare</i> var. <i>franciscanum</i>	--/--/CRPR List 1B.2	Clay, volcanic, often serpentinite, cismontane woodland and valley and foothill grassland. Blooms: May-June. Elevation range 52-3000 m.	Present	Low. Outside the elevation range at Pilarcitos Creek. Potential woodland habitat at San Gregorio Creek however the nearest CNDDDB occurrence is 7 miles away and not observed during botanical surveys.
Bent-flowered fiddleneck	<i>Amsinckia lunaris</i>	--/--/CRPR List 1B.2	Clay, volcanic, often serpentinite, cismontane woodland and valley and foothill grassland. Blooms: May-June. Elevation range 52-3000 m. Blooms March-June. Elevation range 3-500 m.	Absent	None. There is no suitable habitat at either site, there are no CNDDDB occurrences within 10 miles and not observed during botanical surveys.
Anderson's manzanita	<i>Arctostaphylos andersonii</i>	--/--/CRPR List 1B.2	Broad-leaved upland forest, chaparral, north coast coniferous forest. Blooms November-May. Elevation range 60-760 m.	Present	Low. Outside the elevation range at Pilarcitos Creek. Potential habitat at San Gregorio Creek in north coast coniferous forest and the nearest CNDDDB occurrence is 3.8 miles away. Not observed during botanical surveys.
Montara manzanita	<i>Arctostaphylos montaraensis</i>	--/--/CRPR List 1B.2	Chaparral (maritime), Coastal scrub. Blooms January-March. Elevation range 80-500 m.	Absent	None. Outside the elevation range at Pilarcitos Creek. There is no suitable habitat at the San Gregorio Creek site. Not observed during botanical surveys.

Common Name	Scientific Name	Status	General Habitat Description/Bloom Period/Elevation Range	Habitat Present/Absent	Potential to Occur/Rationale
Kings Mountain manzanita	<i>Arctostaphylos regismontana</i>	--/--/CRPR List 1B.2	Broad-leaved upland forest, chaparral, north coast coniferous forest. Blooms December-April. Elevation range 305-730 m.	Absent	None. Outside the elevation range at both Pilarcitos Creek and San Gregorio Creek sites. Not observed during botanical surveys.
Coastal marsh milk-veitch	<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i>	--/--/CRPR List 1B.2	Coastal dunes (mesic), coastal scrub, marshes and swamps (coastal salt, streamsides). Blooms (April) June-October. Elevation range 0-30 m.	Absent	None. Outside the elevation range at San Gregorio Creek. No coastal dunes, coastal scrub or marshes and therefore no suitable habitat. Not observed during botanical surveys.
Franciscan thistle	<i>Cirsium andrewsii</i>	--/--/CRPR List 1B.2	Broad-leaved upland forest, coastal bluff scrub, coastal prairie, coastal scrub. Blooms: March-July. Elevation range 0-150 m.	Present	Low. Outside the elevation range at San Gregorio Creek. Broad-leaved upland forest at Pilarcitos Creek has potential habitat. However the nearest CNDDDB occurrence is over 7 miles away and not observed during botanical surveys.
Fountain thistle	<i>Cirsium fontinale</i> var. <i>fontinale</i>	FE/SE/CRPR List 1B.1	Serpentinite seeps, chaparral (openings), Cismontane woodland and valley and foothill grassland. Blooms: May-October. Elevation range 45-175 m.	Absent	None. Outside the elevation range at San Gregorio Creek. The habitat is not suitable at Pilarcitos Creek and the nearest CNDDDB occurrence is 5 miles away. Not observed during botanical surveys.
San Francisco collinsia	<i>Collinsia multicolor</i>	--/--/CRPR List 1B.2	Sometimes serpentinite, closed-cone coniferous forest, coastal scrub. Blooms: (February) March-May. Elevation range 30-250 m.	Absent	None. Outside the elevation range at San Gregorio Creek. No suitable habitat at Pilarcitos Creek and nearest CNDDDB occurrence is over 4.8 miles away. Not observed during botanical surveys.
Western leatherwood	<i>Dirca occidentalis</i>	--/--/CRPR List 1B.2	Broad-leaved upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, riparian forest, riparian woodland. Blooms January-March. Elevation ranges 165-1,300 ft.	Present	Low. Outside the elevation range at Pilarcitos Creek. Potential habitat at San Gregorio Creek in the riparian and coniferous forest, the nearest CNDDDB occurrence is less than a mile away. Habitat is present but none were observed during botanical surveys.

Common Name	Scientific Name	Status	General Habitat Description/Bloom Period/Elevation Range	Habitat Present/Absent	Potential to Occur/Rationale
San Mateo woolly sunflower	<i>Eriophyllum latilobum</i>	FE/SE/CRPR List 1B.1	Cismontane woodland (often serpentinite, on roadcuts). Blooms: May-June. Elevation range 45-150 m.	Absent	None. Outside the elevation range at San Gregorio Creek. No suitable habitat at Pilarcitos Creek, the nearest CNDDDB occurrence is 5 miles away and not observed during botanical surveys.
Hillsborough chocolate lily	<i>Fritillaria biflora</i> <i>var. ineziana</i>	--/--/CRPR List 1B.1	Cismontane woodland, valley and foothill grassland. Blooms: March-April. Elevation range 150-150 m	Absent	None. Outside the elevation range at both Pilarcitos Creek and San Gregorio Creek sites. Nearest CNDDDB occurrence is approximately 3.8 miles away from Pilarcitos Creek.
Fragrant fritillary	<i>Fritillaria liliacea</i>	--/--/CRPR List 1B.2	Often serpentinite, Cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grassland. Blooms: February-April. Elevation range 3-410 m.	Absent	None. Nearest CNDDDB occurrence is 8 miles away for San Gregorio Creek site and 4.8 miles away for Pilarcitos Creek site. The habitat is not suitable at either site and not observed during botanical surveys.
Short-leaved evax	<i>Hesperevax sparsiflora</i> <i>var. brevifolia</i>	--/--/CRPR List 1B.2	Coastal bluff scrub (sandy), coastal dunes and coastal prairie. Blooms: March-June. Elevation range 0-215 m.	Absent	None. Outside the elevation range at San Gregorio Creek. The habitat is not suitable at Pilarcitos Creek and not observed during botanical surveys.
Marin western flax	<i>Hesperolinon congestum</i>	FT/ST/CRPR List 1B.1	Serpentinite, chaparral and valley and foothill grassland. Blooms: April-July. Elevation range 5-370 m.	Absent	None. No suitable habitat at either site, the nearest CNDDDB occurrence is 5.4 miles away from Pilarcitos Creek site and none were observed during botanical surveys.
Kellogg's horkelia	<i>Horkelia cuneata</i> <i>var. sericea</i>	--/--/CRPR List 1B.1	Closed-cone coniferous forest, chaparral (maritime), coastal dunes, coastal scrub. Blooms: April-September. Elevation range 10-200 m.	Absent	None. No suitable habitat at either site. None were observed during botanical surveys.
Point Reyes horkelia	<i>Horkelia marinensis</i>	--/--/CRPR List 1B.2	Coastal dunes, coastal prairie, and coastal scrub. Blooms: May-September. Elevation range 5-755 m.	Absent	None. No suitable habitat at either site. None were observed during botanical surveys.

Common Name	Scientific Name	Status	General Habitat Description/Bloom Period/Elevation Range	Habitat Present/Absent	Potential to Occur/Rationale
Island tube lichen	<i>Hypogymnia schizidiata</i>	--/CRPR List 1B.3	Closed-cone coniferous forest, chaparral. No blooming period. Elevation range 360-755 m.	Absent	None. Outside the elevation range at both Pilarcitos Creek and San Gregorio Creek sites. No suitable habitat at either site. None were observed during botanical surveys.
Perennial goldfields	<i>Lasthenia californica</i> ssp. <i>macrantha</i>	--/CRPR List 1B.2	Coastal bluff scrub, coastal dunes and coastal scrub. Blooms: January-November. Elevation range 5-520 m.	Absent	None. No suitable habitat at either site. None were observed during botanical surveys.
Coast yellow leptosiphon	<i>Leptosiphon croceus</i>	--/CC/CRPR List 1B.1	Coastal bluff scrub and coastal prairie. Blooms: April-June. Elevation range 10-150 m.	Absent	None. Outside the elevation range at San Gregorio Creek. No suitable habitat at either site. None were observed during botanical surveys.
Crystal Springs lessingia	<i>Lessingia arachnoidea</i>	--/CRPR List 1B.2	Cismontane woodland, coastal scrub and valley and foothill grassland. Blooms: July through October. Elevation range 60-200 m.	Absent	None. Outside the elevation range at Pilarcitos Creek. No CNDDDB occurrences within 10 miles of the San Gregorio Creek site. None were observed during botanical surveys.
Ornduff's meadowfoam	<i>Limnanthes douglasii</i> ssp. <i>ornduffii</i>	--/CRPR List 1B.1	Meadows and seeps. Blooms: November-May. Elevation range 10-20 m.	Absent	None. Outside the elevation range at both Pilarcitos Creek and San Gregorio Creek sites. No suitable habitat at either site. None were observed during botanical surveys.
Arcuate bush-mallow	<i>Malacothamnus arcuatus</i>	--/CRPR List 1B.2	Chaparral and Cismontane woodland. Blooms: April-September. Elevation range 15-355 m.	Absent	None. No suitable habitat at either site. None were observed during botanical surveys.
Woodland woollythreads	<i>Monolopia gracilens</i>	--/CRPR List 1B.2	Serpentine, broad leafed upland forest (openings), chaparral (openings), Cismontane woodland, North Coast coniferous forest (openings), and valley and foothill grassland. Blooms: February-July. Elevation range 100-1200 m.	Present	Low. Outside the elevation range at Pilarcitos Creek. Potential habitat consisting of the North Coast coniferous forest is present at San Gregorio Creek site and a CNDDDB occurrence was recorded in the vicinity of the site. None were observed during botanical surveys.

Common Name	Scientific Name	Status	General Habitat Description/Bloom Period/Elevation Range	Habitat Present/Absent	Potential to Occur/Rationale
White-rayed pentachaeta	<i>Pentachaeta bellidiflora</i>	FE/SE/CRPR List 1B.1	Cismontane woodland, Valley and foothill grassland (often serpentinite). Blooms: March-May. Elevation range 35-620 m.	Absent	None. No suitable habitat at either site. The nearest CNDDDB occurrence to the Pilarcitos Creek site is 5 miles away and at San Gregorio Creek site more than 10 miles away. None were observed during botanical surveys
Choris' popcornflower	<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i>	--/--/CRPR List 1B.2	Chaparral, coastal prairie, coastal scrub. Blooms: March-June. Elevation range 3-160 m.	Present	Low. Outside the elevation range at San Gregorio Creek. The nearest CNDDDB occurrence to the Pilarcitos Creek site is 0.5 mile away. The habitat at Pilarcitos Creek is marginal for this species, however none were observed during botanical surveys.
Oregon polemonium	<i>Polemonium carneum</i>	--/--/CRPR List 2B.2	Coastal prairie, coastal scrub and lower montane coniferous forest. Blooms: April-September. Elevation range 0-1830 m.	Absent	None. There are no nearby CNDDDB occurrences within 10 miles of the project sites.
Hickman's cinquefoil	<i>Potentilla hickmanii</i>	FE/SE/CRPR List 1B.1	Coastal bluff scrub, closed-cone coniferous forest, meadows and seeps (vernally mesic), marshes and swamps (freshwater). Blooms: April-August. Elevation range 10-149 m.	Absent	None. Outside the elevation range at San Gregorio Creek. The nearest CNDDDB occurrence to the Pilarcitos Creek site is 5.5 miles away. The habitat at Pilarcitos Creek seems to be unsuitable for this species. None were observed during botanical surveys.
Chaparral ragwort	<i>Senecio aphanactis</i>	--/--/CRPR List 2B.2	Chaparral, cismontane woodland and coastal scrub. Blooms: January-April (May). Elevation range 15-800 m.	Absent	None. No suitable habitat at either site for this species. The nearest CNDDDB occurrence was 5.2 miles away from the San Gregorio Creek site. None were observed during botanical surveys.

Common Name	Scientific Name	Status	General Habitat Description/Bloom Period/Elevation Range	Habitat Present/Absent	Potential to Occur/Rationale
Scouler's catchfly	<i>Silene scouleri</i> <i>ssp. scouleri</i>	--/--/CRPR List 2B.2	Coastal bluff scrub, Coastal prairie and valley and foothill grassland. Blooms: (March-May)June-August (September). Elevation range 0-600 m.	Absent	None. No suitable habitat at either site for this species. The nearest CNDDDB occurrence was 7.1 miles away from the San Gregorio Creek site. None were observed during botanical surveys.
San Francisco campion	<i>Silene verecunda</i> <i>ssp. verecunda</i>	--/--/CRPR List 1B.2	Coastal bluff scrub, chaparral, coastal prairie, coastal scrub, valley and foothill grassland. Blooms: (February) March-June (August). Elevation range 30-645 m.	Absent	None. The nearest CNDDDB occurrence to the Pilarcitos Creek site is 4 miles away and more than 10 miles away for the San Gregorio Creek site. The habitat at either site does not seem suitable for the species. None were observed during botanical surveys.
San Francisco owl's-clover	<i>Triphysaria floribunda</i>	--/--/CRPR List 1B.2	Coastal prairie, coastal scrub, valley and foothill grassland. Blooms: April-June. Elevation range 10-160 m.	Present	None. Outside the elevation range at San Gregorio Creek. The nearest CNDDDB occurrence to the Pilarcitos Creek site is 4.6 miles away. The habitat at Pilarcitos Creek does not seem suitable for the species. None were observed during botanical surveys.
Coastal triquetrella	<i>Triquetrella californica</i>	--/--/CRPR List 1B.2	Coastal bluff scrub and coastal scrub. No bloom period. Elevation range 10-100 m.	Absent	None. Outside the elevation range at San Gregorio Creek. The nearest CNDDDB occurrence to the Pilarcitos Creek site is 9.5 miles away. The habitat does not appear to be suitable for this species and none were observed during botanical surveys.

Common Name	Scientific Name	Status	General Habitat Description/Bloom Period/Elevation Range	Habitat Present/Absent	Potential to Occur/Rationale
<p>Notes:</p> <p>FE = Federal endangered FT = Federally threatened SE = State endangered ST = State threatened</p> <p>CRPR = California Rare Plant Rank: List 1B.1= Rare throughout range; more than 80 percent of occurrences threatened List 1B.2 = Rare throughout range; 20 to 80 percent of occurrences threatened 2A = Plants presumed extirpated in California, but common elsewhere 2B = Plants rare, threatened, or endangered in California, but more common elsewhere.</p>					

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National Marine Fisheries Service Species List

Generated using the NMFS West Coast Region Species list tool on May 21, 2020

Quad Name La Honda

Quad Number 37122-C3

ESA Anadromous Fish

SONCC Coho ESU (T) -

CCC Coho ESU (E) - **YES**

CC Chinook Salmon ESU (T) -

CVSR Chinook Salmon ESU (T) -

SRWR Chinook Salmon ESU (E) -

NC Steelhead DPS (T) -

CCC Steelhead DPS (T) - **YES**

SCCC Steelhead DPS (T) -

SC Steelhead DPS (E) -

CCV Steelhead DPS (T) -

Eulachon (T) -

sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -

CCC Coho Critical Habitat - **YES**

CC Chinook Salmon Critical Habitat -

CVSR Chinook Salmon Critical Habitat -

SRWR Chinook Salmon Critical Habitat -

NC Steelhead Critical Habitat -

CCC Steelhead Critical Habitat - **YES**

SCCC Steelhead Critical Habitat -

SC Steelhead Critical Habitat -

CCV Steelhead Critical Habitat -

Eulachon Critical Habitat -

sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -

Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -

Olive Ridley Sea Turtle (T/E) -

Leatherback Sea Turtle (E) -

North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -

Fin Whale (E) -

Humpback Whale (E) -

Southern Resident Killer Whale (E) -

North Pacific Right Whale (E) -

Sei Whale (E) -

Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -

Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH - **YES**

Chinook Salmon EFH - **YES**

Groundfish EFH -

Coastal Pelagics EFH -

Highly Migratory Species EFH -

MMPA Species ESA and MMPA Cetaceans/Pinnipeds

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

MMPA Cetaceans -

MMPA Pinnipeds -

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United States Department of the Interior



FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:

June 24, 2020

Consultation Code: 08ESMF00-2020-SLI-0687

Event Code: 08ESMF00-2020-E-06926

Project Name: San Gregorio Creek Bridge Scour and Mitigation Project

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

To Whom It May Concern:

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

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2020-SLI-0687

Event Code: 08ESMF00-2020-E-06926

Project Name: San Gregorio Creek Bridge Scour and Mitigation Project

Project Type: BRIDGE CONSTRUCTION / MAINTENANCE

Project Description: Place RSP to protect abutment from scour.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/37.313521750670034N122.28531085578135W>



Counties: San Mateo, CA

Endangered Species Act Species

There is a total of 9 threatened, endangered, or candidate species on this species list.

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

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

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

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

Birds

NAME	STATUS
California Least Tern <i>Sterna antillarum browni</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Marbled Murrelet <i>Brachyramphus marmoratus</i> Population: U.S.A. (CA, OR, WA) There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened

Reptiles

NAME	STATUS
Green Sea Turtle <i>Chelonia mydas</i> Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened
San Francisco Garter Snake <i>Thamnophis sirtalis tetrataenia</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5956	Endangered

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/205/office/11420.pdf	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened
Tidewater Goby <i>Eucyclogobius newberryi</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/57	Endangered

Insects

NAME	STATUS
San Bruno Elfin Butterfly <i>Callophrys mossii bayensis</i> There is proposed critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3394	Endangered

Flowering Plants

NAME	STATUS
San Mateo Woolly Sunflower <i>Eriophyllum latilobum</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7791	Endangered

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> https://ecos.fws.gov/ecp/species/2891#crithab	Final



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
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2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:

June 24, 2020

Consultation Code: 08ESMF00-2020-SLI-0406

Event Code: 08ESMF00-2020-E-06928

Project Name: Pilarcitos Creek Bridge Structures and Scour Mitigation

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

To Whom It May Concern:

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

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2020-SLI-0406

Event Code: 08ESMF00-2020-E-06928

Project Name: Pilarcitos Creek Bridge Structures and Scour Mitigation

Project Type: TRANSPORTATION

Project Description: Protect the Pilarcitos Creek Bridge by placing rock slope protection along bridge piers and abutments.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/37.46653989596568N122.43371311421743W>



Counties: San Mateo, CA

Endangered Species Act Species

There is a total of 11 threatened, endangered, or candidate species on this species list.

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

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

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

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

Mammals

NAME	STATUS
Southern Sea Otter <i>Enhydra lutris nereis</i> No critical habitat has been designated for this species. <i>This species is also protected by the Marine Mammal Protection Act, and may have additional consultation requirements.</i> Species profile: https://ecos.fws.gov/ecp/species/8560	Threatened

Birds

NAME	STATUS
California Least Tern <i>Sterna antillarum browni</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Marbled Murrelet <i>Brachyramphus marmoratus</i> Population: U.S.A. (CA, OR, WA) There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Short-tailed Albatross <i>Phoebastria (=Diomedea) albatrus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/433	Endangered
Western Snowy Plover <i>Charadrius nivosus nivosus</i> Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

Reptiles

NAME	STATUS
Green Sea Turtle <i>Chelonia mydas</i> Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened
San Francisco Garter Snake <i>Thamnophis sirtalis tetrataenia</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5956	Endangered

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/205/office/11420.pdf	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened
Tidewater Goby <i>Eucyclogobius newberryi</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/57	Endangered

Insects

NAME	STATUS
San Bruno Elfin Butterfly <i>Callophrys mossii bayensis</i> There is proposed critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3394	Endangered

Critical habitats

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

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

Plant List

64 matches found. [Click on scientific name for details](#)

Search Criteria

California Rare Plant Rank is one of [1A, 1B, 2A, 2B, 3, 4], Found in Quads 3712254, 3712253, 3712244, 3712243, 3712234 and 3712233;

[Modify Search Criteria](#) [Export to Excel](#) [Modify Columns](#) [Modify Sort](#) [Display Photos](#)

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Acanthomintha duttonii	San Mateo thorn-mint	Lamiaceae	annual herb	Apr-Jun	1B.1	S1	G1
Agrostis blasdalei	Blasdale's bent grass	Poaceae	perennial rhizomatous herb	May-Jul	1B.2	S2	G2
Allium peninsulare var. franciscanum	Franciscan onion	Alliaceae	perennial bulbiferous herb	(Apr)May-Jun	1B.2	S2	G5T2
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	Mar-Jun	1B.2	S3	G3
Arabis blepharophylla	coast rockcress	Brassicaceae	perennial herb	Feb-May	4.3	S4	G4
Arctostaphylos andersonii	Anderson's manzanita	Ericaceae	perennial evergreen shrub	Nov-May	1B.2	S2	G2
Arctostaphylos montaraensis	Montara manzanita	Ericaceae	perennial evergreen shrub	Jan-Mar	1B.2	S1	G1
Arctostaphylos regismontana	Kings Mountain manzanita	Ericaceae	perennial evergreen shrub	Dec-Apr	1B.2	S2	G2
Astragalus nuttallii var. nuttallii	ocean bluff milk-vetch	Fabaceae	perennial herb	Jan-Nov	4.2	S4	G4T4
Astragalus pycnostachyus var. pycnostachyus	coastal marsh milk-vetch	Fabaceae	perennial herb	(Apr)Jun-Oct	1B.2	S2	G2T2
Calandrinia breweri	Brewer's calandrinia	Montiaceae	annual herb	(Jan)Mar-Jun	4.2	S4	G4
Calochortus umbellatus	Oakland star-tulip	Liliaceae	perennial bulbiferous herb	Mar-May	4.2	S3?	G3?
Castilleja ambigua var. ambigua	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	Mar-Aug	4.2	S3S4	G4T4

<u>Centromadia parryi ssp. parryi</u>	pappose tarplant	Asteraceae	annual herb	May-Nov	1B.2	S2	G3T2
<u>Chloropyron maritimum ssp. palustre</u>	Point Reyes bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Oct	1B.2	S2	G4?T2
<u>Chorizanthe cuspidata var. cuspidata</u>	San Francisco Bay spineflower	Polygonaceae	annual herb	Apr-Jul(Aug)	1B.2	S1	G2T1
<u>Cirsium andrewsii</u>	Franciscan thistle	Asteraceae	perennial herb	Mar-Jul	1B.2	S3	G3
<u>Cirsium fontinale var. fontinale</u>	Crystal Springs fountain thistle	Asteraceae	perennial herb	(Apr)May-Oct	1B.1	S1	G2T1
<u>Collinsia multicolor</u>	San Francisco collinsia	Plantaginaceae	annual herb	(Feb)Mar-May	1B.2	S2	G2
<u>Cypripedium fasciculatum</u>	clustered lady's-slipper	Orchidaceae	perennial rhizomatous herb	Mar-Aug	4.2	S4	G4
<u>Cypripedium montanum</u>	mountain lady's-slipper	Orchidaceae	perennial rhizomatous herb	Mar-Aug	4.2	S4	G4
<u>Dirca occidentalis</u>	western leatherwood	Thymelaeaceae	perennial deciduous shrub	Jan-Mar(Apr)	1B.2	S2	G2
<u>Elymus californicus</u>	California bottle-brush grass	Poaceae	perennial herb	May-Aug(Nov)	4.3	S4	G4
<u>Eriophyllum latilobum</u>	San Mateo woolly sunflower	Asteraceae	perennial herb	May-Jun	1B.1	S1	G1
<u>Erysimum franciscanum</u>	San Francisco wallflower	Brassicaceae	perennial herb	Mar-Jun	4.2	S3	G3
<u>Fissidens pauperculus</u>	minute pocket moss	Fissidentaceae	moss		1B.2	S2	G3?
<u>Fritillaria biflora var. ineziana</u>	Hillsborough chocolate lily	Liliaceae	perennial bulbiferous herb	Mar-Apr	1B.1	S1	G3G4T1
<u>Fritillaria lanceolata var. tristulis</u>	Marin checker lily	Liliaceae	perennial bulbiferous herb	Feb-May	1B.1	S2	G5T2
<u>Fritillaria liliacea</u>	fragrant fritillary	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	S2	G2
<u>Grindelia hirsutula var. maritima</u>	San Francisco gumplant	Asteraceae	perennial herb	Jun-Sep	3.2	S1	G5T1Q
<u>Hesperevax sparsiflora var. brevifolia</u>	short-leaved evax	Asteraceae	annual herb	Mar-Jun	1B.2	S2	G4T3
<u>Hesperolinon congestum</u>	Marin western flax	Linaceae	annual herb	Apr-Jul	1B.1	S1	G1
<u>Horkelia cuneata var. sericea</u>	Kellogg's horkelia	Rosaceae	perennial herb	Apr-Sep	1B.1	S1?	G4T1?
<u>Horkelia marinensis</u>	Point Reyes horkelia	Rosaceae	perennial herb	May-Sep	1B.2	S2	G2
<u>Hypogymnia schizidiata</u>	island rock lichen	Parmeliaceae	foliose lichen (null)		1B.3	S1	G2
<u>Iris longipetala</u>	coast iris	Iridaceae	perennial rhizomatous herb	Mar-May	4.2	S3	G3
<u>Lasthenia californica ssp. macrantha</u>	perennial goldfields	Asteraceae	perennial herb	Jan-Nov	1B.2	S2	G3T2
<u>Leptosiphon ambiguus</u>	serpentine	Polemoniaceae	annual herb	Mar-Jun	4.2	S4	G4

	leptosiphon							
Leptosiphon croceus	coast yellow leptosiphon	Polemoniaceae	annual herb	Apr-Jun	1B.1	S1	G1	
Leptosiphon rosaceus	rose leptosiphon	Polemoniaceae	annual herb	Apr-Jul	1B.1	S1	G1	
Lessingia arachnoidea	Crystal Springs lessingia	Asteraceae	annual herb	Jul-Oct	1B.2	S2	G2	
Lessingia hololeuca	woolly-headed lessingia	Asteraceae	annual herb	Jun-Oct	3	S2S3	G3?	
Lilium maritimum	coast lily	Liliaceae	perennial bulbiferous herb	May-Aug	1B.1	S2	G2	
Limnanthes douglasii ssp. ornduffii	Ornduff's meadowfoam	Limnanthaceae	annual herb	Nov-May	1B.1	S1	G4T1	
Lupinus arboreus var. eximius	San Mateo tree lupine	Fabaceae	perennial evergreen shrub	Apr-Jul	3.2	S2	G2Q	
Malacothamnus aboriginum	Indian Valley bush-mallow	Malvaceae	perennial deciduous shrub	Apr-Oct	1B.2	S3	G3	
Malacothamnus arcuatus	arcuate bush-mallow	Malvaceae	perennial evergreen shrub	Apr-Sep	1B.2	S2	G2Q	
Malacothamnus davidsonii	Davidson's bush-mallow	Malvaceae	perennial deciduous shrub	Jun-Jan	1B.2	S2	G2	
Malacothamnus hallii	Hall's bush-mallow	Malvaceae	perennial evergreen shrub	(Apr)May-Sep(Oct)	1B.2	S2	G2	
Microseris paludosa	marsh microseris	Asteraceae	perennial herb	Apr-Jun(Jul)	1B.2	S2	G2	
Monolopia gracilens	woodland woolythreads	Asteraceae	annual herb	(Feb)Mar-Jul	1B.2	S3	G3	
Pedicularis dudleyi	Dudley's lousewort	Orobanchaceae	perennial herb	Apr-Jun	1B.2	S2	G2	
Pentachaeta bellidiflora	white-rayed pentachaeta	Asteraceae	annual herb	Mar-May	1B.1	S1	G1	
Plagiobothrys chorisianus var. chorisianus	Choris' popcornflower	Boraginaceae	annual herb	Mar-Jun	1B.2	S1	G3T1Q	
Polemonium carneum	Oregon polemonium	Polemoniaceae	perennial herb	Apr-Sep	2B.2	S2	G3G4	
Potentilla hickmanii	Hickman's cinquefoil	Rosaceae	perennial herb	Apr-Aug	1B.1	S1	G1	
Ranunculus lobbii	Lobb's aquatic buttercup	Ranunculaceae	annual herb (aquatic)	Feb-May	4.2	S3	G4	
Senecio aphanactis	chaparral ragwort	Asteraceae	annual herb	Jan-Apr(May)	2B.2	S2	G3	
Silene scouleri ssp. scouleri	Scouler's catchfly	Caryophyllaceae	perennial herb	(Mar-May)Jun-Aug(Sep)	2B.2	S2S3	G5T4T5	
Silene verecunda ssp. verecunda	San Francisco champion	Caryophyllaceae	perennial herb	(Feb)Mar-Jun(Aug)	1B.2	S1	G5T1	
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun	1B.2	S2	G2	
Triphysaria floribunda	San Francisco owl's-clover	Orobanchaceae	annual herb	Apr-Jun	1B.2	S2?	G2?	
Triquetrella californica	coastal triquetrella	Pottiaceae	moss		1B.2	S2	G2	
Usnea longissima	Methuselah's beard	Parmeliaceae	fruticose lichen		4.2	S4	G4	

lichen

(epiphytic)

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Plant List

86 matches found. [Click on scientific name for details](#)

Search Criteria

California Rare Plant Rank is one of [1A, 1B, 2A, 2B, 3, 4], Found in Quads 3712244, 3712243, 3712242, 3712234, 3712233, 3712232, 3712224 3712223 and 3712222;

[Modify Search Criteria](#) [Export to Excel](#) [Modify Columns](#) [Modify Sort](#) [Display Photos](#)

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Acanthomintha duttonii	San Mateo thorn-mint	Lamiaceae	annual herb	Apr-Jun	1B.1	S1	G1
Agrostis blasdalei	Blasdale's bent grass	Poaceae	perennial rhizomatous herb	May-Jul	1B.2	S2	G2
Allium peninsulare var. franciscanum	Franciscan onion	Alliaceae	perennial bulbiferous herb	(Apr)May-Jun	1B.2	S2	G5T2
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	Mar-Jun	1B.2	S3	G3
Androsace elongata ssp. acuta	California androsace	Primulaceae	annual herb	Mar-Jun	4.2	S3S4	G5? T3T4
Anomobryum julaceum	slender silver moss	Bryaceae	moss		4.2	S2	G5?
Arabis blepharophylla	coast rockcress	Brassicaceae	perennial herb	Feb-May	4.3	S4	G4
Arctostaphylos andersonii	Anderson's manzanita	Ericaceae	perennial evergreen shrub	Nov-May	1B.2	S2	G2
Arctostaphylos glutinosa	Schreiber's manzanita	Ericaceae	perennial evergreen shrub	(Nov)Mar-Apr	1B.2	S1	G1
Arctostaphylos ohloneana	Ohlone manzanita	Ericaceae	evergreen shrub	Feb-Mar	1B.1	S1	G1
Arctostaphylos regismontana	Kings Mountain manzanita	Ericaceae	perennial evergreen shrub	Dec-Apr	1B.2	S2	G2
Arctostaphylos silvicola	Bonny Doon manzanita	Ericaceae	perennial evergreen shrub	Jan-Mar	1B.2	S1	G1
Astragalus nuttallii var. nuttallii	ocean bluff milk-vetch	Fabaceae	perennial herb	Jan-Nov	4.2	S4	G4T4
Astragalus pycnostachyus var. pycnostachyus	coastal marsh milk-vetch	Fabaceae	perennial herb	(Apr)Jun-Oct	1B.2	S2	G2T2
Calandrinia breweri	Brewer's calandrinia	Montiaceae	annual herb	(Jan)Mar-Jun	4.2	S4	G4
Calochortus umbellatus	Oakland star-tulip	Liliaceae	perennial bulbiferous herb	Mar-May	4.2	S3?	G3?

Calyptridium parryi var. hesseae	Santa Cruz Mountains pussypaws	Montiaceae	annual herb	May-Aug	1B.1	S2	G3G4T2
Castilleja ambigua var. ambigua	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	Mar-Aug	4.2	S3S4	G4T4
Centromadia parryi ssp. congdonii	Congdon's tarplant	Asteraceae	annual herb	May-Oct(Nov)	1B.1	S1S2	G3T1T2
Chorizanthe pungens var. hartwegiana	Ben Lomond spineflower	Polygonaceae	annual herb	Apr-Jul	1B.1	S1	G2T1
Cirsium andrewsii	Franciscan thistle	Asteraceae	perennial herb	Mar-Jul	1B.2	S3	G3
Cirsium fontinale var. fontinale	Crystal Springs fountain thistle	Asteraceae	perennial herb	(Apr)May-Oct	1B.1	S1	G2T1
Cirsium praeteriens	lost thistle	Asteraceae	perennial herb	Jun-Jul	1A	SX	GX
Clarkia concinna ssp. automixa	Santa Clara red ribbons	Onagraceae	annual herb	(Apr)May-Jun(Jul)	4.3	S3	G5?T3
Collinsia corymbosa	round-headed Chinese-houses	Plantaginaceae	annual herb	Apr-Jun	1B.2	S1	G1
Collinsia multicolor	San Francisco collinsia	Plantaginaceae	annual herb	(Feb)Mar-May	1B.2	S2	G2
Cypripedium fasciculatum	clustered lady's-slipper	Orchidaceae	perennial rhizomatous herb	Mar-Aug	4.2	S4	G4
Cypripedium montanum	mountain lady's-slipper	Orchidaceae	perennial rhizomatous herb	Mar-Aug	4.2	S4	G4
Dirca occidentalis	western leatherwood	Thymelaeaceae	perennial deciduous shrub	Jan-Mar(Apr)	1B.2	S2	G2
Elymus californicus	California bottle-brush grass	Poaceae	perennial herb	May-Aug(Nov)	4.3	S4	G4
Eriogonum nudum var. decurrens	Ben Lomond buckwheat	Polygonaceae	perennial herb	Jun-Oct	1B.1	S1	G5T1
Eriophyllum latilobum	San Mateo woolly sunflower	Asteraceae	perennial herb	May-Jun	1B.1	S1	G1
Eryngium aristulatum var. hooveri	Hoover's button-celery	Apiaceae	annual / perennial herb	(Jun)Jul(Aug)	1B.1	S1	G5T1
Eryngium jepsonii	Jepson's coyote thistle	Apiaceae	perennial herb	Apr-Aug	1B.2	S2?	G2?
Erysimum ammophilum	sand-loving wallflower	Brassicaceae	perennial herb	Feb-Jun	1B.2	S2	G2
Erysimum franciscanum	San Francisco wallflower	Brassicaceae	perennial herb	Mar-Jun	4.2	S3	G3
Fissidens pauperculus	minute pocket moss	Fissidentaceae	moss		1B.2	S2	G3?
Fritillaria agrestis	stinkbells	Liliaceae	perennial bulbiferous herb	Mar-Jun	4.2	S3	G3
Fritillaria liliacea	fragrant fritillary	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	S2	G2
Grimmia torenii	Toren's grimmia	Grimmiaceae	moss		1B.3	S2	G2
Grimmia vaginulata	vaginulate grimmia	Grimmiaceae	moss		1B.1	S1	G2G3
Grindelia hirsutula var. maritima	San Francisco gumplant	Asteraceae	perennial herb	Jun-Sep	3.2	S1	G5T1Q
Hesperevax sparsiflora var. brevifolia	short-leaved evax	Asteraceae	annual herb	Mar-Jun	1B.2	S2	G4T3

Hesperocyparis abramsiana var. abramsiana	Santa Cruz cypress	Cupressaceae	perennial evergreen tree		1B.2	S1	G1T1
Hesperocyparis abramsiana var. butanoensis	Butano Ridge cypress	Cupressaceae	perennial evergreen tree	Oct	1B.2	S1	G1T1
Hesperolinon congestum	Marin western flax	Linaceae	annual herb	Apr-Jul	1B.1	S1	G1
Horkelia cuneata var. sericea	Kellogg's horkelia	Rosaceae	perennial herb	Apr-Sep	1B.1	S1?	G4T1?
Hosackia gracilis	harlequin lotus	Fabaceae	perennial rhizomatous herb	Mar-Jul	4.2	S3	G3G4
Iris longipetala	coast iris	Iridaceae	perennial rhizomatous herb	Mar-May	4.2	S3	G3
Lasthenia californica ssp. macrantha	perennial goldfields	Asteraceae	perennial herb	Jan-Nov	1B.2	S2	G3T2
Legenere limosa	legenere	Campanulaceae	annual herb	Apr-Jun	1B.1	S2	G2
Leptosiphon ambiguus	serpentine leptosiphon	Polemoniaceae	annual herb	Mar-Jun	4.2	S4	G4
Leptosiphon croceus	coast yellow leptosiphon	Polemoniaceae	annual herb	Apr-Jun	1B.1	S1	G1
Leptosiphon rosaceus	rose leptosiphon	Polemoniaceae	annual herb	Apr-Jul	1B.1	S1	G1
Lessingia arachnoidea	Crystal Springs lessingia	Asteraceae	annual herb	Jul-Oct	1B.2	S2	G2
Lessingia hololeuca	woolly-headed lessingia	Asteraceae	annual herb	Jun-Oct	3	S2S3	G3?
Limnanthes douglasii ssp. sulphurea	Point Reyes meadowfoam	Limnanthaceae	annual herb	Mar-May	1B.2	S1	G4T1
Lupinus arboreus var. eximius	San Mateo tree lupine	Fabaceae	perennial evergreen shrub	Apr-Jul	3.2	S2	G2Q
Malacothamnus arcuatus	arcuate bush-mallow	Malvaceae	perennial evergreen shrub	Apr-Sep	1B.2	S2	G2Q
Malacothamnus davidsonii	Davidson's bush-mallow	Malvaceae	perennial deciduous shrub	Jun-Jan	1B.2	S2	G2
Micropus amphibolus	Mt. Diablo cottonweed	Asteraceae	annual herb	Mar-May	3.2	S3S4	G3G4
Microseris paludosa	marsh microseris	Asteraceae	perennial herb	Apr-Jun(Jul)	1B.2	S2	G2
Mielichhoferia elongata	elongate copper moss	Mielichhoferiaceae	moss		4.3	S4	G5
Monolopia gracilens	woodland woollythreads	Asteraceae	annual herb	(Feb)Mar-Jul	1B.2	S3	G3
Orthotrichum kellmanii	Kellman's bristle moss	Orthotrichaceae	moss	Jan-Feb	1B.2	S2	G2
Pedicularis dudleyi	Dudley's lousewort	Orobanchaceae	perennial herb	Apr-Jun	1B.2	S2	G2
Penstemon rattanii var. kleei	Santa Cruz Mountains beardtongue	Plantaginaceae	perennial herb	May-Jun	1B.2	S2	G4T2
Pentachaeta bellidiflora	white-rayed pentachaeta	Asteraceae	annual herb	Mar-May	1B.1	S1	G1
Pinus radiata	Monterey pine	Pinaceae	perennial evergreen tree		1B.1	S1	G1
Piperia candida	white-flowered rein orchid	Orchidaceae	perennial herb	(Mar)May-Sep	1B.2	S3	G3

Plagiobothrys chorisianus var. chorisianus	Choris' popcornflower	Boraginaceae	annual herb	Mar-Jun	1B.2	S1	G3T1Q
Plagiobothrys diffusus	San Francisco popcornflower	Boraginaceae	annual herb	Mar-Jun	1B.1	S1	G1Q
Polemonium carneum	Oregon polemonium	Polemoniaceae	perennial herb	Apr-Sep	2B.2	S2	G3G4
Ranunculus lobbii	Lobb's aquatic buttercup	Ranunculaceae	annual herb (aquatic)	Feb-May	4.2	S3	G4
Sanicula hoffmannii	Hoffmann's sanicle	Apiaceae	perennial herb	Mar-May	4.3	S3	G3
Senecio aphanactis	chaparral ragwort	Asteraceae	annual herb	Jan-Apr(May)	2B.2	S2	G3
Sidalcea hickmanii ssp. viridis	Marin checkerbloom	Malvaceae	perennial herb	May-Jun	1B.1	SH	G3TH
Silene scouleri ssp. scouleri	Scouler's catchfly	Caryophyllaceae	perennial herb	(Mar-May)Jun-Aug(Sep)	2B.2	S2S3	G5T4T5
Silene verecunda ssp. verecunda	San Francisco campion	Caryophyllaceae	perennial herb	(Feb)Mar-Jun(Aug)	1B.2	S1	G5T1
Stebbinsoseris decipiens	Santa Cruz microsaris	Asteraceae	annual herb	Apr-May	1B.2	S2	G2
Stuckenia filiformis ssp. alpina	slender-leaved pondweed	Potamogetonaceae	perennial rhizomatous herb (aquatic)	May-Jul	2B.2	S2S3	G5T5
Trifolium amoenum	two-fork clover	Fabaceae	annual herb	Apr-Jun	1B.1	S1	G1
Trifolium buckwestiorum	Santa Cruz clover	Fabaceae	annual herb	Apr-Oct	1B.1	S2	G2
Trifolium polyodon	Pacific Grove clover	Fabaceae	annual herb	Apr-Jun(Jul)	1B.1	S1	G1
Tropidocarpum capparideum	caper-fruited tropidocarpum	Brassicaceae	annual herb	Mar-Apr	1B.1	S1	G1
Usnea longissima	Methuselah's beard lichen	Parmeliaceae	fruticose lichen (epiphytic)		4.2	S4	G4

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rareplants@cnps.org



Selected Elements by Scientific Name
 California Department of Fish and Wildlife
 California Natural Diversity Database



Query Criteria: BIOS selection

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Acanthomintha duttonii</i> San Mateo thorn-mint	PDLAM01040	Endangered	Endangered	G1	S1	1B.1
<i>Agrostis blasdalei</i> Blasdale's bent grass	PMPOA04060	None	None	G2	S2	1B.2
<i>Allium peninsulare var. franciscanum</i> Franciscan onion	PMLIL021R1	None	None	G5T2	S2	1B.2
<i>Ambystoma californiense</i> California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	PDBOR01070	None	None	G3	S3	1B.2
<i>Aneides niger</i> Santa Cruz black salamander	AAAAD01070	None	None	G3	S3	SSC
<i>Antrozous pallidus</i> pallid bat	AMACC10010	None	None	G5	S3	SSC
<i>Arctostaphylos andersonii</i> Anderson's manzanita	PDERI04030	None	None	G2	S2	1B.2
<i>Arctostaphylos montaraensis</i> Montara manzanita	PDERI042W0	None	None	G1	S1	1B.2
<i>Arctostaphylos regismontana</i> Kings Mountain manzanita	PDERI041C0	None	None	G2	S2	1B.2
<i>Astragalus pycnostachyus var. pycnostachyus</i> coastal marsh milk-vetch	PDFAB0F7B2	None	None	G2T2	S2	1B.2
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<i>Bombus caliginosus</i> obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
<i>Bombus occidentalis</i> western bumble bee	IIHYM24250	None	Candidate Endangered	G2G3	S1	
<i>Brachyramphus marmoratus</i> marbled murrelet	ABNNN06010	Threatened	Endangered	G3G4	S1	
<i>Calicina minor</i> Edgewood blind harvestman	ILARA13020	None	None	G1	S1	
<i>Callophrys mossii bayensis</i> San Bruno elfin butterfly	IILEPE2202	Endangered	None	G4T1	S1	
<i>Charadrius alexandrinus nivosus</i> western snowy plover	ABNNB03031	Threatened	None	G3T3	S2S3	SSC
<i>Cirsium andrewsii</i> Franciscan thistle	PDAST2E050	None	None	G3	S3	1B.2
<i>Cirsium fontinale var. fontinale</i> fountain thistle	PDAST2E161	Endangered	Endangered	G2T1	S1	1B.1



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Collinsia multicolor</i> San Francisco collinsia	PDSCR0H0B0	None	None	G2	S2	1B.2
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
<i>Danaus plexippus pop. 1</i> monarch - California overwintering population	IILEPP2012	None	None	G4T2T3	S2S3	
<i>Dicamptodon ensatus</i> California giant salamander	AAAAH01020	None	None	G3	S2S3	SSC
<i>Dipodomys venustus venustus</i> Santa Cruz kangaroo rat	AMAFD03042	None	None	G4T1	S1	
<i>Dirca occidentalis</i> western leatherwood	PDTHY03010	None	None	G2	S2	1B.2
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Eriophyllum latilobum</i> San Mateo woolly sunflower	PDAST3N060	Endangered	Endangered	G1	S1	1B.1
<i>Euphydryas editha bayensis</i> Bay checkerspot butterfly	IILEPK4055	Threatened	None	G5T1	S1	
<i>Falco peregrinus anatum</i> American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
<i>Fritillaria biflora var. ineziana</i> Hillsborough chocolate lily	PMLIL0V031	None	None	G3G4T1	S1	1B.1
<i>Fritillaria liliacea</i> fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
<i>Grindelia hirsutula var. maritima</i> San Francisco gumplant	PDAST470D3	None	None	G5T1Q	S1	3.2
<i>Hesperevax sparsiflora var. brevifolia</i> short-leaved evax	PDASTE5011	None	None	G4T3	S2	1B.2
<i>Hesperolinon congestum</i> Marin western flax	PDLIN01060	Threatened	Threatened	G1	S1	1B.1
<i>Horkelia cuneata var. sericea</i> Kellogg's horkelia	PDROS0W043	None	None	G4T1?	S1?	1B.1
<i>Horkelia marinensis</i> Point Reyes horkelia	PDROS0W0B0	None	None	G2	S2	1B.2
<i>Hydrochara rickseckeri</i> Ricksecker's water scavenger beetle	IICOL5V010	None	None	G2?	S2?	
<i>Hypogymnia schizidiata</i> island tube lichen	NLT0032640	None	None	G2G3	S2	1B.3
<i>Lasiurus cinereus</i> hoary bat	AMACC05030	None	None	G5	S4	



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Lasthenia californica ssp. macrantha</i> perennial goldfields	PDAST5L0C5	None	None	G3T2	S2	1B.2
<i>Laterallus jamaicensis coturniculus</i> California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
<i>Leptosiphon croceus</i> coast yellow leptosiphon	PDPLM09170	None	Endangered	G1	S1	1B.1
<i>Leptosiphon rosaceus</i> rose leptosiphon	PDPLM09180	None	None	G1	S1	1B.1
<i>Lessingia arachnoidea</i> Crystal Springs lessingia	PDAST5S0C0	None	None	G2	S2	1B.2
<i>Limnanthes douglasii ssp. ornduffii</i> Ornduff's meadowfoam	PDLIM02039	None	None	G4T1	S1	1B.1
<i>Malacothamnus arcuatus</i> arcuate bush-mallow	PDMAL0Q0E0	None	None	G2Q	S2	1B.2
<i>Melospiza melodia pusillula</i> Alameda song sparrow	ABPBXA301S	None	None	G5T2?	S2S3	SSC
<i>Microcina edgewoodensis</i> Edgewood Park micro-blind harvestman	ILARA47010	None	None	G1	S1	
<i>Monolopia gracilens</i> woodland woollythreads	PDAST6G010	None	None	G3	S3	1B.2
<i>Neotoma fuscipes annectens</i> San Francisco dusky-footed woodrat	AMAFF08082	None	None	G5T2T3	S2S3	SSC
North Central Coast Steelhead/Sculpin Stream North Central Coast Steelhead/Sculpin Stream	CARA2637CA	None	None	GNR	SNR	
Northern Coastal Salt Marsh Northern Coastal Salt Marsh	CTT52110CA	None	None	G3	S3.2	
Northern Maritime Chaparral Northern Maritime Chaparral	CTT37C10CA	None	None	G1	S1.2	
<i>Nyctinomops macrotis</i> big free-tailed bat	AMACD04020	None	None	G5	S3	SSC
<i>Oncorhynchus mykiss irideus pop. 8</i> steelhead - central California coast DPS	AFCHA0209G	Threatened	None	G5T2T3Q	S2S3	
<i>Pentachaeta bellidiflora</i> white-rayed pentachaeta	PDAST6X030	Endangered	Endangered	G1	S1	1B.1
<i>Plagiobothrys chorisianus var. chorisianus</i> Choris' popcornflower	PDBOR0V061	None	None	G3T1Q	S1	1B.2
<i>Plebejus icarioides missionensis</i> Mission blue butterfly	IILEPG801A	Endangered	None	G5T1	S1	
<i>Polemonium carneum</i> Oregon polemonium	PDPLM0E050	None	None	G3G4	S2	2B.2
<i>Potentilla hickmanii</i> Hickman's cinquefoil	PDROS1B0U0	Endangered	Endangered	G1	S1	1B.1



Selected Elements by Scientific Name
 California Department of Fish and Wildlife
 California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Rallus obsoletus obsoletus</i> California Ridgway's rail	ABNME05011	Endangered	Endangered	G5T1	S1	FP
<i>Rana boylei</i> foothill yellow-legged frog	AAABH01050	None	Endangered	G3	S3	SSC
<i>Rana draytonii</i> California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
<i>Reithrodontomys raviventris</i> salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S1S2	FP
<i>Senecio aphanactis</i> chaparral ragwort	PDAST8H060	None	None	G3	S2	2B.2
<i>Serpentine Bunchgrass</i> Serpentine Bunchgrass	CTT42130CA	None	None	G2	S2.2	
<i>Silene scouleri ssp. scouleri</i> Scouler's catchfly	PDCAR0U1MC	None	None	G5T4T5	S2S3	2B.2
<i>Silene verecunda ssp. verecunda</i> San Francisco campion	PDCAR0U213	None	None	G5T1	S1	1B.2
<i>Speyeria zerene myrtleae</i> Myrtle's silverspot butterfly	IILEPJ608C	Endangered	None	G5T1	S1	
<i>Spirinchus thaleichthys</i> longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
<i>Taxidea taxus</i> American badger	AMAJF04010	None	None	G5	S3	SSC
<i>Thamnophis sirtalis tetrataenia</i> San Francisco gartersnake	ARADB3613B	Endangered	Endangered	G5T2Q	S2	FP
<i>Triphysaria floribunda</i> San Francisco owl's-clover	PDSCR2T010	None	None	G2?	S2?	1B.2
<i>Triquetrella californica</i> coastal triquetrella	NBMUS7S010	None	None	G2	S2	1B.2
<i>Usnea longissima</i> Methuselah's beard lichen	NLLEC5P420	None	None	G4	S4	4.2
<i>Valley Needlegrass Grassland</i> Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	

Record Count: 78



Selected Elements by Scientific Name

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Query Criteria: BIOS selection

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Acanthomintha duttonii</i> San Mateo thorn-mint	PDLAM01040	Endangered	Endangered	G1	S1	1B.1
<i>Agrostis blasdalei</i> Blasdale's bent grass	PMPOA04060	None	None	G2	S2	1B.2
<i>Allium peninsulare var. franciscanum</i> Franciscan onion	PMLIL021R1	None	None	G5T2	S2	1B.2
<i>Ambystoma californiense</i> California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
<i>Aneides niger</i> Santa Cruz black salamander	AAAAD01070	None	None	G3	S3	SSC
<i>Anomobryum julaceum</i> slender silver moss	NBMUS80010	None	None	G5?	S2	4.2
<i>Antrozous pallidus</i> pallid bat	AMACC10010	None	None	G5	S3	SSC
<i>Arctostaphylos andersonii</i> Anderson's manzanita	PDERI04030	None	None	G2	S2	1B.2
<i>Arctostaphylos regismontana</i> Kings Mountain manzanita	PDERI041C0	None	None	G2	S2	1B.2
<i>Ardea herodias</i> great blue heron	ABNGA04010	None	None	G5	S4	
<i>Asio otus</i> long-eared owl	ABNSB13010	None	None	G5	S3?	SSC
<i>Astragalus pycnostachyus var. pycnostachyus</i> coastal marsh milk-vetch	PDFAB0F7B2	None	None	G2T2	S2	1B.2
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<i>Bombus caliginosus</i> obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
<i>Bombus crotchii</i> Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
<i>Bombus occidentalis</i> western bumble bee	IIHYM24250	None	Candidate Endangered	G2G3	S1	
<i>Brachyramphus marmoratus</i> marbled murrelet	ABNNN06010	Threatened	Endangered	G3G4	S1	
<i>Charadrius alexandrinus nivosus</i> western snowy plover	ABNNB03031	Threatened	None	G3T3	S2S3	SSC
<i>Chorizanthe pungens var. hartwegiana</i> Ben Lomond spineflower	PDPGN040M1	Endangered	None	G2T1	S1	1B.1
<i>Cirsium fontinale var. fontinale</i> fountain thistle	PDAST2E161	Endangered	Endangered	G2T1	S1	1B.1



Selected Elements by Scientific Name

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Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Clarkia concinna ssp. automixa</i> Santa Clara red ribbons	PDONA050A1	None	None	G5?T3	S3	4.3
<i>Collinsia multicolor</i> San Francisco collinsia	PDSCR0H0B0	None	None	G2	S2	1B.2
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
<i>Cypseloides niger</i> black swift	ABNUA01010	None	None	G4	S2	SSC
<i>Danaus plexippus pop. 1</i> monarch - California overwintering population	IILEPP2012	None	None	G4T2T3	S2S3	
<i>Dicamptodon ensatus</i> California giant salamander	AAAAH01020	None	None	G3	S2S3	SSC
<i>Dipodomys venustus venustus</i> Santa Cruz kangaroo rat	AMAFD03042	None	None	G4T1	S1	
<i>Dirca occidentalis</i> western leatherwood	PDTHY03010	None	None	G2	S2	1B.2
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Eriophyllum latilobum</i> San Mateo woolly sunflower	PDAST3N060	Endangered	Endangered	G1	S1	1B.1
<i>Eryngium aristulatum var. hooveri</i> Hoover's button-celery	PDAPI0Z043	None	None	G5T1	S1	1B.1
<i>Eryngium jepsonii</i> Jepson's coyote-thistle	PDAPI0Z130	None	None	G2	S2	1B.2
<i>Eucyclogobius newberryi</i> tidewater goby	AFCQN04010	Endangered	None	G3	S3	SSC
<i>Euphydryas editha bayensis</i> Bay checkerspot butterfly	IILEPK4055	Threatened	None	G5T1	S1	
<i>Falco peregrinus anatum</i> American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
<i>Fissidens pauperculus</i> minute pocket moss	NBMUS2W0U0	None	None	G3?	S2	1B.2
<i>Fritillaria liliacea</i> fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
<i>Grimmia torenii</i> Toren's grimmia	NBMUS32330	None	None	G2	S2	1B.3
<i>Grimmia vaginulata</i> vaginulate grimmia	NBMUS32340	None	None	G3	S1	1B.1
<i>Haliaeetus leucocephalus</i> bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP



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Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Hesperocyparis abramsiana</i> var. <i>butanoensis</i> Butano Ridge cypress	PGCUP04082	Threatened	Endangered	G1T1	S1	1B.2
<i>Hesperolinon congestum</i> Marin western flax	PDLIN01060	Threatened	Threatened	G1	S1	1B.1
<i>Lasiurus cinereus</i> hoary bat	AMACC05030	None	None	G5	S4	
<i>Lasthenia californica</i> ssp. <i>macrantha</i> perennial goldfields	PDAST5L0C5	None	None	G3T2	S2	1B.2
<i>Legenere limosa</i> legenere	PDCAM0C010	None	None	G2	S2	1B.1
<i>Leptosiphon rosaceus</i> rose leptosiphon	PDPLM09180	None	None	G1	S1	1B.1
<i>Limnanthes douglasii</i> ssp. <i>sulphurea</i> Point Reyes meadowfoam	PDLIM02038	None	Endangered	G4T1	S1	1B.2
<i>Malacothamnus arcuatus</i> arcuate bush-mallow	PDMAL0Q0E0	None	None	G2Q	S2	1B.2
<i>Microcina edgewoodensis</i> Edgewood Park micro-blind harvestman	ILARA47010	None	None	G1	S1	
<i>Microseris paludosa</i> marsh microseris	PDAST6E0D0	None	None	G2	S2	1B.2
<i>Monolopia gracilens</i> woodland woollythreads	PDAST6G010	None	None	G3	S3	1B.2
<i>N. Central Coast Calif. Roach/Stickleback/Steelhead Stream</i> N. Central Coast Calif. Roach/Stickleback/Steelhead Stream	CARA2633CA	None	None	GNR	SNR	
<i>Neotoma fuscipes annectens</i> San Francisco dusky-footed woodrat	AMAFF08082	None	None	G5T2T3	S2S3	SSC
<i>North Central Coast Drainage Sacramento Sucker/Roach River</i> North Central Coast Drainage Sacramento Sucker/Roach River	CARA2623CA	None	None	GNR	SNR	
<i>North Central Coast Steelhead/Sculpin Stream</i> North Central Coast Steelhead/Sculpin Stream	CARA2637CA	None	None	GNR	SNR	
<i>Northern Interior Cypress Forest</i> Northern Interior Cypress Forest	CTT83220CA	None	None	G2	S2.2	
<i>Oncorhynchus kisutch</i> pop. 4 coho salmon - central California coast ESU	AFCHA02034	Endangered	Endangered	G4	S2?	
<i>Oncorhynchus mykiss irideus</i> pop. 8 steelhead - central California coast DPS	AFCHA0209G	Threatened	None	G5T2T3Q	S2S3	
<i>Orthotrichum kellmanii</i> Kellman's bristle moss	NBMUS56190	None	None	G1	S1	1B.2
<i>Pedicularis dudleyi</i> Dudley's lousewort	PDSCR1K0D0	None	Rare	G2	S2	1B.2



Selected Elements by Scientific Name

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Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Piperia candida</i> white-flowered rein orchid	PMORC1X050	None	None	G3	S3	1B.2
<i>Plagiobothrys chorisianus var. chorisianus</i> Choris' popcornflower	PDBOR0V061	None	None	G3T1Q	S1	1B.2
<i>Rana boylei</i> foothill yellow-legged frog	AAABH01050	None	Endangered	G3	S3	SSC
<i>Rana draytonii</i> California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
<i>Riparia riparia</i> bank swallow	ABPAU08010	None	Threatened	G5	S2	
Sacramento-San Joaquin Coastal Lagoon Sacramento-San Joaquin Coastal Lagoon	CALA1360CA	None	None	GNR	SNR	
<i>Senecio aphanactis</i> chaparral ragwort	PDAST8H060	None	None	G3	S2	2B.2
<i>Serpentine Bunchgrass</i> Serpentine Bunchgrass	CTT42130CA	None	None	G2	S2.2	
<i>Silene scouleri ssp. scouleri</i> Scouler's catchfly	PDCAR0U1MC	None	None	G5T4T5	S2S3	2B.2
<i>Speyeria adiastrae adiastrae</i> unsilvered fritillary	IILEPJ6143	None	None	G1G2T1	S1	
<i>Speyeria zerene myrtleae</i> Myrtle's silverspot butterfly	IILEPJ608C	Endangered	None	G5T1	S1	
<i>Spirinchus thaleichthys</i> longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
<i>Taricha rivularis</i> red-bellied newt	AAAAF02020	None	None	G4	S2	SSC
<i>Taxidea taxus</i> American badger	AMAJF04010	None	None	G5	S3	SSC
<i>Thamnophis sirtalis tetrataenia</i> San Francisco gartersnake	ARADB3613B	Endangered	Endangered	G5T2Q	S2	FP
<i>Trifolium amoenum</i> two-fork clover	PDFAB40040	Endangered	None	G1	S1	1B.1
<i>Trifolium buckwestiorum</i> Santa Cruz clover	PDFAB402W0	None	None	G2	S2	1B.1
<i>Tryonia imitator</i> mimic tryonia (=California brackishwater snail)	IMGASJ7040	None	None	G2	S2	
<i>Usnea longissima</i> Methuselah's beard lichen	NLLEC5P420	None	None	G4	S4	4.2
Valley Needlegrass Grassland Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	

Record Count: 81

Appendix B. Avoidance, Minimization, and/or Mitigation Summary

To be sure that all of the environmental measures identified in this document are executed at the appropriate times, the following mitigation program (as articulated in the proposed Environmental Commitments Record [ECR] that follows) will be implemented. During project design, the following avoidance, minimization, and/or mitigation measures will be incorporated into the project's final plans, specifications, and cost estimates, as appropriate. All permits will be obtained prior to implementation of the project. During construction, environmental and construction/engineering staff will ensure that the commitments contained in this ECR are fulfilled. Following construction and appropriate phases of project delivery, long-term mitigation maintenance and monitoring will take place, as applicable. Some measures may apply to more than one resource area. Duplicative or redundant measures have not been included in this ECR.

Table B-1: Environmental Commitments

Resource Type	Minimization and/or Mitigation Measure	IS Section Reference	Responsible Party	Timing
Biological	<p>BIO-1 Work Windows.</p> <ul style="list-style-type: none"> Work in the Pilarcitos Creek and San Gregorio Creek riparian areas (above the ordinary high water mark) will be restricted to April 15 to October 15 to avoid or reduce impacts to special-status species and their habitat. Work within the channels of Pilarcitos and San Gregorio creeks will be limited to the period of June 15 to October 15 to avoid impacts to listed fish species. 	2.2.4 2.2.10	Caltrans	Construction
Biological	<p>BIO-2 •Revegetation Plan. Caltrans will develop and implement a revegetation plan to enhance and improve areas where riparian vegetation is removed or disturbed.</p> <ul style="list-style-type: none"> Native riparian trees with a diameter at breast height greater than 4 inches will be replaced-in-kind and on site at a ratio to be determined in consultation with appropriate wildlife agencies. 	2.2.1 2.2.4 2.2.10 2.2.16	Caltrans	Construction
Biological	<p>BIO-3 Invasive Plant Removal. Plant species identified by the California Invasive Plant Council (Cal-IPC) as “high” (poison hemlock, jubata grass, French broom, English ivy, cape ivy, and Himalayan blackberry) will be removed from the project footprint by bagging vegetative parts of the plant; removing the entire root system, if possible; and replacing disturbed areas with native vegetation that will establish before the invasive species</p>	2.2.1 2.2.4 2.2.10	Caltrans	Construction
Biological	<p>BIO-4 Preconstruction Tree Survey. Prior to construction, Caltrans will conduct a survey to identify and mark trees for removal, and trees that will remain during construction. Whenever possible, trees will be trimmed rather than removed. For trees that will remain, those trees and their critical root zone (CRZ) will be marked with bright orange polypropylene ESA fencing that can be avoided during construction to the greatest extent feasible in temporary impact areas and along the edge of the project footprint</p>	2.2.1 2.2.4 2.2.10	Caltrans	Construction
Biological	<p>BIO-5 International Society of Arboriculture (ISA)-Certified Arborist Consultation. Work will not be performed in the CRZ of any tree to be retained without consultation with an ISA-certified arborist. If trees are damaged during construction and become unhealthy or die, the damaged tree(s) will be removed and replaced.</p>	2.2.1 2.2.4 2.2.10	Caltrans	Construction

Resource Type	Minimization and/or Mitigation Measure	IS Section Reference	Responsible Party	Timing
Biological	BIO-6 Erosion Control Measure Installation. To avoid impacts to amphibious riparian corridor species, temporary erosion control and slope stabilization BMPs will be installed before the start of the wet season (generally October 15 through April 15) to the extent practicable.	2.2.4 2.2.10	Caltrans	Construction
Biological	BIO-7 Preconstruction Red Legged Frog, Santa Cruz Black Salamander, and California Giant Salamander Survey. Portions of the project footprint that are suitable refuge habitats for the California red-legged frog (<i>Rana draytonii</i>), Santa Cruz Black Salamander, and California Giant Salamander (e.g., riparian vegetation, logs, fallen wood, rocks, upland vegetation, or burrows) will be surveyed prior to initiating ground-disturbing activities to identify refuge habitat or other potential sites (under materials that could provide cover, such as boards, scrap metal, or woody debris) that might be occupied by this species. To the extent feasible, potentially occupied refugia burrows in the project footprint will be fenced and avoided for the duration of the activity at that location.	2.2.4	Caltrans	Construction
Biological	BIO-8 California Red Legged Frog Monitoring. An approved biologist(s) will be present during initial ground-disturbing activities in suitable refugia habitats for the California red-legged frog to monitor vegetation removal and the removal of the top 12 inches of topsoil at all project locations. If California red-legged frogs are discovered during the initial ground-disturbing activities, work will be stopped immediately, and the biologist will: <ul style="list-style-type: none"> • Contact CDFW and USFWS within 1 working day; • The biologist, in consultation with CDFW and USFWS, will use adaptive management to modify as necessary project activities to avoid or minimize effects to listed species. 	2.2.4	Caltrans	Construction
Biological	BIO-9 Preconstruction Yellow Legged Frog Survey. Before the start of construction (between March 1 and August 31), an approved biologist(s) will conduct a survey at San Gregorio Creek in the area of disturbance and 50 feet downstream, to determine the presence/absence of foothill yellow-legged frog (<i>Rana boylei</i>): egg masses or tadpoles. If egg masses or tadpoles are found, the approved biologist(s) will establish a no-disturbance buffer in coordination with CDFW and ESA fencing or other appropriate measures will be implemented before any construction activities are started	2.2.4	Caltrans	Construction

Resource Type	Minimization and/or Mitigation Measure	IS Section Reference	Responsible Party	Timing
Biological	<p>BIO-10 Preconstruction San Francisco Dusky Footed Wood Rat Surveys. Before the start of construction, an approved biologist(s) will conduct a survey of the project footprint and a 30 foot buffer beyond the project footprint boundaries to determine the location of active and inactive woodrat middens. Any nests/middens detected during the surveys will be recorded and mapped in relation to the construction disturbance footprint. In addition, the biologist will evaluate any signs of current woodrat activity, including the presence of fresh scat, freshly chewed vegetation, and cobwebs covering nest entrances. A 10 foot equipment exclusion buffer will be established around active and inactive nests/middens that can be avoided; within such buffers, all vegetation will be retained and nests will remain undisturbed.</p>	2.2.4	Caltrans	Construction
Biological	<p>BIO-11 Potential San Francisco Dusky-Footed Wood Rat Trapping and Relocation. For any woodrat middens/nests that cannot be avoided with a 10 foot buffer due to their presence in a work area, a woodrat trapping and relocation plan will be developed. The plan will outline specific methods for trapping woodrats and relocation of individuals and their middens/nests to a suitable nearby undisturbed location. Existing woodrat middens/nests will be dismantled, collected, and relocated to their new location. The woodrat relocation work would occur prior to any construction activities and outside of the breeding period (September to December), if possible.</p>	2.2.4	Caltrans	Construction
Biological	<p>BIO-12 Preconstruction Western Pond Turtle Surveys. Before the start of construction, and no more than 48 hours before the onset of work activities, an approved biologist(s) will conduct a survey looking for signs of western pond turtles and/or western pond turtle nesting activity (e.g., recently excavated nests or nest plugs) or nest depredation (partially to fully excavated nest chambers, nest plugs, scattered egg shell remains, or egg shell fragments). Preconstruction surveys to detect western pond turtles should focus on aquatic basking habitat such as logs, branches, rootwads, and boulders, as well as the shoreline and adjacent warm, shallow waters where pond turtles may be present below the water surface, beneath algal mats or other surface vegetation. If western pond turtles or their nesting sites are found, the biologist shall contact the CDFW to determine whether relocation and/or exclusion buffers and nest enclosures are appropriate. If CDFW approves of moving the animal, the biologist shall be allowed sufficient time to move the western pond turtle(s) from the work site before work activities begin.</p>	2.2.4	Caltrans	Construction

Resource Type	Minimization and/or Mitigation Measure	IS Section Reference	Responsible Party	Timing
Biological	<p>BIO-13 Roosting Bats (San Gregorio Creek Bridge Location only). Roosting bats are potentially present on the San Gregorio Creek Bridge structure and are assumed to be present in surrounding trees where suitable roost features, such as cavities, crevices, and exfoliating bark, are present. The following measures are proposed to avoid and minimize potential impacts to roosting bats in the San Gregorio Creek Bridge BSA.</p> <ul style="list-style-type: none"> • Work Windows: Tree removal and activities on or surrounding San Gregorio Creek Bridge should abide by work windows that accommodate bat roosting timing. • Preconstruction Survey: An agency-approved bat biologist will conduct a preconstruction survey of all potential bat habitat that coincides with the impact areas in and around the San Gregorio Creek Bridge, including areas where tree removal may occur. • Bat Exclusion: If bat presence is suspected on the San Gregorio Creek Bridge structure, install bat exclusion devices on the bridge at locations as determined and overseen by the approved biologist(s) to seal points of entry after all bats have emerged. • Worker Environmental Awareness Training: An approved biologist will train the crew and supervise tree removal to ensure that crews remove trees in a way that avoids direct mortality of bats. • Tree Removal Measures. For any unavoidable removal of trees identified as having suitable roost features, conduct tree removal using a two-step eviction process over 2 consecutive days per tree (or per groups of trees), to encourage and allow bats potentially present to abandon the tree(s) prior to removal. <ul style="list-style-type: none"> ○ Day 1 - Tree Trimming. non-habitat foliage and branches on suitable roosting trees and snags (e.g., branches without cavities, crevices, or exfoliating bark) will be removed using chainsaws for cutting, and chippers wherever possible. Noise and vibration disturbance is expected to cause bats to vacate the trimmed trees for a few days without causing direct harm to bats that could be occupying the tree(s). The use of excavators, grinders, or other heavy equipment will be avoided to the extent practicable for Day 1 trimming. ○ Day 2 - Tree Removal. The day immediately following Day 1, trimmed trees will be completely removed to prevent bats from returning. • Stop Work Authority. If bats are observed on-site, any work that could potentially disturb them will stop and coordination with CDFW and Caltrans biologists will commence. 	2.2.4	Caltrans	Construction

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Appendix C. Required Consultation/ Concurrence Documentation

For Final Environmental Document Only

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Appendix D. List of Acronyms

AB	Assembly Bill
AMM	avoidance and minimization measure
BAAQMD	Bay Area Air Quality Management District
BC	black carbon
BMP	best management practice
BSA	biological study area
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCC	California Coastal Commission
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CE	Categorical Exclusion (NEPA)
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CGP	Construction General Permit
CFR	Code of Federal Regulations
CH ₄	methane
CHP	California Highway Patrol
CNDDB	California Natural Diversity Data Base
CO ₂	carbon dioxide
COZEEP	Construction Zone Enhanced Enforcement Program
CRZ	critical root zone
CTP	California Transportation Plan
CTP 2040	California Transportation Plan 2040
CWA	Clean Water Act
DCH	Designated Critical Habitat

DPS	distinct population segment
DSA	disturbed soil area
EO	Executive Order
ESA	environmentally sensitive area
ESU	evolutionarily significant unit
GWP	global warming potential
FE	Federally Endangered
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FT	Federally Threatened
GHG	greenhouse gas
HFC	hydrofluorocarbons
IS	Initial Study
ISA	International Society of Arboriculture
LCP	Local Coastal Program
MMTCO ₂ e	million metric tons of carbon dioxide equivalent
MND	Mitigated Negative Declaration
MOU	Memorandum of Understanding
NBI	National Bridge Inventory
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
N ₂ O	nitrous oxide
NOAA	National Oceanic and Atmospheric Administration
NOAA Fisheries	National Oceanic and Atmospheric Administration Fisheries Service
OCRS	Office of Cultural Resources Studies (Caltrans)
OHWM	ordinary high water mark

PA	Programmatic Agreement
PM	post mile
PM2.5	particulate matter 2.5 micrometers or smaller
PQS	Professionally Qualified Staff (cultural resources)
ROW	right-of-way
RSP	rock slope protection
RTP	Regional Transportation Plan
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SE	State Endangered
SLR	sea-level rise
SR	State Route
SSC	species of special concern
SPCC	Spill Prevention, Control, and Countermeasures
SWPPP	Storm Water Pollution Prevention Plan
TMP	Transportation Management Plan
USACE	United States Army Corps of Engineers
USC	United States Code
USDOT	United States Department of Transportation
U.S. EPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VMT	Vehicle Miles Traveled
WEF	wildlife exclusion fencing
WPCP	Water Pollution Control Program

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Appendix E. List of Technical Studies

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Appendix F. Title VI of the Civil Rights Act Non-Discrimination Policy

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Making Conservation
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November 2019

**NON-DISCRIMINATION
POLICY STATEMENT**

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

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

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

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

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

Toks Omishakin
Director