

San Gregorio Creek Bridge Project

SAN MATEO COUNTY, CALIFORNIA
DISTRICT 4 – SM – 1 (PM 17.4/18.2)
0Q010/0418000035

Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment



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

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated May 27, 2022, and executed by FHWA and Caltrans.



February 2025

Should you require assistance with any complex tables, images or equations in this document, please contact Tanvi Gupta, Environmental Scientist at Tanvi.Gupta@dot.ca.gov.

GENERAL INFORMATION ABOUT THIS DOCUMENT

What's in this document:

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), has prepared this Initial Study/Environmental Assessment (IS/EA), which examines the potential environmental impacts of the alternatives being considered for the proposed project located in San Mateo County, California. Caltrans is the lead agency under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The document tells you why the project is being proposed, what alternatives we have considered for the project, how the existing environment could be affected by the project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

What you should do:

Please read this document in one of the following ways:

1. View or download the document at www.caltransd4environmental.com.
2. Explore and review the document in an interactive web-based platform also available at www.caltransd4environmental.com.
3. A copy of this document and the related technical studies can be requested and made available for review at the Caltrans District 4 office at 111 Grand Avenue, Oakland, CA 94612.

Attend one of the public meetings.

1. Virtual Meeting: Tuesday, February 25, 2025, 5:30 – 7:00 PM. Join the meeting by visiting www.caltransd4environmental.com
2. In-Person Meeting: Wednesday, February 26, 2025, 6:00 – 7:30 PM, La Honda-Pescadero Unified School District Office, 360 Butano Cutoff, Pescadero, CA 94060

We'd like to hear what you think. If you have any comments about the proposed project, please attend one of the public meetings and/or send your written comments via postal mail, email, or feedback form to Caltrans.

1. Send comments via postal mail to:

Caltrans District 4, Office of Environmental Analysis
ATTN: Tanvi Gupta, Environmental Scientist
111 Grand Avenue
P.O. Box 23660, MS 8B
Oakland, CA 94623-0660

2. Send comments via email to: Tanvi.Gupta@dot.ca.gov
3. Submit a comment through the interactive web-based platform feedback form at www.caltransd4environmental.com

*Be sure to send all comments by the deadline: **March 7, 2025***

What happens next:

After comments are received from the public and reviewing agencies, Caltrans, as assigned by the FHWA, 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.

Seismic restoration of the San Gregorio Creek Bridge on State Route 1 in unincorporated San Mateo County from postmile 17.4 to postmile 18.2

Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(C)

THE STATE OF CALIFORNIA
Department of Transportation

Cooperating Agencies: Federal Highway Administration, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, National Marine Fisheries Service

Responsible Agencies: California Transportation Commission, California Coastal Commission, San Mateo County, San Francisco Bay Regional Water Quality Control Board, California Department of Fish and Wildlife

01/31/2025

Date

David Ambuehl

FOR

Dina A. El-Tawansy
District Director
California Department of Transportation
CEQA/NEPA Lead Agency

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

California Department of Transportation, District 4
Office of Environmental Analysis
Attn: Tanvi Gupta, Environmental Scientist
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Oakland, CA 94623-0660
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(510) 421-8378

PROPOSED MITIGATED NEGATIVE DECLARATION

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes a seismic restoration of the San Gregorio Creek Bridge (Bridge Number 35-0030) on State Route (SR) 1 (also known as Cabrillo Highway or Highway 1) in unincorporated San Mateo County from post mile (PM) 17.40 to 18.20, just south of SR 84. Alternatives under consideration include retrofitting the existing bridge or replacing the existing bridge with a new bridge featuring pedestrian and bicycle facilities.

Determination

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

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

- The proposed project would have no effect on agriculture and forest resources, air quality, mineral resources, population and housing, public services, and recreation.
- In addition, the proposed project would have less than significant effects to aesthetics, cultural resources, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, transportation, tribal cultural resources, utilities and service systems, and wildfire.
- With the implementation of mitigation measures MM-BIO-1 (Compensatory Mitigation for Wetlands) and MM-BIO-2 (Compensatory Mitigation for Special-Status Species) incorporated, the proposed project would have less than significant effects to biological resources.

David Ambuehl

01/31/2025

FOR _____
Dina A. El-Tawansy
District Director
District 4
California Department of Transportation

Date

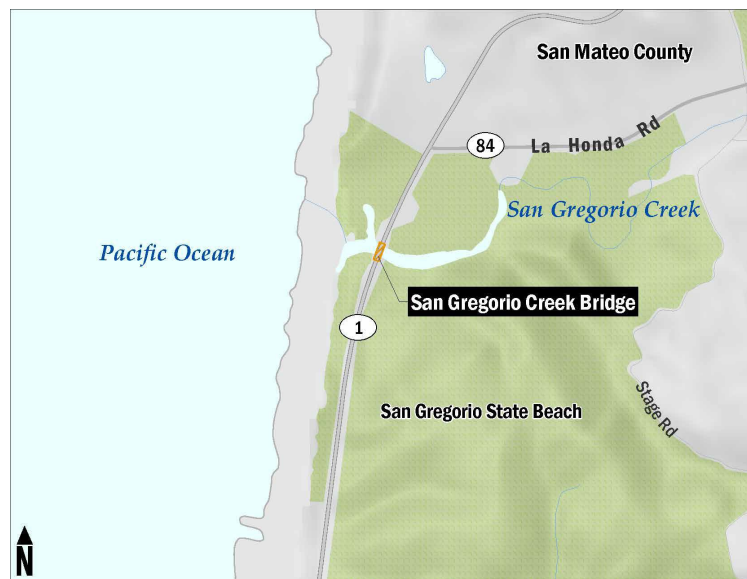
Alternative Formats:

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Summary

NEPA Assignment: California participated in the “Surface Transportation Project Delivery Pilot Program” (Pilot Program) pursuant to 23 United States Code (USC) 327, for more than five years, beginning July 1, 2007, and ending September 30, 2012. MAP-21 (P.L. 112-141), signed by President Obama on July 6, 2012, amended 23 USC 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, Caltrans entered into a Memorandum of Understanding pursuant to 23 USC 327 (NEPA Assignment Memorandum of Understanding [MOU]) with FHWA. The NEPA Assignment MOU became effective October 1, 2012, and was renewed on May 27, 2022, for a term of ten years. In summary, Caltrans continues to assume FHWA responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. With NEPA Assignment, FHWA assigned, and Caltrans assumed all of the United States Department of Transportation (USDOT) Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance Projects off the State Highway System within the State of California, except for certain categorical exclusions that FHWA assigned to Caltrans under the 23 USC 326 CE Assignment MOU, projects excluded by definition, and specific project exclusions.

This Project: California Department of Transportation (Caltrans) proposes a seismic restoration of the San Gregorio Creek Bridge (Bridge Number 35-0030) on State Route (SR) 1 (also known as Cabrillo Highway or Highway 1) in unincorporated coastal San Mateo County from post mile (PM) 17.40 to 18.20, just south of SR 84. The project limits are surrounded by San Gregorio State Beach. The existing bridge was built in 1941. Alternatives under consideration include retrofitting the existing bridge or replacing the existing bridge with a new bridge featuring pedestrian and bicycle facilities. No additional travel



lanes are being proposed. Depending on the alternative chosen, this project is expected to cost between \$30.9-43.2 M. Construction is anticipated to be completed in 2029.

The purpose of the project is to address the seismic structural deficiencies of the existing bridge, improve its resistance to seismic events, reduce the bridge's potential for failure, and reduce the potential for errant vehicles running off the bridge, thereby reducing the potential for injuries and property damage.

The project is needed because the existing bridge does not meet current seismic standards and is vulnerable to seismic events, and the bridge rails do not meet current bridge and safety standards.

Project's Effects on the Environment: This project contains a number of standardized measures, called project features, that are employed on most, if not all, Caltrans projects in accordance with standard specifications, state and federal laws, and anticipated standard environmental permit conditions. Project features were not developed in response to any specific environmental impact resulting from the proposed project.

This project is located in an environmentally sensitive area. San Gregorio Creek Bridge is in the California Coastal Zone. The project limits have the potential to contain paleontological resources, cultural resources, and biological resources. All project alternatives would require working in San Gregorio Creek. In response to the project's potential to affect the environment, several avoidance and minimization measures have been included as part of the project. Two mitigation measures have also been incorporated as part of the project to reduce the level of impact to biological resources. Table S-1 summarizes the effects of the project alternatives under consideration including for the No Build Alternative, retrofitting the existing bridge (Alternative 1) or replacing the bridge with a new bridge (Alternative 2). There are two design options under consideration for a new bridge including a cast-in-place concrete bridge (Option A) or a pre-cast concrete bridge (Option B). The project is not expected to have a significant impact on the environment under either alternative.

Coordination with Other Entities: Caltrans anticipates seeking permits or approvals from U.S. Fish and Wildlife Service, National Marine Fisheries Service, U.S. Army Corps of Engineers, California Department of Fish and Wildlife, California Coastal Commission, San Mateo County Local Coastal Program, San Francisco Bay Regional Water Quality Control Board, State Historic Preservation Officer, and California Transportation Commission. The project team has met several times with the California Coastal Commission and will continue to coordinate. Caltrans is also coordinating with local tribal representatives and California State Parks for this project.

This Document: The proposed project is a joint project by Caltrans and the Federal Highway Administration (FHWA) and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Caltrans is the lead agency under both CEQA and NEPA. In addition, FHWA's responsibility for environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 United States Code Section 327 (23 USC 327) and the Memorandum of Understanding dated May 27, 2022, and executed by FHWA and Caltrans.

Final Decision-Making Process: After receiving comments from the public and reviewing agencies, a Final IS/EA will be prepared. The Final IS/EA will include responses to comments received on the Draft IS/EA and will identify the preferred alternative. If the decision is made to approve the project, a Notice of Determination will be published for compliance with CEQA, and Caltrans will decide whether to issue a Negative Declaration, a Mitigated Negative Declaration, or prepare an Environmental Impact Report for compliance with CEQA. Caltrans will also decide whether to issue a Finding of No Significant Impact (FONSI) or prepare an Environmental Impact Statement (EIS) for compliance with NEPA. If a FONSI is issued, a Notice of Availability (NOA) of the FONSI will be sent to the affected units of federal, state, and local government, and to the State Clearinghouse in compliance with Executive Order 12372.

Table S-1: Summary of Environmental Effects and Protection Measures

Resource	No Build Alternative	Alternative 1	Alternative 2 (Options A & B)	Avoidance, Minimization, and/or Mitigation Measures
Coastal Zone	No impact.	This alternative would temporarily affect 1.47 acres of Environmentally Sensitive Habitat Areas (ESHAs). It would temporarily restrict coastal access by using the pull-out south of the bridge for staging during construction.	This alternative would temporarily affect 1.94 acres and permanently affect 0.17 acres of ESHA. It would temporarily restrict coastal access by using the pull-out south of the bridge for staging during construction.	AMM-COA-1: Develop Habitat Mitigation and Monitoring Plan See also AMMs for VIS, CUL, TCR, WQ, PAL, and BIO
Parks and Recreation Facilities	No impact.	Construction would take place within the Caltrans right-of-way near San Gregorio State Beach and would not require closure of the State Beach. Park visitors would experience traffic, noise, and dust effects from construction.	Construction would take place within the Caltrans right-of-way near San Gregorio State Beach and would not require closure of the State Beach. Park visitors would experience traffic, noise, and dust effects from construction.	AMM-PARK-1: Construction Notification
Utilities/Emergency Services	No impact.	This alternative is not expected to affect utilities, and emergency service access would be maintained during construction.	This alternative is not expected to affect utilities, and emergency service access would be maintained during construction.	None.
Visual/Aesthetics	No Impact.	The project limits are located within a designated State Scenic Highway. This alternative would include see through railings and no new permanent lighting. This alternative would be visually similar to the existing condition with slight improvements from the upgraded railings and a cleaned and repaired bridge. The dramatic scenery remains compelling and memorable.	The project limits are located within a designated State Scenic Highway. Both alternatives would include see through railings and no new permanent lighting. Both alternatives would be wider than the existing bridge that may partially obscure views to the surrounding landscape. Option A has architectural elements consistent with the existing bridge whereas Option B looks more modern. With either alternative, the dramatic scenery remains compelling and memorable.	AMM-VIS-1: Vegetation Removal AMM-VIS-2: Tree Protection AMM-VIS-3: Revegetation AMM-VIS-4: Bridge Aesthetic Treatment AMM-VIS-5: Bury Retaining Walls AMM-VIS-6: Retaining Wall Aesthetics AMM-VIS-7: Regrading AMM-VIS-8: Drainage Aesthetics AMM-VIS-9: Barrier Aesthetics AMM-VIS-10: Avoid Concrete AMM-VIS-11: Limit Construction Lighting

Resource	No Build Alternative	Alternative 1	Alternative 2 (Options A & B)	Avoidance, Minimization, and/or Mitigation Measures
Cultural Resources	No impact.	The project footprint contains archaeological resources eligible for inclusion on the National Register of Historic Places and California Register of Historic Resources. The finding of effect is anticipated to be <i>No Adverse</i> . The project would result in a <i>de minimis</i> “use” under Section 4(f).	The project footprint contains archaeological resources eligible for inclusion on the National Register of Historic Places and California Register of Historic Resources. The finding of effect is anticipated to be <i>No Adverse Effect</i> . The project would result in a <i>de minimis</i> “use” under Section 4(f).	AMM-CUL-1: Cultural Resources ESA AMM-CUL-2: Cultural Resources Monitoring AMM-CUL-3: Cultural Sensitivity Training
Tribal Cultural Resources	No impact.	The project footprint contains a site defined as a Tribal Cultural Resource. The site is not anticipated to be significantly affected by project construction.	The project footprint contains a site defined as a Tribal Cultural Resource. The site is not anticipated to be significantly affected by project construction.	AMM-TCR-1: Tribal Cultural Resources Training
Hydrology and Floodplain	No impact.	This alternative would not encroach on the floodplain.	This alternative would result in one fewer bridge supports in San Gregorio creek and would add 0.5 acre of new impervious surface to the project limits. It would not increase flooding.	None.
Water Quality and Storm Water Runoff	No impact.	Construction activities would result in more than 1.0 acre of disturbed soil area and would occur in San Gregorio Creek. This alternative would not increase the amount of impervious surface in the project limits.	Construction activities would result in more than 1.0 acre of disturbed soil area and would occur in San Gregorio Creek. This alternative would add 0.5 acre of new impervious surface to the project limits.	AMM-WQ-1: Stormwater Pollution Prevention Plan AMM-WQ-2: Dewatering AMM-WQ-3: Stormwater Treatment
Geology/Soils/Seismic/Topography	This alternative would not strengthen the bridge to withstand the risk of earthquake induced ground motions, liquefaction, and tsunami.	This alternative is located in an area susceptible to strong earthquake induced ground motions, liquefaction, and tsunami. Construction would strengthen the bridge to withstand these hazards.	This alternative is located in an area susceptible to strong earthquake induced ground motions, liquefaction, and tsunami. A replacement bridge would be designed to withstand these hazards.	None.
Paleontology	No impact.	Construction activities would occur in paleontologically significant geologic units with the potential to or known to contain fossils.	Construction activities would occur in paleontologically significant geologic units with the potential to or known to contain fossils.	AMM-PAL-1: Develop Paleontological Evaluation Report/Paleontological Mitigation Plan

Resource	No Build Alternative	Alternative 1	Alternative 2 (Options A & B)	Avoidance, Minimization, and/or Mitigation Measures
Noise and Vibration	No impact.	Construction activities including pile-driving have the potential to produce short term noise levels of up to 101.3 decibels, exceeding the Caltrans standard of 86 decibels. Noise levels at the nearest residence would not exceed Caltrans standard of 86 decibels, but that standard could be exceeded at the San Gregorio State Beach parking lot and other park locations.	Construction activities including pile-driving have the potential to produce short term noise levels of up to 101.3 decibels, exceeding the Caltrans standard of 86 decibels. Noise levels at the nearest residence would not exceed Caltrans standard of 86 decibels, but that standard could be exceeded at the San Gregorio State Beach parking lot and other park locations.	AMM-NIO-1: Work Hours Restriction AMM-NIO-2: Public Outreach AMM-NIO-3: Construction Scheduling AMM-NIO-4: Limit Idling AMM-NIO-5: Noise-Sensitive Receptors AMM-NIO-6: Combustion Engines AMM-NIO-7: Quiet Equipment AMM-NIO-8: Construction Delivery Hours Limit AMM-NIO-9: Engine Maintenance
Energy	No impact.	This alternative would result in short-term use of energy for construction but would not change long-term energy use.	This alternative would result in short-term use of energy for construction but would not change long-term energy use.	None.
Natural Communities	No impact.	Construction of this alternative has the potential to temporarily affect environmentally sensitive habitat areas, sensitive natural communities, and essential fish habitat. It would not permanently alter fish passage. It may require the removal of up to 20 native trees.	Construction and minor realignment of the bridge for this alternative has the potential to temporarily and permanently affect environmentally sensitive habitat areas, sensitive natural communities, and essential fish habitat. It would not permanently alter fish passage. It would result in one fewer bridge supports in San Gregorio Creek. This alternative may require the removal of up to 25 native trees.	AMM-BIO-1: Predesignated Staging Areas AMM-BIO-2: Worker Environmental Awareness Training AMM-BIO-3: Tree Replanting Plan
Wetlands And Other Waters	No impact.	Construction of this alternative has the potential to temporarily affect 0.327 acre of Waters of the U.S. and 0.231 acre of riparian woodlands.	Construction and minor realignment of the bridge for this alternative has the potential to temporarily affect 0.290 acre and permanently affect 0.025 acre of Waters of the U.S. and temporarily affect 0.278 acre and permanently affect 0.001 acre riparian woodlands.	AMM-BIO-4: Wetlands and Waters Construction Work Windows AMM-BIO-5: Construction Discharges AMM-BIO-6: Uncured Concrete Grout AMM-BIO-7: Maintenance and Fueling AMM-BIO-8: Stockpiles AMM-BIO-9: Water Diversion Plan MM-BIO-1: Compensatory Mitigation for Wetlands
Plant Species	No impact.	Construction of this alternative has the potential to affect Coastal Marsh Milk-Vetch and Choris' Popcorn Flower.	Construction and minor realignment of the bridge for this alternative has the potential to affect Coastal Marsh Milk-Vetch and Choris' Popcorn Flower.	AMM-BIO-10: Rare Plant Survey AMM-BIO-11: Preconstruction Plant Survey

Resource	No Build Alternative	Alternative 1	Alternative 2 (Options A & B)	Avoidance, Minimization, and/or Mitigation Measures
Animal Species	No impact.	Construction of this alternative would affect the following special-status animal species and their habitat: Saltmarsh Common Yellowthroat, San Francisco Dusky-Footed Woodrat, and other migratory birds.	Construction and minor realignment of the bridge for this alternative would affect the following special-status animal species and their habitat: Saltmarsh Common Yellowthroat, San Francisco Dusky-Footed Woodrat, and other migratory birds.	AMM-BIO-12: Preconstruction Nesting Bird Surveys AMM-BIO-13: Preconstruction Woodrat Surveys AMM-BIO-14: Potential Midden Relocation
Threatened and Endangered Species	No impact.	Construction of this alternative <i>may affect and is likely to adversely affect</i> the following listed species and their habitat: Northwestern Pond Turtle, California Red-Legged Frog, San Francisco Garter Snake, Steelhead Central California Coast DPS, and Coho Salmon Central California Coast ESU. Take is anticipated for San Francisco Garter Snake and Coho Salmon Central California Coast ESU.	Construction and minor realignment of the bridge for this alternative <i>may affect and is likely to adversely affect</i> the following listed species and their habitat: Northwestern Pond Turtle, California Red-Legged Frog, San Francisco Garter Snake, Steelhead Central California Coast DPS, and Coho Salmon Central California Coast ESU. Take is anticipated for San Francisco Garter Snake and Coho Salmon Central California Coast ESU.	AMM-BIO-15: Wildlife Exclusion Fencing AMM-BIO-16: Entrapment Avoidance AMM-BIO-17: Proper Use of Erosion Control Devices AMM-BIO-18: Biological Monitoring AMM-BIO-19: Protocol for Species Observation AMM-BIO-20: Weather Restrictions AMM-BIO-21: Fish Relocation AMM-BIO-22: Fish Passage AMM-BIO-23: Aquatic Noise MM-BIO-2: Compensatory Mitigation for Special-Status Species
Invasive Species	No impact.	Construction activities have the potential to further spread invasive species.	Construction activities have the potential to further spread invasive species.	AMM-BIO-24: Invasive Plant Removal and Revegetation
Wildfire	No impact.	This alternative is located in a high fire hazard severity zone but would not exacerbate fire risk.	This alternative is located in a high fire hazard severity zone but would not exacerbate fire risk.	None.
Climate Change	No impact.	This alternative would not result in long-term increase in greenhouse gases or expose people to the effects of sea level rise. The bridge would be strengthened to withstand a 975-year tsunami event.	This alternative would not result in long-term increase in greenhouse gases or expose people to the effects of sea level rise. The bridge would be designed to withstand a 975-year tsunami event.	None.

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Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) proposes a seismic restoration of the San Gregorio Creek Bridge (Bridge Number 35-0030) on State Route (SR) 1 (also known as Cabrillo Highway or Highway 1) in unincorporated San Mateo County. The San Gregorio Creek Bridge Project (project) is located on SR 1 from post mile (PM) 17.40 to 18.20 (see Figure 1-1). The existing bridge was built in 1941. It is a continuous reinforced concrete bridge with five spans. The total bridge length is 265 feet. It contains one vehicle travel lane in each direction with no pedestrian or bicycle facilities.

The project is funded by the 2022 State Highway Operation and Protection Program (SHOPP), under Program 201.113, the Bridge Seismic Restoration Program.

Caltrans owns and operates SR 1 and the San Gregorio Creek Bridge. Caltrans, as assigned by the Federal Highway Administration (FHWA), is the lead agency under the National Environmental Policy Act (NEPA). Caltrans is also the lead agency under the California Environmental Quality Act (CEQA) and is the project sponsor.

The project is included in the Metropolitan Transportation Commission's (MTC's) Bay Area Regional Transportation Plan (RTP), *Plan Bay Area 2050* (Association of Bay Area Governments [ABAG] and MTC 2021a; RTP ID No. 21-T01-004). The project is in the 2023 Transportation Improvement Program (TIP), which was adopted by the MTC on September 28, 2022 (MTC 2022; TIP ID No. VAR170010). The FHWA approved the 2023 TIP on December 16, 2022.



Figure 1-1: Project Location and Features

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the project is to address the seismic structural deficiencies of the existing bridge, improve its resistance to seismic events, reduce the bridge's potential for failure, and reduce the potential for errant vehicles running off the bridge, thereby reducing the potential for injuries and property damage.

1.2.2 Need

The project is needed because the existing bridge does not meet current seismic standards and is vulnerable to seismic events, and the bridge rails do not meet current bridge and safety standards.

The bridge is located 1,500 feet from the San Gregorio fault, an active, 130-mile-long fault located on the coast between San Francisco and Monterey Bay. The Seismic Screening Program of California State Bridges, completed by the Caltrans Office of Earthquake Engineering, identified the San Gregorio Creek Bridge as potentially vulnerable to seismic events due to in-span hinges with short seats (flexible joints that are less than 12 inches, see Figure 1-3), abutments with high roller bearing atop of short abutment seats, and poorly reinforced columns (Caltrans 2015). Following this report, the San Gregorio Creek Bridge was added to the Structure Replacement and Improvement Needs (STRAIN) list. Caltrans Office of Earthquake Engineering recommends that bridges with short seats be upgraded because during a seismic event, there is a risk that the structural member could become unseated causing damage or collapse. In 2016, Caltrans prepared a Bridge Inspection Records Information System (BIRIS) report for the bridge to document field inspection (Caltrans 2016). In addition to in-span hinges with short seats, the BIRIS report noted the following bridge condition issues:

- Some spalling (pieces of concrete are breaking away) is evident on the bridge deck (roadway surface) that was not repaired when the bridge deck was treated with methacrylate (a resin used to seal cracks in concrete bridge decks) in 2010.
- Spalling and delamination (concrete is separating) was noted on the concrete at the bottom of the girders exposing rebar to the ocean environment. Some of these locations have begun to affect its load-carrying capacity (i.e. structural/reinforcement section loss).
- Rust is present on the steel restrainer cables at both abutments as well as the anchor plates bolted at the hinges.
- Many of the columns have vertical cracks and spalls exposing rebar to the ocean environment.
- The reinforced concrete bridge rail shows signs of deterioration with large cracks, spalls, delamination, and exposed rebar.

See Figure 1-2 for a pictorial guide to the existing bridge's design, Figure 1-3 for an image showing an example of the in-span hinges with short seats, and Figure 1-4 for a reference image of concrete damage types.

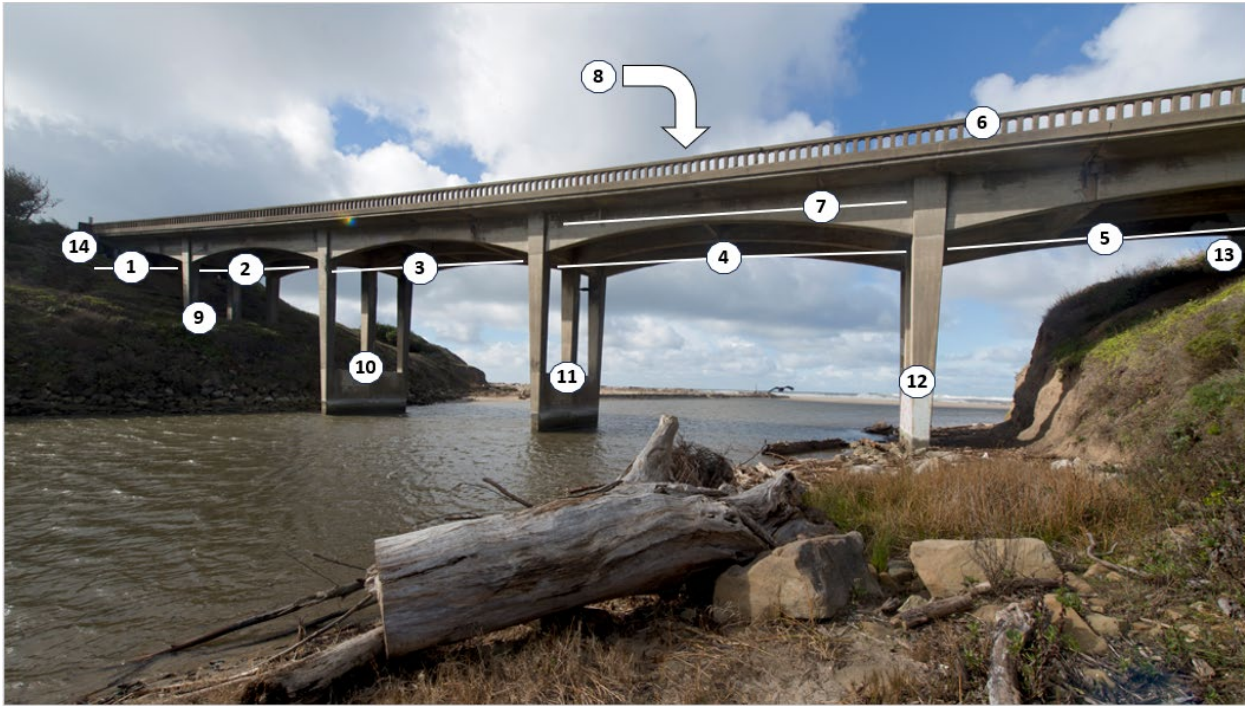
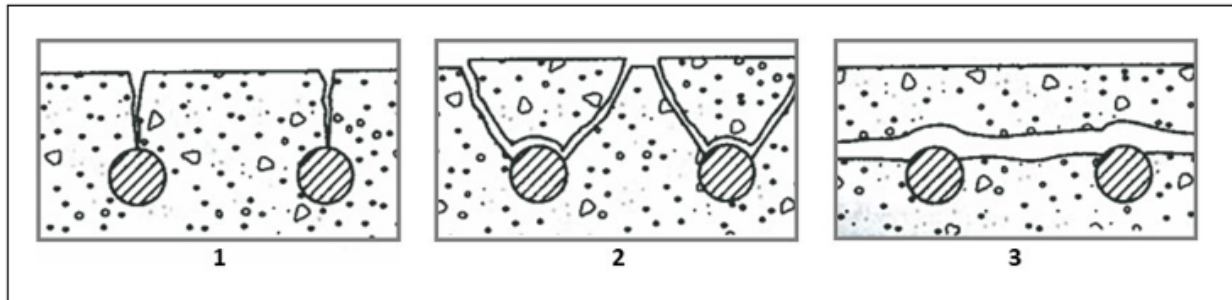


Figure 1-2: Terminology of San Gregorio Creek Bridge

Notes: 1 – 5: Bridge Spans 6: Bridge Rail 7: Haunched “T” Bridge Girder 8: Bridge Deck 9 - 12: Three Column Bent 13: North Abutment 14: South Abutment, *Image of San Gregorio Creek Bridge looking west.*



Figure 1-3: In-Span Hinge with Short Seat (less than 12 inches)



Notes: 1 – Cracking

2 – Spalling

3 - Delamination

Figure 1-4: Concrete Damage Types

1.3 Independent Utility and Logical Termini

Federal Highway Administration (FHWA) regulations (23 Code of Federal Regulations [CFR] 771.111 [f]) require that the action evaluated:

1. Connect logical termini and be of sufficient length to address environmental matters on a broad scope.
2. Have independent utility or independent significance (be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made).
3. Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

Logical termini are defined as (1) rational end points for a transportation improvement, and (2) rational end points for a review of the environmental impacts. Independent utility, or independent significance, is defined as being a usable and reasonable expenditure even if no additional transportation improvements in the area are made.

The project has independent utility because no additional transportation improvements would be needed to satisfy the purpose and need. The project would address the seismic deficiencies of the bridge and rails and includes all work necessary to complete the construction process. Restoration of the bridge is not dependent on any other roadway improvements.

The project has logical termini because the project limits encompass an integrated set of components that address the purpose and need. Specifically, the project limits include the entire bridge and all work necessary to conform the roadway to the bridge.

1.4 Project Description

This section describes the proposed action, and the project alternatives developed to meet the purpose and need of the project while avoiding or minimizing environmental effects. The alternatives are:

1. Alternative 1: Retrofit Existing Bridge and Upgrade Bridge Rails
2. Alternative 2: Build a New Bridge (includes a Cast-in-Place Concrete Option (Option A) and a Pre-Cast Concrete Option (Option B))
3. No Build Alternative

The project limits are adjacent to San Gregorio State Beach, owned and operated by California State Parks. There are residences scattered along nearby SR 84 and Stage Road, and there is a small commercial district at the intersection of SR 84 and Stage Road. The rest of the land in the area around the project limits is either undeveloped or agricultural.

Within and around the project limits, SR 1 operates as a 2-lane conventional highway. SR 1 is a major north-south roadway that runs along California's Pacific Coast. It provides a scenic route to coastal attractions (such as beaches, trails, and parks) and vital access to coastal communities (e.g. Pescadero and Half Moon Bay). Some portions of SR 1 experience frequent landslides and erosion that have closed the roadway for long periods of time or required re-routing vehicle traffic entirely. Coastal fog occurs during the spring and summer months in the project area, and ocean waves exceeding 10-15 feet are common during winter storm swells.

The San Gregorio Creek Bridge crosses over San Gregorio Creek just before the creek runs into the Pacific Ocean. The bridge is 31.8 feet wide and carries two vehicle travel lanes, one in each direction with no shoulder. Both pedestrians and cyclists are permitted to use SR 1 within the project limits, but the existing bridge does not have any bicycle or pedestrian facilities. There are no public transit facilities operated on this portion of SR 1. Both the northern and southern bridge approaches also feature short sections of metal beam guardrail barrier on both sides, at the edge of the pavement.

The existing bridge is a five span, reinforced concrete bridge that is 265 feet long. The elevation of the bridge ranges from 38.59 feet at the north end to 54.93 feet at the south end of the bridge (approximately 25 feet above water surface elevation). The existing bridge is a five span continuous reinforced concrete bridge with haunched "T" girders, four reinforced concrete three-column bents, and reinforced concrete seat-type open-end abutments with monolithic wingwalls. The abutments and bents are founded on composite (concrete and steel) piles or steel piles. The bridge currently features reinforced concrete baluster railing on either side. (See Figure 1-2 for a diagram of common bridge terminology.) The base of the southern abutment contains rock slope protection and vegetation to minimize erosion into San Gregorio Creek.

None of the proposed alternatives would create any additional vehicle lanes within the project limits and all work would be carried out within the Caltrans right-of-way (area of land controlled by the State for transportation purposes).

1.4.1 Alternative 1: Retrofit Existing Bridge and Upgrade Bridge Rails

Alternative 1 proposes to seismically retrofit the existing bridge and upgrade the existing concrete baluster bridge railings in both directions.

The seismic retrofit would consist of the following:

- Constructing temporary trestles (temporary bridges to hold construction equipment) on both sides of the existing bridge.
- Installing hinge pipe seat extenders.
- Widening the abutment seats.
- Replacing the abutment bearings.
- Extending foundation footing by installing 60-inch diameter cast-in-drilled-hole piles with rock sockets at each abutment and bent. The abutments would each have one row of drilled piles that will extend up to 60 feet. Each bent will have two rows of drilled piles that will extend up to 60 feet.
- Replacing damaged concrete.
- Rebuilding the deck overhang.
- Performing electrochemical chloride extraction to all concrete surfaces on the bridge.
- Applying concrete silane sealer to all concrete surfaces on the bridge.
- Wrapping columns in carbon fiber-reinforced polymer.
- Applying carbon fiber-reinforced polymer strips to the deck and deck overhang.

Temporary shoring would consist of sheet piles driven 30 feet. The sheet piles will create a wall to keep soil out during construction.

The electrochemical chloride extraction is a procedure used to remove chloride from concrete. The chloride contributes to degradation of the bridge. It is a process that includes drilling holes in the concrete to access the rebar, installing a metal lattice around the bridge, installing a paper mâtché-type conductive media over the metal lattice, wrapping it in plastic, applying electricity to the set-up for several weeks, and then removing the electric conductive media and metal lattice. See Figure 1-5 for a picture of an example electrochemical chloride extraction set-up. This procedure was performed on the historic Big Creek Bridge in Monterey, CA (State Clearinghouse [SCH] 2018098363).



Figure 1-5: Example of Electrochemical Chloride Extraction Set-Up

The bridge railings under consideration include three see-through bridge railings: Type 85, a modified Type 85 (Type 85 MOD), and Type 86H. All three are shown in Figure 1-6.

The Type 85 and 86 series barriers were designed to comply with the Manual for Assessing Safety Hardware (MASH) 2016 guidelines. They are a successor to the previously used Type 80 barriers, which were featured in joint Caltrans and California Coastal Commission guidance (Caltrans and CCC n.d.). All three barriers have been designed to maintain existing visual character and quality while having an increased ability to withstand impacts. All three railings

allow for coastal views. Type 85 and Type 85 MOD have an aesthetic similar to the existing railings and to railings used throughout the corridor. Any of these three barriers could be used on the project and do not differ by alternative.

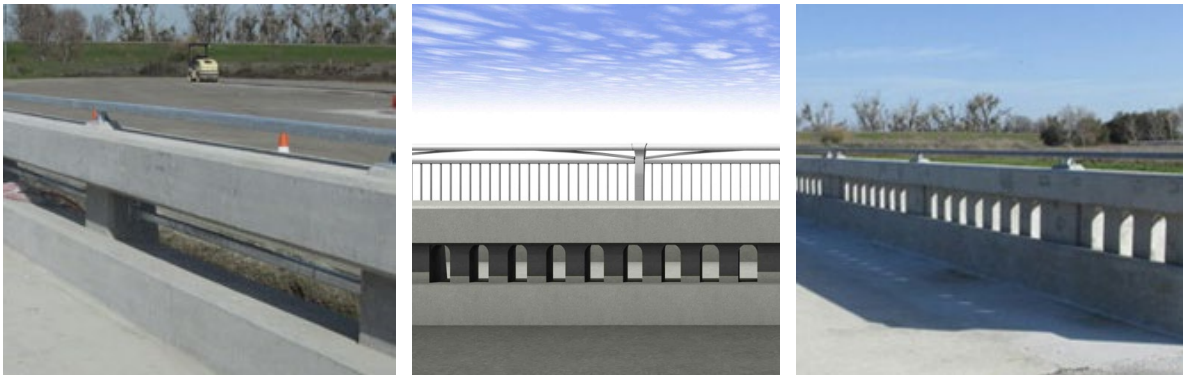


Figure 1-6: Example of Type 85, Type 85 MOD, and Type 86H Barriers

1.4.2 Alternative 2: Bridge Replacement

Alternative 2 has two design options. Both Options A and B would remove and replace the existing bridge with a new bridge. Common design elements for both design options would include:

- Two standard 12-foot travel lanes (one on each direction).
- Standard 8-foot outside shoulders including a Class II bikeway in each direction (part of the 8-foot shoulders).
- A 6-foot-wide sidewalk (on the southbound side only).
- See-through bridge railings (Type 85, Type 85 MOD, or Type 86H) and a custom, see-through pedestrian railing.
- Two new abutments founded on one row of 72-inch diameter cast-in-drilled-hole piles with rock sockets up to 60 feet.
- Two bents founded on one row of 72-inch diameter cast-in-drilled-hole piles up to 60 feet.

Alternative 2 Option A would include constructing the bridge's superstructure using a three-span cast-in-place concrete box girder. The cast-in-place structure has been designed with haunched girders to mimic the aesthetic of the existing bridge and other bridges in the corridor. This is shown in Figure 1-2 item 7 and is shown in more detail in Section 2.2.4.

Alternative 2 Option B would include constructing the bridge's superstructure using a three-span pre-cast concrete for elements such as girders and pier caps. The pre-cast elements would be constructed offsite and transported to the site for construction. This would allow construction to be completed more efficiently but would not feature haunched girders.

For either design option, the replacement bridge would be built next to the existing bridge and would overlap. During the first construction stage, one lane of traffic would remain open. Two lanes of traffic would remain open during all subsequent construction stages. The construction sequence is described in Section 1.4.2.1.

Since the new bridge would be shifted east by 25 feet, two retaining walls would be needed on SR 1 (one north of the bridge, one south of the bridge) to allow the replacement bridge to conform to the roadway while minimizing grading. The retaining walls would be soldier pile walls with timber laggings. Both retaining walls are anticipated to be sited on the east side of SR 1. On the north side of the bridge, the retaining wall would be approximately 105 feet long. On the south side of the bridge, the retaining wall would be approximately 310 feet long. The retaining walls would not be visible from SR 1 or from the recreation areas surrounding the bridge. Grading would also be needed on the south side of the bridge east of SR 1 for approximately 600 feet and on the north side of the bridge east of SR 1 for approximately 660 feet. Graded areas would be revegetated following construction.

1.4.2.1 Replacement Bridge Construction Sequence

Constructing a replacement bridge would include the following sequence of activities in order to maintain one lane of traffic during construction:

- Install temporary shoring (30-feet deep sheet piles).
- Construct a 30-foot trestle on each side of the bridge (founded on multiple rows of piles driven to 50-feet) and a trestle extended underneath the existing bridge (to assist contractors with demolition).
- Demolish a portion of the existing bridge.
- Transfer traffic to the existing bridge with reversing one-way traffic.
- Construct a portion of the new bridge.
- Shift traffic from the existing bridge to the partially built new bridge.
- Demolish the existing bridge.
- Construct the rest of the new bridge.

Demolition of the existing bridge would occur over San Gregorio Creek. A protective cover would be attached to the existing bridge structure to catch debris and keep it from entering the waterway. In addition, the contractor will remove the existing piles and temporary shoring piles. In the case where the piles are unable to be removed, the contractor will saw cut the piles 3 feet below the mud line.

1.4.2.2 Replacement Bridge Bicycle and Pedestrian Infrastructure

Alternative 2 would include a 6-foot-wide sidewalk on the southbound side of the bridge and a 6-foot-wide Class II bikeway on both the northbound and southbound sides of the bridge. In the vicinity of the project site, the California Coastal Trail is located on Stage Road and SR 84 before entering the San Gregorio State Beach parking lot and transitioning to the beach. The bicycle and pedestrian infrastructure would support connections to the California Coastal Trail.

1.4.3 Project Construction

This section describes the construction access, staging, traffic handling, dewatering, and utilities relocation for both Build Alternatives. Project construction is anticipated to begin in Spring of 2027 and continue through Fall of 2028. Alternative 1 is anticipated to take 450-working days while Alternative 2 is anticipated to take 501-working days. The estimated number of working days and overall project schedule will be refined in the project's design phase.

1.4.3.1 Access and Staging

Both Alternatives would require construction of a temporary access road from the south side of the bridge off SR 1. This access road would allow construction equipment to reach the temporary trestles and stream bed. Construction of both Build Alternatives is limited to the Caltrans right-of-way in the vicinity of the bridge as well as off SR 1. Two staging areas are proposed for project construction to provide the contractors space to store equipment and materials (as shown on Figure 1-1). One is located on the north side of the bridge west of SR 1 at post-mile 17.9. It features “NO PARKING” signs that are frequently vandalized and removed. The second is located 2,000 feet south of the bridge, west of SR 1 at post-mile SM 17.8. It provides a pull-out area with ocean views and an emergency call box. Both locations would be restored following construction.

1.4.3.2 Traffic Handling

Alternative 1 would consist of two phases for construction staging and traffic handling. During phase 1, a 2-foot-wide temporary barrier system would first be placed on the bridge between the northbound and southbound directions. Southbound traffic would then be placed on the northbound direction forming one traffic lane (11 feet wide) with automated traffic control. This arrangement would be maintained throughout phase 1 until construction on the southbound side is complete. Phase 2 would then move the northbound traffic onto the completed southbound side to form one traffic lane (11 feet wide) with automated traffic control. This arrangement would be maintained throughout phase 2 until construction on the northbound side is complete. Retrofit work under the bridge would not interfere with traffic and therefore could occur during either phase of construction.

Alternative 2 would also be constructed in two phases. The first phase would place a temporary 2-foot-wide barrier offset from the center of the existing bridge to form one traffic lane (11 feet–3 inches wide) on the southbound side with automated traffic control. A 20-foot-wide trestle would be built on both sides of the bridge to construct the first new half of the bridge (33 feet–10½ inches wide) on the northbound side. Once construction is completed, phase 2 would shift traffic from the southbound side of the existing bridge to the northbound side of the new partially built bridge, with two 12-foot-lanes (one in each direction). The existing half of the bridge would be demolished to construct the new remaining half of the bridge (13 feet–10½ inches wide). Finally, there would be a 3-foot-wide deck closure pour to connect the gap and placement of permanent striping on the structure and roadway.

Both Alternatives would require one-way traffic (i.e. one lane closure at a time) during the first construction stage. The average annual daily traffic on this section of SR 1 is approximately 6000 vehicles. Some of these vehicles may experience delays in crossing through the project area during times of one-way traffic control. Work on the project could occur during the daytime or nighttime and could affect commutes and recreation travel. Access through the project area, and to nearby recreation areas, would remain open during construction.

During final design, a traffic management plan (TMP) would be developed to address traffic delays from project construction. The TMP would include outreach to inform agencies, California State Parks, and the public of the times and locations of upcoming construction, construction signs in and approaching the project area, and incident management for traffic control in the vicinity of construction activities. Access would be maintained for emergency response vehicles.

1.4.3.3 Dewatering

Both Alternatives would require partially dewatering the creek for some period of time in order to perform construction activities in the creek bed. For Alternative 1, this includes drilling new piles and extending the existing footings. For Alternative 2, this includes installation of the new bridge columns and removing the existing bridge columns. A complete and detailed dewatering plan will be developed for the preferred alternative during final design.

Dewatering would involve constructing a cofferdam. Cofferdams are temporary structures built to create a dry work environment within a body of water, allowing construction activities to proceed. Figure 1-7 shows an example of a cofferdam.



Figure 1-7: Example Cofferdam around Bridge Foundation

Typical steps involved in the dewatering process for cofferdam construction include:

1. Preliminary Survey: Conduct a thorough survey of the construction area to understand the water levels, soil composition, and environmental factors affecting the dewatering process.
2. Cofferdam Construction: Build the cofferdam structure using various materials like sheet piles, steel plates, concrete, or a combination of these. Ensure that the structure is water-tight to prevent water seepage.
3. Dewatering Equipment Setup: Install appropriate dewatering equipment based on the site conditions. Common methods include:
 - Wellpoints: These are shallow wells connected to a vacuum system that lower the water table within the cofferdam area.
 - Sump Pumps: Submersible pumps placed within the cofferdam to remove accumulated water continuously.
 - Open Excavation: In some cases, where soil conditions permit, contractors may excavate the area faster than water seeps in, allowing construction to proceed in a dry environment.
 - Water Extraction: Activate the dewatering system to begin removing water from the enclosed area. Ensure regular monitoring of the water levels to maintain a safe working environment.

4. Disposal or Treatment of Extracted Water: Dispose of the extracted water appropriately, adhering to environmental regulations. Sometimes, water might need treatment to meet discharge standards.
5. Construction Activities: With the area sufficiently dewatered, commence the planned construction activities within the cofferdam.
6. Monitoring and Maintenance: Regularly inspect and maintain the dewatering system to ensure its proper functioning throughout the construction process. Monitor water levels and adjust the dewatering system as needed.
7. Decommissioning: Once construction is complete, dismantle the cofferdam carefully, ensuring that the area is restored as per environmental guidelines.

1.4.3.4 Utilities

The project limits do not contain any sewer, water, telecommunications, or electrical utilities. The project does not require utility relocations for construction.

1.4.4 No Build Alternative

Under the No Build Alternative, no action would be taken to address the seismic or structural vulnerabilities of the existing San Gregorio Creek Bridge. The No Build Alternative does not meet the purpose and need of the project and would leave SR 1 susceptible to loss of connectivity during a major seismic event and subject to property loss.

1.4.5 Comparison of Alternatives

This section compares both Build Alternatives and the No Build Alternative that are analyzed in this environmental document. The criteria for evaluation are primarily the respective Alternatives' adherence to the project's purpose and need.

Alternative 1 meets the purpose and need of the project. Implementing the improvements described above would improve the bridge's resistance to seismic events and extend its service life by another 25 years. Alternative 1 includes construction only and would not change any other features of the roadway. Areas used for construction would be restored once construction activities are complete. Alternative 1 is anticipated to cost approximately \$30.9 M to construct and take 450-working days.

Alternative 2 also meets the purpose and need of the project. Constructing a replacement bridge would result in a bridge that is resistant to seismic events and would have a service life of 75 years. Alternative 2 would add bicycle and pedestrian facilities across the bridge, thereby, improving access to the coast. Alternative 2 would move the bridge east by 25 feet and would result in some permanent impacts to environmental resources. Areas used for construction would be restored once construction activities are complete. Alternative 2 is anticipated to cost \$43.2 M for Option A and \$34.7 M for Option B. Both options are anticipated to take 501-working days.

Under the No Build Alternative, there would be no rehabilitation or seismic retrofit of the existing bridge. If the proposed project is not constructed, continued and accelerated deterioration will occur and the bridge will continue to be at risk of performing poorly in the event of a seismic event. If not addressed, the deficiencies of this aging bridge would trigger more frequent maintenance and lead to more extensive repairs in the future. This alternative does not satisfy the purpose and need of the project.

1.4.5.1 Final Decision-Making Process

After the public circulation period, all comments will be considered, and Caltrans will select a preferred alternative and make the final determination of the project's effect on the environment. Under CEQA, if no unmitigable significant adverse impacts are identified, the Department will prepare a Negative Declaration or Mitigated Negative Declaration.

Similarly, if Caltrans, as assigned by FHWA, determines the NEPA action does not significantly impact the environment, the Department will issue a Finding of No Significant Impact (FONSI).

1.5 Alternatives Considered but Eliminated from Further Discussion

Retrofit Existing Bridge, Upgrade Bridge Railing, and Widen Existing Bridge: This alternative proposed to perform the same retrofit upgrades to the existing bridge as detailed in Alternative 1, and to widen the existing bridge by constructing a 6-foot-wide sidewalk with a see-through railing in the southbound direction only. The widening to add the sidewalk would have required placing an additional column in the creek bed. After discussions with the California Coastal Commission, and with consideration to the mission of California Department of Fish and Wildlife and National Marine Fisheries Service, Caltrans determined that a bridge with more columns than the existing condition would not benefit sensitive biological resources, would not be consistent with the California Coastal Act, and would not be permittable, despite offering additional public access for the community. Without permits, this alternative would not be able to move forward. Therefore, the project development team eliminated this alternative from future consideration.

Clear Span Alternative: Caltrans headquarters structures conducted a preliminary analysis of the cost of building a clear span bridge across the 265-foot section. A clear span bridge would avoid the need to place any piles in the waterway where the San Gregorio Creek opens to the Pacific Ocean. This could benefit the sensitive biological resources in the project limits. Without aesthetic treatments, the cost for the structure was estimated at \$58 M. This is more than twice the highest structures cost of the alternatives under consideration. The Project Development Team determined that the alternatives under consideration would either have the same number of bents in the water or fewer than the existing condition and that none of the project alternatives would have a significant impact on biological resources. Therefore, this alternative was eliminated from future consideration.

1.6 Project Features

This project contains a number of standardized project measures which are employed on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the project. These measures are addressed in more detail in the Environmental Consequences sections found in Chapter 2.

PF-TR-1: Transportation Management Plan (TMP). During final design, a Transportation Management Plan (TMP) will be prepared in accordance with Caltrans requirements and guidelines to minimize the construction related delays and inconvenience for travelers and recreational users in the project area. The TMP will include dissemination of information to local agencies and property owners and coordination with CHP.

PF-AQ-1: Contractor Air Quality Compliance. The contractor will adhere to Caltrans Standard Specifications for Construction, Sections 14.9-02 and 14-9.03, which require contractor

compliance with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.

PF-HAZ-1: Hazardous Material. During final project design, a Preliminary Site Investigation will be performed in accordance with current Caltrans guidance to investigate hazardous materials concerns related to soil, groundwater, and bridge materials within the project limits and will include required measures for managing hazardous materials encountered during project construction.

PF-WQ-1: Temporary Water Quality Best Management Practices (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:

- The discharging of pollutants from vehicle and equipment cleaning into storm drains or watercourses will be disallowed.
- Storing or servicing vehicles and construction equipment, including fueling, cleaning and maintenance, will be performed at least 50 feet from aquatic habitat unless separated by a topographic or drainage barrier.
- Equipment will be maintained to prevent the leakage of vehicle fluids such as gasoline, oils, or solvents, and a spill response plan will be developed. Hazardous materials such as fuels, oils, or solvents, will be stored in sealable containers in a designated location that is at least 50 feet from aquatic habitats.
- Concrete wastes and water from curing operations will be collected and disposed of in appropriate washouts at least 50 feet from watercourses.
- Temporary stockpiles will be covered.
- Coir rolls or straw wattles will be installed along or at the base of slopes during construction to capture sediment.
- Graded areas will be protected from erosion using a combination of silt fences, fiber rolls, and erosion control netting (jute or coir), as appropriate.

PF-GEO-1: Seismic Standards. Caltrans' design and construction guidelines incorporate engineering standards that address seismic risks. 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.

PF-GEO-2: Paleontological Resources. The project's construction contract will include the 2018 Caltrans Standard Specification 14-7.03, which provides for stopping work within a 60-foot radius, securing the area, notifying the resident engineer, and performing further investigation if paleontological resources are encountered during project construction.

PF-CUL-1: Discovery of Human Remains. If human remains are discovered during excavation, all work within 60 feet of the discovery would halt and Caltrans' Cultural Resource Studies office would be called. Caltrans' Cultural Resources Studies Office Staff would assess the remains and, if determined human, would 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 would then assign and notify a Most Likely Descendant. Caltrans would 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.

PF-CUL-2: Discovery of Archaeological Resources. If archaeological materials are discovered during construction, all earth-moving activity within and around the immediate discovery area would be diverted until a Caltrans qualified archaeologist can assess the nature and significance of the find.

PF-TCR-1: Discovery of Tribal Cultural Resources. In the event that Tribal Cultural Resources (as defined by local consulting Tribes and CEQA) are exposed during construction activities, all construction work occurring within 60 feet of the find shall immediately stop until a qualified archaeologist, that meets the Secretary of the Interior Professional Qualifications for Archaeology, can evaluate the significance of the find, in consultation with local Tribes to determine whether or not additional study is warranted.

PF-WF-1: Minimize Fire Risks. BMPs would be incorporated, such as clearing vegetation from the work area, prohibiting the use of highly flammable chemicals, following locally changing meteorological conditions, and maintaining awareness of the possibility of increased fire danger during the time work is in progress.

PF-BIO-01: Revegetation. On project completion, all temporarily disturbed previously vegetated areas will be contoured to preconstruction grades, where appropriate, and replanted with appropriate native vegetation. Caltrans will prepare a revegetation plan, incorporating native species during the Plans, Specifications, and Estimates phase (referred to as final design).

PF-BIO-2: Environmentally Sensitive Areas. Wetlands, waters, riparian habitat, designated critical habitat, and special-status species habitat to be avoided will be delineated as ESAs on contract plans and defined in contract specifications.

PF-BIO-3: Work Areas. All construction equipment will be restricted to operating within the existing roadway, pre-identified construction footprint, or staging locations.

PF-BIO-4: Trash Control. To eliminate an attraction to predators of protected species, all food-related trash items (e.g., wrappers, cans, bottles, and food scraps) will be disposed in solid, closed containers (trash cans) and will be removed from the project footprint and vicinity at the end of each working day.

PF-BIO-5: Firearm Restriction. No firearms will be permitted within the construction site at any time.

PF-BIO-6: Pet Restrictions. No pets will be allowed within the construction site at any time.

1.7 Permits and Approvals Needed

The following permits, licenses, agreements, and certifications (PLACs) are required for project construction:

Table 1.6-1: Permits and Approvals

Agency	PLAC	Status
U.S. Fish and Wildlife Service	Biological Opinion	Consultation will occur during final design
National Marine Fisheries Service (NMFS)	Biological Opinion	Consultation will occur during final design
U.S. Army Corps of Engineers (USACE)	Nationwide Permit (anticipated) (CWA Section 404)	When NEPA/CEQA clearance is received, permit application will be submitted.
California Department of Fish and Wildlife (CDFW)	Lake and Streambed Alteration Agreement (California Fish and Game Code [CFGF] Section 1602) and Incidental Take Permit	When NEPA/CEQA clearance is received, permit application will be submitted.
California Coastal Commission (CCC)/San Mateo County Local Coastal Program	Consolidated Coastal Development Permit under the San Mateo County Local Coastal Program/CCC	Both agencies tentatively agreed to a consolidated coastal development permit and Caltrans has met with CCC several times during this project phase.
San Francisco Bay Regional Water Quality Control Board (RWQCB)	Water Quality Certification (CWA Section 401)	When NEPA/CEQA clearance is received, permit application will be submitted.
State Historic Preservation Officer (SHPO)	National Historic Preservation Act (NHPA) Section 106 and California Register of Historical Resources (CRHR) PRC Section 5024 Finding of Effect and Memorandum of Understanding	Issued on October 28, 2024.
California Transportation Commission (CTC)	Vote to approve funds	Following environmental document certification, the CTC will vote to approve funding for the project.

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Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

2.1 TOPICS CONSIDERED BUT DETERMINED NOT TO BE RELEVANT

As part of the scoping and environmental analysis carried out for the project, the following environmental issues were considered but no adverse impacts were identified. As a result, there is no further discussion about these issues in this document.

EXISTING AND FUTURE LAND USE

The project would not change the land use of the existing bridge, roadway, or surrounding area. Some of the proposed Build Alternatives would provide dedicated pedestrian and bicycle facilities, both of which are permitted on this portion of the route along the project limits. The project is located within Caltrans right-of-way and would be consistent with Caltrans land use policies. This project would not preclude future projects in the area.

CONSISTENCY WITH STATE, REGIONAL, AND LOCAL PLANS AND PROGRAMS

The project would not change the existing land use and would be located within Caltrans right-of-way. The project would not alter the number of travel lanes on SR 1. Some of the Build Alternatives would provide dedicated pedestrian and bicycle facilities, both of which are permitted on this portion of the route along the project limits. There are no applicable Habitat Conservation Plans or Natural Community Conservation Plans that overlap the project limits. For these reasons, the project would not conflict with any State, regional, or local plans and programs.

WILD AND SCENIC RIVERS

The project crosses over San Gregorio Creek, which is not designated as a National or State Scenic or Wild River (Rivers 2024). The project would not affect any designated wild and scenic rivers.

FARMLANDS AND TIMBERLANDS

The project limits do not overlap with and are not adjacent to any lands designated as Important Farmland (i.e., Prime Farmland, Unique Farmland, or Farmland of Statewide Importance) (DOC 2022a). There are no Williamson Act contracts in or around the project limits (DOC 2023). The project would not affect known farmlands or timberlands.

GROWTH

Potential growth-related impacts of the project were assessed in accordance with Caltrans' Guidance for Preparers of Growth-related, Indirect Impact Analyses (Caltrans 2003). This guidance document outlines a procedure for considering growth-related impacts of transportation projects, beginning with a screening-level analysis (i.e., first-cut analysis) and proceeding to a more detailed analysis depending on the project characteristics and potential for

direct or indirect growth impacts. The first-cut analysis requires consideration of the project's potential to change accessibility, project type, project location, and growth pressures in the project area. If none of these factors indicate that potential growth-related impacts are reasonably foreseeable, then no further analysis is required. The results of the first-cut screening analysis are described below.

The project would not change accessibility in the surrounding area. The proposed Build Alternatives would improve vehicle, bicycle and/or pedestrian safety at the bridge crossing but would not include infrastructure that would open any new areas to future development. There would be no changes in travel speeds, travel times, or levels of congestion that could cause a change in accessibility. Additionally, much of the land surrounding the project limits is within the San Gregorio State Beach (part of the California State Parks), precluding future development or intensification. Therefore, there are no reasonably foreseeable growth-related impacts, and this issue is not discussed further.

COMMUNITY CHARACTER AND COHESION

The project would not change existing community boundaries, physically divide an established community, or affect population, housing, or the regional or local economy.

RELOCATIONS AND REAL PROPERTY ACQUISITION

The project would be entirely located within Caltrans right-of-way. The project would not require any relocations or real property acquisition.

ENVIRONMENTAL JUSTICE

U.S. Census Bureau data was used to determine if there are minority or low-income populations near the project limits. As suggested by the Council on Environmental Quality, communities requiring consideration as potential environmental justice communities of concern are defined as U.S. Census Block Groups meeting either of the following criteria:

- The Census Tract Block Group contained 50 percent or more minority or low-income population; or
- The percentage of minority or low-income population in any Census Tract Block Group was more than 10 percentage points greater than the average in the city and/or county in which the Census Tract Block Group is located.

The project site is located within Census Tract 6138. The minority and low-income populations within Census Tract 6138 are below 50 percent and are not greater than 10 percentage points above the average in San Mateo County. No minority or low-income populations that would be adversely affected by the proposed project have been identified as determined above. Therefore, this project is not subject to the provisions of Executive Order 12898.

EQUITY

Executive Order 13985 (January 20, 2021) "Advancing Racial Equity and Support for Underserved Communities Through the Federal Government," introduced statutory requirements for equity analysis in project development. The term "equity" means the consistent

and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities.

In addition to the U.S. Census data that was analyzed for Environmental Justice (see above), the California Office of Environmental Health Hazard Assessment's CalEnviroScreen 4.0 tool was used to identify potential underserved communities (OEHHA 2022). No underserved communities were identified in or adjacent to the project limits. Additionally, the project provides improved bridge safety that would benefit all members of the surrounding community equally.

TRAFFIC AND TRANSPORTATION/PEDESTRIAN AND BICYCLE FACILITIES

The project does not include any changes to the vehicular capacity of the roadway. It also doesn't include any changes to the bicycle and pedestrian facilities on SR 1 outside of the bridge itself. None of the Build Alternatives are anticipated to change the operations or forecasted volumes of the roadway.

HAZARDOUS WASTE/MATERIALS

There are no sites in the project vicinity that are included on a list of hazardous materials compiled pursuant to Government Code Section 65962.5 (the Cortese List). The site is largely surrounded by California State Parks land and undeveloped land. The project area does not have a history of development, therefore, soil contamination associated with prior land uses is not anticipated. Given the age of the existing bridge, it is possible that hazardous materials such as asbestos and lead-based paint were used in its construction. During the project's design phase, a hazardous materials survey shall be conducted on-site to ensure compliance with the National Emission Standards for Hazardous Air Pollutants (PF-HAZ-1).

Additionally, construction vehicles and equipment may leak oils, grease, and other fluids. These and other fluids used for construction, have the potential to seep into the groundwater or be washed away by surface water runoff and make their way into San Gregorio Creek. Caltrans will apply the requirements from the existing National Pollutant Discharge Elimination System permit and the Construction General permit, along with standard BMPs for construction site management, to address hazardous waste from construction activities.

AIR QUALITY

Per 40 CFR 93.126, the project is exempt from air quality conformity because it involves reconstructing a bridge with no additional travel lanes, is a project that corrects, improves, or eliminates a hazardous locations or feature, and would construct bicycle and pedestrian facilities. Additionally, the project is located in a rural area with no nearby sensitive receptors. Therefore, the project would not have an adverse health effect on sensitive receptors due to construction emissions.

2.2 Human Environment

2.2.1 Coastal Zone

2.2.1.1 Regulatory Setting

This project has the potential to affect resources protected by the Coastal Zone Management Act (CZMA) of 1972. The CZMA is the primary federal law enacted to preserve and protect coastal resources. The CZMA sets up a program under which coastal states are encouraged to develop coastal management programs. States with an approved coastal management plan are able to review federal permits and activities to determine if they are consistent with the state's management plan.

California has developed a coastal zone management plan and has enacted its own law, the California Coastal Act of 1976, to protect the coastline. The policies established by the California Coastal Act are similar to those for the CZMA: They include the protection and expansion of public access and recreation; the protection, enhancement, and restoration of environmentally sensitive areas; the protection of agricultural lands; the protection of scenic beauty; and the protection of property and life from coastal hazards. The California Coastal Commission is responsible for implementation and oversight under the California Coastal Act.

Just as the federal CZMA delegates power to coastal states to develop their own coastal management plans, the California Coastal Act delegates power to local governments to enact their own local coastal programs (LCPs). This project is subject to the County of San Mateo's local coastal program. LCPs contain the ground rules for development and protection of coastal resources in their jurisdiction consistent with the California Coastal Act goals. A Federal Consistency Certification will be needed as well. The Federal Consistency Certification process will be initiated prior to final environmental document (FED) and will be completed to the maximum extent possible during the NEPA process.

2.2.1.2 Affected Environment

The project site is located within the San Mateo County portion of the California coastal zone (CCC 2024). Specifically, it is within an area zoned as Planned Agricultural District/Coastal Development District (PAD/CD). Elements of the project site are in an area within the California Coastal Commission's jurisdiction and a portion is within the San Mateo County Local Coastal Program's jurisdiction. The portion of the bridge that directly overhangs San Gregorio Creek is within the California Coastal Commission's jurisdiction. The areas to the north and south of the bridge are in the County's jurisdiction, as shown in Figure 2.2.1-1.

The project limits contain several resources that are called out in the California Coastal Act and the County of San Mateo Local Coastal Program including physical access to the coast, visual access to the coast, sensitive biological resources, archaeological resources, recreation, and the potential for paleontological resources. These resources are described in detail throughout Chapter 2 of this document. The project limits contain riparian woodlands, coastal wetlands and waters, marine habitat, sea cliffs, sand dunes, and rare, endangered, or unique species habitats. These resources are referred to as Environmentally Sensitive Habitat Areas (ESHAs) in the California Coastal Act and San Mateo County Local Coastal Program. The biological study area that was mapped for the project (project footprint plus a 100-foot buffer area) includes 33.18 acres of ESHAs.

The project area also includes the pullout area south of the bridge that provides a type of coastal access by allowing people to pull over off the road and see the coast.



Figure 2.2.1-1: Coastal Zone Jurisdictions

2.2.1.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not directly affect coastal resources or public access to San Gregorio State Beach or other coastal areas. However, the existing bridge would continue to not meet current seismic standards and bridge and safety standards. Failure of the existing bridge could affect access to San Gregorio State Beach and communities along the coast. Debris resulting from a bridge failure could affect lands and waters (including ESHAs) within the coastal zone.

Build Alternatives

ESHAs

Alternative 1 has the potential to temporarily affect 1.47 acres of ESHAs, primarily within marine habitat/tidal river for construction in the Creek, and herbaceous, non-native forest, riparian woodlands, and shrub habitats that are adjacent to the edge of roadway pavement. These acreages are shown in Table 2.2.1-1 and in Figure 2.2.1-2. Alternative 1 would not result in permanent effects to ESHAs, assuming construction at each location would last for only one year or less. Alternative 2 has the potential to temporarily affect 1.94 acres of ESHAs, primarily within marine habitat/tidal river for construction in the Creek, and herbaceous, non-native forest, riparian woodlands, and shrub habitats that are adjacent to the edge of roadway pavement. Alternative 2 has the potential to permanently affect 0.17 acres of ESHAs, primarily marine habitat/tidal river for two bents on the proposed replacement bridge and effects to herbaceous, non-native forest, and shrub habitats that overlap the grading areas and retaining wall locations east of the roadway. These totals do not reflect the reduction of ESHA effects to marine habitat/tidal river for the removal of the existing bridge bents for Alternative 2. Effect acreages are shown in Table 2.2.1-1 and Figure 2.2.1-3. Avoidance and Minimization Measure (AMM) AMM-COA-1, AMM-VIS-1 through AMM-VIS-3, and AMM-BIO-1 through AMM-BIO-24 would avoid or minimize these effects. Mitigation Measure (MM) MM-BIO-1 and MM-BIO-2 would mitigate for impacts to ESHAs.

Table 2.2.1-1: ESHA Impact Acreages by Alternative

ESHA Type	Total Acreage within BSA²	Alt 1 Temporary^{2,3} Effects	Alt 1 Permanent² Effect	Alt 1 TOTAL²	Alt 2 Temporary^{2,3} Effects	Alt 2 Permanent² Effect	Alt 2 TOTAL²
Riparian Woodlands	3.62	0.23	0.00	0.23	0.28	0.00	0.28
CCC Wetlands and Waters	6.29	0.01	0.00	0.01	0.03	0.00	0.03
Marine Habitat: San Gregorio Estuary	3.52	0.32	0.00	0.32	0.27	0.03	0.30
Sea Cliffs	1.84	0.00	0.00	0.00	0.00	0.00	0.00
Sand Dunes	0.00	0.00	0.00	0.00	0.00	0.00	0.00
REU - Barren and Sparsely Vegetated	2.32	0.00	0.00	0.00	0.00	0.00	0.00
REU - Freshwater Emergent Wetland	2.59	0.01	0.00	0.01	0.02	0.00	0.02
REU - Herbaceous	2.18	0.24	0.00	0.24	0.28	0.07	0.35
REU - Non-native Forest	3.27	0.33	0.00	0.33	0.40	0.05	0.45
REU - Riparian Woodlands	3.62	0.23	0.00	0.23	0.28	0.00	0.28
REU - Shrub	15.66	0.35	0.00	0.35	0.69	0.03	0.72
REU - Tidal River	3.52	0.32	0.00	0.32	0.27	0.03	0.30
REU - TOTAL	33.18	1.47	0.00	1.47	1.94	0.17	2.11
TOTAL ESHA¹	33.18	1.47	0.00	1.47	1.94	0.17	2.11

Notes: All measurements shown in acres. BSA – Biological Study Area, REU – Rare, Endangered, or Unique Species Habitat, ¹Non-overlapping total ESHA; ²Rounded to nearest hundredth; ³Under CCA, all temporary impacts not resolved within 1 year will become permanent

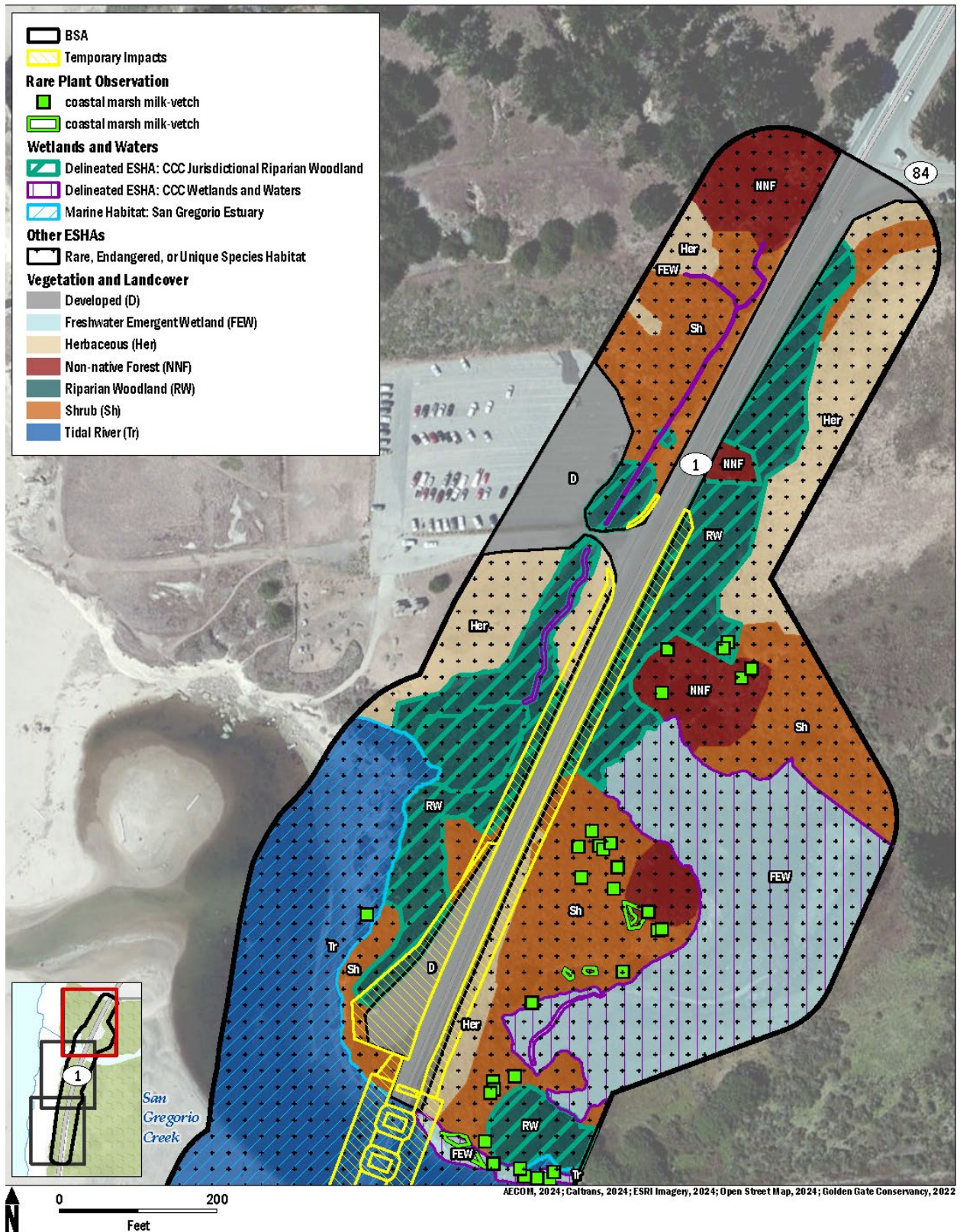


Figure 2.2.1-2: Alternative 1 ESHA Effects (Page 1 of 3)

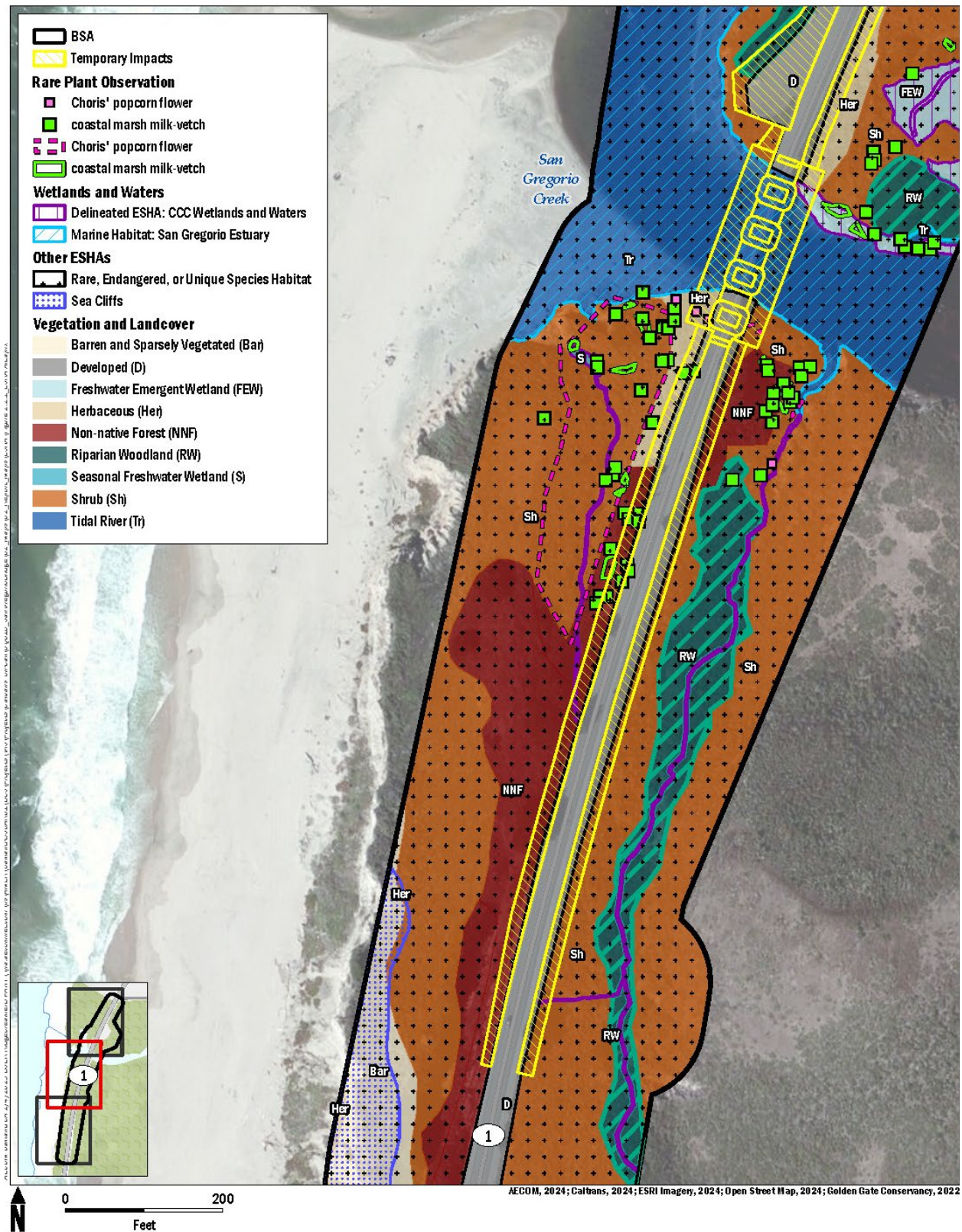


Figure 2.2.1-2: Alternative 1 ESHA Effects (Page 2 of 3)

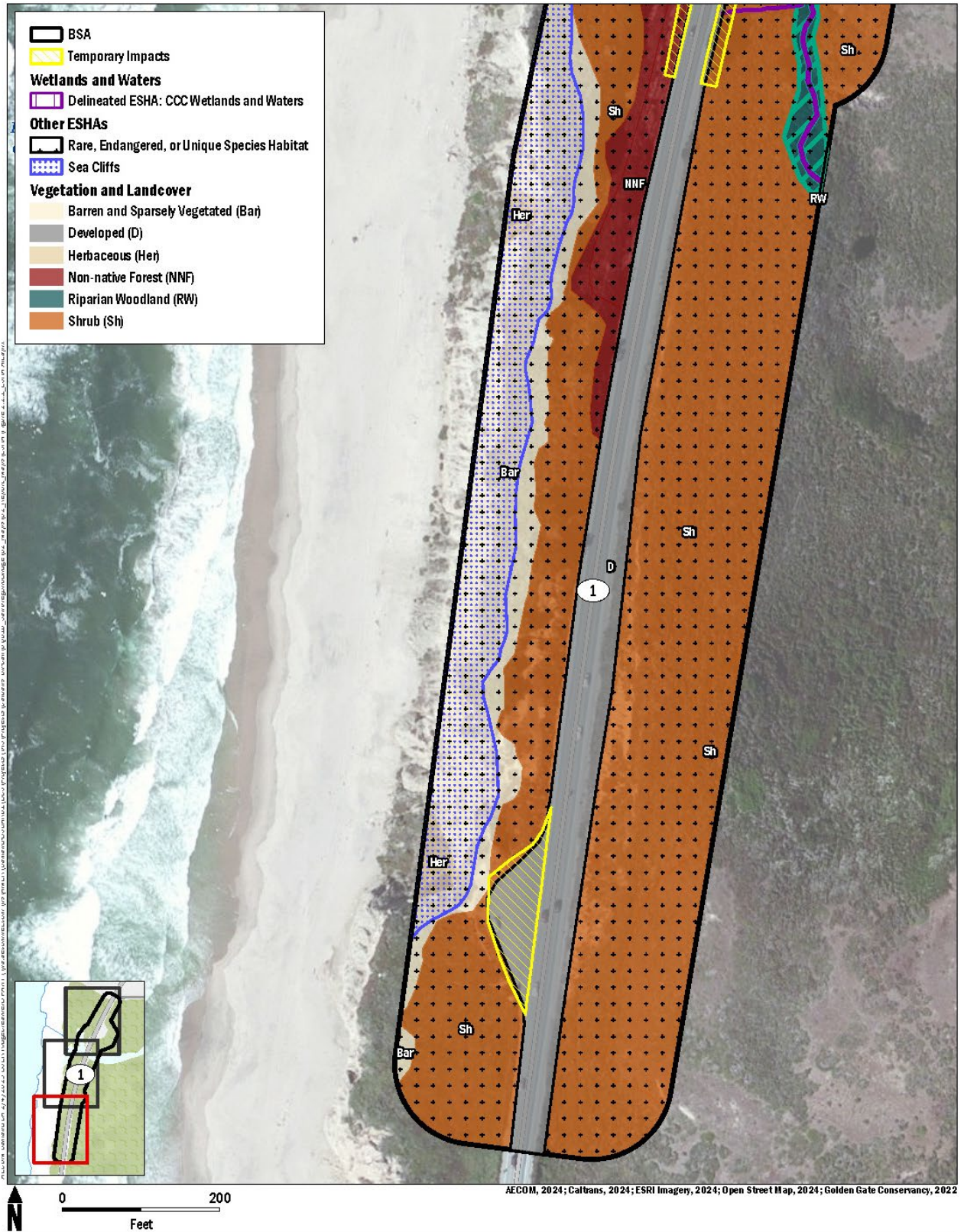


Figure 2.2.1-2: Alternative 1 ESHA Effects (Page 3 of 3)

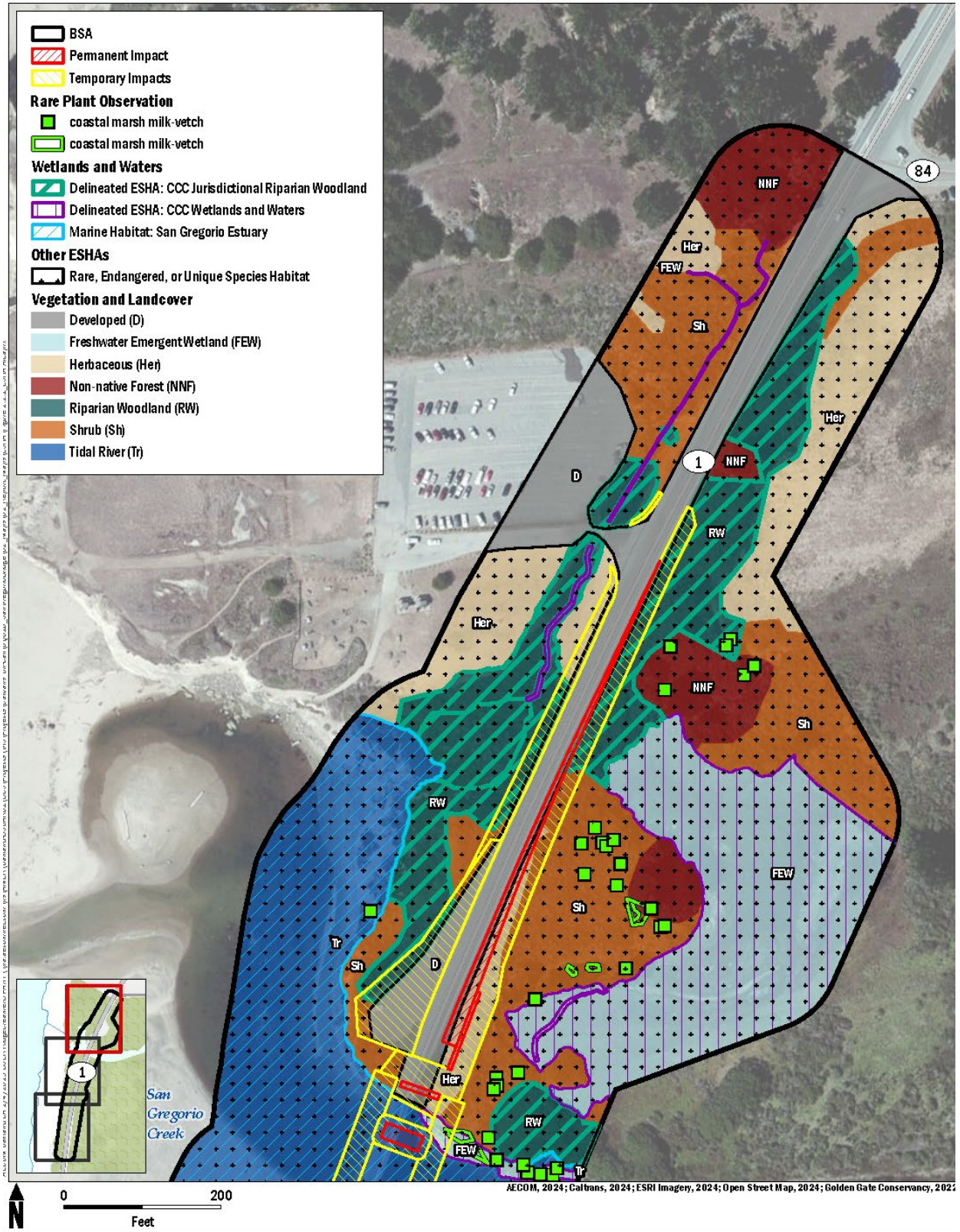


Figure 2.2.1-3: Alternative 2 ESHA Effects (Page 1 of 3)

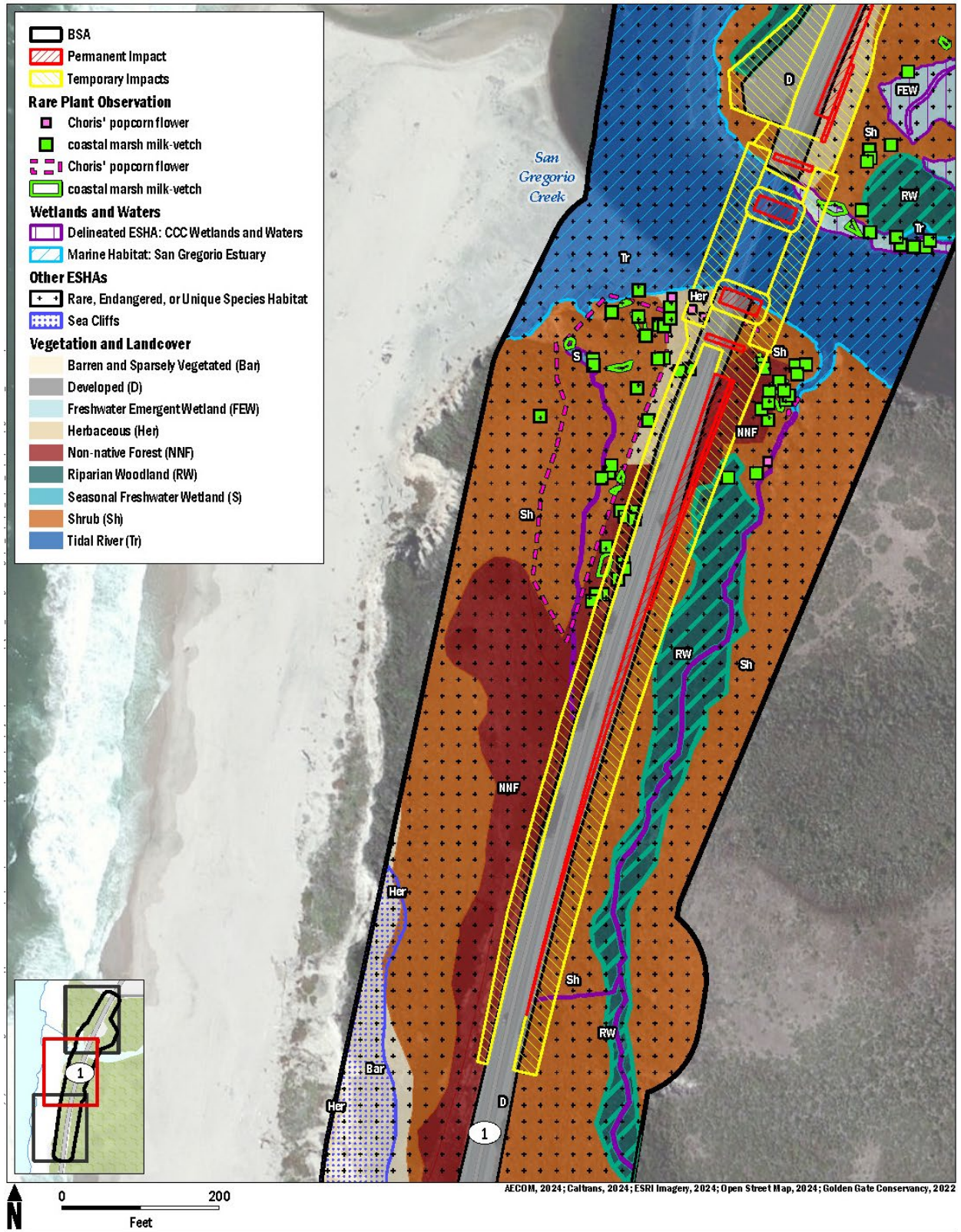


Figure 2.2.1-3: Alternative 2 ESHA Effects (Page 2 of 3)

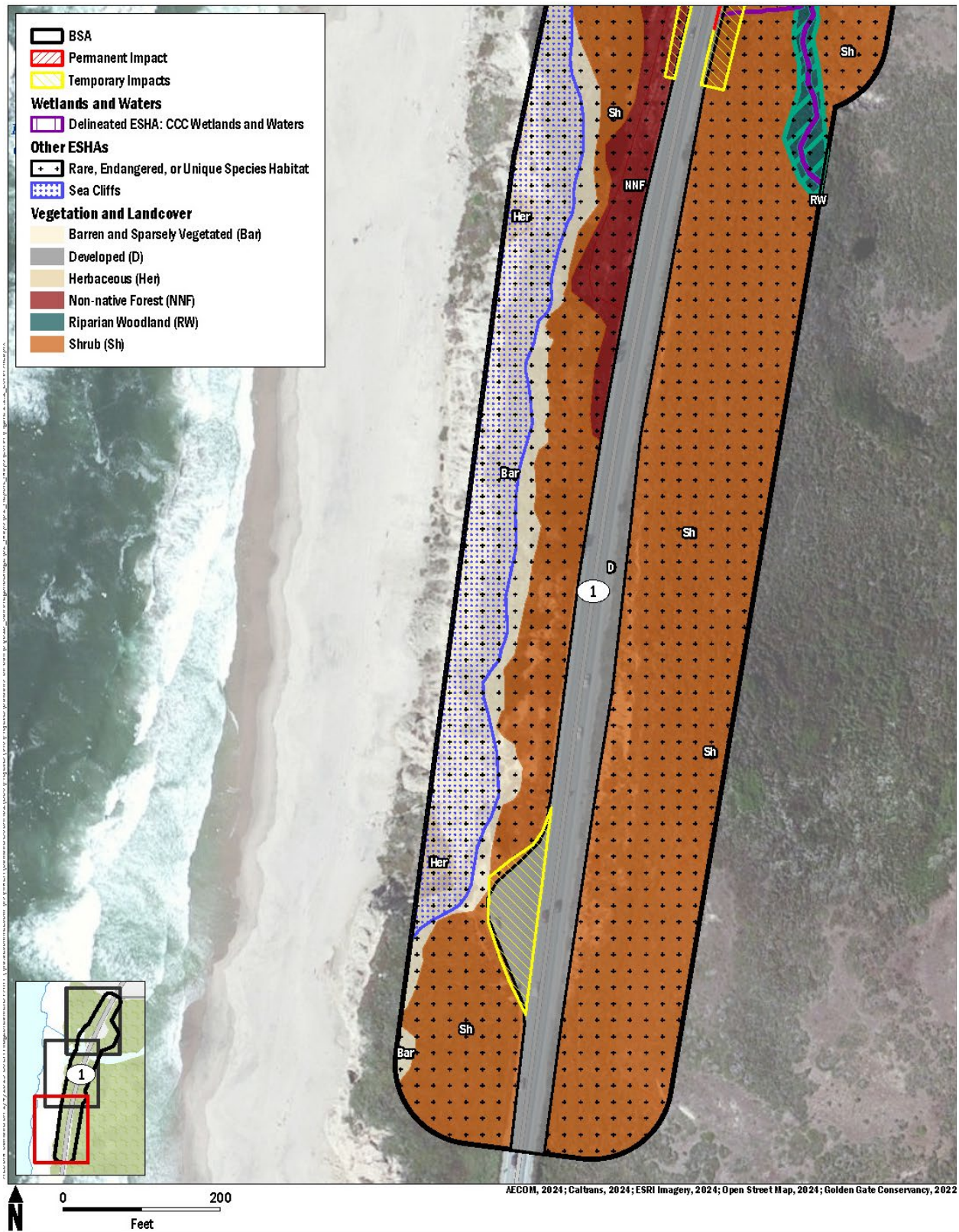


Figure 2.2.1-3: Alternative 2 ESHA Effects (Page 3 of 3)

Consistency with Coastal Policies

Key provisions of the California Coastal Act (CCC 2019) and County of San Mateo Local Coastal Program (LCP) [SMC 2021] are provided below along with an evaluation of consistency for each the Build Alternatives (see Table 2.2.1-1 and Table 2.2.1-2). Anticipated temporary and permanent impacts to specific ESHAs are shown in Table 2.2.1-3 and in Figures 2.2.1-2 and 2.2.1-3.

Table 2.2.1-1: Key Provisions of the California Coastal Act

Policy Number	Coastal Resource/ Coastal Act Policy	Coastal Zone Assessment	Detailed Resource Discussion
Section 30013	Environmental Justice	Caltrans is planning and designing this project for the benefit of all who use the facility. During this process, efforts have been made to ensure meaningful engagement with local Native American tribes. The inclusion of PF-TCR-1 and AMM-TCR-1 would avoid or minimize effects to Tribal Cultural Resources.	Section 1.6, Section 3.2.18
Section 30210	Maximum public access and recreational opportunities shall be provided.	None of the Build Alternative would result in permanent impacts to access or recreation opportunities involving the coast. However, some temporary impacts to access would result from the construction of this project (especially using the pullout south of the bridge for staging) and measures are being developed to reduce the temporary impacts to the minimum necessary to construct the project. Access across San Gregorio Creek would be maintained throughout construction. Additionally, Alternative 2 would include new bicycle and pedestrian facilities along SR 1.	Section 1.4, Section 2.2.2
Section 30211	Development shall not interfere with public access to the sea.	None of the Build Alternative would result in permanent impacts to access to the sea. However, some temporary impacts to access would result from the construction of this project (especially using the pullout south of the bridge for staging) and measures are being developed to reduce the temporary impacts to the minimum necessary to construct the project. The project would ensure the public's long-term access to coastal resources by restoring and maintaining the structural integrity of the San Gregorio Creek Bridge.	Section 1.4, Section 2.2.2

Policy Number	Coastal Resource/ Coastal Act Policy	Coastal Zone Assessment	Detailed Resource Discussion
Section 30212	New development Projects shall provide for public access to the shoreline and along the coast.	None of the Build Alternatives would permanently or temporarily restrict public access to the San Gregorio State Beach parking lot. Additionally, Alternative 2 would include new bicycle and pedestrian facilities along SR 1. Both Build Alternatives would temporarily affect public access to the shoreline by using the pullout south of the bridge for staging.	Section 1.4, Section 2.2.2
Section 30252	Public Access	None of the Build Alternative would result in permanent impacts to public access. However, some temporary impacts to access would result from the construction of this project (especially using the pullout south of the bridge for staging) and measures are being developed to reduce the temporary impacts to the minimum necessary to construct the project.	Section 1.4, Section 2.2.2
Section 30230	Marine resources shall be maintained, enhanced, and where feasible, restored.	Both Alternatives would keep the bridge, creek, and marine resources in their existing locations. Both Alternatives include temporary effects to marine resources. MM-BIO-1 and MM-BIO-2 require offsite compensatory mitigation for effects to marine resources.	Section 2.4
Section 30231	Biological activity; water quality	With the proposed Project Features, AMM-COA-1, AMM-VIS-1 through AMM-VIS-3, AMM-WQ-1 through AMM-WQ-3, AMM-BIO-1 through AMM-BIO-24, and MM-BIO-1 and MM-BIO-2 the project would not have a significant effect on biological activity or water quality. The mitigation measures would ensure that biological resources and water quality are mitigated.	Section 2.4
Section 30232	Protect against oil, gas, petroleum, hazardous substances spill	With the proposed Project Feature PF-HAZ-1, neither Build Alternative would harm the environment due to a spillage of hazardous substances during construction.	Section 1.6

Policy Number	Coastal Resource/ Coastal Act Policy	Coastal Zone Assessment	Detailed Resource Discussion
Section 30233	Diking, filling, dredging of wetlands	Both Build Alternatives would require work in San Gregorio Creek that would include dewatering for the installation of temporary cofferdams. Construction of Build Alternative 1 would affect wetlands. Construction and minor realignment of the bridge for Alternative 2 would also affect wetlands. Alternative 2 would result in one fewer bridge support in the creek. AMM-WQ-2, AMM-BIO-4 through AMM-BIO-9, and MM-BIO-1 would reduce and mitigate these effects.	Section 2.4.2
Section 30235	Construction altering natural shoreline	The project would not introduce new alterations to the natural shoreline.	Section 1.4
Section 30240	Environmentally Sensitive Habitat Areas (ESHA)	Both Alternatives have the potential to affect ESHAs. AMM-COA-1, AMM-VIS-1 through AMM-VIS-3, and AMM-BIO-1 through AMM-BIO-24 would avoid or minimize these effects. Mitigation Measure (MM) MM-BIO-1 and MM-BIO-2 would mitigate for impacts to ESHAs.	Section 2.2.1
Section 30241-30242	Agricultural land	No Prime Farmland or lands under a Williamson Act contract area are present within the project footprint.	Section 2.1
Section 30244	Archaeological/ Paleontological resources	Potential effects to archaeological and paleontological resources would be minimized through implementation of the measures described in Section 1.6 and AMM-CUL-1, AMM-CUL-2, AMM-CUL-3, AMM-TCR-1, AMM-PAL-1.	Section 2.2.5, Section 2.3.4
Section 30251	Scenic and visual qualities	Both Build Alternatives have been designed to minimize changes to ocean views and views of the surrounding natural areas. Neither Alternative includes new lighting, and both include only see-through barrier rails. New project features for Alternative 2 such as soldier pile walls would be buried to the extent feasible and include aesthetic treatments to help them blend into the surrounding environment. Alternative 2 includes two design options with different aesthetics. AMM-VIS-1 through AMM-VIS-11 would further protect visual qualities during and after construction.	Section 2.2.4
Section 30254	Public works facilities	The project would not change the function of SR 1 at this location, it would remain a two-lane highway.	Section 1.4

Policy Number	Coastal Resource/ Coastal Act Policy	Coastal Zone Assessment	Detailed Resource Discussion
Section 30604	Coastal Development permits shall include a finding that the development is in conformity with public access and public recreation policies, housing opportunities for low and moderate income persons.	None of the Build Alternative would result in permanent impacts to public access. However, some temporary impacts to access would result from the construction of this project (especially using the pullout south of the bridge for staging) and measures are being developed to reduce the temporary impacts to the minimum necessary to construct the project. This project does not involve any opportunities for housing.	Section 3.2.14
Section 30609.5	State lands between the first public road and the sea; sale or transfer	No state lands would be sold to a private entity as part of the project.	Section 1.4

Table 2.2.1-2: Key Components of the San Mateo County Local Coastal Program

Component Subject	San Mateo County Local Coastal Program Assessment
Locating and Planning New Development	The project would be considered new development under the definition within the LCP. The project would not have any effect on growth or require the development of public services and infrastructure. Caltrans would implement Project Features and AMMs to minimize the project's effect on water quality and archaeological and paleontological resources in the project area.
Public Works	This project involves repair of a bridge on SR 1, which is an existing public transportation facility. Highway capacity would not be increased as specified in Section 2.44b in the LCP. SR 1 would remain a two-lane road after construction. Vehicle access would be maintained throughout construction.
Housing	The project is located in a rural area of the SR 1 corridor and would not involve the addition or removal of housing.
Energy	The project does not include the construction of any oil or gas wells, onshore oil facilities, pipelines or transmission lines, or alternative energy facilities. The project footprint has no public utilities.
Agriculture	The project would be constructed within Caltrans right-of-way and would not impact agricultural land or land zoned for timber harvest. The project would not conflict with the Agriculture Component in the LCP.
Aquaculture	The project would not affect aquaculture facilities or construct any new aquaculture facilities.
Sensitive habitats	There are sensitive habitats within the project area. However, with implementation of Project Features, AMMs, and Mitigation Measures, effects to these habitats would be less than significant.

Component Subject	San Mateo County Local Coastal Program Assessment
Visual Resources	Both Build Alternatives have been designed to minimize changes to ocean views and views of the surrounding natural areas. Neither Alternative includes new lighting, and both include only see-through barrier rails. New project features for Alternative 2 such as soldier pile walls would be buried to the extent feasible and include aesthetic treatments to help them blend into the surrounding environment. Alternative 2 includes two design options with different aesthetics. AMM-VIS-1 through AMM-VIS-11 would further protect visual qualities during and after construction.
Hazards	The portion of the project site east of SR 1 is within a high fire hazard zone, however, the project would not introduce any new uses, structures, or persons to the project site and the replacement bridge would be constructed of non-flammable materials. The project is in an area that could experience tsunamis or flooding. However, the project would not create features that would worsen impacts on the surrounding areas from such hazards and would harden the bridge to those risks.
Shoreline Access	The San Gregorio State Beach parking lot north of the project site provides shoreline access. The project would not impact the parking lot and access along SR 1 would be maintained throughout construction. Construction staging would temporarily limit use of the pull-out areas north and south of the bridge.
Recreation/Visitor Serving Facilities	The San Gregorio State Beach parking lot is located adjacent to the project limits. The parking lot has visitor restrooms. The park contains picnic benches, beach access, and hiking trails. The project would not remove access to the parking lot but could create traffic, noise, dust, and a decreased visual atmosphere during some construction activities. AMM-PARK-1 would minimize the effects of construction on park visitors.
Commercial Fishing/Recreational Boating	The project would have no impact on commercial fishing or recreational boating.

2.2.1.4 Avoidance, Minimization, and/or Mitigation Measures

AMM-COA-1: Develop Habitat Mitigation and Monitoring Plan (HMMP). Caltrans will restore temporarily impacted ESHAs on-site following construction. A Habitat Mitigation and Monitoring Plan will be developed by a qualified lead biologist with experience in restoration in order to verify restoration activities are appropriate. This plan will be included in the CDP application.

2.2.2 Parks and Recreational Facilities

2.2.2.1 Regulatory Setting

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 USC 303, declares: that "...it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

Section 4(f) specifies that the Secretary [of Transportation] may approve a transportation program or project . . . requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:

- there is no prudent and feasible alternative to using that land; and
- the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

Responsibility for compliance with Section 4(f) has been assigned to Caltrans pursuant to 23 USC 326 and 327, including determinations and approval of Section 4(f) evaluations, as well as coordination with those agencies that have jurisdiction over a Section 4(f) resource that may be affected by a project action.

The Park Preservation Act (California Public Resources Code [PRC] Sections 5400-5409) prohibits local and state agencies from acquiring any property which is in use as a public park at the time of acquisition unless the acquiring agency pays sufficient compensation or land, or both, to enable the operator of the park to replace the park land and any park facilities on that land.

2.2.2.2 Affected Environment

San Gregorio Creek Bridge is adjacent to San Gregorio State Beach, a Section 4(f) resource. San Gregorio State Beach is under the jurisdiction of the California State Parks and thus, is considered a public park protected under the Park Preservation Act of 1971 (PRC 2024). San Gregorio State Beach includes the estuary where San Gregorio Creek meets the Pacific Ocean, a sandy beach, and the grassy bluffs along the coast. In the project vicinity there is a parking lot at the north end of the project limits. Only the portion of the parking lot driveway that conforms to the road is included in the project limits and that property is within the Caltrans right-of-way. The portion of the park outside of the project footprint, which belongs to California State Parks, contains restrooms, picnic tables, a beach access trail, and a hiking trail along a coastal bluff. California Historical Landmark 26 commemorates the passage of Spanish explorer Captain Gaspar de Portolá through the State Beach area in October 1769 (Parks 2024). The State Beach is open daily from 8 AM to sunset. The State Beach is a day-use only facility that does not offer camping or any reservation activities. The next closest California State Parks with beach access include Pomponio State Beach less than 2 miles south and Pescadero State Beach 3 miles south on SR 1.

The boundaries of San Gregorio State Beach in relation to the project limits are shown in Figure 2.2.2-1.



Figure 2.2.2-1: San Gregorio State Beach Boundaries

2.2.2.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not directly affect San Gregorio State Beach or any other park or recreation facilities near the project area. However, the existing bridge would continue to not meet current seismic standards and bridge and safety standards. Failure of the existing bridge could affect access to San Gregorio State Beach and the resulting debris could affect lands and waters within the San Gregorio State Beach property.

Build Alternatives

There are parks and recreational facilities within the project vicinity that are protected by Section 4(f) of the Department of Transportation Act of 1966 (San Gregorio State Beach). However, this project will not “use” those facilities as defined by Section 4(f). Please see Appendix A under the heading “Resources Evaluated Relative to the Requirements of Section 4(f)” for additional details.

All Build Alternatives would require work adjacent to San Gregorio State Beach; however, the project would occur entirely within Caltrans right-of-way and would not encroach upon the California State Parks property. The project would use staging areas within Caltrans right-of-way and would not require any use of San Gregorio State Beach parking lots for construction staging and access. Access across the portions of San Gregorio Creek that are outside Caltrans right-of-way would be maintained throughout construction and the project would not interrupt access to the beach parking lot north of the project limits.

Visitors to the State Beach come for beach access, creek access, picnic areas, and hiking. It is generally quiet at this location. Construction activities would be expected to add noise and dust to the ambient environment as well as increase traffic from construction equipment. In addition, retrofitting the existing bridge or building a replacement bridge would temporarily affect the visual atmosphere of the beach since there would be a wooden trestle on either side of the bridge, construction equipment, exposed bridge elements, and cofferdams. Inclusion of AMM-PARK-1 would reduce effects to parks and recreation facilities during construction.

2.2.2.4 Avoidance, Minimization, and/or Mitigation Measures

AMM-PARK-1: Construction Notification. Caltrans will coordinate with California State Parks regarding the timing of construction activities that would affect San Gregorio State Beach visitors so State Parks can alert visitors about the change in visitor experience.

2.2.3 Utilities/Emergency Services

2.2.3.1 *Affected Environment*

There are a limited number of overhead utility lines along SR 1 north of the existing bridge within the project footprint that supply power to the San Gregorio State Beach parking lot. The project site is not within the County's water or sewer and sanitation service areas (SMC 2024). There are no water or sewer lines within SR 1 in the project limits (SMC 2019).

The California Highway Patrol (CHP) has jurisdiction over the SR 1 corridor for matters involving traffic violations and emergency services. Police protection and traffic enforcement services in the surrounding area are provided by the San Mateo County Sheriff's Office and California State Park peace officers. Fire protection services in the project area are provided by the San Mateo County Fire Department.

2.2.3.2 *Environmental Consequences*

None of the Build Alternatives would result in the relocation or removal of any existing utility infrastructure. None of the existing overhead lines are anticipated to be removed or affected during project construction. The Build Alternatives would not require any utility service during operation; therefore, there would be no long-term effects on utilities.

Vehicle access across the San Gregorio Creek Bridge would be maintained throughout construction, allowing law enforcement, fire, and other emergency services uninterrupted access through the project area. Additionally, a TMP will be prepared for the project, which would include the development of contingency plans in coordination with CHP and local law enforcement (PF-TR-1). The project would ensure long-term emergency vehicle access along SR 1 with construction of the proposed bridge improvements. The project would not affect the number of lanes or other traffic operations on SR 1; therefore, there would be no long-term effects on emergency services.

2.2.3.3 *Avoidance, Minimization, and/or Mitigation Measures*

No avoidance, minimization, or mitigation is required.

2.2.4 Visual/Aesthetics

2.2.4.1 Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969, as amended, establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and *aesthetically* (emphasis added) and culturally pleasing surroundings (42 United States Code [USC] 4331[b][2]). To further emphasize this point, the Federal Highway Administration (FHWA), in its implementation of NEPA (23 USC 109[h]), directs that final decisions on projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

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

California Streets and Highways Code Section 92.3 directs Caltrans to use drought resistant landscaping and recycled water when feasible and incorporate native wildflowers and native and climate-appropriate vegetation into the planting design when appropriate.

2.2.4.2 Affected Environment

This section is based on the *Visual Impact Assessment* prepared for the project by Caltrans in October 2024 (Caltrans 2024a).

The project site is in a largely natural, undeveloped setting. Vegetation consists primarily of coastal scrub that drops steeply to the creek and then the sandy beach. This stretch of SR 1 provides sweeping views of both the coastal range and the Pacific Ocean. Nearby, there are small communities with low density development and some agriculture to the north, south, and east of the project limits.

The visual character of the project area is defined by the natural scenic beauty of the northern California Pacific Coast. Development is sparse with the main developed feature being the highway itself. The highway is winding and narrow with two-lanes and limited shoulder widths. It traverses through coastal bluffs and hills in some sections alternately opening to expansive views of the coast and Pacific Ocean to the west and rolling coastal scrub covered hills to the east. The highway provides the means of accessing and viewing this scenic environment and its dominance and scale pale in comparison to the surrounding natural environment.

The visual quality of the area is high. The dramatic coastal scrub-vegetated bluffs dropping to the Pacific Ocean create a vivid, memorable image. The highway creates a curving line through the landscape barely interrupting it due to its narrow width. Only occasional and relatively low guardrails, barriers, or railing separate travelers from this natural setting. Where they are present, they create a parallel line that more clearly defines the road edge. The dominant forms consist of the vegetated and varied hills, gentler coastal bluffs and open ocean disappearing at the horizon. Colors include the varied greens of coastal vegetation, the buff tones of sand and bluffs, and the greyish, blue green of the ocean.

Views of the project site itself are limited because there are no adjacent structures and the only nearby road other than SR 1 is La Honda Road/SR 84, from which views of the project site are

not available. Additionally, there are no recreational trails within the San Gregorio Creek corridor to the east of the project which could afford views of the site. There are three main vantage points from which to see the project limits. They include SR 1 itself, the pull-out area north of the bridge, and San Gregorio State Beach. These three views represent the key views that were used to determine environmental effects for visual resources.

Key Views

Key View 1 is located on SR 1 looking south towards the bridge. This key view was chosen to show the surrounding scenic landscape, and the existing roadway and bridge barrier rails as viewed by highway travelers, which include drivers and bicyclists. Figure 2.2.4-1 shows the existing condition at Key View 1.



Figure 2.2.4-1: Key View 1 Existing Condition

Key View 2 is located at the small pull-out area north of the bridge looking south towards the bridge and surrounding landscape. The pull-out offers a scenic overlook of the State Beach to the west and the bridge structure as it spans the creek to the east for highway travelers and visitors. Figure 2.2.4-2 shows the existing condition at Key View 2.



Figure 2.2.4-2: Key View 2 Existing Condition

Key View 3 is located at San Gregorio State Beach looking east towards the bridge and the San Gregorio Creek riparian corridor. This vantage point offers a striking view of the arching bridge structure and surrounding landscape as the bridge spans the creek for State Beach visitors. Figure 2.2.4-3 shows the existing condition at Key View 3.



Figure 2.2.4-3: Key View 3 Existing Condition

Viewers

There are two major types of viewer groups for highway projects: neighbors and travelers. San Gregorio State Beach visitors are the only neighbor group identified for this project, due to its relatively remote location. The number and extent of this user group is low and likely to consist of a mix of new and repeat visitors. The length of time or duration for viewing the project is moderate as attention is primarily focused on the ocean and shore. However, for visitors that walk south along the beach, the bridge becomes a significant focal feature within the highly scenic natural setting and shifts the focus away from the ocean. Overall viewer sensitivity for this neighbor group is high, particularly from Key View 3.

Highway travelers are people who have views from the road (represented by Key View 1). The highway travelers' group can be subdivided into three subsets for this project: commuters, tourists, and bicyclists. Commuters consist of highway users that regularly traverse this corridor, primarily coastal residents from various nearby small communities such as San Gregorio or Pescadero. Due to the less developed nature of the project area, the extent of local commuters is low. The duration of viewing the project is brief and commuters' focus is more on their destination, as they pass through the project at highway speed. However, their frequency of use and familiarity with the site are moderate and high, respectively, and they are expected to place high value on the scenic environment given their choice to live in the location. Their overall viewer sensitivity is high.

Tourists are brought to the project area from nearby and around the world due to its scenic nature. Together their extent is moderate. The duration for tourists will vary from brief viewing of the site as they traverse the highway to moderate, when using the pull-out north of the project that offers vistas of the coast (represented by Key View 2) as well as close-up views of the bridge itself. Their overall duration is moderate. Tourists have a high viewer sensitivity given that their reason for travel is to visit the scenic coast and they will have an expectation of high visual quality.

Bicyclists are generally infrequent at the project site, but this stretch of SR 1 is a popular bike route. The duration for bicyclists is moderate, as they traverse the site at lower speeds than vehicles. They are likely to use the north pull-out as a vista point and rest area affording them a longer viewing time and different perspective. Their reason for travel is a combination of recreation/exercise and enjoyment of the scenic coast, resulting in a high sensitivity.

2.2.4.3 Environmental Consequences

The methodology for determining environmental consequences for visual resources is to determine whether there is a visual change (as measured by compatibility and contrast) and combine the change with visual sensitivity (as measured by both viewer sensitivity and viewpoint sensitivity). The consequences described in the Visual Impact Assessment are reported as beneficial, neutral, or adverse. These consequences provide a framework for determining the degree of visual change and relevant impact to the visual environment. The following section identifies the visual change and visual sensitivity of each alternative at each of the three key views described above.

No Build Alternative

The No Build Alternative would not alter the bridge deck, rails, foundations, columns, or alignment of the existing bridge. It would not involve any vegetation removal or any construction.

Therefore, it would not result in changes to the visual resources. For the purposes of this analysis, Figures 2.2.4-1 through 2.2.4-3 also represent the No Build Alternative.

Alternative 1

Alternative 1 proposes to retrofit the existing bridge and replace the existing concrete baluster railing with see-through railings (Type 85, Type 85 MOD, or Type 86H, as shown in Figure 1-6). These railings have a similar scale to the existing railing and are architecturally consistent with other nearby bridges in the corridor. Also like the existing barrier, the proposed barrier types are all transparent, which allows glimpses of the ocean through regular openings. For illustration, Alternative 1 simulations are shown with the Type 85 bridge railings. With Alternative 1, a metal beam guardrail barrier extends in front of the bridge railing along the bridge approach on either side. This is evident at Key View 1 and is shown in Figure 2.2.4-4. Similar to the existing conditions, the proposed railing heights maintain expansive views of the surrounding landscape and the ocean is still visible through the long, horizontal openings. These qualities are compatible with the scenic visual character of Key View 1.



Figure 2.2.4-4: Key View 1 Alternative 1

The other project improvement that is visible in Key View 1 is the electrochemical chloride extraction and concrete silane sealer treatment of the structure. This would clean and patch the existing exposed concrete surfaces, improving the visual quality. Although not clearly visible in this key view, the fiber-reinforced polymer wrapped columns would be painted to match the existing concrete creating a smooth, clean look, as shown in Figure 2.2.4-4. Alternative 1 would continue to be compatible with the existing natural environment from this key view.

Key View 1 represents the primary view of and from the project as experienced by highway travelers. Commute travelers have a moderate viewer sensitivity, but tourist travelers and cyclists have a high viewer sensitivity. The views of the coastline in this dramatic natural setting

are highly valued as is evidenced by the official designation of SR 1 as a State Scenic Highway and result in a high viewpoint sensitivity. The overall visual sensitivity is high. There would be no visual change with Alternative 1 from this key view. Therefore, there would be no effect at this key view.

Key View 2 shows the retrofitted bridge and replaced bridge railing from a small pull-out area north of the bridge. This represents the views of tourists and bicyclists. The view is looking southeast towards the bridge with the hills above the creek in the background. The creek below the bridge and where it meets the beach are seen in the fore- to midground of Figure 2.2.4-5.



Figure 2.2.4-5: Key View 2 Alternative 1

From this key view, the bridge within the surrounding environment is prominent. The details of the structure and railing can be clearly seen, as well as the lower structure and columns below the bridge deck. As there is no observable physical change to the overall lower structure, only the cleaned concrete surface and replaced railing are evident for Alternative 1 in this key view. The cleaned concrete of the retrofitted structure provides visual unity with the proposed new barrier and the brightened concrete surface enhances the architectural details of the bridge's features. Views of the surrounding environment would be unchanged, and the visual character and intactness of the view remains high. The overall visual change from this key view is slightly beneficial, as reported in the Visual Impact Assessment.

Visual sensitivity is high at this key view, since the main viewers at this location are tourists and bicyclists and the viewpoint is a unique scenic view. The Visual Impact Assessment reports that the high visual sensitivity and slightly beneficial visual change combine to result in a low but beneficial effect at this key view.

Key View 3 shows the retrofitted bridge and replaced bridge rail from San Gregorio State Beach looking southeast towards the bridge and mouth of the creek. The bridge structure commands

the middle ground with the sandy beach in the foreground and creek and hills behind it in Figure 2.2.4-6.

From this key view, the full structure can be seen and becomes a dominant element within the relatively untouched natural landscape of the creek and coastal mountains. The details of the bridge are clear, and the openings between the column create arched windows to the landscape beyond.

In Key View 3, there is no observable physical change to the overall lower structure, except for the cleaned concrete surface. This key view provides a high level of contrast as the bridge is the only structure within an otherwise natural setting. The structure itself has high vividness, and its architectural character adds visual interest.



Figure 2.2.4-6: Key View 3 Alternative 1

Key View 3 is only available to beach visitors exploring the shoreline and mouth of the creek. From this standpoint, the bridge is a significant focal feature as the only built element within the highly scenic natural setting. As it towers above the viewer and contrasts with the coastal hills, it creates an extremely dramatic viewpoint. Visual sensitivity is high at this location since the viewers are beach visitors and likely spend the most time viewing the bridge. The overall visual change is low and beneficial at this location with Alternative 1, so they combine to produce a low and beneficial effect.

The overall visual effect of Alternative 1, based on the three key views would be low and beneficial.

Alternative 2 Option A

Alternative 2 proposes a full bridge replacement that would provide two standard 12-foot lanes, standard 8-foot shoulders, 6-foot-wide bikeways within the shoulders, and a 6-foot-wide sidewalk with a pedestrian rail in the southbound direction. The resulting bridge would appear significantly wider than the existing bridge and would partially obscure views to the surrounding

landscape. Additionally, the pedestrian railing would be higher than the current bridge railing, rising above the horizon line and reducing ocean views from the roadway. Option A includes a cast-in-place structure. Since the structure is being built on-site, it has been designed to include architectural elements consistent with the existing bridge and other bridges along the SR 1 corridor. Alternative 2 also includes retaining walls and grading areas to accommodate the slightly shifted roadway. The retaining walls are the same in both Option A and Option B and would not be directly visible from any of the key views. Alternative 2 Option A would include Type 85, Type 85 MOD, or Type 86H bridge railings. For illustration, Alternative 2 Option A simulations are shown with the Type 85 MOD bridge railings.



Figure 2.2.4-7: Key View 1 Alternative 2 Option A

Key View 1 shows a view of Alternative 2 Option A from the roadway. It represents views for commuters, tourists, and bicyclists. It shows that this alternative's widened bridge would shift the viewpoint from the edge to the center of the bridge, and consequently, southbound travelers' visibility to the creek valley and hills to the east of the bridge would be reduced. While not shown in Figure 2.2.4-7, highway travelers along the northbound side would have similar views to the surrounding landscape as shown in Figure 2.2.4-4 for Alternative 1. Looking to the west, views of the ocean and horizon are partly obscured for travelers in both directions due to the increased width of the bridge and the taller pedestrian rail. In Figure 2.2.4-7, a Type 85 MOD railing is shown with an arched window detail. Lastly, it should be noted that pedestrians would have new access and clear views of the ocean as they walk across the bridge outside of the bridge railing. This can be seen in Figure 2.2.4-7.

The widened bridge and added pedestrian rail of Alternative 2 Option A result in the entirety of built features having a stronger presence. The architectural detailing and transparency of the bridge and pedestrian rails aid in softening this contrast. Even with the increased scale and visual presence of the bridge, the surrounding scenic landscape remains strong. However, the shift in balance of built and natural features and slightly reduced visibility to the surrounding environment result in slightly adverse compatibility and visual contrast. Visual sensitivity at this

location is high since tourists and bicyclists have a high degree of interest in the views and the roadway is designated a State Scenic Highway. The visual change is slightly adverse. These two factors together result in Alternative 2 Option A having a low but adverse effect on visual resources at this location.



Figure 2.2.4-8: Key View 2 Alternative 2 Option A

Key View 2, Figure 2.2.4-8, shows Alternative 2 Option A from the small pull-out area north of the bridge. The view is looking southeast towards the bridge with the hills above the creek in the background. The creek can be seen below the bridge and where it meets the beach at its mouth to the Pacific Ocean. From this key view, the bridge within the surrounding environment is prominent, and the details of the structure and railing can be clearly seen. The change in width of the overall structure due to the added pedestrian rail and widened shoulders is not readily apparent from this perspective. The pedestrian rail creates a similar horizontal line above and parallel to the bridge deck as the bridge railing on the existing bridge. The arched forms spanning the space between the tapered bridge columns in Alternative 2 Option A are reminiscent of the existing bridge as well as other bridges in this corridor. The views of the surrounding environment are unchanged from the existing condition, as is the relationship of the bridge to the natural setting. As a result, intactness remains high. The visual compatibility of Alternative 2 Option A with the existing natural environment from this key view is not different from the existing condition. There is a high level of contrast that is enhanced beneficially by the clean, brightened appearance of the new bridge structure. The unity of Alternative 2 Option A is consistent with the existing condition since the bridge's architectural details resemble those of the SR 1 corridor. The dramatic scenery remains compelling and memorable. Visual sensitivity is high at this key view, since the main viewers at this location are tourists and bicyclists and the viewpoint is a unique scenic view. The high visual sensitivity and slightly beneficial visual change combine to result in a low but beneficial effect at this key view.



Figure 2.2.4-9: Key View 3 Alternative 2 Option A

Key View 3 shows Alternative 2 Option A from the San Gregorio State Beach looking southeast towards the bridge. The replacement bridge is a prominent visual element from this vantage point. The full structure can be seen and becomes a dominant element within the relatively untouched natural landscape of the creek and coastal mountains. The details of the bridge are clear, and the openings between the columns create windows to the landscape beyond. The arched forms spanning the space between the tapered bridge columns in Alternative 2 Option A are visually consistent with the existing bridge as well as other bridges in this corridor. The views of the surrounding environment are dominant and the relationship of the bridge to the natural setting is balanced. As a result, intactness remains high. At this key view, the bridge creates a high level of contrast, being the only structure within an otherwise natural setting and the architectural character of the structure contributes to the visual interest. The crisp clean surfaces of the new bridge enhance contrast. The unity of Alternative 2 Option A is consistent with the cultural environment since the bridge's architectural details resemble those of other bridges along the SR 1 corridor.

Visual sensitivity is high at this location since the viewers are beach visitors and likely spend the most time viewing the bridge. The overall visual change is slightly beneficial at this location with Alternative 2 Option A, so they combine to produce a low and beneficial effect. The overall visual effect of Alternative 2 Option A, based on the three key views would be low and beneficial.

Alternative 2 Option B

Alternative 2 Option B also proposes a full bridge replacement that would provide two standard 12-foot lanes, standard 8-foot shoulders, 6-foot-wide bikeways within the shoulders, and a 6-foot-wide sidewalk with a pedestrian rail in the southbound direction. The resulting bridge would appear significantly wider than the existing bridge and would partially obscure views to the

surrounding landscape. Additionally, the pedestrian railing would be higher than the current bridge railing, rising above the horizon line and reducing ocean views from the roadway. This alternative includes a pre-cast structure and does not have the opportunity to include architectural elements that were featured in Alternative 2 Option A. Therefore, it has a more modern aesthetic. As with Alternative 1 and Alternative 2 Option A, Alternative 2 Option B would include one of three see-through bridge railings (Type 85, Type 85 MOD, or Type 86H). For illustration, Alternative 2 Option B simulations are shown with the Type 85 bridge railings.



Figure 2.2.4-10: Key View 1 Alternative 2 Option B

The view of Alternative 2 Option B from Key View 1 highlights the same elements as what was described for Alternative 2 Option A, above, except it is shown with the Type 85 bridge railings. All three of the see-through barriers incorporate regular openings to maintain visibility through them. The Type 85 MOD and Type 86H have vertical, peaked windows similar to that of the existing railing and the Type 85 has longer horizontal openings. The Type 85 MOD and Type 86H are more similar in character to the existing railing, but the horizontal openings of the Type 85 railing shown in Figure 2.2.4-10 allow greater visibility to the scenery beyond.

As with Alternative 2 Option A, the widened bridge and added pedestrian rail result in the entirety of built features having a stronger presence in this key view. The architectural detailing and transparency of the bridge and pedestrian rails aid in softening this contrast. Even with the increased scale and visual presence of the bridge, the surrounding scenic landscape remains strong. However, the shift in balance of built and natural features and slightly reduced visibility to the surrounding environment result in slightly adverse compatibility and visual contrast. Visual sensitivity at this location is high since tourists and bicyclists have a high degree of interest in the views and the roadway is designated a State Scenic Highway. The visual change is slightly adverse. These two factors together result in Alternative 2 Option B having a low but adverse effect on visual resources at this location.



Figure 2.2.4-11: Key View 2 Alternative 2 Option B

Key View 2, Figure 2.2.4-11, provides an opportunity to see the differences in the form of the bridge deck and columns with Alternative 2 Option B. The linear bridge deck and cylindrical columns of Alternative 2 Option B have a more modern, streamlined appearance that is less common in this setting. This alternative is less aligned with the character of the cultural environment and results in a slightly adverse compatibility with the natural surroundings. The visual unity of Alternative 2 Option B is slightly decreased due to the more modern style of the bridge's form. The architectural style of Alternative 2 Option B is less consistent with the aesthetic of the corridor, but overall, the dramatic scenery remains compelling and memorable. Visual sensitivity is high at this key view, since the main viewers at this location are tourists and bicyclists and the viewpoint is a unique scenic view. The Visual Impact Assessment reports that the high visual sensitivity and slightly adverse visual change combine to result in a low but adverse effect on visual resources at this location.



Figure 2.2.4-12: Key View 3 Alternative 2 Option B

Key View 3, Figure 2.2.4-12, shows that the replacement bridge is a prominent visual element from this vantage point. From this key view, the full structure can be seen and becomes a dominant element within the relatively untouched natural landscape of the creek and coastal mountains. Similar to the view from Key View 2, the linear bridge deck and cylindrical columns of Alternative 2 Option B have a more modern, streamlined appearance that is less common in this setting. However, the simplified bridge form allows the surrounding scenic setting to become even more prominent as the unadorned bridge deck demands less attention. Visual sensitivity is high at this location since the viewers are beach visitors and likely spend the most time viewing the bridge. As stated in the Visual Impact Assessment, the overall visual change is slightly adverse at this location with Alternative 2 Option B, so they combine to produce a low but adverse effect on visual resources at this location.

The overall visual effect of Alternative 2 Option B, based on the three key views would be low but adverse.

Alternative 2 Retaining Walls

As noted above, Alternative 2 would include retaining walls on the east side of SR 1. The retaining walls would limit the amount of grading in sensitive biological communities. Both Options require shifting the edge of pavement to the east to accommodate staged construction and a wider replacement bridge. Two simulations were produced to evaluate the resulting visual changes of vegetation removal, the retaining walls, and guardrails. They are shown in Figure 2.2.4-13 and 2.2.4-14.



Figure 2.2.4-13: Simulation of Alternative 2 Looking North

As shown in Figure 2.2.4-13, vegetation removal from the introduction of the retaining wall capped with new midwestern guardrail results in an opening up of the viewshed and the expansiveness of the view is increased. The midwestern guardrail is visually consistent with this setting as it is a common element throughout the corridor, and the intactness of the site remains high. Although the roadway is widened, the distant hills and the San Gregorio Creek are more visible. The effect is to reduce awareness of the increased pavement and midwestern guardrail since the viewer's attention is drawn away from the foreground towards the horizon which results in no visual change. The retaining walls, themselves, are not directly visible from the roadway or any of the key views. The avoidance and minimization measures AMM-VIS-5 and AMM-VIS-6 would be implemented to ensure the retaining walls conform to the coastal zone requirements. With no change to visual resources at this key view, there is no effect to visual resources.



Figure 2.2.4-14: Simulation of Alternatives 2 Looking South

As shown in Figure 2.2.4-14, the visual changes resulting from the retaining wall capped with midwestern guardrail are similar in the views looking south as in the views looking north. With Alternative 2, the roadway shifts to the center of the view and becomes more dominant in the foreground. Additionally, the profile of the roadway as it rises to the south brings the midwestern guardrail to the middle ground. While midwestern guardrail is a common feature in the corridor, its prominence in this view slightly alters the balance of natural and built features and partially obscures the visibility of the gentle side slope covered in coastal scrub vegetation which results in slightly adverse visual change. This visual change combined with the high visual sensitivity of the key view results in a low but adverse visual effect. The effect to visual resources resulting from the retaining walls, added guardrails, and vegetation clearance was factored into the overall visual effect of Alternative 2.

Temporary Views During Construction

All of the build alternatives would require building a temporary trestle on each side of the existing bridge and could also require a trestle extended underneath. Temporary shoring would also be required to allow for foundation upgrades (Alternative 1) or installation of the new foundations and demolition of the existing columns and foundations (Alternative 2). For Alternative 2, a protective cover would be attached to the existing bridge structure to catch debris. For all build alternatives, cofferdams would be constructed within San Gregorio Creek to allow construction work related to the bridge columns and foundations. The cofferdams would be removed, and the existing piles and the temporary shoring piles would be saw cut 3 feet below the mud line with the upper visible portions removed entirely. All of the build alternatives would involve removal of some vegetation near the temporary trestles.

The avoidance and minimization measures listed in Section 2.2.3.4 would reduce effects to visual resources for the build alternatives both during and after construction.

2.2.4.4 Avoidance, Minimization, and/or Mitigation Measures

AMM-VIS-1: Vegetation Removal. Tree and vegetation removal due to construction shall be minimized to the greatest extent feasible.

AMM-VIS-2: Tree Protection. Trees and vegetation outside of clearing and grubbing limits shall be protected from the contractor's operations, equipment, and materials storage.

AMM-VIS-3: Revegetation. Regraded and otherwise disturbed areas, including staging areas and temporary access roads, shall be revegetated with native, regionally appropriate vegetation.

AMM-VIS-4: Bridge Aesthetic Treatment. Aesthetic treatment of the bridge structure, including the bridge railing and pedestrian rail, will use context-sensitive texture and/or color. For Alternative 1, the fiber-reinforced polymer wrapped columns shall be painted to match the existing concrete.

AMM-VIS-5: Bury Retaining Walls. Heights of retaining walls will be minimized and visible portions buried to the greatest extent feasible.

AMM-VIS-6: Retaining Wall Aesthetics. Timber lagging shall be used for retaining walls below the roadway where feasible. Concrete walers and metal beams shall be colored with earth-tone coating. If concrete retaining walls are required, wall surfaces shall be stained and carved to mimic timber lagging walls or local natural rock outcroppings. Paved ditches and maintenance railings shall be eliminated wherever feasible, and all appurtenances color-treated to match the wall.

AMM-VIS-7: Regrading. Slope-rounding techniques shall be used to help blend the disturbed areas into the natural landforms.

AMM-VIS-8: Drainage Aesthetics. Drainage pipes shall be hidden from view where feasible. Pipes that cannot be hidden shall be colored with earth-tone coating to conceal them. Concrete drainage features shall be colored to match adjacent earth tones. Drainage rock used as dissipaters shall be colored earth tone, buried with soil and covered with vegetation or obscured with native plantings where feasible.

AMM-VIS-9: Barrier Aesthetics. Metal beam guardrail system shall use wooden posts and matte finish on railing where feasible. White barrier markers on top of the metal beam guardrail system shall be used in lieu of delineators (Type F White).

AMM-VIS-10: Avoid Concrete. The use of minor concrete vegetation control treatment under metal beam guardrail system shall be avoided.

AMM-VIS-11: Limit Construction Lighting. Construction activities shall limit all construction lighting to within the area of work and avoid light trespass through directional lighting, shielding, and other measures as needed.

2.2.5 Cultural Resources

2.2.5.1 Regulatory Setting

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

The National Historic Preservation Act (NHPA) of 1966, as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the National Register of Historic Places (NRHP). Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation (ACHP) the opportunity to comment on those undertakings, following regulations issued by the ACHP (36 Code of Federal Regulations [CFR] 800). On January 1, 2014, the First Amended Section 106 Programmatic Agreement (PA) among the Federal Highway Administration (FHWA), the ACHP, the California State Historic Preservation Officer (SHPO), and Caltrans went into effect for Caltrans projects, both state and local, with FHWA involvement. The PA implements the ACHP’s regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to Caltrans. The FHWA’s responsibilities under the PA have been assigned to Caltrans as part of the Surface Transportation Project Delivery Program (23 United States Code [USC] 327).

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

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

2.2.5.2 Affected Environment

The information in this section is based on the Section 106 Summary Memo prepared for the project in October 2024 by the Caltrans Professionally Qualified Staff (Caltrans 2024b). The Summary Memo documents the determinations of the technical reports completed for the project including Historic Property Survey Report (HPSR), Archaeological Survey Report (ASR), Extended Phase I Study/Archaeological Evaluation Report (XPI/AER), and Historic Resources Evaluation Report (HRER). The Finding of Effect (FOE) Report will be completed prior to circulation of the Final IS/EA MND, and the proposed finding is No Adverse Effect under Section 106 of the NHPA with the implementation of avoidance and minimization measures.

Caltrans submitted a sacred lands search to the Native American Heritage Commission (NAHC) on April 3, 2023, requesting a list of potentially interested Native American parties. In their response letter of April 7, 2023, the NAHC identified six tribal contacts and identified no sacred sites in the vicinity. Caltrans sent letters initiating consultation under Section 106 of the NHPA and AB 52 to all Native American groups identified by the NAHC and an additional two tribes, on June 16, 2023. Follow up attempts were made on August 15, 2024, to tribes that had not responded. Caltrans received requests for consultation with three Native American tribes. Consultation will be on-going throughout the life of the project, including during final design and construction.

The area of potential effects (APE) for the project represents the maximum extent of potential ground disturbance. It is approximately 18.5 acres and extends to the physical limits of the proposed construction activities. The APE includes all areas that could be permanently or temporarily affected by the proposed project, including the locations of abutments, bents, and retaining walls, areas where grading is proposed, portions of roadway proposed for replacement, and potential staging locations. The APE is limited to the Caltrans right-of-way from PM 17.4 to PM 18.2 and includes one archaeological site.

Based on the pre-field background research, an extended phase I/II study was conducted to determine the nature, extent, and integrity of archaeological deposits within the project's area of direct impacts. Fieldwork was conducted by representatives of Caltrans, AECOM, and Tribal representatives from March 11 to 15, 2024. All testing locations were within Caltrans right-of-way. Based on this work, Caltrans concluded that the previously recorded archaeological site is located within the project footprint and is eligible for inclusion in the NRHP/CRHR under Criteria A/1 for its association with events that have made a significant contribution to the broad patterns of history and under Criteria D/4 for its potential to yield data related to important archaeological research questions. Caltrans is treating the site as a Tribal Cultural Resource (TCR), as defined in PRC Section 21074.

San Gregorio Creek Bridge was built in 1941, and was determined ineligible for the National Register of Historic Places in the 1986 statewide survey "Historic Bridges in California: Concrete Arch, Concrete Girder, Concrete Slab, Canticrete, Stone Masonry, Suspension, Steel Girder and Steel Arch." The bridge was reevaluated for this project and was determined to be ineligible for the NRHP and CRHR.

The HPSR, ASR/XPI and HRER were sent to the SHPO on September 25, 2024, for concurrence on the determinations of eligibility. SHPO concurred with the determinations on October 28, 2024. See Appendix D for SHPO concurrence.

2.2.5.3 Environmental Consequences

The No Build Alternative would not include any ground-disturbing activities and, therefore, would not affect cultural resources.

The Build Alternatives would not affect any built historic resources. Tribal cultural resources are described further in Section 3.2.18.

The proposed project finding pursuant to the January 2014 First Amended Programmatic Agreement 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 (hereafter, the PA) is anticipated to be *No Adverse Effect* for both project alternatives.

The previously recorded archaeological site that is eligible for inclusion on the NRHP/CRHP is protected by Section 4(f) of the Department of Transportation Act of 1966. The proposed project would result in a *de minimis* “use” of the resource as defined by Section 4(f). Please see additional details in Appendix A.

Project features will be implemented to provide for stopping work and performing further investigation if cultural resources are encountered during project construction (Section 1.6, PF-CUL-1 and PF-CUL-2). In addition, the implementation of AMM-CUL-1 through AMM-CUL-3 would reduce or avoid potential impacts to archaeological resources by demarcating environmentally sensitive areas and allowing for construction monitoring to avoid impacts to archaeological resources. Construction of the proposed project, therefore, will have no adverse effects on cultural resources.

Section 30244 of the California Coastal Act and the San Mateo County Local Coastal Program call for the protection of archaeological resources. Since the proposed project would have no adverse effects on archaeological resources, it does not conflict with coastal zone policies.

2.2.5.4 Avoidance, Minimization, and/or Mitigation Measures

Implementation of the following measures will minimize potential impacts to sensitive cultural resources.

AMM-CUL-1: Cultural Resources ESA. Archaeological ESAs will be delineated on the plans and described in the specifications. Appropriate protective measures including demarcations with flags or high visibility spray paint, or temporary high visibility fencing (THVF), access restrictions, and monitoring of the ESA boundaries by a qualified archaeologist and local Tribal representative will be implemented during construction.

AMM-CUL-2: Cultural Resources Monitoring. An Archaeological Monitoring Area (AMA) will be delineated/noted on the plans and described in the specifications. Appropriate protective measures including demarcations with flags or high visibility spray paint and monitoring by a qualified archaeologist and local Tribal representative will be implemented during construction within the AMA.

AMM-CUL-3: Cultural Sensitivity Training: Prior to the initiation of construction for the project, the project contractor, staff, and construction crews shall be made aware of the potential to encounter cultural resources and Tribal Cultural Resources (including the traditional importance

of resources such as cultural landscapes, significant waterways, and ethnobotanical plants) through a presentation provided by an archaeologist and a representative from local consulting Tribes.

2.3 Physical Environment

2.3.1 Hydrology and Floodplain

2.3.1.1 Regulatory Setting

Executive Order (EO) 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The Federal Highway Administration (FHWA) requirements for compliance are outlined in 23 Code of Federal Regulations (CFR) 650 Subpart A.

To comply, the following must be analyzed:

- The practicability of alternatives to any longitudinal encroachments.
- Risks of the action.
- Impacts on natural and beneficial floodplain values.
- Support of incompatible floodplain development.
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values affected by the project.

The base floodplain is defined as “the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year.” An encroachment is defined as “an action within the limits of the base floodplain.”

2.3.1.2 Affected Environment

Caltrans District 4 prepared a *Location Hydraulic Study* (Caltrans 2024c) and a *Preliminary Hydraulic Report* (Caltrans 2023a) for the proposed project.

Hydrology

The existing bridge is located above San Gregorio Creek, a major channel of San Mateo County. San Gregorio Creek’s headwaters are in the Santa Cruz Mountains at the confluence of Alpine Creek and La Honda Creek. It flows through grasslands until meeting the Pacific Ocean at San Gregorio State Beach.

The existing bridge is located approximately 1,000 feet upstream from the Pacific Ocean. The NOAA’s Sea Level Rise Viewer shows that the extent of inundation is 3,300 feet upstream from the bridge location. Therefore, there is likely tidal exchange between the Pacific Ocean and San Gregorio Creek.

Floodplain

The FEMA Flood Insurance Rate Map (FIRM) report (06081C0359F effective August 2, 2017) identifies the project as within Zone A and Zone VE. Zone A denotes areas with a one percent annual chance of flooding and a 26 percent chance of flooding over the life of a 30-year mortgage. Based on the *Location Hydraulic Study*, the current base flood elevation for a 100-year storm at the bridge is 12.3 feet (NGVD 29). Zone VE denotes Coastal areas with a one percent or greater chance of flooding and an additional hazard associated with storm waves. Base flood elevations for this flood zone area are 19 feet. Figure 2.3.1-1 shows the extent of the floodplain near the project limits. Due to its proximity to the coastline, the project site is within an area of tsunami risk according to the Caltrans’ Memo to Designers (MTD) 20-13 and the Natural Hazards Risks and Resiliency Research Center (NHR3) Tsunami Inundation Portal.

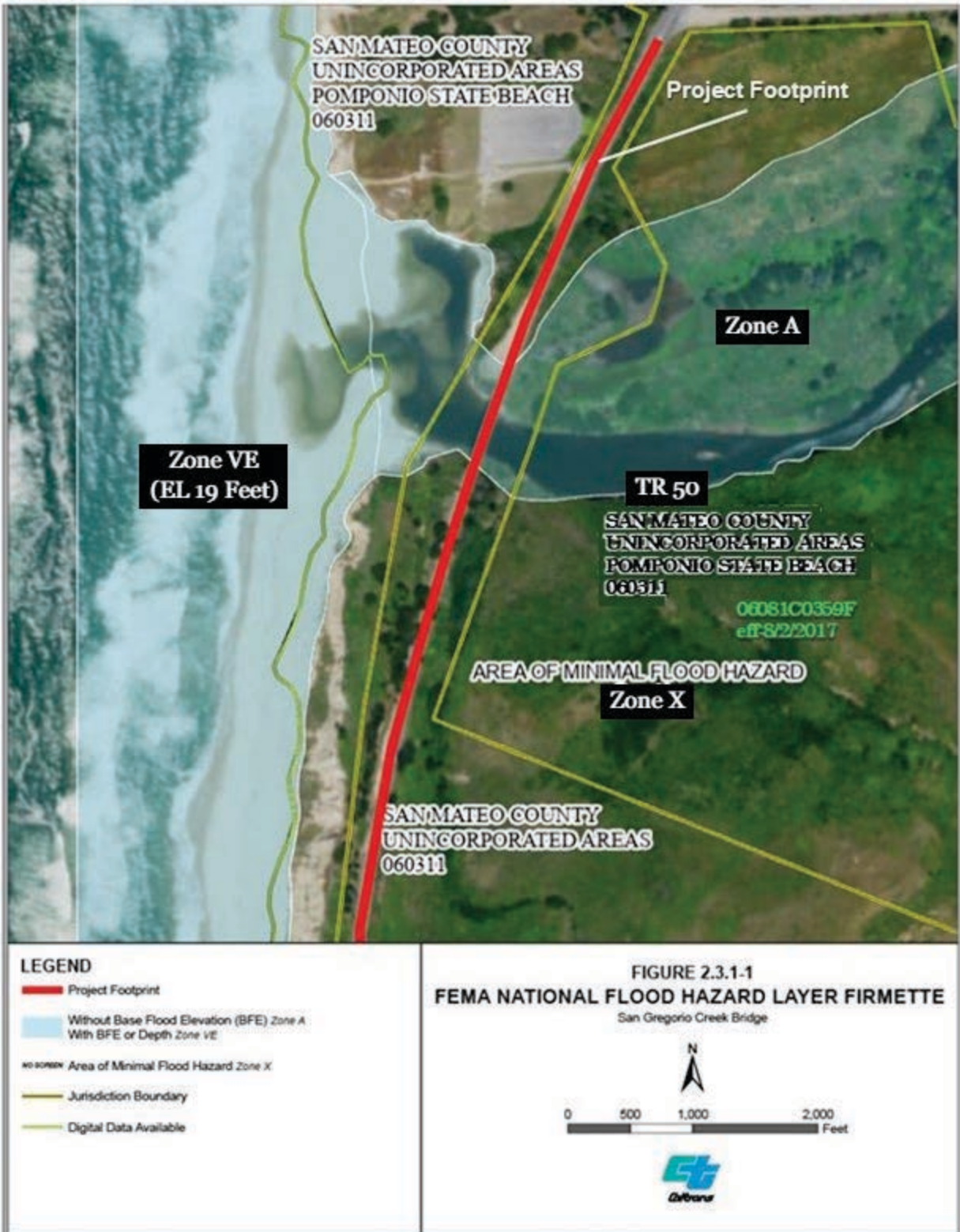


Figure 2.3.1-1: FEMA National Flood Hazard Layer FIRMette

Beneficial Uses

Areas of the project contain natural and beneficial floodplain values including, but not limited to fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, natural moderation of floods, water quality maintenance, and groundwater recharge.

2.3.1.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not affect the floodplains within the project limits. None of the existing floodplain values in or adjacent to the project would be altered under the No Build Alternative.

Build Alternatives

Project construction activities for all Build Alternatives would involve some level of bridge renovation or demolition that would occur above and within San Gregorio Creek. Alternative 2 would completely demolish the existing bridge structure, resulting in a greater amount of demolition activities occurring over San Gregorio Creek. However, both Build Alternatives would require installation of cofferdams or isolation casings, which would be removed after construction activities are completed. It is anticipated that a dewatering plan will be required for both Build Alternatives for construction of temporary cofferdams during foundation work. The placement of cofferdams in San Gregorio Creek would be temporary.

Neither of the Build Alternatives would result in a “significant encroachment” as defined in 23 CFR 650.105. A significant encroachment is a highway encroachment, and any direct support of likely base floodplain development, that would involve one or more of the following construction or flood-related impacts:

- A significant potential for interruption or termination of transportation facility that is needed for emergency vehicles or provides a community’s only evacuation route,
- A significant risk (to life or property), or
- A significant adverse impact on natural and beneficial floodplain values.

Access across San Gregorio Creek would be maintained during construction under both Build Alternatives. The project would reduce risk to life and property by reconstructing or replacing the existing bridge. The existing bridge has four bents within San Gregorio Creek that would be retrofitted under Alternative 1. Alternative 2 would be designed with two bents in the creek. The proposed project, therefore, would not place additional fill in any of the identified floodplains and is not expected to have any significant impacts to these floodplains.

The existing bridge soffit has an elevation 36.9 feet which provides approximately 24.6 feet of freeboard during a 100-year storm event. Neither of the Build Alternatives would substantially alter the elevation of the bridge and, therefore, the project would not encroach on the existing floodplain.

Potential short-term adverse effects during construction activities to natural and beneficial floodplain values may include vegetation removal for equipment access and staging, and temporary disturbance of wildlife habitat. Section 1.6 lists several project features that would be implemented during construction to reduce the potential for effects on natural and beneficial floodplain values, such as delineating environmentally sensitive areas, cleaning up and recontouring temporarily disturbed areas and staging areas, and revegetating temporarily affected areas. As a result, the project would not have adverse effects on long-term natural and

beneficial floodplain values. Additional discussion of impacts to water quality, which would affect the natural and beneficial floodplain values, is provided in Section 2.3.2.

2.3.1.4 Avoidance, Minimization, and/or Mitigation Measures

Under all Build Alternatives, the project would not result in significant adverse effects to the floodplain and hydrologic study area, therefore, no avoidance, minimization, or mitigation measures are proposed related to flooding hazards. AMMs associated with water quality are discussed in Section 2.3.2.

2.3.2 Water Quality and Storm Water Runoff

2.3.2.1 Regulatory Setting

Federal Requirements: Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source¹ unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. The following are important CWA sections:

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

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

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

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of the USACE’s Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. Environmental Protection Agency’s (U.S. EPA) Section 404 (b)(1) Guidelines (40 Code of Federal Regulations [CFR] Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the

¹ A point source is any discrete conveyance such as a pipe or a man-made ditch.

discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent² standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause “significant degradation” to waters of the U.S. In addition, every permit from the USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4. A discussion of the LEDPA determination, if any, for the document is included in the Wetlands and Other Waters section.

State Requirements: Porter-Cologne Water Quality Control Act

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

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

State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWQCBs are

² The U.S. EPA defines “effluent” as “wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall.”

responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

- **National Pollutant Discharge Elimination System (NPDES) Program**

Municipal Separate Storm Sewer Systems (MS4)

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

Caltrans’ MS4 Permit, Order No. 2012-0011-DWQ (adopted on September 19, 2012 and effective on July 1, 2013), as amended by Order No. 2014-0006-EXEC (effective January 17, 2014), Order No. 2014-0077-DWQ (effective May 20, 2014) and Order No. 2015-0036-EXEC (conformed and effective April 7, 2015) has three basic requirements:

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

To comply with the permit, Caltrans developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within Caltrans for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices Caltrans uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. The proposed project will be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

Construction General Permit

Construction General Permit, Order No. 2009-0009-DWQ (adopted on September 2, 2009 and effective on July 1, 2010), as amended by Order No. 2010-0014-DWQ (effective February 14, 2011) and Order No. 2012-0006-DWQ (effective on July 17, 2012). The permit

regulates storm water discharges from construction sites that result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop Storm Water Pollution Prevention Plans (SWPPPs); to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective SWPPP. In accordance with Caltrans' SWMP and Standard Specifications, a Water Pollution Control Program (WPCP) is necessary for projects with DSA less than one acre.

Section 401 Permitting

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

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

2.3.2.2 Affected Environment

This section is based on the *Stormwater Drainage Report* (Caltrans 2024d) and *Water Quality Study* (Caltrans 2024e) prepared for the project.

The project is in a region characterized by moderate temperatures (Mediterranean like) and a rainy season between November through April. Average annual precipitation is about 28.68 inches.

The existing bridge is located above San Gregorio Creek, a major channel of San Mateo County. San Gregorio Creek's headwaters are in the Santa Cruz Mountains at the confluence of Alpine Creek and La Honda Creek. It flows through grasslands until meeting the Pacific Ocean at San Gregorio State Beach. The existing bridge is located approximately 1,000 feet upstream from the Pacific Ocean. The NOAA's Sea Level Rise Viewer shows that the extent of inundation

is 3,300 feet upstream from the bridge location. Therefore, there is likely tidal exchange between the Pacific Ocean and San Gregorio Creek. The project is within the San Gregorio Creek-Frontal Pacific Ocean watershed. This is the creek's receiving waterbody. The project is also located in the San Gregorio Creek Hydrologic subarea #202.30.

The beneficial uses of San Gregorio Creek include agricultural supply, cold freshwater habitat, migration of aquatic organisms, rare, threatened, or endangered species, contact/non-contact water recreation, spawning, reproduction, and/or early development, and wildlife habitat.

The San Francisco Bay Basin Plan (SFRWQCB 2019) establishes water quality objectives for all surface waters in the San Francisco Bay Region. Water quality objectives are numeric and narrative and are used to define the appropriate levels of environmental quality, protect beneficial uses, and manage activities that can impact aquatic environments. The Basin Plan lists the following narrative and numeric water quality objectives for the region's surface waters: bacteria, bioaccumulation, biostimulatory substances, color, dissolved oxygen, floating material, oil and grease, population and community ecology, pH, radioactivity, salinity, sediment, settleable material, suspended material, sulfide, taste and odors, temperature, toxicity, turbidity, and un-ionized ammonia.

Section 303(d) of the CWA requires that states develop a list of water bodies that do not meet water quality standards. The SWRCB 2020-2022 California Integrated Report lists San Gregorio Creek as pollutant impaired for bacteria and sedimentation/siltation.

The Water Quality Study reported that the soil-erodibility factor around the project limits is 0.32. Soil-erodibility is a measure of (1) the susceptibility of soil or surface material to erosion, (2) transportability of the sediment, and (3) rate and amount of runoff given a rainfall input, as measured under within standard conditions. The soil is characterized as medium-textured soils, such as a silt loam. They have soil-erodibility values between 0.25 to 0.45 indicating they are moderately susceptible to particle detachment, and they produce runoff at moderate rates. The area around the project limits features soils that are sandy clay loam and have a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

The project area is not located in any identified groundwater basin (SWRCB 2023) and groundwater elevation is at creek level (Caltrans 2023).

SR 1 within the project limits is identified by Caltrans as being within a low-trash-generating area and therefore, this project is not required to implement trash control measures.

2.3.2.3 Environmental Consequences

No Build Alternative

No short-term, temporary, or long-term water quality impacts would occur during normal conditions under the No Build Alternative. However, the existing bridge would continue to not meet current seismic standards and bridge and safety standards. Failure of the existing bridge could result in debris falling into San Gregorio Creek.

Build Alternatives

Drainage Patterns

Build Alternative 1 would result in 1.0 acre of disturbed soil area but would not result in any new impervious surface area being added to the project area.

Build Alternative 2 (Options A and B) would result in 2.8 acres of disturbed soil area. It would also result in 0.4 acres of net new impervious (NNI) surface area and 0.1 acres of replaced impervious surface area resulting in a total of 0.5 acres, or 21,780 square feet, of new impervious surfaces (NIS). Given that Alternative 2 would result in more than 10,000 square feet of new impervious surfaces, stormwater treatment would be required under the NPDES Permit. Stormwater treatment will also be required due to the 401/404 Water Quality Certification that will be obtained for the project. Build Alternative 2 is not expected to alter the overall drainage pattern of the area.

Suspended Particulates (Turbidity)

Build Alternative 2 would add minimal net new impervious surface areas and, therefore, would have minimal potential to increase sediment in runoff to San Gregorio Creek. Stormwater impacts would be reduced through the proper implementation of permanent erosion control, design pollution prevention, and stormwater treatment measures, that will be determined during Final Design.

Erosion and Accretion Patterns

Hydromodification can cause increased bed and bank erosion, loss of habitat, increased sediment transport and deposition, and increased flooding. The potential for hydromodification impacts will be evaluated during Final Design if Alternative 2 is selected as the preferred alternative, since it would increase impervious surface area by greater than 10,000 square feet over pre-project conditions (C/CAG 2023). Per the Caltrans Hydromodification permit requirement, Caltrans shall ensure that all new development and redevelopment projects do not cause a decrease in lateral (bank) and vertical (channel bed) stability in receiving stream channels. As the location of the San Gregorio Bridge where the net new impervious surface incurred does not have significant receiving stream channel reach before it joins the Pacific Ocean, such impact to banks and channels is deemed insignificant.

The project will be constructed to reduce erosion by disturbing slopes only when necessary, minimizing cut and fill areas to reduce slope lengths, providing cut and fill slopes flat enough to allow revegetation to limit erosion rates.

Aquifer Recharge/Groundwater

The project's maximum net new impervious surface area would be minimal and, thus, would not substantially affect groundwater recharge in the project area. Additionally, as previously discussed, the project is not located within any identified groundwater basin.

Short-Term Impacts to Water Quality

During project construction, Build Alternative 1 would result in approximately 1.0 acre DSA and Build Alternative 2 would result in approximately 2.8 acres DSA. Both Build Alternatives would

disturb one acre or more and would be required to comply with the Construction General Permit, which includes performing a risk level determination to determine the required monitoring and sampling of stormwater during construction. The implementation of a SWPPP will be required during project construction as described in PF-WQ-1 and AMM-WQ-1. In addition, AMM-WQ-2 will require the preparation of a dewatering plan in order to ensure water quality is protected during construction activities in San Gregorio Creek.

The risk level assessment is determined from the combined receiving water risk and sediment risk. The receiving water risk is determined based on the receiving water bodies having either a 303(d) listing for sediment impairment or a TMDL for sediment or the existing beneficial uses for cold freshwater habitat, migration, and fish spawning. The sediment risk is determined from the product of the rainfall runoff erosivity factor, the soil erodibility factor, and the length-slope factor.

The sediment risk factor for the project was calculated using the U.S. EPA's "Rainfall Erosivity Factor Calculator for Small Construction Sites". The project was calculated to have a sediment risk of 35.41 tons/acre, which falls within the medium risk classification. The receiving water body (San Gregorio Creek) has the combined beneficial uses of cold freshwater habitat, fish migration, and fish spawning. Therefore, the project has a high receiving water risk. The medium sediment risk and high receiving water risk result in the project being classified as Risk Level 2. Therefore, in addition to implementation of standard construction site BMPs, the contractor would be required to perform quarterly non-stormwater discharge visual inspections, and rain-event visual inspections pre-storm, daily during a storm event, and post-storm. Risk Level 2 projects are also required to implement Rain Event Action Plans and comply with Numeric Action Level effluent limits for pH and turbidity. The risk assessment may be updated during Final Design using more detailed design information.

Long-Term Impacts During Operation and Maintenance

Build Alternative 1 would not result in any new impervious surface area. If this alternative is selected as the preferred alternative, no long term water quality treatment areas would be needed.

Build Alternative 2 would result in 0.4 acres of net new impervious surface area and 0.1 acres of replaced impervious surface area resulting in a total of 0.5 acres, or 21,780 square feet, of new impervious surfaces (NIS). The added impervious surface area in Build Alternative 2 would have a minimal increase in stormwater pollution effects. Pollution and runoff sources are not expected to change. These impacts would be reduced through the implementation of stormwater treatment that will be implemented either on-site or off-site as agreed to in permit conditions with appropriate resources agencies (AMM-WQ-3).

Multiple bioretention/filtration swales will be required as a treatment for the project to address the increase in NIS. However, due to the narrowness, steepness and embankment section of the highway that the project site is located, and that the design overlaps environmentally sensitive habitat areas, it may not be not feasible to accommodate the required stormwater treatment areas on-site. Once a preferred alternative is chosen, Caltrans will design stormwater treatment where possible, in areas that are not environmentally sensitive, within the project limits. If adequate space is not found on-site for the required amount of stormwater treatment areas, off-site locations will be developed in coordination with resource areas with jurisdiction (RWQCB, USACE, CDFW, CCC, and San Mateo County LCP).

2.3.2.4 Avoidance, Minimization, and/or Mitigation Measures

Caltrans will consult with the San Francisco RWQCB – Region 2, the United States Army Corps of Engineers, and the California Department of Fish and Wildlife, and the California Coastal Commission/San Mateo County Local Coastal Program to finalize an agreed upon list of minimization and/or mitigation measures for the Section 401 Water Quality Certification, Section 404 Nationwide Permit, and Lake and Streambed Alteration Agreement, and Consolidated Coastal Development Permit, respectively.

AMM-WQ-1: Stormwater Pollution Prevention Plan. A SWPPP will be developed and implemented for the project and will comply with the Construction General Permit and the Caltrans SWMP, which includes measures to protect sensitive areas and to prevent and minimize stormwater and non-stormwater discharges. Water quality inspector(s) will inspect construction areas to determine if the BMPs are adequate and adjust them, if necessary. The in-creek construction window when work is permitted in San Gregorio Creek will be June 1 to October 15. When possible, earth-disturbing construction activities will not be scheduled during anticipated rain events. The SWPPP will be prepared by the contractor and approved by Caltrans.

The temporary Construction Site BMPs specified in the SWPPP will be implemented throughout the duration of construction activities to avoid and minimize pollutant loads in potential stormwater/non-stormwater discharges. Construction Site BMPs strategies applicable to this project may include the following:

- Soil Stabilization: Temporary Fence (Type ESA); Move-In/Move-Out; Hydroseeding; Geotextiles, Mats, Plastic Covers, and Erosion Control Blankets; Hydraulic Mulch
- Sediment Control: Fiber Rolls, Silt Fence, Sediment Trap, Gravel Bag Berm, Check Dams, Drainage Inlet Protection
- Tracking Control Practices: Temporary Construction Entrance/Exit
- Wind Erosion Controls: Temporary Cover
- Non-Stormwater Management: Dewatering Operations; Material and Equipment Use Over Water; Avoidance of Potable Water Use; Reclaimed Water Use for Irrigation
- Waste Management and Materials Pollution Control: Concrete Waste Management, Material Delivery and Storage, Material Use, Stockpile Management, Spill Prevention and Control, Soil Waste Management, Hazardous Waste and/or Contaminated Soil Management, and Liquid Waste Management
- Stormwater Sampling and Analysis

AMM-WQ-2: Dewatering. During final design, Caltrans will prepare a water diversion and dewatering plan that describes how coffer dams will be used, dewatering conducted, and water quality protected during instream work in San Gregorio Creek.

AMM-WQ-3: Stormwater Treatment. The project design will include permanent stormwater treatment areas (such as bioretention areas) that do not overlap with environmentally sensitive areas to treat 0.5 acre of new impervious surface. If the project footprint is unable to

accommodate the required treatment areas entirely on-site, any remaining treatment will be sought from other Caltrans right-of-way or in consultation with local municipalities first within the same watershed then within the same drainage basin or County. The locations of the stormwater treatment areas will be designed in coordination with USACE, RWQCB, CDFW, CCC, and San Mateo County LCP as part of the project's permit applications during final design.

2.3.3 Geology/Soils/Seismic/Topography

2.3.3.1 Regulatory Setting

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

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

2.3.3.2 Affected Environment

Caltrans District 4 prepared a *Preliminary Geotechnical Report* (Caltrans 2023b) for the proposed project.

Geology and Soils

The preliminary geologic map of the La Honda and San Gregorio Quadrangle indicate that the project site lies on material identified as Quaternary alluvium associated with the San Gregorio Creek drainage. The late Miocene to Pliocene siltstone to tuffaceous white sandstone of the Tahana Member and the Pomponio Mudstone Member of the Purisima Formation are locally present. The banks of the San Gregorio Creek at the existing bridge are fill, native young terrace deposits, and alluvium.

The banks of the river channel with approximate slope ratios 1.5 or 2 to 1 (horizontal to vertical) at the bridge site are fill, native young terrace deposits, and alluvium. Rock slope protection armoring was previously placed near Bent 3 on the southern portion of the bridge. The channel bottom is earthen and supports prodigious growth of shrubs. The site appears to experience erosion at Bents 2 and 3.

Soil mapped along the southern and northern bridge approaches are moderately well-drained Terrace escarpments (Ta) surface soils. These soils are commonly situated on coastal dissected terraces and low hills developed on sedimentary bedrock. This soil is plastic to very plastic, with 30 to 40 percent clay component, with slow to rapid runoff, and very slow permeability. Surface soils flanking the lowermost slope levels and floodplain level, beneath the bridge and adjacent to the creek, are mapped as Mixed alluvial land (Ma). These soils have a low (less than 12.5 percent) clay content and are excessively drained where water is removed rapidly due to its coarse-textured nature, owing to very high hydraulic conductivity.

The generalized soil profile can be described as follows: below the fill is mushy clay underlain by sandy clay silt and silt sand. Below these materials is silty sandstone. Groundwater elevation is at creek level.

The project site is not located on or near a mapped mineral deposit, active quarry, or other mineral resource site (SMC 1986).

Seismic Hazards

The site is susceptible to strong earthquake induced ground motions however, the site is not located within an Alquist-Priolo Earthquake Fault Zone or within 1,000 feet of any unzoned fault with an age of Holocene or younger. Therefore, the project site is not considered susceptible to surface fault rupture hazards.

Strong ground motion at the site may cause liquefaction of the cohesionless and non-plastic silty materials which are likely present at the site. Moreover, the liquefaction map of San Mateo County shows that the site is susceptible to liquefaction. The project site is not located within a California Department of Conservation area with landslide reports or maps (DOC 2022b) and is not within a mapped area of the U.S. Geological Survey's (USGS) U.S. Landslide Inventory map (USGS 2019). However, landslides and erosion along the coast in other locations have caused portions of SR 1 to either be closed for long periods or re-routed entirely.

The project site is located near the coastline, therefore, the site is susceptible to tsunami risk. According to California Geological Survey (2024), the project limits overlap a tsunami hazard area. Section 3.4.5.4.2 further describes the risk of tsunami to the project limits.

2.3.3.3 Environmental Consequences ***No Build Alternative***

Under the No Build Alternative, the existing bridge would continue to not meet current seismic standards and be vulnerable to seismic events. Failure of the existing bridge could be accelerated as a result of ground shaking during an earthquake and would be considered an adverse effect.

Build Alternatives

All Build Alternatives would have the same level of effects because the existing seismic and geologic hazards in the project area would be present under all Build Alternatives. All Build Alternatives would also be constructed to the same engineering standards to meet seismic design requirements.

The proposed project would not exacerbate the potential for seismic shaking. The intensity of the earthquake motion at the site would depend on the characteristics of the generating fault, the distance to the earthquake epicenter, the magnitude and duration of the earthquake, and specific site geologic conditions. Caltrans' design and construction guidelines incorporate engineering standards that address seismic risks. Project elements would be designed and constructed to meet seismic design requirements for ground shaking and ground motions, as determined for the project vicinity and site conditions (PF-GEO-1 and PF-GEO-2). Caltrans also requires that additional geotechnical subsurface and design investigations be performed during the Final Design. These standards and requirements would avoid the potential for adverse effects related to seismic activity.

Liquefaction and landslides have the potential to occur at the project site, however, the project would be designed to account for potential liquefaction and landslides. Caltrans' design and construction guidelines incorporate engineering standards that address risks associated with liquefaction and landslide hazards (PF-GEO-2). PF-GEO-1 provides for geotechnical investigations to be performed during final design for any proposed new earthwork or new

structure in the Caltrans right-of-way within the project limits. The investigations will also address geologic hazards related to expansive or corrosive soils, settlement, and scour.

During project construction, earthmoving activities such as grading, excavation, and trenching have the potential to result in soil erosion and loss of topsoil, especially in areas with steep slopes. BMPs would be implemented to reduce erosional impacts during construction activities, such as stabilization of graded areas with appropriate erosion control devices (PF-WQ-1 and PF-WQ-2).

The project would not have an adverse effect on mineral resources or a mineral resources recovery site. The project would not have an adverse effect on a visually significant natural landmark or landform.

This project is located in the coastal zone. Section 2.2.1.3 provides a description of the project's consistency with various coastal policies. Section 3.4.5.4 provides additional analysis of sea level rise and tsunami risk. The project would not exacerbate the hazards associated with sea level rise or tsunami.

2.3.3.4 Avoidance, Minimization, and/or Mitigation Measures

Implementation of the project features listed above would reduce the potential for impacts from seismic and geologic hazards. No avoidance, minimization, or mitigation is required.

2.3.4 Paleontology

2.3.4.1 Regulatory Setting

Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils.

A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized projects.

16 United States Code (USC) 431-433 (the “Antiquities Act”) prohibits appropriating, excavating, injuring, or destroying any object of antiquity situated on federal land without the permission of the Secretary of the Department of Government having jurisdiction over the land. Fossils are considered “objects of antiquity” by the Bureau of Land Management, the National Park Service, the Forest Service, and other federal agencies.

23 United States Code (USC) 1.9(a) requires that the use of Federal-aid funds must be in conformity with all federal and state laws.

23 United States Code (USC) 305 authorizes the appropriation and use of federal highway funds for paleontological salvage as necessary by the highway department of any state, in compliance with 16 USC 431-433 above and state law.

Under California law, paleontological resources are protected by the California Environmental Quality Act (CEQA).

2.3.4.2 Affected Environment

Caltrans District 4 prepared a *Paleontological Identification Report* (PIR) for the proposed project (Caltrans 2024f). A site visit was performed in May 2023 as part of the PIR.

The site lies on material identified as late Holocene stream-channel deposits, late Holocene alluvial fan deposits, and sandstone to siltstone identified as the Pliocene to late Miocene-aged Tahana Member of the Purisima Formation. A site visit identified Pleistocene-aged marine terraces underlying artificial fill and Holocene stream terrace deposits below both abutments of the existing bridge.

The geologic units mapped within the project area are summarized further below and are shown in Figure 2.3.4-1.

- **Artificial fill** (late Holocene) (af) includes rock, sand, and mud deposited by humans. The artificial fill was laid down during roadway and bridge construction and also can be used for drainage diversion and erosion mitigation.
- **Stream-channel deposits** (late Holocene) (Qc) include fluvial deposits within active, natural stream channels.
- **Alluvial fan deposits** (late Holocene) (Qyf) are judged to be late Holocene (<1,000 years) in age, on basis of records of historical inundation or presence of youthful braid bars and distributary channels. Internal contacts delineate individual alluvial fans.
- **Alluvial deposits, undivided** (Holocene) (Qa) consist of alluvium deposited in fan, terrace, or basin environments.
- **Marine-terrace deposits, undivided** (Pleistocene) (Qmt) consists of sand and gravel deposited on uplifted marine-abrasion platforms along the coast.

- **Older alluvial fan deposits** (late to early Pleistocene) (Qof) are moderately well to deeply dissected alluvial deposits. In places, the original fan-surface morphology may be preserved.
- **The Purisima Formation, Pomponio Mudstone Member** (Pliocene) (Tpp) consists of porcelaneous shale and mudstone and, in places, is bedded with alternating layers of nonsiliceous mudstone.
- **The Purisima Formation, Tahana Member** (Pliocene and late Miocene) (Tpt) consists of medium-grained to very fine-grained lithic sandstone and siltstone, interbedded with some silty mudstone, tuffaceous sandstone, and pebble conglomerate.

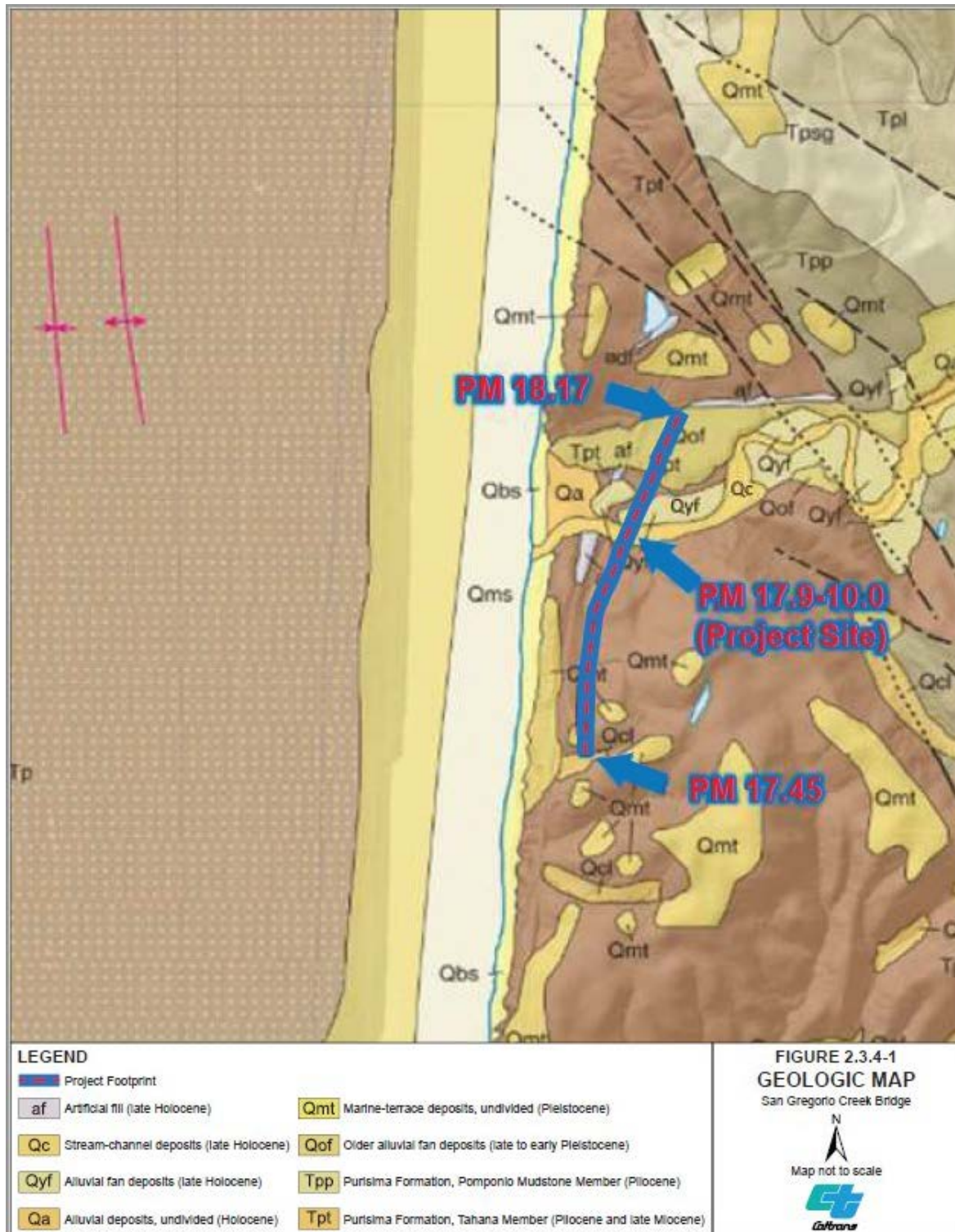


Figure 2.3.4-1: Geologic Map

Caltrans uses a three-part scale to characterize paleontological sensitivity, consisting of no potential, low potential, and high potential. The scale generally correlates with the likelihood for a geologic unit to contain significant vertebrate, invertebrate, or plant fossils. Occurrences of fossil resources are closely tied to the geologic units (e.g., formations or members) that contain them. The probability of finding significant fossils in an area can be broadly predicted from previous records of fossils recovered from the geologic units in and/or adjacent to the area. As a practical matter, no consideration is generally afforded to paleontological sites for which scientific importance cannot be demonstrated.

A paleontological resource is significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct.
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein.
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas.
4. The fossils demonstrate unusual or spectacular circumstances in the history of life.
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

The Pleistocene-aged marine terrace unit has the potential to contain fossils. The Late Mio-Pliocene Purisima Formation is known to be a paleontologically significant geologic unit containing fossils. The remaining units are considered to have either low or no sensitivity for paleontological resources because of lack of documented fossil occurrences in the project area or previous disturbance that would compromise the ability to determine fossil age.

2.3.4.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not include any ground-disturbing activities and, therefore, would not affect paleontological resources.

Build Alternatives

Both Build Alternatives would involve ground disturbing activities during project construction. Ground disturbing activities would include grading, installation of piles up to 100 feet deep, installation of temporary shoring sheet piles up to 30 feet deep. The piles proposed for Alternative 1 would be 60 inches in diameter and Alternative 2 would include two rows of 24-inch piles for abutments 1 and 4 and one row of 72-inch diameter piles for bents 2 and 3. Both Alternatives would also include multiples rows of piles at 50 feet deep for construction trestles. Project grading up to 15 feet in depth would disturb the artificial fill, Holocene terraces, and Pleistocene terraces. Deeper activities ranging from 30 to 100 feet would also disturb the Late Mio-Pliocene Purisima Formation. Disturbance of the Pleistocene-aged marine terrace unit and Late Mio-Pliocene Purisima Formation could affect sensitive resources.

Both Build Alternatives would have a similar level of potential impacts due to ground-disturbing activities, however, Alternative 2 would have a slightly greater potential to impact sensitive

resources due to the wider piles and additional temporary construction piles. The remaining project activities are not anticipated to encounter sensitive resources.

Caltrans Standard Specification 14-7.03 will be implemented to provide for stopping work, securing the area, and performing further investigation if paleontological resources are encountered during project construction (PF-GEO-03). In addition, the implementation of AMM-PAL-1 would reduce potential effects to paleontological resources by allowing for the recovery of fossil remains and associated specimen data and corresponding geologic and geographic site data that otherwise might be lost.

No permits are anticipated to be needed for monitoring or fossil recovery.

Section 30244 of the California Coastal Act and the San Mateo County Local Coastal Program call for the protection of paleontological resources. The project will implement the measures listed in Section 2.3.4.4 in order to avoid or minimize effects to paleontological resources, if they are present in the project limits. Construction measures resulting from the Paleontological Evaluation Report/Paleontological Mitigation Plan (PER/PMP) will be added to the project's environmental commitments record during final design and will be documented in the project's consolidated coastal development permit application. The project is not expected to conflict with coastal zone policies.

2.3.4.4 Avoidance, Minimization, and/or Mitigation Measures

Implementation of the following measure will avoid or reduce potential effects to sensitive paleontological resources, if present.

AMM-PAL-1: Develop PER/PMP. A PER/PMP shall be developed by a qualified professional paleontologist using detailed design plans of the Preferred Build Alternative. The PER/PMP will include a monitoring plan that will provide 1) instructions for monitoring excavations, 2) a determination of the level of monitoring necessary at each excavation based on paleontological sensitivity of the sediment and excavation type, and 3) prescriptions for dealing with paleontological discoveries. The PMP shall be implemented during construction. A specification in the construction contract stating that paleontological monitoring will occur in accordance with the PMP shall be included. If necessary, the PMP will include a Paleontological Resources Awareness worked training.

2.3.5 Noise and Vibration

2.3.5.1 Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969 and the California Environmental Quality Act (CEQA) provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between NEPA and CEQA.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

CEQA requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless those measures are not feasible. The rest of this section will focus on the NEPA/Title 23 Part 772 of the Code of Federal Regulations (23 CFR 772) noise analysis; please see Chapter 3 of this document for further information on noise analysis under CEQA.

NATIONAL ENVIRONMENTAL POLICY ACT AND 23 CFR 772

For highway transportation projects with Federal Highway Administration (FHWA) involvement (and Caltrans, as assigned), the Federal-Aid Highway Act of 1970 and its implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations include noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC for residences (67 dBA) is lower than the NAC for commercial areas (72 dBA). The following table lists the noise abatement criteria for use in the NEPA/23 CFR 772 analysis.

Table 2.3.5-1: Noise Abatement Criteria

Activity Category	NAC, Hourly A- Weighted Noise Level, Leq(h)	Description of activity category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B ¹	67 (Exterior)	Residential.
C ¹	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F.
F	No NAC—reporting only	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical, etc.), and warehousing.
G	No NAC—reporting only	Undeveloped lands that are not permitted.

¹ Includes undeveloped lands permitted for this activity category.

Figure 2.3.5-1 lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise levels discussed in this section with common activities.

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Jet Fly-over at 300m (1000 ft)	110	Rock Band
Gas Lawn Mower at 1 m (3 ft)	100	
Diesel Truck at 15 m (50 ft), at 80 km (50 mph)	90	Food Blender at 1 m (3 ft)
Noisy Urban Area, Daytime	80	Garbage Disposal at 1 m (3 ft)
Gas Lawn Mower, 30 m (100 ft)	70	Vacuum Cleaner at 3 m (10 ft)
Commercial Area		Normal Speech at 1 m (3 ft)
Heavy Traffic at 90 m (300 ft)	60	Large Business Office
Quiet Urban Daytime	50	Dishwasher Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	30	Library
Quiet Rural Nighttime	20	Bedroom at Night, Concert Hall (Background)
	10	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Figure 2.3.5-1: Noise Levels of Common Activities

According to Caltrans' *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, May 2011*, a noise impact occurs when the predicted future noise level with the project substantially exceeds the existing noise level (defined as a 12 dBA or more) or when the future noise level with the project approaches or exceeds the NAC. A noise level is considered to approach the NAC if it is within 1 dBA of the NAC.

If it is determined that the project will have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated in the project.

Caltrans' *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an

engineering concern. Noise abatement must be predicted to reduce noise by at least 5 dB at an impacted receptor to be considered feasible from an acoustical perspective. It must also be possible to design and construct the noise abatement measure for it to be considered feasible. Factors that affect the design and constructability of noise abatement include, but are not limited to, safety, barrier height, topography, drainage, access requirements for driveways, presence of local cross streets, underground utilities, other noise sources in the area, and maintenance of the abatement measure. The overall reasonableness of noise abatement is determined by the following three factors: 1) the noise reduction design goal of 7 dB at one or more impacted receptors; 2) the cost of noise abatement; and 3) the viewpoints of benefited receptors (including property owners and residents of the benefited receptors).

2.3.5.2 Affected Environment

A *Construction Noise Analysis* (Caltrans 2024g) was completed in June 2024 by the Caltrans Office of Environmental Engineering. One sensitive receptor was identified within the project vicinity, a single-family residence located at 190 La Honda Road. The residence would be within approximately 1,000 to 1,800 feet from any job site construction activities. The project is not a Type 1 project per 23 CFR 772, therefore, a traffic noise study is not required and noise abatement will not be required for any Build Alternatives.

2.3.5.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not result in any changes to the existing noise environment.

Build Alternatives

The construction noise analysis completed for the Build Alternatives used the FHWA Roadway Construction Noise Model (RCNM) to assess potential project construction activity noise impacts. The study measured the maximum anticipated noise levels (L_{max}) and the average hourly noise levels (L_{eq}) that would result from expected construction activities at 50 feet, 100 feet, 200 feet, 500 feet, and 1,000 feet, from the project site. Caltrans' standard for temporary construction noise impacts is to not exceed an L_{max} of 86 dBA at 50 feet from the construction site from 9:00 pm to 6:00 am. The anticipated noise levels that would result from construction of each Build Alternative are shown in Table 2.3.5-1 and Table 2.3.5-2.

Table 2.3.5-1: Construction Noise Levels for Alternative 1

Distance/Receptor	Replace/Upgrade Concrete Baluster Railings (dBA)	Pile Driving (dBA)	Roadway Work (dBA)
50 feet	*89.6 L _{max} , 86.0 L _{eq}	*101.3 L _{max} , *94.4 L _{eq}	85.0 L _{max} , 83.8 L _{eq}
100 feet	83.6 L _{max} , 80.0 L _{eq}	*95.2 L _{max} , *88.4 L _{eq}	79.0 L _{max} , 77.8 L _{eq}
200 feet	77.5 L _{max} , 73.9 L _{eq}	*89.2 L _{max} , 82.4 L _{eq}	73.0 L _{max} , 71.7 L _{eq}
500 feet	69.6 L _{max} , 66.0 L _{eq}	81.3 L _{max} , 74.4 L _{eq}	65.0 L _{max} , 63.8 L _{eq}
1,000 feet	63.6 L _{max} , 60.0 L _{eq}	75.2 L _{max} , 68.4 L _{eq}	59.0 L _{max} , 57.8 L _{eq}

Bold text beginning with an asterisk "*" indicates values higher than 86 dBA

Table 2.3.5-2: Construction Noise Levels for Alternative 2 (Options A and B)

Distance/Receptor	Remove and Replace Existing Bridge (dBA)	Pile Driving (dBA)	Roadway Work (dBA)	Retaining Wall (dBA)
50 feet	*101.3 L _{max} , *94.7 L _{eq}	*101.3 L _{max} , *94.4 L _{eq}	85.0 L _{max} , 83.8 L _{eq}	85.0 L _{max} , 84.2 L _{eq}
100 feet	*95.2 L _{max} , *88.7 L _{eq}	*95.2 L _{max} , *88.4 L _{eq}	79.0 L _{max} , 77.8 L _{eq}	79.0 L _{max} , 78.2 L _{eq}
200 feet	*89.2 L _{max} , 82.6 L _{eq}	*89.2 L _{max} , 82.4 L _{eq}	73.0 L _{max} , 71.7 L _{eq}	73.0 L _{max} , 72.2 L _{eq}
500 feet	81.3 L _{max} , 74.7 L _{eq}	81.3 L _{max} , 74.4 L _{eq}	65.0 L _{max} , 63.8 L _{eq}	65.0 L _{max} , 64.2 L _{eq}
1,000 feet	75.2 L _{max} , 68.7 L _{eq}	75.2 L _{max} , 68.4 L _{eq}	59.0 L _{max} , 57.8 L _{eq}	59.0 L _{max} , 58.2 L _{eq}

Bold text beginning with an asterisk "*" indicates values higher than 86 dBA

As shown in Table 2.3.5-1 and Table 2.3.5-2, areas beyond 500 feet, including the residential receptor are not anticipated to exceed 86 dBA L_{max} for either Build Alternative's construction activity. Areas within 200 feet or less would experience noise levels exceeding 86 dBA L_{max} during pile driving activities for all Build Alternatives, during foundation work for Alternative 1, and bridge demolition and replacement for Alternative 2. The implementation of AMM-NOI-1 through AMM-NOI-9 (below) would further reduce construction noise levels in the project vicinity.

For vibration impacts, Caltrans identifies a threshold of 0.5 in/sec Peak Particle Velocity (PPV) for buildings structurally sound and designed to modern engineering standards, 0.3 in/sec PPV for buildings that are found to be structurally sound but where structural damage is a major concern, and a conservative limit of 0.25 in/sec PPV for historic and some old buildings. Table 2.3.5-3 presents vibration levels of typical construction equipment at a distance of 25 feet.

Table 2.3.5-3: Vibration Levels for Construction Equipment at a Source Distance of 25 Feet

Equipment	PPV at 25 ft (in/sec)
Pile Driver (impact)	0.644-1.518
Pile Driver (sonic)	0.17-0.734
Clam shovel drop	0.202
Hydromill (slurry wall) in soil	0.008
Hydromill (slurry wall) in rock	0.017
Vibratory roller	0.210
Hoe Ram	0.089
Large bulldozer	0.089
Caisson drilling	0.076
Loaded truck	0.206
Jackhammer	0.035
Small bulldozer	0.003

Source: USDOT 2018

The nearest structures to the project site include the restrooms located adjacent to the San Gregorio State Beach parking lot, approximately 150 feet from the project limits, and the residence at 190 La Honda Road, approximately 950 feet from the project limits. Pile driving, the construction activity with the strongest potential vibration levels, would occur within San Gregorio Creek, which is located approximately 625 feet and 1,730 feet from the restrooms and the residence, respectively. At these distances, construction vibration would not exceed the conservative threshold of 0.25 in/sec PPV for either structure.

2.3.5.4 Avoidance, Minimization, and/or Abatement Measures

The following measures are proposed to minimize and avoid temporary construction noise impacts that would exceed the standard Caltrans L_{max} limit.

AMM-NOI-1: Work Hours Restriction. Any operation exceeding 86 dBA shall not be allowed at nighttime from 9:00 pm to 6:00 am.

AMM-NOI-2: Public Outreach. Public outreach will be done throughout the duration of construction to update nearby residents, businesses, and other project stakeholders on upcoming construction activities and any changes to the project construction timeline.

AMM-NOI-3: Construction Scheduling. Schedule noisy operations within the same time frame. The total noise level will not be significantly greater than the level produced if operations are performed separately.

AMM-NOI-4: Limit Idling. Avoid unnecessary idling of internal combustion engines.

AMM-NOI-5: Noise-Sensitive Receptors. Locate all stationary noise-generating construction equipment as far as practical from noise-sensitive receptors or provide baffled housing or sound aprons to equipment when sensitive receptors adjoin or are near a construction project area.

AMM-NOI-6: Combustion Engines. Equip all internal combustion engines with manufacturer recommended intake and exhaust mufflers that are in good condition and appropriate for the equipment. These engines will be properly maintained to minimize noise generation.

AMM-NOI-7: Quiet Equipment. Utilize “quiet” air compressors and other “quiet” equipment where such technology exists.

AMM-NOI-8: Construction Delivery Hours Limit. No construction equipment will be delivered and dropped off before 6:00 am.

AMM-NOI-9: Engine Maintenance. Maintain all internal combustion engines properly to minimize noise generation.

2.3.6 Energy

2.3.6.1 Regulatory Setting

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires the identification of all potentially significant impacts to the environment, including energy impacts.

Energy Policy Act (EPA) of 1992 aims to reduce U.S. dependence on petroleum and improve air quality by addressing all aspects of energy supply and demand. EPA 1992 encourages the use of alternative fuels through both regulatory and voluntary activities and approaches the U.S. Department of Energy carries out.

Energy consumption is related to greenhouse gas emission, that is, as energy is consumed, Greenhouse Gas (GHG) is released to the environment. California legislation, AB 32, calls for a return to 1990 GHG levels by 2020. Long-term, the law calls for emissions to be reduced to 80% below 1990 levels by 2050.

The California Environmental Quality Act (CEQA) Guidelines section 15126.2(b) and Appendix F, Energy Conservation, require an analysis of a project's energy use to determine if the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary use of energy, or wasteful use of energy resources.

2.3.6.2 Affected Environment

Along the San Mateo County coastline, SR 1 is known as the "Cabrillo Highway" and operates as a 2 to 4-lane conventional highway. The route provides primary access to several coastal communities as well as access to beaches, parks, and other attractions along the coast. The proposed project is located in San Gregorio, an unincorporated community within San Mateo County.

2.3.6.3 Environmental Consequences

The following discussion is based, in part, on an *Energy Analysis Report* (Caltrans 2024h) prepared for the project. Energy will be consumed during construction, operation, and maintenance of SR 1.

No Build Alternative

The No Build Alternative would not result in any changes in energy consumption.

Build Alternatives

Neither of the Build Alternatives would add roadway capacity. As such, neither are likely to increase direct energy consumption though increased fuel usage. During project operation, indirect energy consumption would be limited to routine maintenance. Indirect energy consumed during routine maintenance would be similar to, if not the same as, existing conditions. Additionally, the project is being implemented through the State Highway Operation and Protection Program (SHOPP). The selection process for SHOPP projects is specified in the Transportation Asset Management Plan (TAMP) created by Caltrans, in consultation with the California Transportation Commission (CTC), pursuant to Senate Bill 486. The TAMP assesses the health and condition of the state highway system with which Caltrans is able to determine

the most effective way to apply state's limited resources. The goals and objectives established in the TAMP for SHOPP includes conserving natural resources and reducing GHG and other pollutants. As the proposed project is a part of the SHOPP, it has been identified by Caltrans, and approved by the CTC, as necessary to preserve and protect the assets of the state highway system. It will not result in a wasteful, inefficient, or unnecessary consumption of energy. The expected design life of Alternative 1 is 25 years and Alternative 2 is 75 years.

During project construction, energy would be consumed primarily in the forms of diesel, gasoline, and electricity for construction equipment and worker vehicles. An estimate of the amount of diesel and gasoline fuel anticipated to be consumed during construction is shown below in Table 2.3.6-1. Fuel consumption was calculated by quantifying construction CO2 emissions using the Construction Emissions Tool (CAL-CET 2021), version 1.0.2 developed by Caltrans and converting the CO2 emissions to fuel volumes using GHG equivalency formulas developed by EPA. Energy usage in terms of fuel consumption and electricity is shown in Table 2.3.6-1. It was assumed that diesel will be used by all construction equipment and diesel, gasoline and electricity will be used for worker's commute and construction vehicles.

Table 2.3.6-1: Construction Equipment/Vehicles Energy Consumption

Build Alternative	Diesel Consumption (gallons)	Gasoline Consumption (gallons)	Electricity Consumption (kilowatt hours)
Alternative 1	36,047	11,406	5,462.79
Alternative 2 Option A	34,638	10,979	5,250.82
Alternative 2 Option B	32,018	10,155	4,874.57

Actual energy consumption will vary based on construction equipment being used per activity of each phase of construction. Direct energy usage for construction would be limited, temporary, and necessary. During construction, BMPs would be implemented for energy efficiency of construction equipment, including regular vehicle and equipment maintenance and recycling of non-hazardous and excess materials (PF-AQ-1). Project construction would not result in a wasteful, inefficient, or unnecessary consumption of energy. The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. It would support state and local goals to increase active transportation by improving bicycle and pedestrian connections across SR 1, without increasing motor vehicle capacity.

2.3.6.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, or mitigation measures are required.

2.4 Biological Environment

2.4.1 Natural Communities

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors, fish passage, and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed below in the Threatened and Endangered Species (Section 2.4.5.). Wetlands and other waters are also discussed below (Section 2.4.2).

2.4.1.1 Affected Environment

A *Natural Environment Study* (NES) was prepared in October 2024 to evaluate the effects of the proposed project on biological resources, including sensitive plants and wildlife species, and is the basis of this section (AECOM 2024a).

The study area for all the resources in Section 2.4 is called the Biological Study Area (BSA). It consists of the project footprint (permanent or temporary impact areas, including staging and access areas), along with 100-foot buffer to account for indirect effects to biological resources. The buffer areas were estimated based on the potential for project activities to cause noise, water quality, or geomorphic impacts.

The project is in the San Francisco Coastal Terraces ecological subsection (Miles and Goudey 1998). The subsection extends along the Central Coast of California, encompassing the area from just south of San Francisco to north of Santa Cruz. Specifically, it includes the coastal terraces and associated landscapes within this stretch of coastline, which is characterized by its unique geologic formations and coastal habitats. San Gregorio Creek and its estuary are the defining features of the BSA.

The climate of the San Gregorio area is influenced by its coastal location. It is characterized by mild temperatures, moderated by the Pacific Ocean. Summers generally are cool and dry, with average July temperatures around 62 degrees Fahrenheit (°F). Fog is common during the summer months, helping to maintain cooler temperatures. Winters are mild and moist, with average January temperatures around 52°F. The region typically experiences a Mediterranean climate pattern, with most precipitation occurring from late fall through early spring, totaling around 20 to 30 inches annually. The frost-free season spans approximately 300 days, contributing to a longer growing season and supporting the diverse vegetation found in the area, which includes coastal scrub, grasslands, and riparian habitats along watercourses such as San Gregorio Creek.

San Gregorio Creek in San Mateo County holds significant ecological and conservation importance, as designated by State and federal agencies. It is recognized as a Critical Coastal Area by the CCC, ranking among the top 10 priority watersheds because of its water quality status, coastal resource sensitivity, emerging threats, and local support for watershed management (CCC 2006, NHI 2010).

2.4.1.1.1 Vegetation

The BSA contains natural coastal vegetation types as well as developed and disturbed habitat types along SR 1 and at the San Gregorio State Beach parking area. The following vegetation types were identified within the BSA. Figures 2.2.1-2 and 2.2.1-3 show the locations of each.

- Barren and Sparsely Vegetated areas
- Developed areas
- Freshwater Emergent Wetlands
- Herbaceous areas
- Nonnative Forests
- Riparian Woodlands
- Seasonal Freshwater Wetlands
- Shrubs
- Tidal Rivers

Barren and Sparsely Vegetated. Barren and sparsely vegetated areas within the BSA include the sandy areas of San Gregorio State Beach, as well as unvegetated or sparsely vegetated areas at the edge of the coastal bluffs. The minimal vegetation present includes nonnative species, such as iceplant (*Carpobrotus edulis*), mustard (*Hirschfeldia incana*), and fat-hen (*Atriplex prostrata*).

Developed. Developed areas within the BSA include SR 1, a paved parking lot for San Gregorio State Beach, and an unvegetated pull-out beside SR 1.

Freshwater Emergent Wetland. Freshwater emergent wetland is along San Gregorio Creek, and west of SR 1 in two locations. Common species in this vegetation type are silver weed cinquefoil (*Potentilla anserina*), tule (*Schoenoplectus acutus* var. *occidentalis*), marsh jaumea (*Jaumea carnosa*), and coastal gumweed (*Grindelia stricta* var. *platyphylla*).

Herbaceous. Herbaceous areas are highly variable throughout the BSA, ranging from nonnative annual grasslands to ephemeral drainages dominated by rushes (*Juncus* spp.). Nonnative annual grasslands include slim oat (*Avena barbata*), wild oat (*Avena sativa*), rattlesnake grass (*Briza maxima*), and Harding grass (*Phalaris aquatica*).

Nonnative Forest. Nonnative forests are present along SR 1 near the northern and southern boundaries of the BSA. Monterey cypress (*Hesperocyparis macrocarpa*) and Monterey pine (*Pinus radiata*) are the dominant species in the canopy of this community. A few herbaceous species are found in the understory.

Riparian Woodland. Riparian woodland occurs throughout the BSA. Arroyo willow (*Salix lasiolepis*) and red elderberry (*Sambucus racemosa*) are the dominant species in the canopy of this community.

Seasonal Freshwater Wetland: Seasonal freshwater wetland occurs just south of the mouth of the estuary, southwest of the bridge. Common species in this vegetation type includes similar species to that of freshwater emergent wetland.

Shrub. The shrub community is one of the most common vegetation types within the BSA. It is highly variable throughout the BSA. Poison oak (*Toxicodendron diversilobum*) and coyote brush (*Baccharis pilularis*) are the most dominant species. Other species include yellow yarrow

(*Eriophyllum confertiflorum*), seaside woolly-sunflower (*Eriophyllum staechadifolium*), yarrow (*Achillea millefolium*), western sword fern (*Polystichum munitum*), and California larkspur (*Delphinium californicum* ssp. *californicum*).

Tidal River. San Gregorio Creek in the BSA is a tidal river feature.

2.4.1.1.2 Sensitive Natural Communities

Sensitive natural communities are communities with a State Ranking of S1 to S3 in the California Sensitive Communities List (CDFW 2023) and Manual of California Vegetation Second Edition (MCV) (Sawyer et al. 2009, CNPS 2023). There are five sensitive natural communities within the BSA including the following:

- ***Leymus mollis* Herbaceous Alliance - Sea lyme grass patches:** *Leymus mollis* herbaceous alliance - sea lyme grass patches is sensitive natural community with an S3 ranking. American dune grass (*Elymus mollis*) is the dominant species in this community. However, within the BSA there are large mats of non-native iceplant also present in the community. This community is present in the portion of the BSA that occurs along San Gregorio State Beach within Barren and Sparsely Vegetated areas.
- ***Eriophyllum staechadifolium* – *Erigeron glaucus* - *Eriogonum latifolium* Herbaceous Alliance - Seaside woolly-sunflower – seaside daisy – buckwheat patches:** *Eriophyllum staechadifolium* – *Erigeron glaucus* – *Eriogonum latifolium* herbaceous alliance – seaside woolly-sunflower – seaside daisy – buckwheat patches is a sensitive natural community with an S3 rank. Seaside woolly-sunflower and seaside daisy (*Erigeron glaucus*) are the dominant species in this community. This community is common throughout the BSA especially on bluffs south of San Gregorio Creek and can be found in Herbaceous areas.
- ***Grindelia (stricta)* Herbaceous Provisional Alliance – Gum plant patches:** *Grindelia (stricta)* herbaceous provisional alliance - gum plant patches is a sensitive natural community with an S2S3 ranking. Oregon gumweed (*Grindelia stricta*) is the dominant species in this community in the BSA. This community is present north of San Gregorio Creek in the BSA within Freshwater Herbaceous Wetland areas.
- ***Festuca idahoensis* - *Danthonia californica* Herbaceous Alliance – Idaho fescue – California oatgrass grassland:** *Festuca idahoensis* – *Danthonia californica* herbaceous alliance – Idaho fescue – California oatgrass grassland is a sensitive natural community with an S3 ranking. This vegetation community is uncommon in the BSA but can be found in Herbaceous areas.
- ***Schoenoplectus (acutus, californicus)* Herbaceous Alliance – Hardstem and California bullrush marshes:** *Schoenoplectus (acutus, californicus)* herbaceous alliance – hardstem and California bullrush marshes are a sensitive natural community with a S3S4 ranking. This community is present on the fringes of Arroyo willow thickets shown as Riparian Forests in the northeastern portion of the BSA. This community is present in Freshwater Herbaceous Wetland areas.

The BSA includes critical habitat for Central California Coast coho salmon, Central California Coast steelhead, and tidewater goby within San Gregorio Creek; as well as for California red-legged frog (CRLF) throughout the northern portion of the BSA's aquatic and upland habitats.

2.4.1.1.3 Essential Fish Habitat

The BSA contains Essential Fish Habitat (EFH) as identified in the *Pacific Salmon Fisheries Management Plan* created by regional Fishery Management Councils. The BSA overlaps with the EFH boundaries for Pacific Salmon, and Central California Coast coho salmon. Both species would have the potential to occur within the BSA. The BSA may provide rearing habitat as well as juvenile and adult migration corridors for Central California Coast coho salmon. EFH for groundfish and coastal pelagic species occurs to the west and outside the BSA in marine habitats, however, because it is not anticipated to be affected by the proposed project, it is not discussed further in this document.

2.4.1.1.4 Trees

The project footprint contains thirty-six trees with a diameter at breast height ranging from 5 inches to 30 inches. Thirty are Monterey pine (*Pinus radiata*) and six are Monterey cypress (*Hesperocyparis macrocarpa*). Both are coniferous and are native to the central coast of California.

2.4.1.1.5 Environmentally Sensitive Habitat Areas (ESHA)

ESHAs are protected under the California Coastal Act to prevent significant disruption and ensure that their ecological functions and biodiversity are maintained (Sections 30230, 30231, and 30240). The BSA includes riparian woodlands, wetlands and waters, marine habitats, sea cliffs, and several rare, endangered, or unique species habitats (sparsely vegetated, freshwater emergent wetlands, herbaceous, non-native forest, and shrub). Figures 2.2.1-2 and 2.2.1-3 show the locations of each. The BSA contains a total of 33.18 acres of ESHA.

2.4.1.2 Environmental Consequences

No Build Alternative

The No Build Alternative would not affect natural communities in the project area.

Build Alternatives

Figure 2.4.1-1 shows impacts on generalized vegetation communities for Alternative 1 and Figure 2.4.1-2 shows impacts on generalized vegetation communities for Alternative 2.

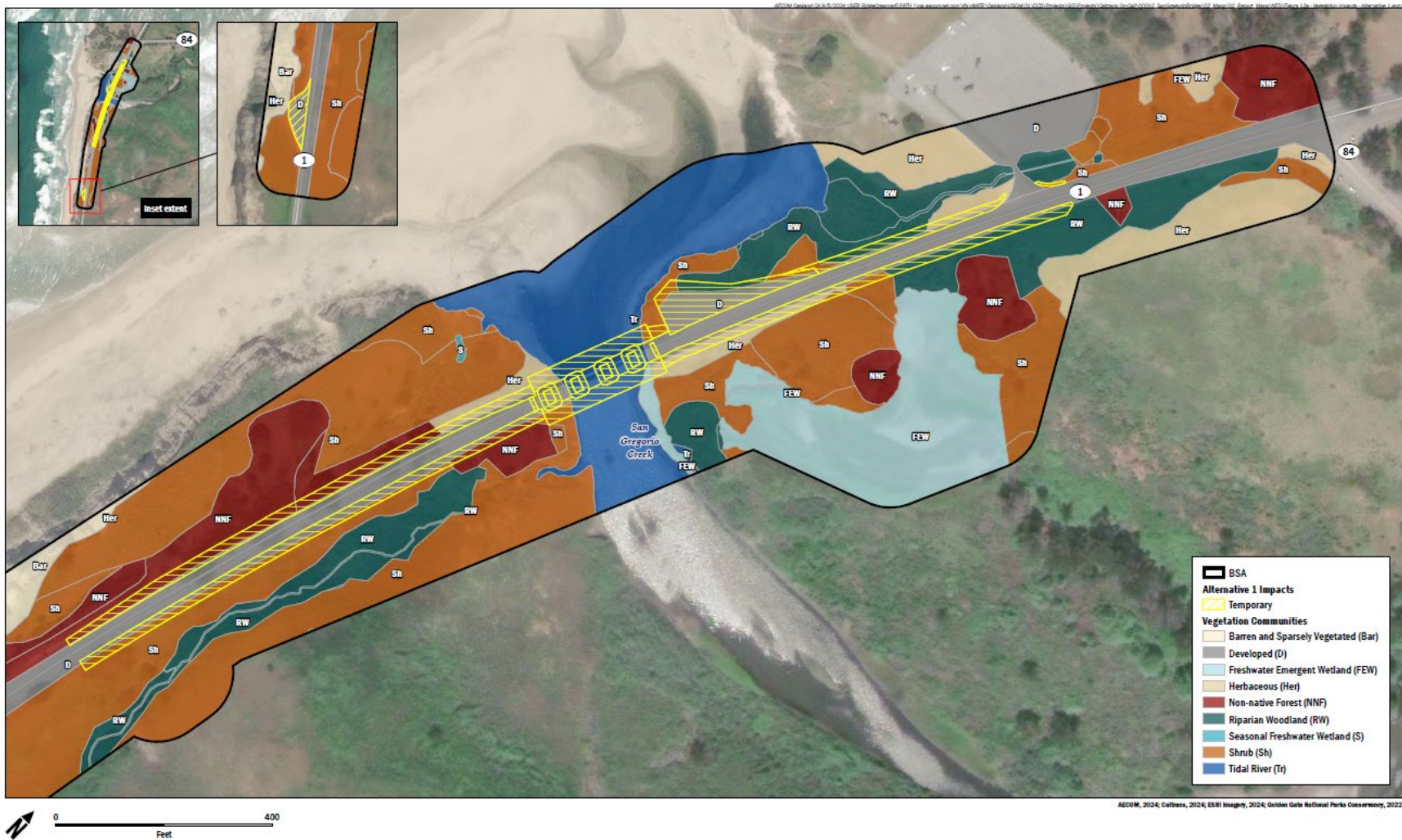


Figure 2.4.1-1: Alternative 1 Effects to Vegetation Communities

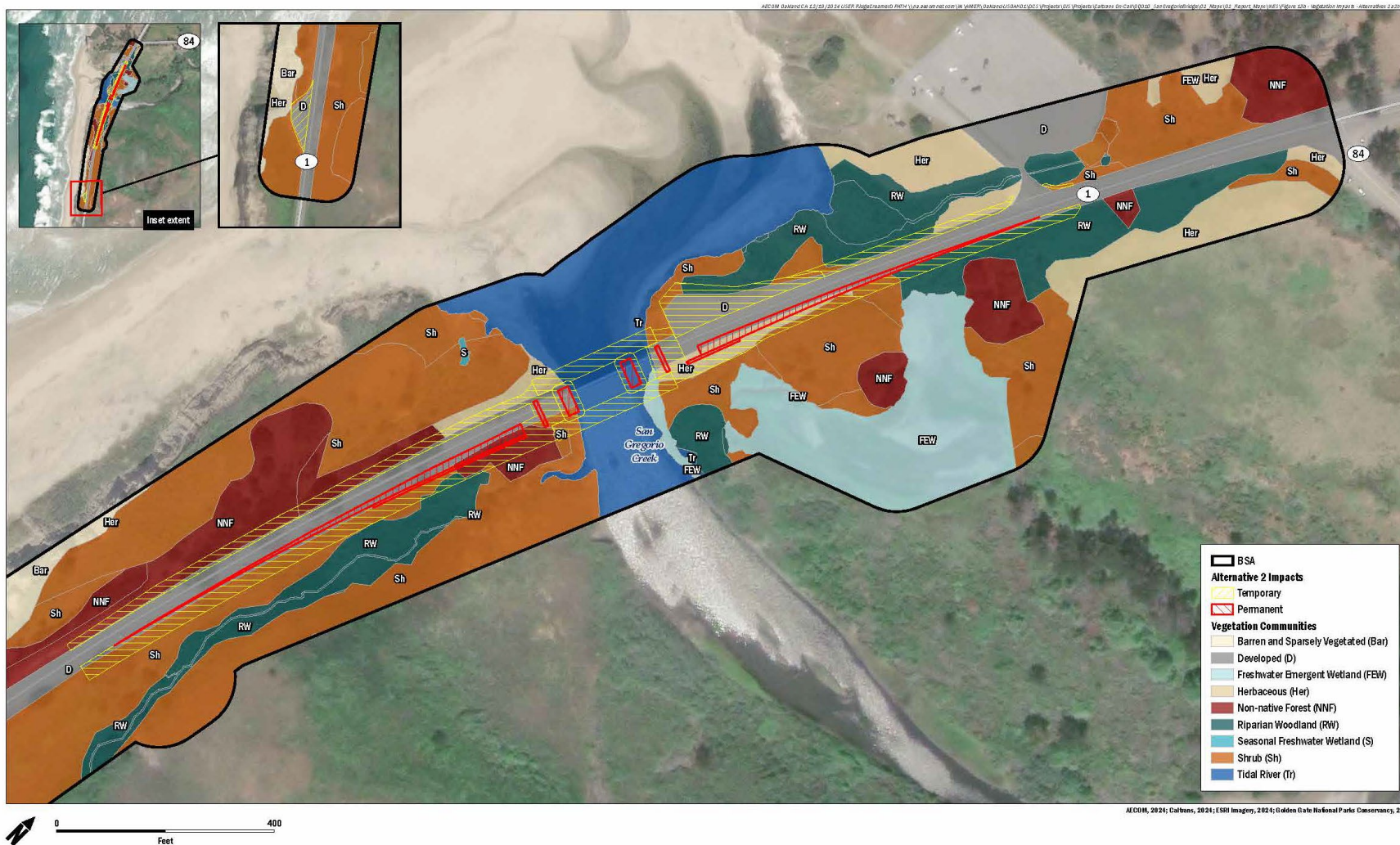


Figure 2.4.1-2: Alternative 2 Effects to Vegetation Communities

Sensitive Natural Communities:

The proposed project has the potential to affect the *Eriophyllum staechadifolium* – *Erigeron glaucus* – *Erigonium latifolium* Alliance – Seaside woolly-sunflower – seaside daisy – buckwheat patches. Alternative 1 would temporarily impact 0.205 acres of this sensitive natural community in the BSA. Alternative 2 would temporarily impact 0.247 acres and permanently impact 0.071 acres of this sensitive natural community in the BSA.

Both Build Alternatives would maintain the same land use as the existing condition. Fish passage and wildlife corridors would continue to function the same for all alternatives as they do under the existing conditions.

Consultation with National Marine Fisheries Service (NMFS) for potential effect on EFH would occur concurrently with Section 7 consultation. Effects on Pacific Salmon EFH would be like those described for coho critical habitat, described in further detail below in section 2.4.5.

Alternative 1 has the potential to result in the removal of 17 Monterey pine trees and 3 Monterey Cypress trees. Alternative 2 has the potential to result in the removal of 22 Monterey pine trees and 3 Monterey Cypress trees.

Potential impacts and consistency with applicable coastal policies and ordinances are discussed in section 2.2.1. The proposed project could have temporary (all alternatives) and permanent (Alternative 2) effects on ESHAs and CCC defined wetlands within CCC jurisdictional areas and would require a Coastal Development Permit (CDP), which is discussed further below in section 2.4.2. The measures listed in section 2.4.1.3 would minimize and/or avoid impacts to natural communities within the BSA. PF-BIO-1 and AMM-VIS-1 through AMM-VIS-3 would minimize effects to trees. MM-BIO-1 would mitigate for native trees where effects can't be avoided.

2.4.1.3 Avoidance, Minimization, and/or Mitigation Measures

AMM-BIO-1: Predesignated Staging Areas. All material stockpiling, vehicle parking, and equipment staging areas will be permitted only in areas cleared by a qualified biologist. The limits of the designated staging area will be clearly marked before beginning construction. Staging areas will be within the Caltrans right-of-way in nonsensitive locations at designated disturbed/developed areas outside construction zones. No staging will be allowed outside the predesignated staging areas.

AMM-BIO-2: Worker Environmental Awareness Training. Before the start of construction, a qualified biologist will conduct an employee training that will include the biology, ecology, and regulatory status of sensitive species and habitats with the potential to occur within or near the project footprint and vicinity. The training will include all avoidance measures related to sensitive natural resources and what to do if special status species are observed or harmed. The training will be provided to all construction workers before they begin work at the construction site. A log will be maintained to track which employees have received the training.

AMM-BIO-3: Tree Replanting Plan. During final design, Caltrans will determine what trees require removal or could be damaged during construction for the chosen alternative and will develop a replanting plan. Native trees will be replanted at a 1:1 ratio on-site, where space exists, or off-site if adequate space does not exist. The species and location for each replanted tree will be determined in consultation with regulatory agencies.

2.4.2 Wetlands And Other Waters

2.4.2.1 Regulatory Setting

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

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

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

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

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

At the state level, wetlands and waters are regulated primarily by the State Water Resources Control Board (SWRCB), the Regional Water Quality Control Boards (RWQCBs) and the California Department of Fish and Wildlife (CDFW). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFW before beginning construction. If CDFW determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

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

2.4.2.2 Affected Environment

This section is summarized from the *NES and Aquatic Resource Delineation Report (ARDR)* completed for the proposed project in October 2024 (AECOM 2024a, AECOM 2024b).

Wetlands and waters in the BSA include approximately 9.824 acres of aquatic resources delineated within the BSA. Of those aquatic resources, 6.299 acres were delineated as Waters of the U.S. (WOTUS) (Table 2.4.2-1). This includes 2.589 acres of wetlands and 3.710 acres of other waters that potentially would be under USACE jurisdiction, 3.525 acres of Other Waters of the U.S (OWUS) San Gregorio Creek, 0.183 acre of OWUS non-tidal, and 0.002 acre of Culverted Waters of the U.S [CWUS]). One feature was mapped as a culverted WOTUS. All potential waters of the U.S. also would be defined as waters of the state by RWQCB and/or CDFW. Additionally, approximately 3.525 acres of the delineated riparian habitat, not identified as being under federal jurisdiction, potentially would be considered waters of the state (Table 2.4.2-2). All delineated wetlands, waters, and riparian areas would be under CCC jurisdiction and considered ESHAs under the California Coastal Act (CCA). Since waters are categorized differently by different agencies, Tables 2.4.2-1 and 2.4.2-2 describes the various agencies that may have jurisdiction over each aquatic feature along with the laws they are implementing.

Table 2.4.2-1 Potential Jurisdictional Status of Aquatic Resources in Waters of the U.S. within the BSA

Feature Type	Federal and State Agencies with Jurisdiction	Potential Applicable Federal and State Laws	Length (feet)	Delineated Area (acres)²
WWUS	USACE, RWQCB, CCC	CWA Sections 404 and 401; CCA	---	2.589
OWUS tidal (OWUS-10 San Gregorio Creek)	USACE, RWQCB, CDFW, CCC	CWA Sections 404 and 401; CCA, CFGC 1602	464	3.525
OWUS non-tidal	USACE, RWQCB, CDFW, CCC	CWA Sections 404 and 401; CCA, CFGC 1602	2,400	0.183
CWUS	USACE, RWQCB, CDFW, CCC	CWA Sections 404 and 401; CCA, CFGC 1602	37	0.002
Total WOTUS	Various	Various	2,901	6.299

Notes:

1. Linear feet are rounded to the nearest foot.

2. Acres are rounded to the nearest thousandth of an acre.

CCC = California Coastal Commission, CCA = California Coastal Act, CDFW = California Department of Fish and Wildlife, CFGC = California Fish and Game Code, CWA = Clean Water Act, CWUS = culverted waters of the U.S., CFGC = Fish and Game Code
OWUS = other waters of the U.S., RWQCB = Regional Water Quality Control Board, USACE = U.S. Army Corps of Engineers, WOTUS = waters of the U.S., WWUS = wetland waters of the U.S.

Table 2.4.2-2 Potential Jurisdictional Waters of the State

Feature Type	Federal and State Agencies with Jurisdiction	Potential Applicable Federal and State Laws	Delineated Area (acres)²
WOTUS	Various	Various	6.299
Riparian Woodlands ³	CCC	CCA	1.068
Riparian Woodlands ³	RWQCB, CDFW, CCC	CFGC 1602, CCA	2.457
Total Waters of the State	Various	Various	9.824

Notes:

2. Acres are rounded to the nearest thousandth of an acre.

3. For this delineation, all CCW (non-WOTUS) also happened to occur in riparian woodlands. Because they had a predominance of hydrophytic vegetation, the riparian woodlands had at least one parameter to constitute a CCW and would be under the jurisdiction of the RWQCB and CDFW.

CCA = California Coastal Commission Act, CCC = California Coastal Commission, CCW = Coastal Commission Wetland, CDFW = California Department of Fish and Wildlife, CFGC = Fish and Game Code, RWQCB = Regional Water Quality Control Board

2.4.2.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not affect wetlands and other waters in the project area.

Build Alternatives

Based on the design and location of the proposed project, construction activities would have the potential to affect wetlands and water bodies within the BSA, including riparian woodland, which is also considered a sensitive natural community. Table 2.4.2-3 summarizes the potential impacts on jurisdictional wetlands, waters, and other areas, based on the conceptual design for the proposed project. For Alternative 1, up to 0.327 acre of WOTUS and 0.231 acre of waters of the state would be affected temporarily (no permanent impacts would occur for Alternative 1). For Alternative 2, 0.290 acre of WOTUS and 0.278 acre of waters of the state would be temporarily affected, and 0.025 acre of WOTUS and 0.001 acre of waters of the state would be permanently affected by project activities. These effects are shown in Figures 2.4.2-1 and 2.4.2-2.

Table 2.4.2-3 Impacts on Jurisdictional Waters and other Aquatic Resources in the Project Footprint

Feature Type	Alt 1 Permanent Impact Area (acres) ²	Alt 1 Temporary Impact Area (acres) ²	Alt 2 Permanent Impact Area (acres) ²	Alt 2 Temporary Impact Area (acres) ²
WWUS	0	0.009	0	0.021
OWUS	0	0.318	0.025	0.269
CWUS	0	0	0	0
Total WOTUS	0	0.327	0.025	0.290
CDFW/RWQCB/CCC Riparian Woodlands	0	0.115	0.00	0.139
CCC Riparian Woodlands	0	0.116	0.001	0.139
Total Waters of the State	0	0.231	0.001	0.278

Notes:

¹. Linear feet are rounded to the nearest foot.

². Acres are rounded to the nearest thousandth of an acre.

CWUS = culverted waters of the U.S., CFGC = Fish and Game Code, OWUS = other waters of the U.S., WOTUS = waters of the U.S., WWUS = wetland waters of the U.S.

The proposed project's temporary (all alternatives) and permanent (Alternative 2) impact areas would occur within jurisdictional WOTUS and Waters of the State (WOS), and the proposed project could have temporary (all alternatives) and permanent (Alternative 2) impacts within CDFW jurisdictional stream and riparian areas and on ESHAs and CCC wetlands within CCC jurisdictional areas. Prior to construction, Caltrans would obtain a CDP, a Clean Water Act (CWA) 404 permit from USACE, a CWA 401 Water Quality Certification from the Central Valley Regional Water Quality Control Board, and a Lake and Streambed Alteration Agreement under California Fish and Game Code Section 1600 from CDFW. Caltrans would consult with the San Francisco Bay RWQCB and CDFW to finalize an agreed upon list of conditions for the permit. Preliminary acreage of impact areas would be updated based on detailed design information for use in applying for the CDP, CWA Section 404 permit from USACE, CWA Section 401 Water Quality Certification from the San Francisco Bay RWQCB, and all relevant permits pertaining to the CCC, and a/the 1600 Agreement with CDFW.

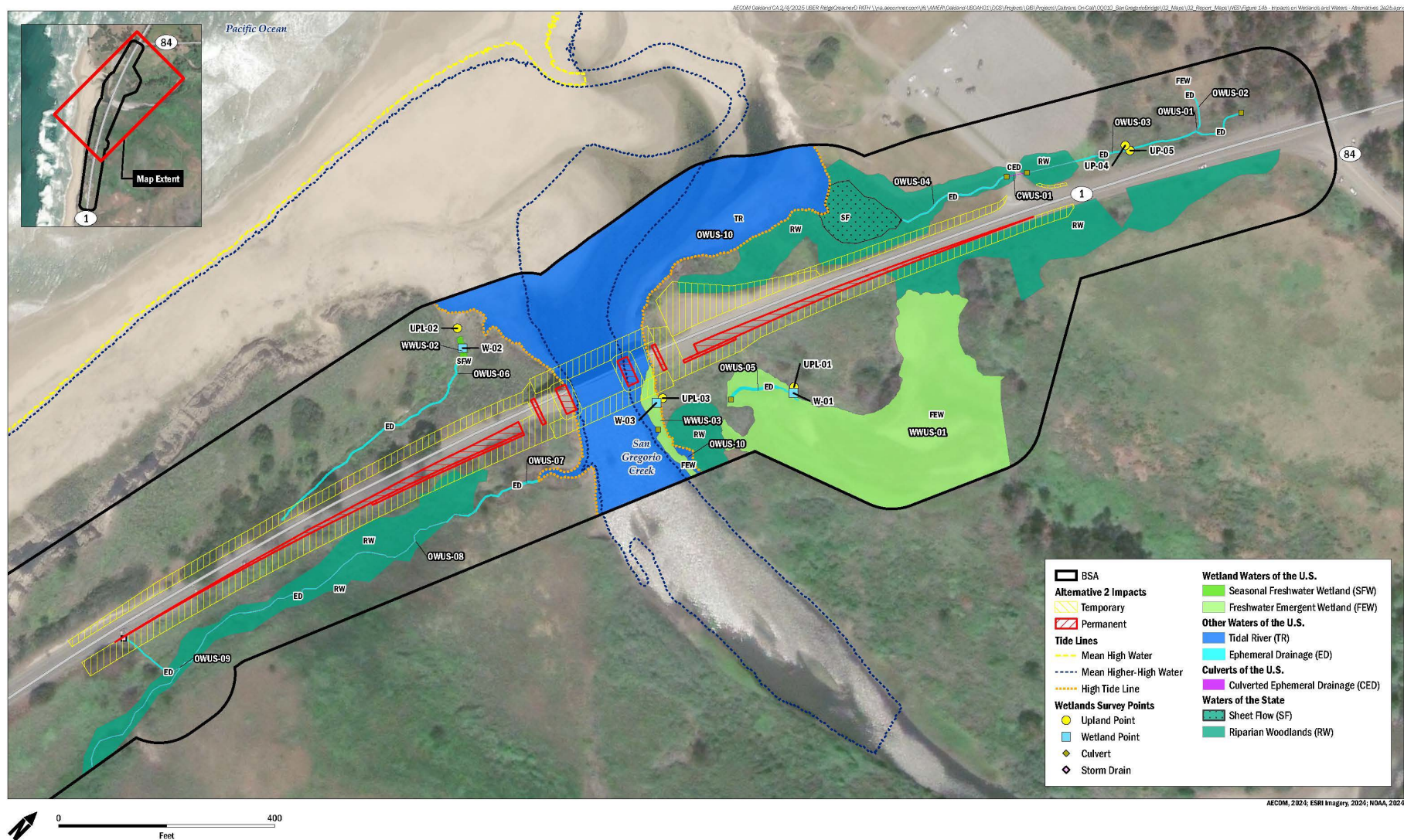


Figure 2.4.2-2: Alternative 2 Effects to Aquatic Resources

Potential impacts and consistency with applicable coastal policies and ordinances are discussed in section 2.2.1.

The measures below listed in section 2.4.2.4 would minimize and/or avoid impacts on jurisdictional wetlands, waters, and riparian habitats within the BSA.

2.4.2.4 Avoidance, Minimization, and/or Mitigation Measures

In addition to the project features listed in Section 1.6, Caltrans would implement the avoidance and minimization measures listed below to minimize effects to wetlands:

AMM-BIO-4: Wetlands and Waters Construction Work Windows. Work in wetlands, waters, and riparian habitat will be limited to June 1 through October 31, to minimize impacts on WOTUS, WOS, riparian habitat, and special-status species habitat.

AMM-BIO-5: Construction Discharges. No debris, soil, silt, sand, bark, slash, sawdust, cement, concrete, washings, petroleum products, or other organic or earthen material will be allowed to enter or be placed where it may be washed by rainfall or runoff into drainages or WOTUS.

AMM-BIO-6: Uncured Concrete Grout. Any concrete grout will be isolated from surface waters while curing. Caltrans will ensure that cure water does not flow to inlets or water courses, but to collection areas for infiltration or other means of removal, in accordance with all applicable permits.

AMM-BIO-7: Maintenance and Fueling. Maintenance and fueling of construction equipment and vehicles will occur no closer than 50 feet from ESAs, where possible. All equipment will be well maintained and free of leaks.

AMM-BIO-8: Stockpiles. Excavated material will not be stored or stockpiled in ESA areas. All excavated material from wetlands, waters, or riparian areas that will not be placed back in the channel or on the bank after construction will be disposed of at a licensed upland facility.

AMM-BIO-9: Water Diversion Plan. Caltrans will prepare a water diversion and dewatering plan that describes how coffer dams will be used, dewatering conducted, and water quality protected during instream work in San Gregorio Creek.

In addition, the following mitigation measure will be implemented to mitigate the impacts to wetlands, waters, and other protected aquatic resources:

MM-BIO-1: Compensatory Mitigation for Wetlands. Caltrans will restore temporarily impacted aquatic resources on-site following construction. In addition, Caltrans will mitigate for permanent impacts to aquatic resources regulated by USACE, CDFW, and RWQCB at a ratio of 3:1. Caltrans will mitigate for permanent impacts to aquatic resources regulated by CCC/San Mateo County LCP at a ratio of 4:1. Off-site mitigation will be required due to the lack of available enhancement potential on-site. The mitigation site or sites will be chosen in consultation with regulatory agencies with jurisdiction.

2.4.3 Plant Species

2.4.3.1 Regulatory Setting

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) have regulatory responsibility for the protection of special-status plant species. “Special-status” species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are provided varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Please see the Threatened and Endangered Species section 2.4.5 in this document for detailed information about these species.

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

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

2.4.3.2 Affected Environment

The section is summarized from the *NES* prepared for the proposed project (AECOM 2024a). The plants discussed in this section were either observed within the BSA or would have a moderate to high potential to occur within the BSA.

The following three species have a high potential to occur in the BSA:

Coastal Marsh Milk-Vetch

Coastal marsh milk-vetch (*Astragalus pycnostachyus* var. *pycnostachyus*) is a rare biennial herb in the pea family that has a California Rare Plant Rank (CRPR) rank of 1B.2, meaning that it is considered rare, threatened, or endangered in California, and holds no State or federal listing status. Coastal marsh milk-vetch was observed at specific sites within the BSA, including coastal scrub, disturbed areas, and land adjacent to the beach and San Gregorio Creek. The plants observed within the BSA are part of California Natural Diversity Database (CNDDB) Occurrence 5 (CDFW 2024).

Choris' Popcorn Flower

Choris' popcorn flower (*Plagiobothrys chorisianus* ver. *chorisianus*) is a rare annual herb in the Boraginaceae family that has a CRPR rank of 1B.2. Choris' popcorn flower was observed within the BSA, in coastal scrub south of San Gregorio Creek and on both sides of SR 1. Choris' popcorn flower was observed within dense coastal scrub, where herbaceous plants occur in openings around shrubby vegetation. Choris' popcorn flower plants observed within the BSA are included in CNDDB Occurrence 33 (CDFW 2024). Seven CNDDB occurrences of this species are within 5 miles of the BSA.

Perennial Goldfields

Perennial goldfields (*Lasthenia californica* ssp. *macrantha*) is a perennial herb in the sunflower family with a rare plant rank of 1B.2. Perennial goldfields was not observed within the portion of the BSA that was surveyed for rare plants. However, perennial goldfields was observed incidentally, growing in the lawn of the San Gregorio State Beach picnic area outside the BSA, where it persists under the impacts of foot trampling and mowing. The plants observed outside the BSA are not included in any existing CNDDDB occurrence (CDFW 2024). However, one CNDDDB occurrence is along Pescadero Creek, south of the BSA. Because of the proximity of the BSA to known occurrences, the potential would exist for this species to occur within the BSA, especially in unsurveyed areas.

The following five species have a moderate potential to occur in the BSA:

Blasdale's Bent Grass

Blasdale's bent grass (*Agrostis blasdalei*) is a perennial grasslike herb that is native and endemic to California and ranges from Santa Cruz to Mendocino County along the coastline and has a CRPR of 1B.2. No CNDDDB records exist of this species within 5 miles of the BSA (CDFW 2024), and it was not found in the portion of the BSA that was included in the botanical surveys. The plant has moderate potential to occur in the BSA.

Anderson's Manzanita and Kings Mountain Manzanita

Anderson's Manzanita (*Arctostaphylos andersonii*) and kings mountain manzanita (*Arctostaphylos regismontana*) are shrubs that are native and endemic to California and range from Monterey to Alameda County along the coastline, and have a CRPR rank of 1B.2. No CNDDDB records of these species are within 5 miles of the BSA (CDFW 2024), and neither species was found in the portion of the BSA that was included in the botanical surveys. The plants have moderate potential to occur in the BSA.

Minute Pocket Moss

Minute pocket moss (*Fissidens pauperculus*) is a bryophyte moss that is native to California, that has a CRPR of 1B.2. No CNDDDB records of this species are within 5 miles of the BSA (CDFW 2024), and it was not found in the portion of the BSA that was included in the botanical surveys. The plant has moderate potential to occur in the BSA.

Rose Leptosiphon

Rose leptosiphon (*Leptosiphon rosaceus*) is an annual herb that is native to California, with a CRPR of 1B.1. One CNDDDB record of this species is within 5 miles of the BSA (CDFW 2024); however, it is considered a possibly extirpated population, last recorded in 1943. This species was not found in the portion of the BSA that was included in the botanical surveys. The plant has moderate potential to occur in the BSA.

Western Leatherwood

Western leatherwood (*Dirca occidentalis*) is a perennial shrub, native to California, classified with a CRPR of 1B.2. No CNDDDB record of this species is within 5 miles of the BSA (CDFW 2024a). No individuals of this species were found in the portion of the BSA that was included in the botanical surveys. The plant has moderate potential to occur in the BSA.

2.4.3.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not affect special-status plant species in the project area.

Build Alternatives

Choris' popcorn flower and coastal marsh milk vetch will be directly impacted from vegetation removal, ground disturbance, and other project construct activities for both Alternative 1 and 2 (as shown in Figures 2.2.1-2 and 2.2.1-3). Other impacts on these species and other plant species could occur due to direct modification (vegetation removal or ground-disturbing activities) or in-direct modification such as affecting hydrology (drainage) upstream or downstream from species occurrences. Drainage modifications downstream from special-status plant species' occurrences could degrade the current moist soil conditions, and drainage modifications upstream could affect seasonal wetting. These types of changes could disrupt the soil moisture regimes required by special-status plant species outside areas where ground disturbance would occur. Implementation of the AMMs listed below as well as the wetland and other water AMMs listed in section 2.4.2 would minimize effects to rare plants.

2.4.3.4 Avoidance, Minimization, and/or Mitigation Measures

AMM-BIO-10: Rare Plant Survey. During final design, Caltrans will complete a supplemental rare plant survey to confirm presence of special-status plants within the area of direct effects. All plants will be identified to a level needed to verify protected status. Caltrans will consult with the appropriate agency with jurisdiction and obtain the necessary permits or authorizations if unavoidable take of a listed plant species incidental to the proposed work will occur.

AMM-BIO-11: Preconstruction Plant Survey. A project biologist with appropriate botany experience will perform a site survey within the BSA the surveys season prior to the beginning of construction, at the location where construction disturbance may occur. Special-status plants will be flagged and avoided where possible. Caltrans will coordinate with the appropriate regulatory agencies with jurisdiction before the start of construction if incidental take of a listed plant species is unavoidable and will obtain any necessary permits or authorizations for potential direct impacts. Caltrans will adhere to the requirements of all permits and authorizations issued for the proposed project.

2.4.4 Animal Species

2.4.4.1 Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries), and the California Department of Fish and Wildlife (CDFW) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in the Threatened and Endangered Species Section 2.4.5 below. All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NOAA Fisheries candidate species.

Federal laws and regulations relevant to wildlife include the following:

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

State laws and regulations relevant to wildlife include the following:

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

2.4.4.2 Affected Environment

The section is summarized from the *NES* prepared for the proposed project (AECOM 2024a).

Three special-status animal species – saltmarsh common yellowthroat, Townsend's big-eared bat, and San Francisco dusky-footed woodrat – were determined to have potential to occur in the proposed project area. These species, their habitat requirements, and potential impacts of the project are discussed below.

Saltmarsh Common Yellowthroat and other MBTA Protected Bird Species

Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*) is a State-listed species of special concern and is endemic to the greater San Francisco Bay region (Grinnell and Miller 1944). It is specifically adapted to thrive in dense, low-lying vegetation, found primarily in tidal saltmarshes, where it forages mainly on insects and spiders (Sogge et al. 1997). The species occurs year-round within its range and breeds from March through August and may be found breeding within the herbaceous and freshwater wetland areas of the BSA. Along with saltmarsh common yellowthroat, all migratory bird species and their nests and eggs are protected from take under the MBTA.

Existing data and recent observation indicate that saltmarsh common yellowthroat is present within the BSA. Four CNDDDB records are within 5 miles of the BSA, including one record (Occurrence #4) within the BSA. Yellowthroat adults were observed in suitable tidal marsh and breeding habitat (low-lying and dense vegetation). In addition, suitable herbaceous and tree-nesting habitats were observed for a variety of other MBTA-protected species.

Townsend's Big-Eared Bat and Other Protected Bat Species

Townsend's big-eared bat is a State species of special concern. This bat occurs throughout California and requires caves, mines, tunnels, buildings, bridges, or other human-made structures for roosting. It may use separate sites for night, day, hibernation, and maternity roosts. Roosting sites are the most limiting resource for this species (SCCP 2005).

One CNDDDB record of Townsend's big-eared bat is within 5 miles of the BSA. This occurrence is south of the BSA near Pescadero Creek (CDFW 2024). The occurrence is from 1945 and is relatively non-specific, lacking detailed habitat information. However, the bat species requires focused study to identify positively, and lack of recent CNDDDB occurrences does not indicate absence from the region. Preferred roosting sites for this species (e.g., caves, bridges, abandoned buildings, large hollow trees, or large trees with cavities) potentially are present within the BSA at San Gregorio Bridge as well as within the non-native forest and riparian habitat. Potentially suitable roosting and foraging habitat also occurs in areas adjacent to the project footprint and BSA. This species also may forage in grasslands, oak savanna, or agricultural lands within and adjacent to the BSA.

San Francisco Dusky-Footed Woodrat

San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*) is a California species of special concern. This species is found throughout the San Francisco Bay Area (Hall 1981) and the San Francisco Peninsula, generally in forested habitats with moderate canopy, year-round greenery, a brushy understory, and a sufficient supply of suitable nest building materials (CWHRS 2008). Dusky-footed woodrats are nocturnal and active year-round. The breeding season spans from December to September, with a peak in mid-spring (CWHRS 2008). Dispersal of juveniles generally occurs within 50 feet or less, and individuals maintain relatively small home ranges, encompassing approximately 0.5 acre (CWHRS 2008).

On-site evidence suggests that San Francisco dusky footed woodrat is present within the BSA. Habitat conditions within the BSA are suitable for this species, which includes moderately forested habitat, moderate to dense canopies, and plenty of nest-building materials. No CNDDDB occurrence of San Francisco dusky-footed woodrat are within 5 miles of the BSA; however, middens that have been constructed by this species were observed by AECOM biologists during biological surveys.

2.4.4.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not affect special-status animal species in the project area.

Build Alternatives

Both Build Alternatives would involve construction activities with the potential to affect special-status animal species.

Saltmarsh Common Yellowthroat and other MBTA Protected Bird Species

Nesting saltmarsh common yellowthroat and other MBTA-protected species are sensitive to disturbance in the vicinity of their nests. Visual and noise disturbance arising from construction

activity would have the potential to disrupt normal nesting behavior and negatively impact reproductive success of the species, depending on the intensity and distance of the activity from the nest. Impacts on this species would be reduced through implementation of AMMs. Nesting bird surveys would be conducted before any ground-breaking activities, noise-producing activities, and vegetation removal during the nesting season, and nest avoidance buffers would be implemented.

Construction may require removal or trimming of vegetation that yellowthroat or other MBTA-protected bird species could use for nesting. The impact on yellowthroat or other birds associated with removal of vegetation would be reduced through mitigation including replanting and replacement of native vegetation.

Townsend's Big-Eared Bat and Other Protected Bat Species

A daytime bat habitat assessment of the bridge and other areas within the BSA was conducted by qualified AECOM biologists on August 13, 2024. No signs of bat roosting were found at the bridge area or in adjacent areas. In addition, the bridge lacks adequate roosting areas due to its smooth concrete surface and lack of small crevices or footholds on the underside of the bridge. Neither alternative is anticipated to affect protected bats.

San Francisco Dusky-Footed Woodrat

Tree and vegetation removal activities at San Gregorio Creek Bridge would have the potential to affect San Francisco dusky-footed woodrat habitat. Although the entire BSA has not been surveyed for wood rat middens, individual middens were observed incidentally during site visits that were conducted for other purposes within areas that would be impacted during construction. Individual woodrats could be harmed when their middens are present in areas where vegetation removal or construction work would occur. Temporary impacts may include disturbance from construction noise and dust, and restrictions to movement through the project area from temporary fence installation. Vegetation in impacted areas is expected to regrow, which would restore long-term suitable habitat for the species.

2.4.4.4 Avoidance, Minimization, and/or Mitigation Measures

The following species-specific measure would be implemented to further avoid and minimize effects on special-status species.

AMM-BIO-12: Preconstruction Nesting Bird Surveys. If construction activities occur between February 1 and August 31, a qualified biologist will conduct preconstruction surveys for nesting birds no more than 3 days before the start of construction. Surveys will consist of multiple days of observations (i.e., observations on a minimum of 2 separate days). If nesting birds are found, an appropriate non-disturbance buffer will be established around the nest, at the discretion of the qualified biologist. After the buffer areas are established, the area within the buffer will be avoided until the young birds have fledged or the nest no longer is active. Limited activity may occur within a buffer at the qualified biologist's discretion if constant biological monitoring suggests that the activity will not affect the nest. No activity will occur inside an established buffer without full-time biological monitoring and approval of the qualified biologist. The qualified biologist will have authority, through the resident engineer, to order the cessation of all construction activities inside or outside the buffer area if birds exhibit abnormal nesting behavior that may cause reproductive failure (nest abandonment and loss of eggs and/or young).

AMM-BIO-13: Preconstruction Woodrat 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 that are 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.

AMM-BIO-14: Potential Midden Relocation. For any woodrat middens/nests that cannot be avoided with a 10-foot buffer because of their presence in a work area, a woodrat relocation plan will be developed. The plan will outline specific methods for relocation of middens/nests to a suitable nearby undisturbed location. Existing woodrat middens/nests will be dismantled, collected, and relocated to their new locations. The woodrat relocation work will occur before the start of any construction activities and outside the breeding period (September to December) if possible.

2.4.5 Threatened and Endangered Species

2.4.5.1 Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA) (and Caltrans, as assigned), are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take Statement or a Letter of Concurrence. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

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

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

2.4.5.2 Affected Environment

The section is summarized from the NES prepared for the proposed project by Caltrans dated October 2024 (AECOM 2024a).

The following six federal and state-listed threatened and endangered species were determined to have moderate to high potential to occur within the BSA:

- Northwestern pond turtle
- California Red-Legged Frog
- San Francisco Garter Snake

- Steelhead – Central California Coast DPS
- Coho Salmon – Central California Coast ESU
- Tidewater Goby

The above listed species, their habitat requirements, and potential impacts of the project are discussed below. While focused surveys have not been completed within the BSA for listed species or CDFW species of special concern, species are assumed to be present based on desktop analysis.

Northwestern pond turtle

Northwestern pond turtle (NWPT) is a State-listed species of special concern and a federally proposed species for listing as threatened. This species occurs in both perennial and intermittent waters, including marshes, streams, rivers, ponds, and lakes. Its range extends from Washington State southward to Mexico (USFWS 1993).

NWPT typically uses habitats with large amounts of emergent logs, vegetation, or boulders on which it can bask. The species nests on streambanks or other upland areas, often within 300 feet of a water source, but it has been documented wandering up to a half-mile to nest (USFWS 1993). For nesting, females move to upland locations to lay eggs in shallow nests during the summer months. NWPT activity is water temperature dependent. Near the central and southern coasts of California (where the BSA is located), NWPT may be active year-round (CDFW 2000).

The desktop review found one CNDDDB occurrence of NWPT, consisting of three discrete locations in Pescadero Marsh, approximately 3 miles south of the BSA (CDFW 2024). Aquatic habitat in San Gregorio Creek, including within the BSA, is suitable for NWPT. Additionally, upland dispersal habitat occurs within the BSA where potential aquatic habitats occur nearby.

California Red-Legged Frog

California Red-Legged Frog (CRLF) is listed as threatened under the FESA (61 FR 25813, May 23, 1996) and designated as a species of special concern by CDFW. Final critical habitat was designated on March 17, 2010 (75 FR 12816). This species primarily inhabits a diverse range of aquatic habitats, including streams, lakes, marshes, ponds, and ephemeral drainages, typically at elevations up to 4,920 feet. Breeding occurs between November and April in water bodies that are at least 2.5 feet deep and contain emergent vegetation. These breeding habitats must maintain water levels for a minimum of 20 weeks annually and have a salinity of less than 7.0 parts per thousand to support successful reproduction (Hayes and Jennings 1988; Jennings and Hayes 1994).

In addition to aquatic habitats, upland habitats within approximately 1 mile of aquatic areas play a crucial role in the species ecology and survival. These uplands provide essential shelter and foraging opportunities, particularly during dry periods, and consist of diverse vegetational series, including grasslands, woodlands, and riparian zones. Furthermore, dispersal habitats within 1 mile between occupied sites are essential for facilitating movement and genetic exchange among populations. These dispersal habitats include upland or riparian areas with woody vegetation, leaf litter, and small mammal burrows that serve as refugia during winter months (USFWS 1996, 2010).

CRLF previously has been detected within the BSA. A total of 27 CNDDDB records are within 5 miles of the BSA. Two occurrences were within the BSA and included CRLF found deceased along SR 1 as recently as 2019. In those occurrence records, CRLF adults were cited to have been in the wetlands and waters within the BSA in 2012.

Although occasional elevated salinity or brackish water and high flows sometimes may be limiting for CRLF reproduction, adults have been observed within the BSA, and other life stages also may be present sometimes. Slow-moving stream reaches with backwater pools and depths of at least 1.6 feet (in some areas) occur at times, with intermittent emergent and overhanging vegetation. In the project footprint, breeding habitat is limited; but upstream and downstream reaches may provide breeding locations if side channel pools or large pools with low velocity flows occur.

The BSA provides suitable foraging, resting, cover, breeding, and dispersal habitat for CRLF adults and juveniles, with suitable foraging, resting, and cover habitat for tadpoles sometimes present as well. San Gregorio Creek is a permanent water source that can provide valuable dry season aquatic habitat. San Gregorio Creek contains desirable upland/dispersal habitat, extending at least 300 feet from the water's edge. Dispersal habitat and habitat connectivity within the BSA is interrupted by SR 1.

Within the BSA, critical habitat for CRLF is found at and below the ordinary high water mark of San Gregorio Creek, directly underneath the bridge, as well as in all upland terrestrial areas north of the lagoon that could provide adequate dispersal habitat.

San Francisco Garter Snake

San Francisco Garter Snake (SFGS) was listed as federally endangered in 1967 (32 FR 4001), and it is listed as State endangered and fully protected. No critical habitat has been designated. It is endemic to the San Francisco Peninsula and is known only from occurrences in San Mateo County (USFWS 1985).

SFGS typically is found in the vicinity of permanent and seasonal freshwater wetlands and marshes with emergent and bankside vegetation that support breeding populations (McGinnis et al. 1987; Stebbins 2003; USFWS 1985). Upland sites, such as grassy slopes near drainages and ponds, are used for basking, rodent burrows in areas adjacent to water for shelter and escape, and low-lying marsh areas for feeding and breeding (USFWS 1985). SFGS requires upland retreats for winter hibernation, and for daily retreat from thermal extremes and predators during the active season. The species occurs infrequently in upland grasslands, away from streams and ponds (USFWS 1985). SFGS also can be found outside areas with these features when it searches for mates, disperses, forages, and moves between aquatic habitats.

A total of 35 CNDDDB records are within 5 miles of the BSA. Multiple occurrences are mapped as overlapping with the BSA; however, occurrence locations of this species are suppressed to prevent illegal collection and are less precise than some other species records. Five of the occurrence records are from the USGS 7.5-minute San Gregorio quadrangle, which includes a swath of land, inclusive of the BSA, from the ocean to approximately 1.5 miles inland, and this species is present in the headwaters of Pilarcitos Creek. Based on its habitat requirements, the presence of suitable habitat within the BSA, and abundant known occurrences from nearby, similar habitats, SFGS is assumed present within the BSA.

The BSA provides potentially suitable resting, cover, breeding, and dispersal habitat for SFGS adults and juveniles. San Gregorio Creek is a permanent water source that can provide valuable dry season aquatic habitat, and the BSA and vicinity contain desirable upland habitat, extending at least 300 feet from the water's edge. Although San Gregorio Creek is not as desirable for foraging as some wetlands or ponds, slow-moving streams with backwater pools with intermittent emergent and overhanging vegetation and a likely presence of food sources, such as pacific chorus frog (*Pseudacris regilla*) and CRLF, are present at various locations in the watershed. Dispersal and habitat connectivity within the BSA is limited by SR 1.

Steelhead – Central California Coast DPS

The Central California Coast distinct population segment (DPS) of steelhead is a federally threatened species (62 FR 43937, August 18, 1997) and designated as a species of special concern by CDFW. Central California Coast steelhead DPS includes all naturally spawned anadromous populations below natural and human-made impassable barriers in California streams, from the Russian River (inclusive) to Aptos Creek (inclusive), and the drainages of San Francisco, San Pablo, and Suisun Bays, eastward to Chipps Island at the confluence of the Sacramento and San Joaquin rivers (71 FR 834, January 5, 2006).

Like other salmon, steelhead relies on marine, estuarine, and freshwater habitats throughout its life cycle. Central California Coast steelhead requires cool water temperatures, with preferred temperatures ranging from 15 to 18 degrees Celsius (°C) (59 to 64°F). Temperatures of 24 to 27°C (75 to 80°F) are considered lethal (Moyle 2002). Central California Coast steelhead typically begins returning to the coastal waters in late fall and waits for storm runoff to enable passage through lagoon sand barriers or other low-water passage impediments, with most migration occurring from December through February. Spawning takes place from November through April in San Gregorio Creek (Atkinson 2010).

Steelhead is known to be present in San Gregorio Creek (Becker and Reining 2008; Atkinson 2010). Central California Coast steelhead is distributed in the mainstem San Gregorio Creek, in all significant tributaries, and in the lagoon. The San Gregorio system is one of the principal steelhead watersheds in San Mateo County (NMFS 2016). Although spawning habitat in the watershed is relatively abundant, many of the stream surveys and inventories in the watershed have indicated some level of substrate embeddedness and pool filling by fine sediment that may be limiting salmonid spawning and rearing habitat quality (NHI 2010).

The hydrology of San Gregorio Creek is relatively typical for a small coastal watershed in Central California. Critical habitat for Central California Coast steelhead was designated on September 2, 2005 (70 FR 52488). In the BSA, San Gregorio Creek is designated as critical habitat for Central California Coast steelhead. Within the BSA, the lagoon provides optimal juvenile rearing habitat for steelhead (Atkinson 2010). Summer flows within the BSA are sufficient to support juvenile Central California Coast steelhead, and the species has the potential to be present year-round. The lateral extent of critical habitat for this species would include all areas below the ordinary high water mark and include vegetation overhanging the creek or otherwise contributing to habitat for the species. The BSA is not expected to provide spawning habitat for this species, as spawning would occur farther upstream in the watershed, upstream from the BSA.

Coho Salmon – Central California Coast ESU

The Central California Coast evolutionarily significant unit (ESU) was listed as threatened under the FESA in 1996 (61 FR 56138) and endangered in 2005 (70 FR 37160), and it also is a State-endangered species under the CESA. This ESU includes all naturally spawned coho salmon, encompassing reaches of all rivers (including estuarine areas and tributaries) between Punta Gorda (Mendocino County) and San Lorenzo River (Santa Cruz County).

Like steelhead, Central California Coast coho salmon requires viable migration pathways from the ocean upward through freshwater spawning areas, freshwater rearing, and (sometimes) estuarine rearing, to complete its life cycle. Central California Coast coho salmon moves upstream after heavy rains have opened the sandbars that form at the mouths of many California coastal streams. Generally, adult fish enter their natal freshwater streams between September and January to spawn, with spawning activity peaking between mid-November and

mid-January (CDFW 2004). Outgoing migration for Central California Coast coho smolts occurs in the springtime, with smolts being detected in San Gregorio Creek, moving through the BSA from April to May (Atkinson 2010). Central California Coast coho salmon is presumed to be present, perhaps in small numbers, as small numbers of juvenile Central California Coast coho salmon have been detected intermittently in San Gregorio Creek in recent years (Atkinson 2010; NHI 2010; Spence et al. 2011). San Gregorio Creek may support a very limited population of Central California Coast coho salmon (Spence et al. 2011; NMFS 2012).

Habitat within the BSA likely is suitable for this species, and low numbers of this species may be present year-round. Coho are expected to spawn further upstream in San Gregorio Creek and its tributaries, but adults could be present during their upstream migration between September and January. Juveniles would rear in San Gregorio Creek and its tributaries for about 1 year before migrating to the ocean, and much of that rearing would occur higher in the watershed. However, juveniles may also sometimes rear in the estuarine reach or within the BSA. Estuarine use by coho is variable, ranging from seasonal juvenile rearing to limited use as a migratory corridor (NMFS 2012). Atkinson (2010) sampled salmonids in the San Gregorio Creek estuary sporadically through a 2-year period and observed coho salmon smolts as they passed through the estuary on their way to the ocean in April and May 2006. Central California Coast coho salmon most likely is present within the BSA during its spawning and smolt migrations, but limited numbers of individuals could be present within the estuary year-round.

The BSA is not expected to provide spawning habitat for this species; however, the BSA may provide areas for rearing, as well as juvenile and adult migration corridors.

Tidewater Goby

Tidewater goby (*Eucyclogobius newberryi*) is a federally endangered and State species of special concern, native to coastal California. The San Gregorio Creek estuary is designated critical habitat for tidewater goby (73 FR 5920). It inhabits brackish and freshwater habitats within coastal lagoons, estuaries, marshes, and slow-moving streams that are influenced by tidal fluctuations (USFWS 2005).

Tidewater goby has specific habitat requirements, critical for its survival throughout different life stages. It prefers shallow waters with sandy or muddy substrates, often with dense vegetation or detritus providing cover from predators and fluctuating water conditions. Breeding typically occurs in spring and summer months, when water temperatures are optimal for egg development and larval survival (Swift et al. 1989).

Existing data indicates that San Gregorio Creek supports tidewater goby. Two CNDDDB records of Tidewater goby are within BSA waters, and other sources indicate that the species has been observed and is present within the San Gregorio Creek estuary (Atkinson 2010; Smith 1990; USFWS 2005; NHI 2010).

Within the BSA, critical habitat for tidewater goby is found at and below the ordinary high water mark of San Gregorio Creek, directly underneath the bridge. The BSA is within the SM-1 critical habitat unit for this species, which includes 33 acres of State lands and 12 acres of private lands, and specifically is within the GB5 sub-unit. This unit is noted for high densities of tidewater goby (Swenson 1993).

2.4.5.3 Environmental Consequences

No Build Alternative

The No Build Alternative would have no effect on threatened or endangered species and their designated critical habitat because it would not involve construction activities.

Build Alternatives

Table 2.4.5-1 presents the impact summary to protected species under the Federal Endangered Species Act and California Endangered Species Act.

Table 2.4.5-1: FESA and CESA Preliminary Effect Findings

Common Name	Scientific Name	Status*	FESA Preliminary Effect Finding	CESA Preliminary Effect Finding	Preliminary Effect Finding for Critical Habitat (if applicable)
Northwestern pond turtle	<i>Actinemys marmorata</i>	FPT	May Affect, Likely to Adversely Affect	N/A - Species is not state-listed	N/A
California red-legged frog	<i>Rana draytonii</i>	FT	May Affect, Likely to Adversely Affect	N/A - Species is not state-listed	May Affect, Not Likely to Adversely Affect
San Francisco Garter Snake	<i>Thamnophis sirtalis tetrataenia</i>	FP; FE; SE	May Affect, Likely to Adversely Affect	CESA take is expected to occur to this species.	N/A
Steelhead – Central California Coast DPS	<i>Oncorhynchus mykiss irideus</i>	FT	May Affect, Likely to Adversely Affect	N/A - Species is not state-listed	May Affect, Not Likely to Adversely Affect
Coho Salmon – Central California Coast ESU	<i>Oncorhynchus kisutch</i>	FT; SE	May Affect, Likely to Adversely Affect	CESA take is expected to occur to this species	May Affect, Not Likely to Adversely Affect
Tidewater goby	<i>Eucyclogobius newberryi</i>	FE	May Affect, Likely to Adversely Affect	N/A - Species is not state-listed	May Affect, Not Likely to Adversely Affect

Notes: *Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP, FPE, FPT); State-Endangered (SE)

Northwestern Pond Turtle

Both Build Alternatives have the potential to impact suitable habitat for the Northwestern Pond Turtle (NWPT).

Permanent impacts on habitat would include the removal of trees and vegetation, as well as the addition of fill within San Gregorio estuary as part of Alternative 2 (for Alternative 2, an unknown quantity of fill also would be removed from San Gregorio Creek because the old bridge supports would be removed, and new ones would be added).

Temporary impacts during construction would include disturbance from construction equipment (dust and noise), impacts on water quality, and temporary impacts on use of or movement through some areas because of construction fencing and a temporary change to the movement of water in the creek. However, proposed cofferdam installation would occur within a limited part of the lagoon that is less suitable for NWPT (it lacks basking sites and upland areas). If NWPT occurs at the project site during construction, the potential would exist for injury or mortality caused by work activities. Implementation of general and species-specific AMMs would substantially reduce risk to individuals within the BSA during construction across all alternatives.

California Red-Legged Frog

Both Build Alternatives would have the potential to adversely affect CRLF individuals that occur at the project site during construction, and construction may result in injury, mortality, or harassment. Project effects on CRLF would include ground disturbance from vegetation removal. CRLF also may be affected by construction-related dust, increases in noise, vehicle/equipment staging and access, and impacts on water quality during construction. Limiting work in aquatic habitats to the period from April 15 to October 15, when CRLF generally is active, would reduce the potential for CRLF to be affected by project activities.

Based on preliminary, conceptual design project footprints, impacts on designated critical habitat for CRLF would occur in upland dispersal habitat, aquatic non-breeding habitat, and potential aquatic breeding habitat (potential, because breeding within the BSA has not been confirmed). Alternative 1 has the potential to result in 1.340 acres of temporary impacts to CRLF habitat. Alternative 2 would result in 1.413 acres of temporary impacts and 0.211 acres of permanent impacts, for a total of 1.624 acres. Preliminary impact calculations based on conceptual alternative designs are shown in Table 2.4.5-2.

Table 2.4.5-2: Estimated California Red-Legged Frog Critical Habitat Impacts

Impact Type	Area (acres)
Alt 1 - Temporary	1.340
Alt 1 - Permanent	0.00
Alt 1 - Total	1.340
Alt 2 - Temporary	1.413
Alt 2 - Permanent	0.211
Alt 2 - Total	1.624

Implementation of general and species-specific AMMs would minimize effects on CRLF.

San Francisco Garter Snake

Like CRLF, the proposed project would have the potential to adversely affect SFGS individuals that occur at the project site during construction, which may result in injury, mortality, or harassment. Temporary and permanent disturbance to potentially suitable habitat would be the same as described for CRLF. Project effects on this species would include ground disturbance from vegetation removal and the potential for construction-related dust, increases in noise, and impacts on water quality during construction, especially within aquatic areas. Effects may occur wherever permanent or temporary construction impacts occur, including areas where vehicle/equipment staging and access take place.

Implementation of general and CRLF-specific AMMs, since they occupy the same habitats, would further avoid and minimize effects on SFGS.

Steelhead – Central California Coast DPS

Central California Coast steelhead may be affected by temporary and permanent changes to habitat conditions, and individual steelhead may be harmed or killed during project construction, especially during cofferdam placement and fish relocation associated with localized dewatering.

Effects also may occur from construction-related dust, increases in noise, and impacts on water quality during construction.

Impacts on Central California Coast steelhead critical habitat would be limited to the areas of impact under the ordinary high water mark, which would include 0.315 acre of temporary impact (no permanent impacts) for Alternative 1, and 0.265 acre of temporary impact and 0.025 acre of permanent impact for Alternative 2 (Table 2.4.5-3). Temporary impacts would include cofferdam building and localized dewatering, which temporarily would exclude steelhead from a relatively small area of critical habitat during construction. Depending on configuration, the potential would exist for instream structures to affect fish passage temporarily and affect the species ability to move through the BSA, or to move between the ocean and San Gregorio Creek. However, because dewatering would occur for specific project features and not across the entire channel, movement between portions of the BSA upstream and downstream from the work area would not be blocked during construction. Permanent impacts from Alternative 2 would include the permanent structures of the replacement bridge, which would replace the existing structures supports and not be expected to alter habitat of this species extensively. In addition, for Alternative 2, an unknown quantity of fill also would be removed from San Gregorio Creek, because the old bridge supports would be removed before being replaced with new ones.

Table 2.4.5-3: Estimated Central California Coast Steelhead Critical Habitat Impacts

Impact Type	Area (acres)
Alt 1 - Temporary	0.315
Alt 1 - Permanent	0.00
Alt 1 - Total	0.315
Alt 2 - Temporary	0.265
Alt 2 - Permanent	0.025
Alt 2 - Total	0.290

Implementation of habitat-specific measures, described in section 2.4.2 for WOTUS and WOS, and species-specific AMMs would further avoid and minimize effects on Central California Coast steelhead.

Coho Salmon – Central California Coast ESU

Central California Coast coho salmon may be affected by temporary and permanent changes to habitat conditions, and Central California Coast coho salmon individuals may be harmed or killed during construction, especially during cofferdam placement and fish relocation associated with localized dewatering. Project effects on Central California Coast coho salmon could include harm or injury of individuals during construction, if present, and would include effects on its habitat. Potential habitat effects would include temporary placement and installation of cofferdams, including localized dewatering within aquatic habitat, tree removal, vegetation removal, ground disturbance and subsequent temporary changes to hydrology, water quality, substrate, habitat complexity, and tree canopy cover. Because cofferdams would isolate specific project features and not an entire reach of the stream, localized dewatering and cofferdams are not expected to block fish movement between habitat upstream and downstream from the proposed work area. Effects on Central California Coast coho salmon critical habitat are anticipated to be the same as those described in Table 2.4.5-3 for Central California Coast steelhead.

Construction activities, including temporary channel diversion and cofferdam dewatering, would be temporary and planned to occur when the species would be less likely to be present within the BSA. Effects on the species may occur from construction-related dust, increases in noise, and impacts on water quality during construction. Permanent fill in San Gregorio Creek would be considered a permanent impact on the species; however, for Alternative 2 (the only alternatives with permanent effects on aquatic habitat), an unknown quantity of fill also would be removed from San Gregorio Creek, because the old bridge supports would be removed before being replaced with new ones.

Implementation of habitat-specific measures, described in section 2.4.2 for WOTUS and WOS, and Central California Coast steelhead-specific AMMs, since they occupy the same habitat, would further avoid and minimize effects on Central California Coast coho salmon.

Tidewater Goby

Project effects on tidewater goby would include placement and installation of cofferdams, including localized dewatering within aquatic habitat, potential tree removal, vegetation removal, ground disturbance and subsequent changes to hydrology, water quality, substrate, habitat complexity, and tree canopy cover. Construction activities, including channel diversion and dewatering, although temporary, would occur when the species is present within the BSA and may cause harm, injury, or death to individuals. Temporary impacts would include cofferdam building and dewatering, and temporary access road use, likely increasing turbidity of critical habitat waters, which would affect habitat suitability for this species during construction because of changes in turbidity, sedimentation, and alteration of local, instream flow patterns (or hydraulics) and microhabitats. For permanent impacts associated with Alternative 2, an unknown quantity of fill also would be removed from San Gregorio Creek, because the old bridge supports would be removed before being replaced with new ones. Permanent impacts from Alternative 2 are not expected to alter habitat extensively for this species because they would be associated with replacement of existing bridge features. Tidewater goby also would be affected by temporarily increased vehicular traffic near lagoons, and the temporary staging/access also may pose a threat for this species (USFWS 2005). Because tidewater goby has a short lifespan of only a year, persistent impacts on this species over the span of the proposed multi-season project construction may have population-level effects on tidewater goby in San Gregorio Creek.

The total area of Tidewater goby critical habitat within San Gregorio Creek is estimated to be 45 acres within the estuary system (78 FR 8746). Based on preliminary, conceptual design project footprints, all project alternatives temporarily would impact critical habitat for tidewater goby (aquatic lagoon breeding and non-breeding habitat), and Alternative 2 would result in both temporary and permanent impacts. Alternative 1 would result in 0.493 acres of temporary impacts to Tidewater goby habitat. Alternative 2 would result in 0.565 acres of temporary impacts and 0.045 acres of permanent impacts, for a total of 0.610 acres. Table 2.4.5-4 lists permanent and temporary impacts on tidewater goby critical habitat for each alternative.

Table 2.4.5-4: Estimated Tidewater Goby Critical Habitat Impact Areas Impacts

Impact Type	Area (acres)
Alt 1 - Temporary	0.493
Alt 1 - Permanent	0.00
Alt 1 - Total	0.493
Alt 2 - Temporary	0.565
Alt 2 - Permanent	0.045
Alt 2 - Total	0.610

Implementation of habitat-specific measures, described in section 2.4.2 for WOTUS and WOS, and Central California Coast steelhead-specific AMMs, since they occupy the same habitat, would minimize effects on Tidewater goby.

2.4.5.4 Avoidance, Minimization, and/or Mitigation Measures

AMM-BIO-15: Wildlife Exclusion Fencing. WEF will be installed along the perimeter of the work areas in locations determined by a qualified biologist that benefit special-status species and do not conflict with construction site access. The fencing will remain throughout the duration of project construction and will serve to exclude special-status species from work areas and staging areas where materials storage may encourage migrating individuals to seek cover. The WEF will be maintained by the contractor throughout the duration of construction in the area. The WEF will be trenched into the soil at least 4 inches deep, with the soil compacted against both sides of the fence for its entire length to prevent NWPT and other special-status species from passing under the fence. The barriers will be inspected by the qualified biologist at least twice weekly on nonconsecutive days throughout the duration of all construction activities in the area. Barriers will be installed by the contractor, with turnarounds at any access openings needed in the fencing to redirect reptiles and other animals away from openings.

AMM-BIO-16: Entrapment Avoidance. To prevent inadvertent entrapment of special-status species during construction, all excavated, steep-walled holes or trenches more than 1 foot deep will be covered with plywood or similar materials at the end of each workday, or the holes or trenches will contain one or more escape ramps, constructed of earth fill or wooden planks. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. If a trapped wildlife is discovered at any time, the biologist will provide passive opportunities for safe egress out of the work area (e.g., providing an escape ramp that the wildlife can use to exit a trench). Otherwise, a qualified biologist, with approval from the regulatory agency with jurisdiction, will move the special-status species to the nearest suitable habitat outside the construction area that will not be disturbed.

AMM-BIO-17: Proper Use of Erosion Control Devices. To prevent special-status species from becoming entangled, trapped, or injured, erosion control materials that use synthetic monofilament netting will not be used within the BSA. This will include products that use photodegradable or biodegradable synthetic netting, which can take several months to decompose. Acceptable materials will include tackified hydroseeding compounds and natural fibers, such as jute or twine with a wide-aperture mesh.

AMM-BIO-18: Biological Monitoring. An approved biological monitor will be present during all construction activities that may result in take of special-status species. Following the initial mobilization of the project site, the monitor will continue to be present daily. Preconstruction

surveys will be conducted at all proposed staging, work, and dewatering areas by a qualified biologist immediately before the start of construction in each area each day. The surveys will involve a visual inspection of the entire immediate work area.

AMM-BIO-19: Protocol for Species Observation. If a special-status individual is detected within the project footprint or surrounding BSA, all work will cease immediately, and all on-site personnel will be notified of the location. At no time will construction work occur within 50 feet of the special-status individual without an approved biological monitor present. If relocation is permitted, the special-status individual will be relocated to suitable habitat outside the project footprint, if permitted by the appropriate agency with jurisdiction.

AMM-BIO-20: Weather Restrictions. The biological monitor will observe 48-hour weather forecasts and will notify the resident engineer of the potential for any storm events. No work will occur during a rain event or within 24 hours after a rain event exceeding 0.2 inch, as measured by the National Oceanic and Atmospheric Administration weather report for Gilroy (Mesonet Station #C4787). The biological monitor will conduct a preconstruction clearance survey before work resumes after a rain event. U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) approval to continue work during or within 24 hours of a rain event will be considered on a case-by-case basis.

AMM-BIO-21: Fish Relocation. Caltrans will retain a qualified biologist with expertise in the areas of California fish biology, including handling, collecting, and relocating native fishes, native fish/habitat relationships, and biological monitoring of work in waters containing native fishes. Caltrans will 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 fishes. A USFWS, NMFS, and/or CDFW-approved fish biologist will be on-site to observe dewatering activities and to oversee capture/rescue of any fish that are observed in an isolated area during dewatering activities.

AMM-BIO-22: Fish Passage. Preconstruction stream width, depth, velocity, and slope that currently provide upstream and downstream passage of adult and juvenile fish under appropriate stream flow conditions will be preserved, post-construction, according to current NMFS and CDFW guidelines and criteria, or as developed in cooperation with NMFS and CDFW to accommodate site-specific conditions.

AMM-BIO-23: Aquatic Noise. During final design, Caltrans will consider instream construction methods and the potential for construction activities (e.g., impact pile driving) to create noise that may harm fish and other aquatic organisms. A hydroacoustic analysis will be conducted if appropriate.

In addition, the following mitigation measure will be implemented to mitigate the impacts to threatened and endangered species:

MM-BIO-2: Compensatory Mitigation for Special-Status Species. Caltrans will restore temporarily impacted special status habitat areas on-site following construction. In addition, Caltrans will mitigate for permanent impacts to California Red-Legged Frog and San Francisco Garter Snake and their habitat at a ratio of 3:1, Steelhead and its habitat at a ratio of 3:1, and Coho Salmon and Tidewater Goby at a ratio of 3:1 plus 1:1 for temporary impacts to these habitats. Off-site mitigation will be required due to the lack of available enhancement potential on-site. The mitigation site or sites will be chosen in consultation with regulatory agencies with jurisdiction including CCC, CDFW, USFWS, NMFS.

2.4.6 Invasive Species

2.4.6.1 Regulatory Setting

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

2.4.6.2 Affected Environment

The section is summarized from the *NES* prepared for the proposed project (AECOM 2024a).

Several plant species listed as invasive by the California Invasive Plant Council (Cal-IPC 2024) were detected within the BSA during the rare plant survey completed as part of the *NES* (AECOM 2024a). Examples of species rated as having “high” invasiveness by California Invasive Plant Council, and that are present within the BSA, include: red brome (*Bromus rubens*); iceplant (*Carpobrotus edulis*); cape ivy (*Delairea odorata*); French broom (*Genista monspessulana*); and English ivy (*Hedera helix*).

2.4.6.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not introduce invasive species into the project area.

Build Alternatives

Invasive plant species are common within the BSA and may colonize disturbed areas after construction of either Build Alternative and interfere with establishment of native vegetation. However, invasive vegetation would be removed from the construction area immediately before ground disturbance, and BMPs would be implemented to contain their spread. Further, in compliance with the Executive Order on Invasive Species, EO 13112, and guidance from the Federal Highway Administration (FHWA), the landscaping and erosion control included in the project will not use species listed as invasive. None of the species on the California list of invasive species is used by Caltrans for erosion control or landscaping in the project footprint. All equipment and materials will be inspected for the presence of invasive species and cleaned if necessary. In areas of particular sensitivity, extra precautions will be taken if invasive species are found in or next to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.

2.4.6.4 Avoidance, Minimization, and/or Mitigation Measures

AMM-BIO-24: Invasive Plant Removal and Revegetation: Plant species identified by the Cal-IPC as “High” will be removed from the project footprint immediately before any ground disturbance or vegetation clearing, by bagging the vegetative parts of the plant and removing the entire root system if possible.

2.5 Cumulative Impacts

2.5.1 Regulatory Setting

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

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

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

2.5.2 Cumulative Impact Analysis

This cumulative impact analysis determines whether the project, in combination with projects that are planned, approved, or under construction, would result in a cumulative effect, and, if so, whether the project's contribution to the cumulative effect would be considerable. The past, present, and reasonably foreseeable projects included in the cumulative impact analysis are described below.

Projects Considered for Cumulative Analysis:

- **Minor B Safety Lighting Project** – This project to install a light at the intersection of SR 1 and SR 84 is complete. This project is located at post mile 18.2 on SR 1.
- **Pescadero Creek Bridge Rails Project** - This project to replace the bridge rails on the Pescadero Creek Bridge on SR 1 is complete. The bridge is located at post mile 14.0 on SR 1. The project replaced the Type 27 bike barrier and Type 25 concrete barrier with standard Type 85 barriers. The construction work occurred on the bridge itself, on paved staging areas, and in places where guardrail already existed.
- **State Route 1 and State Route 84 Structures and Scour Mitigation Project** – This project to protect the San Gregorio Creek Bridge on SR 84 (post mile 7.55) and the Pilarcitos Creek Bridges on SR 1 (post mile 28.9) piers from scour is expected to be completed by the end of 2025. The project involves replacing partially grouted rock slope protection around the bridge piers and stream banks below the bridges in order to protect them from erosion.
- **State Route 1 Micro Road Realignment Project** – This project proposes to SR 1 from post mile 13.1 to 13.9 approximately 40 feet to the east (inland). This project aims to maintain structural integrity and operations of the highway and increase resilience to sea

level rise and storm surges. The project is currently in the project approval and environmental document phase. Construction is planned to begin in late 2029. An environmental document is expected for public review in late 2025.

- **State Route 1 Major Road Realignment Project** - This project to investigate the potential to realign SR 1 in some locations between post mile 10.7 and 19.4 is currently in the planning phase. This project proposes to address sea level rise, recurring bluff erosion, and storm surge concerns along the coast of San Mateo County by reconstructing SR 1 along the existing roadway alignment. The current phase of planning includes a range of alternatives as well as to estimate the cost and schedule for the project. Early project coordination indicates the segment of SR 1 near San Gregorio may not be moved from its existing alignment due to the lower risk of sea level rise at this location.
- **State Route 1 Pavement Preservation Project** – This project proposes to restore pavement on the roadway, shoulders, pullouts, turning lanes, and driveways on SR 1 from post mile 10.6 to 27.5 and replace guardrails, install bicycle and pedestrian safety features, and upgrade culverts and drainage features. This project is in the preliminary planning phase and a construction date has not yet been set.
- **San Gregorio Creek Habitat Enhancement Project** – This project is currently being proposed by the San Mateo Resource Conservation District and consist of multiple phases. The project proposes creek habitat enhancements that will benefit coho salmon, steelhead and other native species in the San Gregorio Creek Watershed.

The cumulative impacts analysis follows the Caltrans 8-step process established in the Guidance for Preparers of Cumulative Impact Analysis: Approach and Guidance (Caltrans 2005) as follows:

- Step 1: Identify resources to consider in the cumulative impact analysis.
- Step 2: Define the Resource Study Area (RSA), or geographic boundary, for each cumulative impact analysis.
- Step 3: Describe the current health [and historical context] of each resource.
- Step 4: Identify any direct and/or indirect impacts the Build Alternative may contribute to a cumulative impact on the identified resources.
- Step 5: Identify a set of active projects to include in the cumulative impact analysis.
- Step 6: Assess cumulative impacts.
- Step 7: Report the results of the cumulative impacts analysis.
- Step 8: Assess the need for additional avoidance, minimization, or mitigation measures to address any cumulative impacts.

Under the No Build Alternative, no construction would occur within the project limits. Existing conditions would be perpetuated, and the impacts associated with the Build Alternatives would not occur. Therefore, this alternative would not contribute to cumulative environmental effects in combination with other projects, and no cumulative impacts would occur.

2.5.3 Environmental Consequences

The project is anticipated to have no impacts or less than significant impacts on the majority of resources identified within this document. Furthermore, avoidance and minimization measures have been incorporated, lessening the potential for impacts on these resources. As such, these resources have not been included in the cumulative analysis, as they are not considered to have impacts that would be considered cumulatively considerable in combination with past, current, and reasonably foreseeable future actions. It has also been determined that these

resources are not in poor or declining health and their health would not be impacted by the construction of either build alternatives.

The project will have impacts to the following resources that would require avoidance, minimization, and/or mitigation measures. These resources are either potentially significantly impacted by the project, are in poor or declining health, or at risk and therefore included in the cumulative analysis:

- Water Quality
- Biological Resources
 - Wetlands and Other Waters of the United States: Wetlands and OWUS and WOS regulated by USACE and the San Francisco Bay RWQCB, and riparian areas and Coastal Zone wetlands regulated by the CCC.
 - Federal Endangered Species: federally listed plants, NWPT, CRLF, SFGS, steelhead-Central California Coast DPS, coho salmon-Central California Coast ESU, and tidewater goby.
 - Critical Habitat: CRLF, steelhead-Central California Coast DPS, coho salmon-Central California Coast ESU, and tidewater goby.
 - Essential Fish Habitat: Pacific salmonids.
 - California Endangered Species: SFGS and Central California Coast DPS coho salmon.

Water Quality:

The resource study area for water quality is San Gregorio Creek and its associated watershed. San Gregorio Creek is listed as pollutant impaired for bacteria and sedimentation/siltation. Build Alternative 2 would require the addition of impervious surface in order to shift the replacement bridge eastward by 25 feet.

The project would include erosion and sediment control Best Management Practices (BMPs) (e.g., silt fences, preservation of vegetation in environmentally sensitive areas, streambank stabilization), the preparation of a Stormwater Pollution Prevention Plan (SWPP) and stormwater treatment would be required by the NPDES permit and other permits. Construction activities would be conducted in compliance with all applicable regulations related to water quality. Development of other reasonably foreseeable projects within the watershed could result in a cumulatively considerable impacts on the watershed, if the appropriate avoidance, minimization and/or mitigation measures are not incorporated. However, all future projects would be required to comply with the applicable water quality standards and measures defined by local, regional, state, and federal agencies. Therefore, all planned projects would be required to address effects on water quality on a project-by-project basis.

With the implementation of BMPs, stormwater treatment and compliance with applicable regulations, the project's contribution to cumulative impacts on water quality would be minimized to less than significant and would not result in adverse cumulative impacts on water quality. No avoidance, minimization, and/or mitigation measures for cumulative impacts on water quality would be required.

Biological Resources:

For the purpose of this cumulative analysis the resource study area for biological resources is defined as the biological study area (BSA), as defined in Section 2.4 of this document, and expands upstream, within the watershed, for sensitive aquatic species. The RSA contains special status terrestrial and aquatic animal species (birds, bats, rodents, turtles, snakes, frogs, fish), rare plants, and critical habitat. The biological environment varies in its health based on the exact resource. In general, the RSA supports a wide diversity of unique and rare species, many which are threatened or endangered.

Construction of the proposed project could affect special-status plant and/or wildlife species through permanent impacts and temporary disturbance of suitable habitat from construction-related activities. Construction of the proposed project would be required to comply with all applicable laws and regulations related to special-status plant and wildlife species. Both Build Alternatives would require construction in the creek and construction equipment to be present alongside or overlapping the habitat of special status species. These activities would require mitigation for special status species and their habitats. Compensatory mitigation is proposed to offset these impacts either offsite or through enhancements onsite.

None of the other reasonably foreseeable future projects listed above have the potential to occur directly within the project's BSA. Within the RSA part of the State Route 1 and State Route 84 Structures and Scour Mitigation Project construction would occur upstream of the proposed project within San Gregorio Creek. However, construction would be completed at least two years prior to construction of the proposed project. While upstream construction has the potential to affect the same aquatic species, permit conditions for that project require impacts to be minimized and mitigated. Therefore, the resources present in the RSA would not be unduly affected by construction of another project within the creek. The State Route 1 Pavement Preservation Project, particularly culvert repairs could occur within the RSA, but information is not available at this time to determine if any impacts would occur requiring mitigation. The avoidance, minimization, and mitigation measures for the proposed project have been committed to in order to restore or improve the health of both water quality and biological resources following project construction. Full implementation of these measures as well as permit conditions for this proposed project will protect the health of the resources and avoid cumulatively considerable impacts. Therefore, no avoidance, minimization, and/or mitigation measures for cumulative impacts for aquatic species are proposed at this time.

Additionally, the San Mateo County Conservation District is in the process of implementing the San Gregorio Creek Habitat Enhancement Project. This project is a multiphase project that would improve the conditions of special status aquatic species within the San Gregorio Creek Watershed and is located approximately five miles upstream from the proposed project. The project would improve creek habitat through installation of natural habitat features to increase complexity to provide the diversity of habitat fish need to forage, take refuge, rest, rear, and spawn. This creek enhancement project would result in an overall cumulatively beneficial impact on aquatic species within the watershed and would not be considered cumulatively considerable in conjunction with the proposed project.

Terrestrial special status wildlife species and species of concern have the potential to be temporarily impacted by disturbance from construction noise and dust, restrictions to movement through the project area from temporary fence installation and vegetation removal. Vegetation at impacted areas is expected to regrow, which would restore long-term suitable habitat for these species. Avoidance, minimization and mitigation measures have been included as part of the proposed project and are discussed in Section 2.4 of this document. With the appropriate

measures in place, the contribution of the project on cumulative impacts on terrestrial wildlife species in the region would not result in a cumulatively significant impact and mitigation for cumulative impacts is not required at this time.

Special status plant species with moderate potential to occur within the BSA have the potential to be impacted by the project. Impacts on these species and other plant species outside the impact area could occur because of vegetation removal or ground-disturbing activities, or by affecting hydrology (drainage) upstream or downstream from the species occurrences. Drainage modifications downstream from special-status plant species' occurrences could degrade the current moist soil conditions, and drainage modifications upstream could affect seasonal wetting. These types of changes could disrupt the soil moisture regimes required by special-status plant species outside areas where ground disturbance would occur. Construction of both Build Alternatives would be required to comply with all applicable laws and regulations related to special status plant species. Moreover, the proposed project would implement the appropriate avoidance, minimization and mitigation measures described within Section 2.4 of this document to ensure that impacts on special status plant species would be minimal. Therefore, the proposed project would not result in a cumulative significant impact on special-status plant species when considered in conjunction with the projects listed above. No avoidance, minimization, and/or mitigation measures for cumulative impacts on special status plant species are proposed at this time.

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Chapter 3 California Environmental Quality Act (CEQA) Evaluation

3.1 Determining Significance under CEQA

The proposed project is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). FHWA's responsibility for environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 United States Code Section 327 (23 USC 327) and the Memorandum of Understanding dated May 27, 2022, and executed by FHWA and Caltrans. Caltrans is the lead agency under CEQA and NEPA.

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an EIS, or a lower level of documentation, will be required. NEPA requires that an EIS be prepared when the proposed federal action (project) *as a whole* has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated, and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, does require Caltrans to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an EIR must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the CEQA Guidelines list a number of "mandatory findings of significance," which also require the preparation of an EIR. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

3.2 CEQA Environmental Checklist

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

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 Best Management Practices (BMPs) and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below; see Chapters 1 and 2 for a detailed discussion of these features. The annotations to this checklist are summaries of information contained in Chapter 2 in order to provide the reader with the rationale for significance determinations; for a more detailed discussion of the nature and extent of impacts, please see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.

3.2.1 Aesthetics

CEQA Significance Determinations for Aesthetics

Except as provided in Public Resources Code Section 21099, 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?	-	-	X	-
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	-	-	X	-
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?	-	-	X	-
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	-	-	X	-

a) Less Than Significant Impact

As discussed in Section 2.2.5, the project is located within a portion of SR 1 that is designated as a State Scenic Highway. The project is surrounded by scenic vistas. Neither of the Build Alternatives would directly obstruct views of the coast or rolling hills. Both Build Alternatives would result in minor visual changes to the bridge itself. Build Alternative 1 would not result in any visual changes to the overall lower portion of the structure. The cleaned concrete surface and replaced railing would result in positive visual changes. Alternative 2 (Options A and B) would result in a wider bridge, which may have a minor effect on views of the scenic resources from the roadway. The new railings and arches would be reminiscent of the original bridge and others in the corridor. Build Alternative 2 Option A with its haunched girder design would fit well into the existing scenic resources and be compatible with other bridges in the corridor. Build Alternative 2 Option B would have a more modern, streamlined appearance that would result in a slightly adverse compatibility with the natural surroundings and other bridges in the corridor, but would not have a significant effect on the scenery overall. The project would have incorporated features that would help the bridge blend with its natural setting, per the San Mateo State Route 1 Repair Guidelines. AMM-VIS-1 through AMM-VIS-11 have been incorporated to avoid and minimize aesthetic impacts. For these reasons, the project would not have a significant impact on a scenic vista.

b, c) Less Than Significant Impact

As discussed in Section 2.2.5, SR 1 is an officially designated state scenic highway within the project limits. However, the project would limit removal of existing trees and would not result in any impact to, rock outcroppings, historic buildings, or other scenic resources. Both Build Alternatives would include see-through-type barriers so as not to obstruct views of the coast from SR 1. Build Alternative 1 would include a guardrail barrier of similar scale to existing conditions. Build Alternative 2 would result in a wider bridge, partially obscuring views to the surrounding landscape for a brief time as drivers move through the area. Additionally, the pedestrian railing would be higher than the current bridge railing, reducing ocean views from the roadway. However, the pedestrian walkway included in Build Alternative 2 would give pedestrians new access across the bridge and clear views of the ocean. Additionally, the project would incorporate AMM-VIS-4 and AMM-VIS-9 to ensure that the new guardrails will not visually degrade views from the bridge by using context-sensitive texture, color, and materials. The project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings.

d) Less than Significant Impact

The proposed project would not include new lighting elements. The proposed guardrails would include a matte finish to reduce glare and better blend with the natural setting, per San Mateo State Route 1 Repair Guidelines. The project would incorporate AMM-VIS-11 to minimize impacts associated with construction lighting by limiting lighting to the area of work. Therefore, the impacts would be less than significant.

3.2.2 Agriculture and Forest Resources

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

Would the project:	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 non-agricultural use?	-	-	-	X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	-	-	-	X
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))?	-	-	-	X
d) Result in the loss of forest land or conversion of forest land to non-forest use?	-	-	-	X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	-	-	-	X

CEQA Significance Determinations for Agriculture and Forest Resources

a-e) No Impact. The project limits do not overlap with and are not adjacent to any lands designated as Important Farmland (i.e., Prime Farmland, Unique Farmland, or Farmland of Statewide Importance) (DOC 2022a). There are no Williamson Act contracts in or around the project limits (DOC 2023). The project limits do not overlap with any timberland. The project would not convert any lands to other uses.

3.2.3 Air Quality

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

Would the project:	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?	-	-	-	X
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard?	-	-	-	X
c) Expose sensitive receptors to substantial pollutant concentrations?	-	-	-	X
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	-	-	-	X

CEQA Significance Determinations for Air Quality

a-d) No Impact. The project limits are in unincorporated San Mateo County in a rural area along SR 1 with sensitive receptors living more than 1,000 feet away from any construction activity. The project would not change the use of the roadway that would lead to an increase in air pollutants. Construction activities would be short-term and would not affect a substantial number of people. Project Feature PF-AQ-1 would minimize construction-related air pollution.

3.2.4 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, U.S. Fish and Wildlife Service, or NOAA Fisheries?	-	X	-	-
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?	-	X	-	-
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?	-	X	-	-
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?	-	-	X	-
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	-	-	X	-
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?	-	-	-	X

CEQA Significance Determinations for Biological Resources

a) Less Than Significant with Mitigation Incorporated.

The project has the potential to impact special-status plants (Coastal marsh milk-vetch and Choris' popcorn flower), special-status animals (Saltmarsh common yellowthroat, San Francisco dusky-footed woodrat, and migratory birds), and threatened or endangered species (Northwestern pond turtle, California Red-Legged Frog, San Francisco Garter Snake, Steelhead – Central California Coast DPS, Coho Salmon – Central California Coast ESU, and Tidewater Goby). Each species is described further in Section 2.4.

Construction activities have the potential to injure individuals and affect designated critical habitat through construction-related activities causing dust and noise, impacts on water quality, and temporary impacts on use of or movement through some areas because of construction fencing and a temporary change to the movement of water in the creek due to cofferdams and localized dewatering. The project also has the potential to affect species and critical habitat through minor realignment of the bridge for the relocation option. This option would include new foundations, although fewer than the existing bridge and minor roadway realignment. The project includes standard project features (Section 1.6) and avoidance and minimization measures (Section 2.4) that would minimize the impacts to special-status plants and animals.

AMM-BIO-10 through AMM-BIO-23 would minimize impacts to these species, but impacts would remain significant. With implementation of the measure below, the impacts to special status species would be less than significant with mitigation incorporated.

MM-BIO-2: Compensatory Mitigation for Special-Status Species. Caltrans will restore temporarily impacted special status habitat areas on-site following construction. In addition, Caltrans will mitigate for permanent impacts to California Red-Legged Frog and San Francisco Garter Snake and their habitat at a ratio of 3:1, Steelhead and its habitat at a ratio of 3:1, and Coho Salmon and Tidewater Goby at a ratio of 3:1 plus 1:1 for temporary impacts to these habitats. Off-site mitigation will be required due to the lack of available enhancement potential on-site. The mitigation site or sites will be chosen in consultation with regulatory agencies with jurisdiction including CCC, CDFW, USFWS, NMFS.

b) Less Than Significant with Mitigation Incorporated.

As described in Section 2.4.1 the proposed project has the potential to impact up to 0.140 acres of riparian woodlands. Standard project features (Section 1.6) and avoidance and minimization measures (Section 2.4) would minimize the impacts to riparian habitat. However, the proposed project could result in impacts to riparian habitats. With implementation of the measures below, the impacts to wetlands would be less than significant with mitigation incorporated.

MM-BIO-1: Compensatory Mitigation for Wetlands. Caltrans will restore temporarily impacted aquatic resources on-site following construction. In addition, Caltrans will mitigate for permanent impacts to aquatic resources regulated by USACE, CDFW, and RWQCB at a ratio of 3:1. Caltrans will mitigate for permanent impacts to aquatic resources regulated by CCC/San Mateo County LCP at a ratio of 4:1. Off-site mitigation will be required due to the lack of available enhancement potential on-site. The mitigation site or sites will be chosen in consultation with regulatory agencies with jurisdiction.

c) Less Than Significant with Mitigation Incorporated.

As described in Section 2.4.2, construction and operations of the proposed project could temporarily impact up to 0.327 acre of Waters of the U.S. and up to 0.278 acre of waters of the State and permanently impact up to 0.025 acre of Waters of the U.S. and up to 0.001 acre of waters of the State. Standard project features (Section 1.6) and avoidance and minimization measures (Section 2.4.3) would minimize impacts to wetlands. However, the proposed project could result in impacts to wetlands. With implementation of the measures below, the impacts to wetlands would be less than significant with mitigation incorporated.

MM-BIO-1: Compensatory Mitigation for Wetlands. Caltrans will restore temporarily impacted aquatic resources on-site following construction. In addition, Caltrans will mitigate for permanent impacts to aquatic resources regulated by USACE, CDFW, and RWQCB at a ratio of 3:1.

Caltrans will mitigate for permanent impacts to aquatic resources regulated by CCC/San Mateo County LCP at a ratio of 4:1. Off-site mitigation will be required due to the lack of available enhancement potential on-site. The mitigation site or sites will be chosen in consultation with regulatory agencies with jurisdiction.

d) Less Than Significant.

As described in Section 2.4, several species have the potential to use the BSA for migratory movement, such as migratory birds, and special-status amphibians and fish. Standard project features (Section 1.6) and avoidance and minimization measures (Section 2.4.3) would minimize impacts to these species. This project does not include any features during or after construction that would completely impede the movement of species since it would not divert San Gregorio Creek and would require only localized dewatering and cofferdams. The impact to migratory species would be less than significant.

e) Less Than Significant Impact.

As described in Section 2.2.1, the project overlaps the California coastal zone and falls under the provisions of the California Coastal Act and San Mateo County Local Coastal Program. With the standard project features (Section 1.6) and avoidance and minimization measures included, the proposed project would generally be consistent with both plans. The impact would be less than significant.

f) No Impact.

There are no applicable Habitat Conservation Plans or Natural Community Conservation Plans that overlap the project limits.

3.2.5 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?	-	-	-	X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	-	-	X	-
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	-	-	X	-

CEQA Significance Determinations for Cultural Resources

a) No Impact. As detailed in the Cultural Resources Section 2.2.6, the San Gregorio Creek Bridge was built in 1941, and was determined ineligible for the NRHP in 1986. The bridge was reevaluated for this project and was again found to be ineligible for the NRHP and CRHR. The project, therefore, would have no impact to a historical resource under CEQA.

b, c) Less Than Significant. Caltrans sent letters initiating AB 52 and Section 106 consultation to eight Native American groups and is in consultation with three tribes for the project. An XPI/II study was conducted at one archaeological site within the project's area of direct impacts. Fieldwork was conducted by representatives of Caltrans, AECOM, and the Indian Canyon Mutsun Band of Costanoan in March 2024 at testing locations within Caltrans right-of-way. It was determined through consultation that there is a cultural resource eligible for the National Register of Historic Places and the California Register of Historical Resources and is considered a Tribal Cultural Resource.

The project includes Project Features (PF-CUL-1 and PF-CUL-2) and implementation of AMM-CUL-1, AMM-CUL-2, and AMM-CUL-3 to avoid or minimize impacts to archaeological resources. Based on the results of ASR, XPI/AER report, and tribal consultation, the project would not significantly impact the nearby archaeological site, or any other NRHP, CRHR or local register-eligible archaeological resource.

3.2.6 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?	-	-	X	-
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	-	-	X	-

CEQA Significance Determinations for Energy

a, b) Less than Significant Impact. The project would result in energy consumption during construction. Energy consumed during construction would be limited, temporary, necessary, and would be reduced through implementation of Project Feature PF-AQ-1. The project would not add roadway capacity or new permanent energy-consuming facilities to the site. For these reasons, the project would not result in significant impacts due to wasteful, inefficient, or unnecessary consumption of energy resources or conflict with a state or local plan for renewable energy or energy efficiency.

3.2.7 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:	N/A	N/A	N/A	N/A
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.	-	-	X	-
ii) Strong seismic ground shaking?	-	-	X	-
iii) Seismic-related ground failure, including liquefaction?	-	-	X	-
iv) Landslides?	-	-	X	-
b) Result in substantial soil erosion or the loss of topsoil?	-	-	X	-
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?	-	-	X	-
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?	-	-	X	-
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	-	-	-	X
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	-	-	X	-

CEQA Significance Determinations for Geology and Soils

a - d) Less than Significant Impact. The project is proposed to ensure the bridge meets current seismic safety standards. As described in Project Feature PF-GEO-1, Caltrans' design and construction guidelines incorporate engineering standards that address seismic risks. 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 design (PF-GEO-1). With implementation of these standards and

requirements, the project would have a less than significant impact associated with geologic hazards.

e) No Impact. The project would not connect to a septic system or other sewer system and would not generate sewage. Therefore, the project would have no impact associated with soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems.

f) Less than Significant Impact. There is no record of vertebrate fossils from within the project area or a 1-mile buffer. Proposed project activities would encounter geologic units that are known to have high paleontological sensitivity. This is discussed further in Section 2.3.4. Caltrans Standard Specification 14-7.03 will be implemented to provide for stopping work, securing the area, and performing further investigation if paleontological resources are encountered during project construction (PF-PAL-1). In addition, AMM-PAL-1 will be implemented during ground-disturbing activities to minimize potential effects on paleontological resources, if present. AMM-PAL-1 would allow for the recovery of fossil remains and associated specimen data and corresponding geologic and geographic site data that otherwise might be lost. Impacts to paleontological resources would be less than significant.

3.2.8 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?	-	-	X	-
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	-	-	X	-

CEQA Significance Determinations for Greenhouse Gas Emissions

a, b) Less than Significant Impact. As discussed further in Section 3.4 of this document, the project is considered to have a less than significant GHG emissions impact because it would not increase roadway capacity along SR 1. The project would not introduce any new permanent sources of GHG emissions. GHG emissions during construction would be limited and temporary and the project would implement measures to limit unnecessary GHG emissions to the extent feasible as further described in Section 3.4.

3.2.9 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?	-	-	X	-
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?	-	-	X	-
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	-	-	-	X
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?	-	-	-	X
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?	-	-	-	X
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	-	-	X	-
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	-	-	X	-

CEQA Significance Determinations for Hazards and Hazardous Materials

a) Less Than Significant Impact. Project construction and maintenance activities are expected to involve the routine transport, use, and disposal of hazardous materials (e.g., fuels, paints, and lubricants) that could pose a 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 hazardous materials releases. Compliance with existing regulations is mandatory; therefore, neither Build Alternative is expected to create a hazard to construction workers, the public, or the environment through the routine transport, use, disposal, or accidental release of hazardous materials.

b) Less Than Significant Impact. During construction, hazardous materials such as fuels, paints, and lubricants would be used. These materials could pose a 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. Implementation of Project Feature PF-HAZ-01 would avoid or minimize potential impacts associated with hazardous materials. Impacts involving the release of hazardous materials are anticipated to be less than significant.

c) No Impact. There are no existing or proposed schools within 0.25 mile of the project area.

d) No Impact. The project is not located on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

e) No Impact. There are no airports within 2 miles of the project, and the project area is not included in an airport land use plan.

f) Less Than Significant Impact. SR 1 is a major north-south highway for the communities near the project area, and it is assumed that SR 1 would be used as an evacuation route in the event of an emergency. The project would be subject to the San Mateo County's Emergency Operations Plan (EOP). The EOP provides guidelines for emergency response planning, preparation, training, and execution throughout the county. Project construction would result in minor increases in short-term construction-related traffic on SR 1, however, Caltrans would prepare a TMP to maintain the flow of traffic during construction and ensure accessibility through the locations along SR 1 for essential services and vehicles (PF-TR-1). In the event of such an emergency, Caltrans would coordinate with local officials to ensure that SR 1 remains open to emergency traffic. There would be less than a significant impact.

g) Less Than Significant Impact. The project is within zones classified as High Fire Severity State Responsibility Areas (CAL FIRE 2024). Caltrans proposes to retrofit or replace the existing bridge which would have a limited susceptibility to fires. The project includes the installation of soldier pile retaining walls on the downslope side of SR 1. This installation would not affect occupants, nor would it require the installation of associated infrastructure that would exacerbate fire risk. The project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. The impact would be less than significant.

3.2.10 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?	-	-	X	-
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	-	-	X	-
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:	N/A	N/A	N/A	N/A
(i) result in substantial erosion or siltation on- or off-site;	-	-	X	-
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	-	-	X	-
(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	-	-	X	-
(iv) impede or redirect flood flows?	-	-	X	-
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	-	-	X	-
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	-	-	X	-

CEQA Significance Determinations for Hydrology and Water Quality

a) Less than Significant Impact. During construction, temporary water quality impacts have the potential to occur from sediment discharge from disturbed soil areas; construction activities such as grading and excavation near water sources; and use of construction vehicles and equipment. During project construction, Build Alternative 1 would result in approximately 1.0 acre of disturbed soil area and Build Alternative 2 would result in approximately 2.8 acres of disturbed soil area. Construction site BMPs for erosion and sediment control and material management (PF-WQ-1 and AMM-WQ-1) would be specified in the SWPPP prior to construction and would be monitored during construction.

Permanent impacts to water quality could result from the addition of impervious area, which can prevent runoff from naturally dispersing and infiltrating into the ground. Build Alternative 1 would not result in any new impervious surface area. Build Alternative 2 would result in 0.4 acres of

net new impervious surface area. The added impervious surface area would have a minimal increase in stormwater pollution effects. Pollution and runoff sources are not expected to change. These impacts would be reduced through the implementation of stormwater BMPs (PF-WQ-2). In addition, the project would require a 401 Water Quality Certification from the RWQCB, which would include requirements to avoid or minimize water quality impacts during and after construction. With the implementation of project features and AMMs the project would have less than significant impacts to water quality and would not violate any water quality standards.

b) Less than Significant Impact. The project would not involve pumping and/or using groundwater. The project area is not located in any identified groundwater basin. Build Alternative 2 would add minimal net new impervious surface area, while Build Alternative 1 would not add any net new impervious surface area. The minimal impervious surface area added by Build Alternative 2 would not substantially interfere with groundwater recharge.

c) (i), (ii), (iii), and (iv) Less than Significant Impact. As previously noted, Build Alternative 2 would add minimal net new impervious surface area, while Build Alternative 1 would not add any net new impervious surface area. The minimal impervious surface area added by Build Alternative 2 would not result in substantial alterations of existing drainage patterns, result in substantial erosion or siltation, substantially increase runoff, or impede or redirect flood flows. The project would involve temporarily dewatering parts of San Gregorio Creek for some period of time in order to perform construction activities on the creek bed and would be subject to AMM-WQ-1 to AMM-WQ-2. However, the project would not permanently alter the course of San Gregorio Creek. Implementation of standard short-term and long-term BMPs (PF-WQ-1 and PF-WQ-2) would minimize the potential for temporary or permanent impacts to drainage patterns.

d) Less than Significant Impact. The project site is located within an area subject to flooding and tsunamis. Build Alternative 2 would result in a minimal increase in impervious surface area but the project would not otherwise introduce new or increased pollutants to the project area. Therefore, the project would not risk release of pollutants due to project inundation.

e) Less than Significant Impact. The project will adhere to the Clean Water Act, the Porter-Cologne Water Quality Control Act, the Construction General Permit, the NPDES Permit, and other applicable laws and regulations. Additionally, the project will be subject to the provisions of a Section 401 Water Quality Certification, Section 404 Nationwide Permit, and Lake and Streambed Alteration Agreement. The project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

3.2.11 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?	-	-	-	X
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?	-	-	X	-

CEQA Significance Determinations for Land Use and Planning

a) No Impact. The project would not change access to or physical connectedness of any community.

b) Less Than Significant Impact. The project would not change a land use designation or conflict with the State Scenic Highway Program. The proposed project is generally consistent with the California Coastal Act and the San Mateo County Local Coastal Program. The project would not result in a significant impact to the environment.

3.2.12 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?	-	-	-	X
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?	-	-	-	X

CEQA Significance Determinations for Mineral Resources

a-b) No Impact. The project site is not located on or near a mapped mineral deposit, active quarry, or other mineral resource site. The project would not result in the loss of availability of a known mineral resources or mineral resources recovery site.

3.2.13 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?	-	-	X	-
b) Generation of excessive groundborne vibration or groundborne noise levels?	-	-	X	-
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?	-	-	-	X

CEQA Significance Determinations for Noise

a, b) Less than Significant Impact. As previously discussed, the project would modify or replace a seismically-deficient bridge that would be constructed in compliance with Caltrans' noise and vibration standards. The project would not result in any permanent increase in ambient noise levels. The project includes project features and AMMs to minimize noise and vibration levels during construction. The nearest sensitive receptors and structures are located far enough away from the project limits to avoid significant noise and vibration impacts during project construction.

c) No Impact. There are no airports within two miles of the project limits. Additionally, the project would not introduce any new people working or residing in the area post-construction.

3.2.14 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)?	-	-	-	X
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	-	-	-	X

CEQA Significance Determinations for Population and Housing

a) No Impact. The project would not involve the construction of new residential buildings, businesses, or expand transportation services and facilities that could induce population growth. No impact would result from the project.

b) No Impact. The project would not remove or displace existing people or housing and would not necessitate construction of replacement housing elsewhere. No impact would result from the project.

3.2.15 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?	-	-	-	X
Police protection?	-	-	-	X
Schools?	-	-	-	X
Parks?	-	-	-	X
Other public facilities?	-	-	-	X

CEQA Significance Determinations for Public Services

a) No Impact. The project would not add roadway capacity or housing or otherwise directly or indirectly result in population growth that would require the construction or alteration of public service facilities. In addition, during construction, at least one lane of traffic will remain open at all times so the project would not disrupt access for fire protection or police protection services or access to schools, parks, or other public facilities. Additionally, a TMP will be prepared for the project, which would include the development of contingency plans in coordination with CHP and local law enforcement (PF-TR-1). For these reasons, the project would have no impact on the environment associated with public services.

3.2.16 Recreation

	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?	-	-	-	X
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?	-	-	-	X

CEQA Significance Determinations for Recreation

a, b) No Impact. The project would be constructed within the existing Caltrans right-of-way adjacent to San Gregorio State Beach. The project would not add roadway capacity or otherwise directly or indirectly increase the use of San Gregorio State Beach or other nearby parks and recreational facilities. The project would not include any recreational facilities or otherwise require the construction or expansion of recreational facilities.

3.2.17 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?	-	-	-	X
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	-	-	-	X
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	-	-	-	X
d) Result in inadequate emergency access?	-	-	X	-

CEQA Significance Determinations for Transportation

a – c) No Impact. The project would improve the safety conditions for vehicles, bicyclists, and pedestrians along SR 1 and would not alter the number of travel lanes or other traffic operations. For these reasons, the project would not conflict with a program, policy, ordinance, or policy addressing the circulation system and would not result in an increase in vehicle miles traveled (VMT), consistent with CEQA Guidelines section 15064.3, subdivision (b). The project would reduce hazards that currently exist along the seismically deficient bridge.

d) Less than Significant Impact. At least one lane would remain open during construction consistent with the project TMP (PF-TR-1), allowing for emergency access across San Gregorio Bridge. The project would not result in any post-construction impacts to emergency access.

3.2.18 Tribal Cultural Resources

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

CEQA Significance Determinations for Tribal Cultural Resources

Caltrans submitted a Sacred Lands File search to the Native American Heritage Commission (NAHC) on April 3, 2023, requesting a list of potentially interested Native American parties. In their response letter of April 7, 2023, the NAHC identified six tribal contacts and identified no sacred sites in the vicinity. Caltrans sent letters initiating AB 52 and Section 106 to all Native American groups identified by the NAHC and an additional two tribes, on June 16, 2023. Follow up attempts were made on August 15, 2024, to tribes that had not responded.

From September 2023 to August 2024, Caltrans has conducted AB 52 and Section 106 consultation with three tribes including the Costanoan Rumsen Carmel Tribe, Indian Canyon Mutsun Band of Costanoan Ohlone People (ICM), and the Amah Mutsun Tribal Band of Mission San Juan Bautista. A formal letter requesting AB 52 consultation was received from the Costanoan Rumsen Carmel Tribe on May 29, 2024. On May 30, 2024, a meeting was held between members of the Costanoan Rumsen Carmel Tribe and representatives from Caltrans to discuss project updates and archaeological testing results. Consultation is ongoing throughout the life of the project with the Tribe. In February 2024, Caltrans met with a representative of the ICM to discuss the project and to plan monitoring of the fieldwork and the Tribe monitored all fieldwork in March 2024. On August 15, 2024, the Amah Mutsun Tribal Band of Mission San Juan Bautista requested cultural sensitivity training for all project crew members and this request will be implemented prior to project construction beginning.

a, b) Less than Significant Impact. The summary memo prepared by Caltrans Professionally Qualified Staff for this project identified a tribal sensitivity area and Tribal Cultural Resources within the project limits and APE, through coordination efforts with local consulting Tribes. Caltrans will continue to coordinate with Tribal representatives throughout the project. If the project changes, The Caltrans Office of Cultural Resource Studies will notify consulting Tribal

representatives. Caltrans would implement Project Features PF-CUL-1, PF-CUL-2, and PF-TRC-1 that would halt all construction activities if previously unidentified human remains or cultural resources are unearthed during construction until a qualified archaeologist, in coordination with local consulting Tribes, can assess the discovery.

Implementation of the following measure will reduce potential impacts to Tribal Cultural Resources:

AMM-TCR-1: Tribal Cultural Resources Training. Prior to the initiation of construction for the project, the Project contractor, staff, and construction crews shall be made aware of the potential to encounter cultural resources and Tribal Cultural Resources (including the traditional importance of resources such as cultural landscapes, significant waterways, and ethnobotanical plants) through a presentation provided by an archaeologist and a representative from local consulting Tribes.

3.2.19 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?	-	-	-	X
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	-	-	-	X
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?	-	-	-	X
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??	-	-	X	-
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	-	-	X	-

CEQA Significance Determinations for Utilities and Service Systems

a-c) No Impact. The project would not relocate or require the expansion of any utility facilities. The project would not result in an increase in demand on water wastewater, electric, natural gas, or telecommunication services.

d, e) Less than Significant Impact. Construction waste would be disposed of at a certified facility based on the waste type and would not substantially affect landfill capacity. The project would comply with statutes and regulations related to construction solid waste management and recycling. The project would not result in an operational increase in solid waste.

3.2.20 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?	-	-	X	-
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?	-	-	X	-
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?	-	-	X	-
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?	-	-	X	-

CEQA Significance Determinations for Wildfire

a-d) Less than Significant Impact. The project is within zones classified as High Fire Severity State Responsibility Areas (CAL FIRE 2024). Under all Build Alternatives, at least one lane would remain open during construction and thus, the project would not impair emergency access along SR 1. Any alternate travel routes for emergency access or evacuations needed would be coordinated with local emergency responders and law enforcement agencies through the implementation of a TMP (see PF-TR-1). Project features to minimize fire risks would be implemented during construction, such as clearing vegetation from the work area, prohibiting the use of highly flammable chemicals, following locally changing meteorological conditions, and maintaining awareness of the possibility of increased fire danger when work is in progress (see PF-WF-1). All construction activities would follow state and federal fire regulations.

The proposed bridge would be constructed of non-flammable materials and the project would not include any electrical utilities or other structures that would exacerbate fire hazard. Given that the project would not increase travel lanes, the project would not increase vehicle or human presence at the project site post-construction. The project would improve the bridge's resistance to seismic events, including those that could occur as a result of post-fire instability.

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

CEQA Significance Determinations for Mandatory Findings of Significance

a) Less Than Significant with Mitigation Incorporated. Both Build Alternatives would impact special-status species and their habitats as well as wetlands, waters, and aquatic resources; however, impacts would not substantially reduce the number or range of habitat or wildlife at a population level. Additionally, the project would not eliminate a plant or animal community, or substantially reduce the number or range of any rare or endangered plant or animal. The project would not eliminate any examples of major periods of California history or prehistory. Because the project would have impacts on special-status species and wetlands, waters and aquatic resources after avoidance and minimization measures are implemented, mitigation measures MM-BIO-1 and MM-BIO-2 are included to reduce the impacts to less than significant with mitigation incorporated.

b) No Impact. The project has been evaluated for cumulative impacts as described in Section 2.6. The project would not contribute to an impact that would be cumulatively considerable.

c) Less than Significant Impact. All Build Alternatives would result in construction impacts that could affect human beings (e.g., construction noise), but these impacts would be limited, temporary, and would not be significant.

3.3 Wildfire

3.3.1 Regulatory Setting

Senate Bill 1241 required the Office of Planning and Research, the Natural Resources Agency, and the California Department of Forestry and Fire Protection to develop amendments to the “CEQA Checklist” for the inclusion of questions related to fire hazard impacts for projects located on lands classified as very high fire hazard severity zones. The 2018 updates to the CEQA Guidelines expanded this to include projects “near” these very high fire hazard severity zones.

3.3.2 Affected Environment

The project site is located within a high fire hazard severity zone. There are also very high fire hazard areas along SR 1, approximately 0.3 miles north of the project limits. The existing bridge is constructed of non-flammable materials and there are no overhead utility lines or electrical utilities within the project limits.

3.3.3 Environmental Consequences

No Build Alternative

Under the No Build Alternative, the project site would remain in its current condition and would retain the same level of susceptibility to wildfire hazards.

Build Alternatives

Under all Build Alternatives, at least one lane would remain open during construction and thus, the project would not impair emergency access along SR 1. Any alternate travel routes for emergency access or evacuations needed would be coordinated with local emergency responders and law enforcement agencies through the implementation of a TMP (see PF-TR-1, Section 1.6). Project features to minimize fire risks would be implemented during construction, such as clearing vegetation from the work area, prohibiting the use of highly flammable chemicals, following locally changing meteorological conditions, and maintaining awareness of the possibility of increased fire danger when work is in progress (see PF-WF-1, Section 1.6). All construction activities would follow state and federal fire regulations.

The proposed bridge would be constructed of non-flammable materials and the project would not include any electrical utilities or other structures that would exacerbate fire hazard. Given that the project would not increase travel lanes, the project would not increase vehicle or human presence at the project site post-construction. The project would improve the bridge’s resistance to seismic events, including those that could occur as a result of post-fire instability.

3.3.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, or mitigation is required.

3.4 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the Earth's climate system. The Intergovernmental Panel on Climate Change, established by the United Nations and World Meteorological Organization in 1988, is devoted to greenhouse gas (GHG) emissions reduction and climate change research and policy. Climate change in the past has generally occurred gradually over millennia, or more suddenly in response to cataclysmic natural disruptions. The research of the Intergovernmental Panel on Climate Change and other scientists over recent decades, however, has unequivocally attributed an accelerated rate of climatological changes over the past 150 years to GHG emissions generated from the production and use of fossil fuels.

Human activities generate GHGs consisting primarily of carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF₆), and various hydrofluorocarbons (HFCs). CO₂ is the most abundant GHG; while it is a naturally occurring and necessary component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO₂ that is the main driver of climate change. In the U.S. and in California, transportation is the largest source of GHG emissions, mostly CO₂.

The impacts of climate change are already being observed in the form of sea level rise, drought, extended and severe fire seasons, and historic flooding from changing storm patterns. The most important strategy to address climate change is to reduce GHG emissions. Additional strategies are necessary to mitigate and adapt to these impacts. In the context of climate change, "mitigation" involves actions to reduce GHG emissions to lessen adverse impacts that are likely to occur. "Adaptation" is planning for and responding to impacts to reduce vulnerability to harm, such as by adjusting transportation design standards to withstand more intense storms, heat, and higher sea levels. This analysis will include a discussion of both in the context of this transportation project.

3.4.1 Regulatory Setting

3.4.1.1 Federal

To date, no nationwide numeric mobile-source GHG reduction targets have been established; however, federal agencies are mandated to consider the effects of climate change in their environmental reviews.

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) is the basic national charter for protection of the environment which establishes policy, sets goals, and provides direction for carrying out the policy. NEPA requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project. In May 2024, the White House Council on Environmental Quality (CEQ) issued the National Environmental Policy Act Implementing Regulations Revisions Phase 2 (89 Fed. Reg. 35442). The CEQ regulations do not establish numeric thresholds of significance, but mandate that federal agencies consider the effects of climate change in their environmental reviews, including direct, indirect, and cumulative impacts. The CEQ regulations further require that agencies quantify greenhouse gas emissions, where feasible, from the proposed action and alternatives. The regulations also direct agencies to identify reasonable alternatives that reduce climate change-related effects.

The Federal Highway Administration (FHWA) recognizes the threats that extreme weather, sea level rise, 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 2022). 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.

Early efforts by the federal government to improve fuel economy and energy efficiency to address climate change and its associated effects include The Energy Policy and Conservation Act of 1975 (42 USC Section 6201); and Corporate Average Fuel Economy (CAFE) Standards. The U.S. Department of Transportation’s National Highway Traffic and Safety Administration (NHTSA) sets and enforces corporate average fuel economy (CAFE) standards for on-road motor vehicles sold in the United States. The Environmental Protection Agency (U.S. EPA) calculates average fuel economy levels for manufacturers, and also sets related GHG emissions standards for vehicles under the Clean Air Act. Raising CAFE standards leads automakers to create a more fuel-efficient fleet, which improves our nation’s energy security, saves consumers money at the pump, and reduces GHG emissions (U.S. DOT 2014). These standards are periodically updated and published through the federal rulemaking process.

3.4.1.2 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).

In 2005, EO S-3-05 initially set a goal to reduce California’s GHG emissions to 80 percent below year 1990 levels by 2050, with interim reduction targets. Later EOs and Assembly and Senate bills refined interim targets and codified the emissions reduction goals and strategies. The California Air Resources Board (ARB) was directed to create a climate change scoping plan and implement rules to achieve “real, quantifiable, cost-effective reductions of greenhouse gases.” Ongoing GHG emissions reduction was also mandated in Health and Safety Code (H&SC) Section 38551(b). In 2022, the California Climate Crisis Act was passed, establishing state policy to reduce statewide human- caused GHG emissions by 85 percent below 1990 levels, achieve net zero GHG emissions by 2045, and achieve and maintain negative emissions thereafter.

Beyond GHG reduction, the State maintains a climate adaptation strategy to address the full range of climate change stressors and passed legislation requiring state agencies to consider protection and management of natural and working lands as an important strategy in meeting the state’s GHG reduction goals.

3.4.2 Environmental Setting

The proposed project is in a rural area, primarily surrounded by recreation and open space areas. SR 1 is the main transportation route to and through the area and SR 84 connects the project area with Woodside, the nearest urban area. Traffic in the project area is generally low. *Plan Bay Area 2050* serves as the regional transportation plan/sustainable communities strategy guides transportation development in the project area. The San Mateo County General Plan Climate Change Element addresses greenhouse gases in the project area.

3.4.2.1 GHG Inventories

A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. U.S. EPA is responsible for documenting GHG emissions nationwide, and the ARB does so for the state of California, as required by H&SC Section 39607.4. Cities and other local jurisdictions may also conduct local GHG inventories to inform their GHG reduction or climate action plans.

3.4.2.1.1 National GHG Inventory

The annual GHG inventory submitted by the U.S. EPA to the United Nations provides a comprehensive accounting of all human-produced sources of GHGs in the United States. Total national GHG emissions from all sectors in 2022 were 5,489.0 million metric tons (MMT), factoring in deductions for carbon sequestration in the land sector. (Land Use, Land Use Change, and Forestry provide a carbon sink equivalent to 15% of total U.S. emissions in 2022 [U.S. EPA 2024a].) While total GHG emissions in 2022 were 17% below 2005 levels, they increased by 1% over 2021 levels. Of these, 80% were CO₂, 11% were CH₄, and 6% were N₂O; the balance consisted of fluorinated gases. From 1990 to 2022, CO₂ emissions decreased by only 2% (U.S. EPA 2024a).

The transportation sector's share of total GHG emissions remained at 28% in 2022 and continues to be the largest contributing sector (Figure 3.4.2-1). Transportation activities accounted for 37% of U.S. CO₂ emissions from fossil fuel combustion in 2022. This is a decrease of 0.5% from 2021 (U.S. EPA 2024a, 2024b)).

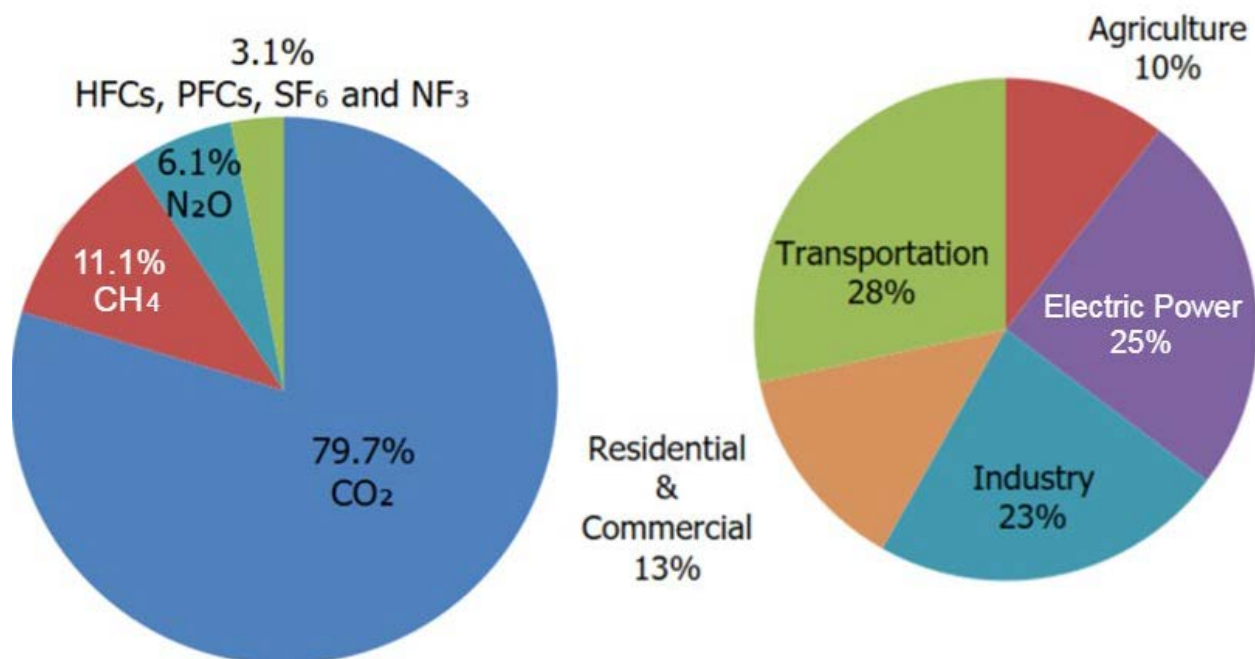


Figure 3.4.2-1: U.S. 2022 Greenhouse Gas Emissions

(Source: U.S. EPA 2024b)

3.4.2.1.2 State GHG Inventory

ARB collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its GHG reduction goals. Overall statewide GHG emissions declined from 2000 to 2021 despite growth in population and state economic output (Figure 3.4.2-2). Transportation emissions remain the largest contributor to GHG emissions in the state (Figure 3.4.2-3) (ARB 2023).

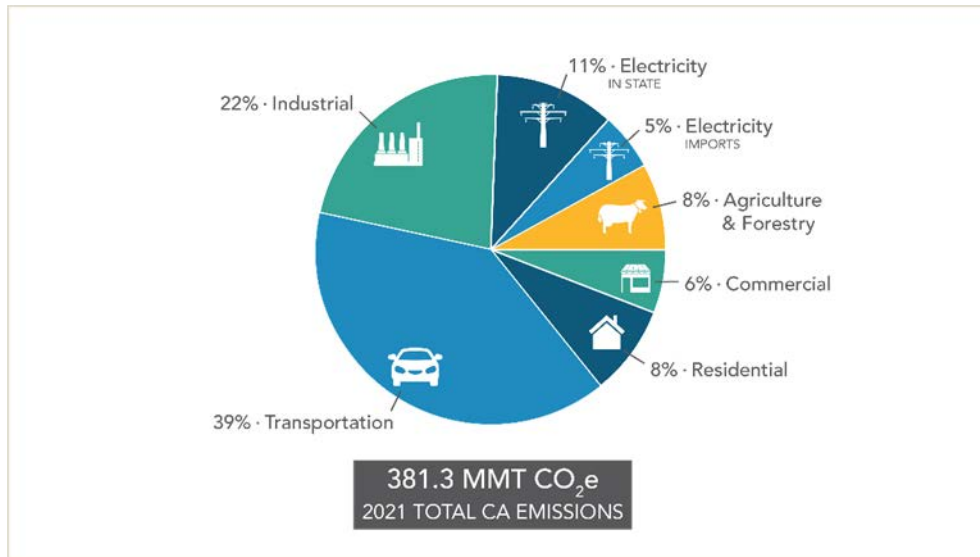


Figure 3.4.2-2. California 2021 Greenhouse Gas Emissions by Economic Sector

(Source: ARB 2023)

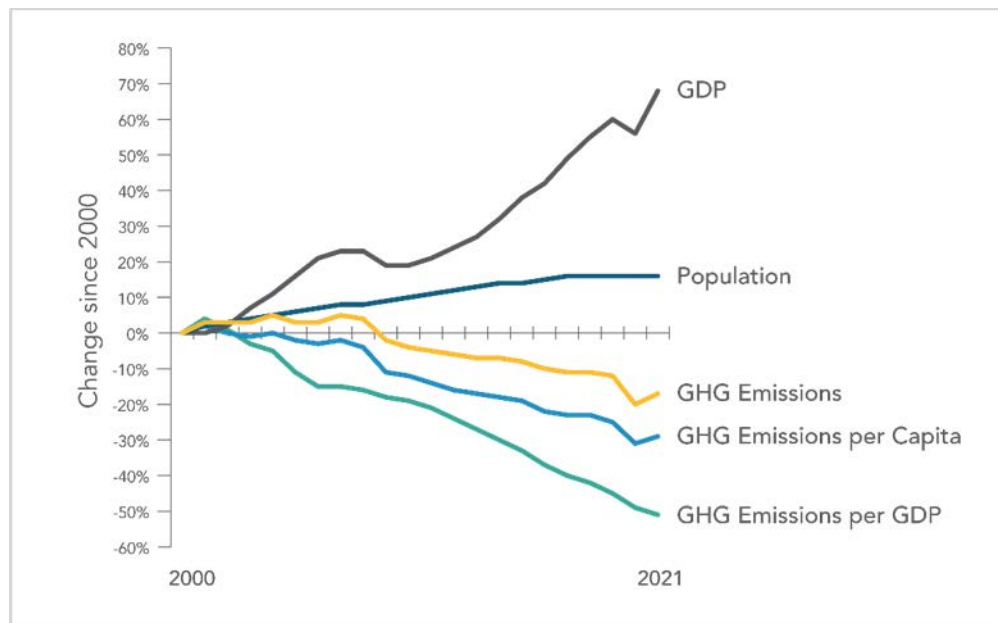


Figure 3.4.2-3. Change in California GDP, Population, and GHG Emissions since 2000

(Source: ARB 2023)

AB 32 required ARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions. ARB adopted the first scoping plan in 2008. The second updated plan, California's 2017 Climate Change Scoping Plan, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and SB 32. The *2022 Scoping Plan*

for *Achieving Carbon Neutrality*, adopted September 2022, assesses progress toward the statutory 2030 reduction goal and defines a path to reduce human-caused emissions to 85 percent below 1990 levels and achieve carbon neutrality no later than 2045, in accordance with AB 1279 (ARB 2022a).

3.4.2.2 Regional Plans

As required by *The Sustainable Communities and Climate Protection Act of 2008*, ARB sets regional GHG reduction targets for California's 18 metropolitan planning organizations (MPOs) to achieve through planning future projects that will cumulatively achieve those goals and reporting how they will be met in the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels. The proposed project is included in the Metropolitan Transportation Commissions' *Plan Bay Area 2050*, the RTP/SCS for MTC/ABAG. The regional reduction target for MTC/ABAG is 19 percent by 2035 (ARB 2022c).

MTC's *Plan Bay Area 2050* includes the following GHG reduction strategies: expanding commute trip reduction programs at major employers, expanding transportation demand management initiatives, expanding clean vehicle initiatives, providing means-based financial support to retrofit existing residential buildings, funding energy upgrades to enable carbon neutrality in all existing commercial and public buildings, and adapting to sea level rise.

3.4.3 Project Analysis

GHG emissions from transportation projects can be divided into those produced during operation and use of the State Highway System (SHS) (operational emissions) 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 burning gasoline or diesel fuel in internal combustion engines, along with relatively small amounts of CH₄ and N₂O. A small amount of hydrofluorocarbons (HFC) emissions related to refrigeration is also included in the transportation sector. (GHGs differ in how much heat each traps in the atmosphere, called global warming potential, or GWP. CO₂ is the most important GHG, so amounts of other gases are expressed relative to CO₂, using a metric called "carbon dioxide equivalent", or CO₂e. The global warming potential of CO₂ is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO₂.)

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

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

3.4.3.1 Operational Emissions

The purpose of the proposed project is to address the seismic structural deficiencies of the existing bridge across San Gregorio Creek and reduce the potential for errant vehicles running off the bridge and will not increase the vehicle capacity of the roadway. This type of project generally causes minimal or no increase in operational GHG emissions. Because the project

would not increase the number of travel lanes on SR 1, no increase in vehicle miles traveled (VMT) would occur. While some GHG emissions during the construction period would be unavoidable, no increase in operational GHG emissions is expected.

3.4.3.2 Construction Emissions

Construction GHG emissions would result from material processing and transportation, on-site construction equipment, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases. While construction GHG emissions are only produced for a short time, they have long-term effects in the atmosphere, so cannot be considered “temporary” in the same way as criteria pollutants that subside after construction is completed.

Use of long-life pavement, improved traffic management plans, and changes in materials can also help offset GHG emissions produced during construction by allowing longer intervals between maintenance and rehabilitation activities.

The Project’s construction-related GHG emissions were calculated using the Caltrans Construction Emissions Tool (CAL-CET 2021), version 1.0.2. It was estimated that for the total construction duration, the amount of carbon dioxide equivalent (CO₂e) produced due to construction would be 503 tons for Alternative 1; 484 tons for Alternative 2 Option A; and 447 tons for Alternative 2 Option B.

All construction contracts include Caltrans Standard Specifications related to air quality. Section 7-1.02A and 7-1.02C, Emissions Reduction, requires contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all ARB emission reduction regulations. Section 14-9.02, Air Pollution Control, requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce GHG emissions.

3.4.3.3 CEQA Conclusion

As previously discussed, the project would not increase roadway capacity along SR 1. Non-capacity increasing projects are considered by Caltrans to have less than significant GHG impacts under CEQA.

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

3.4.4 Greenhouse Gas Reduction Strategies

3.4.4.1 Statewide Efforts

In response to Assembly Bill 32, the Global Warming Solutions Act, California is implementing measures to achieve emission reductions of GHGs that cause climate change. Climate change programs in California are effectively reducing GHG emissions from all sectors of the economy. These programs include regulations, market programs, and incentives that will transform transportation, industry, fuels, and other sectors to take California into a sustainable, cleaner, low-carbon future, while maintaining a robust economy (ARB 2022b).

Major sectors of the California economy, including transportation, will need to reduce emissions to meet 2030 and 2050 GHG emissions targets. The Governor's Office of Planning and Research identified five sustainability pillars in a 2015 report: (1) Increasing the share of renewable energy in the State's energy mix to at least 50 percent by 2030; (2) Reducing petroleum use by up to 50 percent by 2030; (3) Increasing the energy efficiency of existing buildings by 50 percent by 2030; (4) Reducing emissions of short-lived climate pollutants; and (5) Stewarding natural resources, including forests, working lands, and wetlands, to ensure that they store carbon, are resilient, and enhance other environmental benefits (OPR 2015). The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that the state build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled (VMT). Reducing today's petroleum use in cars and trucks is a key state goal for reducing greenhouse gas emissions by 2030 (California Environmental Protection Agency 2015).

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

Subsequently, Governor Gavin Newsom issued Executive Order N-82-20 to combat the crises in climate change and biodiversity. It instructs state agencies to use existing authorities and resources to identify and implement near- and long-term actions to accelerate natural removal of carbon and build climate resilience in our forests, wetlands, urban greenspaces, agricultural soils, and land conservation activities in ways that serve all communities and in particular low-income, disadvantaged, and vulnerable communities. To support this order, the California Natural Resources Agency released *Natural and Working Lands Climate Smart Strategy* (California Natural Resources Agency 2022).

3.4.4.2 Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as the ARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. EO B-30-15, issued in April 2015, and SB 32 (2016), set 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.

3.4.4.2.1 Climate Action Plan for Transportation Infrastructure

The California Action Plan for Transportation Infrastructure (CAPTI) builds on executive orders signed by Governor Newsom in 2019 and 2020 targeted at reducing GHG emissions in transportation, which account for more than 40 percent of all polluting emissions, to reach the state's climate goals. Under CAPTI, where feasible and within existing funding program structures, the state will invest discretionary transportation funds in sustainable infrastructure projects that align with its climate, health, and social equity goals (California State Transportation Agency 2021).

3.4.4.2.2 California Transportation Plan

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. It serves as an umbrella document for all the other statewide transportation planning documents. The CTP 2050 presents a vision of a safe, resilient, and universally accessible transportation system that supports vibrant

communities, advances racial and economic justice, and improves public and environmental health. The plan's climate goal is to achieve statewide GHG emissions reduction targets and increase resilience to climate change. It demonstrates how GHG emissions from the transportation sector can be reduced through advancements in clean fuel technologies; continued shifts toward active travel, transit, and shared mobility; more efficient land use and development practices; and continued shifts to telework (Caltrans 2021a).

3.4.4.2.3 Caltrans Strategic Plan

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

3.4.4.2.4 Caltrans Policy Directives and Other Initiatives

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) established a policy to ensure coordinated efforts to incorporate climate change into Caltrans decisions and activities. Other Director's policies promote energy efficiency, conservation, and climate change, and commit Caltrans to sustainability practices in all planning, maintenance, and operations. *Caltrans Greenhouse Gas Emissions and Mitigation Report* (Caltrans 2020) provides a comprehensive overview of Caltrans' emissions and current Caltrans procedures and activities that track and reduce GHG emissions. It identifies additional opportunities for further reducing GHG emissions from Caltrans-controlled emission sources, in support of Caltrans and State goals.

3.4.4.3 Project-Level GHG Reduction Strategies

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

- Construction equipment and vehicles will be properly maintained.
- The contractor shall limit vehicle and equipment idling during project construction.
- Nonhazardous waste and excess materials generated during project construction shall be recycled to the extent feasible.
- The project shall use solar-powered signal boards during construction to the extent feasible.

3.4.5 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 in the frequency and intensity of wildfires. Flooding and erosion can damage or wash out roads; longer periods of intense heat can buckle pavement and railroad tracks; storm surges combined with a rising sea level can inundate highways. Wildfire can directly burn facilities and indirectly cause damage when rain falls on denuded slopes that landslide after a fire. Effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. Furthermore, the combined effects of transportation projects and climate stressors can exacerbate the impacts of both on vulnerable communities in a project area. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

3.4.5.1 Federal Efforts

Under NEPA Assignment, Caltrans is obligated to comply with all applicable federal environmental laws and FHWA NEPA regulations, policies, and guidance. Caltrans practices generally align with the 2023 CEQ interim Guidance on Consideration of Greenhouse Gas Emissions and Climate Change, which offers recommendations for additional ways of evaluating project effects related to GHG emissions and climate change. These recommendations are not regulatory requirements.

The *Fifth National Climate Assessment*, published in 2023, presents the most recent science and “analyzes the effects of global change on the natural environment, agriculture, energy production and use, land and water resources, transportation, human health and welfare, human social systems, and biological diversity; [It] analyzes current trends in global change, both human-induced and natural, and projects major trends for the subsequent 25 to 100 years to support informed decision-making across the United States.” Building on previous assessments, it continues to advance “an inclusive, diverse, and sustained process for assessing and communicating scientific knowledge on the impacts, risks, and vulnerabilities associated with a changing global climate” (U.S. Global Change Research Program 2023). The U.S. Department of Transportation recognizes the transportation sector’s major contribution of GHGs that cause climate change and has made climate action one of Caltrans’ top priorities (U.S. Department of Transportation 2023). FHWA’s policy is 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 fosters resilience to climate effects and sustainability at the federal, state, and local levels (FHWA 2022).

The National Oceanic and Atmospheric Administration provides sea level rise projections for all U.S. coastal waters to help communities and decision makers assess their risk from sea level rise. Updated projections through 2150 were released in 2022 in a report and online tool (NOAA 2022).

3.4.5.2 State Efforts

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. A number of state policies and tools have been developed to guide adaptation efforts.

California’s Fourth Climate Change Assessment (Fourth Assessment) (2018) provides information to help decision makers across sectors and at state, regional, and local scales protect and build the resilience of the state’s people, infrastructure, natural systems, working lands, and waters. The Fourth Assessment reported that if no measures are taken to reduce GHG emissions by 2021 or sooner, the state is projected to experience an up to 8.8 degrees Fahrenheit increase in average annual maximum daily temperatures; a two-thirds decline in water supply from snowpack resulting in water shortages; a 77% increase in average area burned by wildfire; and large-scale erosion of up to 67% of Southern California beaches due to sea level rise. These effects will have profound impacts on infrastructure, agriculture, energy demand, natural systems, communities, and public health (California Ocean Protection Council 2018).

Sea level rise is a particular concern for transportation infrastructure in the coastal zone. Major urban airports will be at risk of flooding from sea level rise combined with storm surge as early as 2040; San Francisco airport is already at risk. Miles of coastal highways vulnerable to flooding in a 100-year storm event will triple to 370 by 2100, and 3,750 miles will be exposed to

temporary flooding. The Fourth Assessment's findings highlight the need for proactive action to address these current and future impacts of climate change.

To help actors throughout the state address the findings of California's Fourth Climate Change Assessment, AB 2800's multidisciplinary Climate-Safe Infrastructure Working Group published *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California*. This report provides guidance on assessing risk in the face of inherent uncertainties still posed by the best available climate change science. It also examines how state agencies can use infrastructure planning, design, and implementation processes to respond to the observed and anticipated climate change impacts (Climate-Safe Infrastructure Working Group 2018).

EO S-13-08, issued in 2008, directed state agencies to consider sea level rise scenarios for 2050 and 2100 during planning to assess project vulnerabilities, reduce risks, and increase resilience to sea level rise. It gave rise to the 2009 *California Climate Adaptation Strategy*, the Safeguarding California Plan, and a series of technical reports on statewide sea level rise projections and risks, including the *State of California Sea-Level Rise Guidance Update* in 2018. The reports addressed the full range of climate change impacts and recommended adaptation strategies. The current *California Climate Adaptation Strategy* incorporates key elements of the latest sector-specific plans such as the *Natural and Working Lands Climate Smart Strategy*, *Wildfire and Forest Resilience Action Plan*, *Water Resilience Portfolio*, and the CAPTI (described above). Priorities in the 2023 *California Climate Adaptation Strategy* include acting in partnership with California Native American Tribes, strengthening protections for climate-vulnerable communities that lack capacity and resources, implementing nature-based climate solutions, using best available climate science, and partnering and collaboration to best leverage resources (California Natural Resources Agency 2023).

EO B-30-15 recognizes that effects of climate change threaten California's infrastructure and requires state agencies to factor climate change into all planning and investment decisions. Under this EO, the Office of Planning and Research published *Planning and Investing for a Resilient California: A Guidebook for State Agencies*, to encourage a uniform and systematic approach to building resilience.

SB 1 Coastal Resources: Sea Level Rise (Atkins 2021) established statewide goals to "anticipate, assess, plan for, and, to the extent feasible, avoid, minimize, and mitigate the adverse environmental and economic effects of sea level rise within the coastal zone." As the legislation directed, the Ocean Protection Council collaborated with 17 state planning and coastal management agencies to develop the *State Agency Sea-Level Rise Action Plan for California* in February 2022. This plan promotes coordinated actions by state agencies to enhance California's resilience to the impacts of sea level rise (California Ocean Protection Council 2022).

3.4.5.3 Caltrans Adaptation Efforts

3.4.5.3.1 Caltrans Vulnerability Assessments

Caltrans completed climate change vulnerability assessments to identify segments of the State Highway System vulnerable to climate change effects of precipitation, temperature, wildfire, storm surge, and sea level rise.

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 guide analysis of at-risk assets

and development of Adaptation Priority Reports as a method to make capital programming decisions to address identified risks.

3.4.5.3.2 Caltrans Sustainability Programs

The Director's Office of Equity, Sustainability and Tribal Affairs supports implementation of sustainable practices at Caltrans. The *Sustainability Roadmap* is a periodic progress report and plan for meeting the Governor's sustainability goals related to EOs B-16-12, B-18-12, and B-30-15. The Roadmap includes designing new buildings for climate change resilience and zero-net energy, and replacing fleet vehicles with zero-emission vehicles (Caltrans 2023c).

3.4.5.4 Project Adaptation Analysis

The Caltrans Climate Change Vulnerability Assessment evaluates the potential for changes to future sea level rise, precipitation and flooding, wildfire risk, and temperature ranges. This section evaluates the potential for each of those future projections and the potential for tsunamis to affect the proposed project alternatives, as well as identify any steps the project development team is taking to incorporate uncertainties from climate change into the project's design.

3.4.5.4.1 Sea Level Rise

The proposed project limits are located along the California coastline above the San Gregorio Creek as it drains to the Pacific Ocean. According to the California Ocean Protection Council sea level rise guidance (2018) for the San Francisco tide gauge, the closest tide gauge to the project limits, sea level rise could be anywhere from 3.4 to 10.2 feet by 2100, the maximum design life of the project. This assumes a high level of emissions. See Table 3.4.5-1 for the potential of future projects to be affected by sea level rise with various levels of risk aversion.

Table 3.4.5-1: California Ocean Protection Council Sea Level Rise Projections (ft.)

Emission Projection	Year	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
High	2030	0.2	0.8	1.0
High	2040	0.8	1.3	1.8
High	2050	1.1	1.9	2.7
High	2060	1.5	1.6	3.9
High	2070	1.9	3.5	5.2
High	2080	2.4	4.5	6.6
High	2090	2.9	5.6	8.3
High	2100	3.4	6.9	10.2
High	2110	3.5	7.3	11.9
High	2120	4.1	8.6	14.2
High	2130	4.6	10.0	16.6
High	2140	5.2	11.4	19.1
High	2150	5.8	13.0	21.9

There are several useful viewers available for visualizing how sea level rise might result in additional flooding in the future. Based on the anticipated sea level rise possible in the project limits, the "Our Coast, Our Future" viewer was used to evaluate the most likely sea level rise effects. This viewer shows flood depths with the highest potential sea level rise projected. Figure 3.4.5-1 shows that with a sea level rise of 9.8 feet, water levels under the San Gregorio

Creek Bridge could rise to approximately 16.4 feet. According to the project's Preliminary Hydraulic Report, the depth of water during the 100-year base flood is 14.74 feet. Sea level rise would result in the addition of 1.66 feet of water. This is well below the existing freeboard for the bridge of 23.4 feet. However, as shown in Figure 3.4.5-1, sea level rise could increase flooding in lower lying areas near the project.

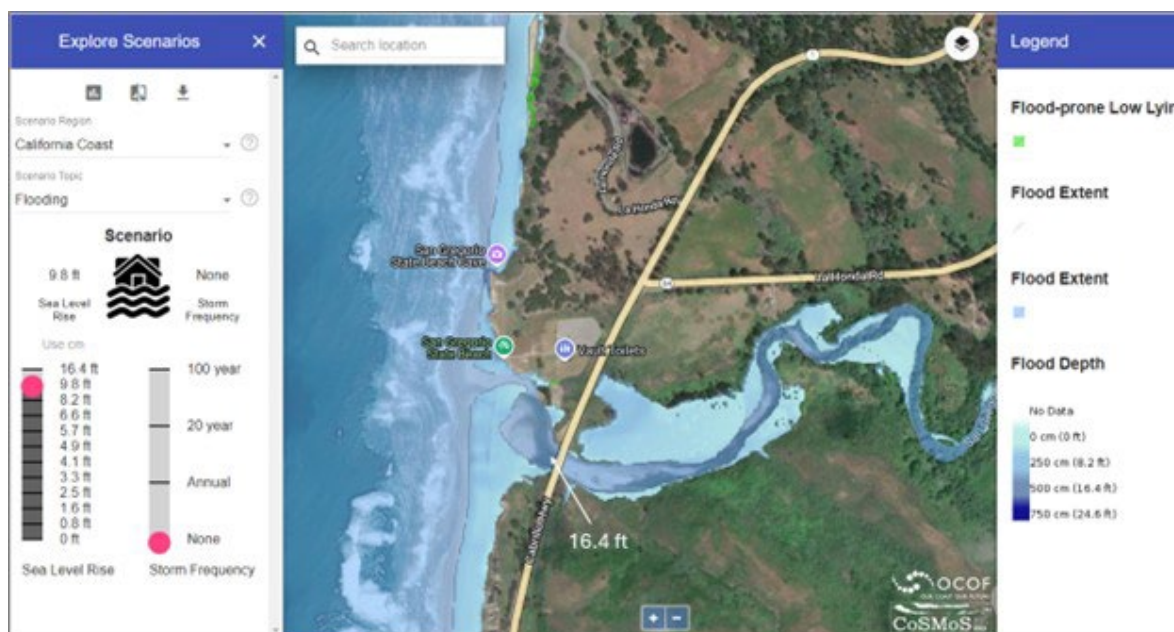


Figure 3.4.5-1: Visualization of Sea Level Rise

All future alternatives under consideration would perform similarly with respect to sea level rise projections and no alternative would expose the bridge to risk of inundation from sea level rise. Sea level rise is not expected to affect Caltrans facilities within the project limits up to the year 2100 (the design life of the proposed project).

3.4.5.4.2 Tsunami

According to the California Geological Survey (2024), the project limits overlap a tsunami hazard area. See Figure 3.4.5-2 to see the potential for tsunami waters to affect the project limits. The existing and future bridges would all be subject to waters from a tsunami that could inundate the bridge and wash away the connecting roadway. The project development team is aware of tsunami risk and is designing all build alternatives with the 975-year tsunami inundation in mind. This includes incorporating guidance from the AASHTO Guidance Specifications for Bridge Subject to Tsunami Effects and Memo to Designers (MTD) 20-13 Tsunami Hazard Guidelines. Key design considerations include reducing the structural depth to reduce the tsunami load on the structures by using the minimum girder heights and see-through barrier rails, accommodating the tsunami load by providing adequate strength in the structural elements and connections, and designing the structure to accept damage to sacrificial barriers and superstructures in order to protect the structural integrity of critical components during the tsunami. The existing bridge may not perform well under tsunami inundation.

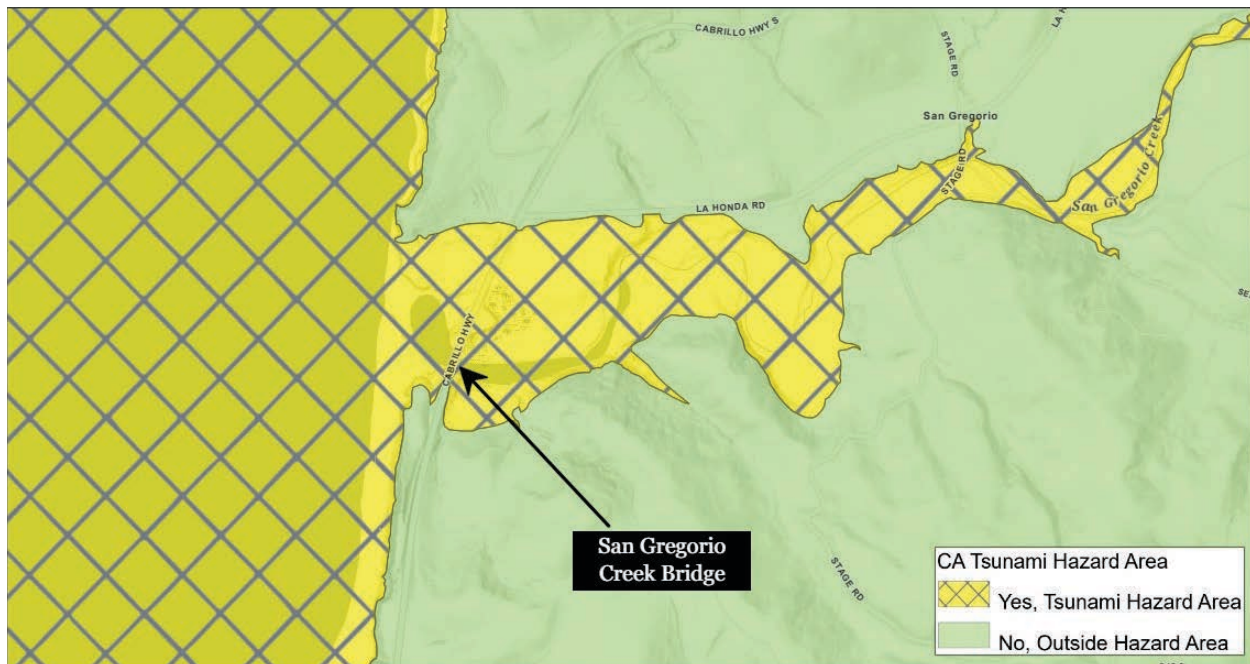


Figure 3.4.5-2: Tsunami Hazard Zone

3.4.5.4.3 Precipitation and Flooding

The Caltrans Climate Change Vulnerability Assessment indicates that by 2085, the 100-year precipitation depths could increase by 6.3 percent (Caltrans 2017). The existing base flood elevation for a 100-year storm at the bridge is 12.3 feet so that could increase to 13 feet. All alternatives provide for a bridge with an elevation of 36.9 feet so the increase in precipitation is not expected to increase flooding of the roadway or bridge itself.

3.4.5.4.4 Wildfire

The project limits overlap CalFire's high fire hazard severity zone within the state responsibility area due to miles of vegetation in the western portion of San Mateo County and the high winds associated with coastal storms (CalFire 2024). During final design, Caltrans will evaluate construction materials choices, such as using concrete and steel instead of PVC and wood, for the potential of the project to be in the path of a large wildfire.

3.4.5.4.5 Temperature

The Caltrans Climate Change Vulnerability Assessment indicates that average minimum temperatures within the project limits could increase by 2.9 degrees Fahrenheit by 2055 and 6.2 degrees Fahrenheit by 2085 with average 7-day maximum temperatures increasing by 4.1 degrees Fahrenheit by 2055 and 7.5 degrees by 2085 (Caltrans 2017). Alternative 1 has a design life of 25 years. Alternative 2 has a design life of 75 years. During final design, Caltrans will evaluate construction material choices for the potential future temperature increase of 7.5 degrees.

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Chapter 4 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. Agency and tribal consultation for this project have been accomplished through a variety of formal and informal methods, including frequent agency coordination meetings and Project Development Team (PDT) meetings. This chapter summarizes the results of Caltrans' efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

4.1 Consultation and Coordination with Public Agencies

4.1.1 Native American Tribal Consultation

In April 2023, the Native American Heritage Commission (NAHC) was contacted to request a search of the Sacred Lands File for Native American cultural resources in or near the APE. The NAHC responded with a list of interested tribes or individuals. Native American consultation is described further in Section 2.2.6.

4.1.2 California State Historic Preservation Officer

The project's cultural resource studies were completed, including outreach to contacts provided through the NAHC.

Caltrans Office of Cultural Resource Studies initiated consultation with the State Historic Preservation Officer for the project on September 25, 2024, for the determination of eligibility for cultural resources within the APE. The SHPO concurred with the determinations of eligible on October 28, 2024. Consultation with the SHPO can be found in Appendix D.

Caltrans is proposing a Finding of *No Adverse Effect* pursuant to Section 106 of the Programmatic Agreement. Consultation on the Finding of Effect will occur after a project alternative is chosen.

4.1.3 California State Parks

Caltrans met with representatives from California State Parks on October 8, 2024, to introduce them to the project, verify the correct representatives were included in the distribution list, and review the project in detail. California State Parks verified an interest to participate in planning and requested review of construction sequencing information when it was available. They also expressed an interest in collaborating on documentation of fish habitat through the implementation of a camera on the future bridge rails. Caltrans and California State Parks agreed to continue to coordinate about the potential for limiting construction impacts for local visitors and increasing public access where possible.

4.1.4 California Coastal Commission/San Mateo County Local Coastal Program

Caltrans has met regularly with the California Coastal Commission (CCC) to discuss this and other ongoing projects in the district. With regard to this project, Caltrans had a focus meeting with CCC in January 2024 to brief them on the project's purpose and need and range of

alternatives. In addition, Caltrans corresponded several times with CCC via email to confirm that CCC has retained jurisdiction over the tidal area under the San Gregorio Creek Bridge. CCC confirmed retained jurisdiction over the portion of the project area under the bridge. Caltrans and CCC met again in December 2024 to discuss this project. CCC expressed concerns regarding staging areas and a temporary loss of coastal access, rock slope protection not being added to the project limits, temporary and permanent impacts to ESHAs and mitigation, historic context of bridge rail selection, incorporation of sea level rise analysis in the Draft IS/EA MND, and preliminary studies regarding nearby coastal access.

Caltrans also contacted San Mateo County Local Coastal Program (LCP) representatives to confirm jurisdiction over the portions of the project area that are not retained by CCC. San Mateo County Local Coastal Program confirmed jurisdiction.

In instances where both the CCC and LCP both have jurisdiction over portions of the same project, it is possible to submit a consolidated Coastal Development Permit (CDP) directly to CCC for processing. Both CCC and San Mateo County LCP have expressed support for a consolidated CDP for this project. Caltrans will submit a consolidated CDP application during the final design phase.

4.1.5 California Department of Fish and Wildlife

A Section 1600 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. The proposed project would include work in San Gregorio Creek. A 1600 permit application will be submitted to the CDFW during the final design phase.

4.1.6 San Francisco Bay Regional Water Regional Water Quality Control Board

Pursuant to Section 401 of the CWA, a joint “Application for 401 Water Quality Certification and/or Report of Waste Discharge” will be submitted to the RWQCB during the final design phase. The project will implement any general Waste Discharge Requirements issued by the RWQCB.

4.1.7 U.S. Fish and Wildlife Service

A USFWS species list was created for the project on July 7, 2022, most recently updated on June 26, 2024 (Appendix D), 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 the FESA, as described in Section 2.4.5. A Biological Assessment for the project will be submitted to the USFWS to initiate consultation under Section 7.

4.1.8 National Marine Fisheries Service

Consultation with National Oceanic and Atmospheric Administration Fisheries Service (otherwise known as National Marine Fisheries Service or NOAA Fisheries) will occur during the next phase of project delivery. A Biological Assessment for the project will be submitted to NOAA Fisheries to initiate consultation under Section 7.

4.1.9 U.S. Army Corps of Engineers

The proposed project is anticipated to affect waters of the U.S. as defined in Section 404 of the Clean Water Act, as described in Section 2.4.2. A preliminary jurisdictional wetland delineation has been prepared, and an application for a Section 404 permit will be submitted to the USACE during the final design phase.

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

Public input on the project will be solicited during the review period for this IS/EA, which will last a minimum of 30 days. The public will be notified of the availability of the IS/EA by a number of methods, including postings on the Caltrans website, on the CEQANet database, and a mailed announcement. During the review period, Caltrans will hold a public meeting to share information about the project and collect comments on the IS/EA from interested parties. The review period and instructions for submitting comments are included on the first page of this document. All formal comments received during the comment period will be addressed and responses published in the Final IS/EA.

If the Final IS/EA is approved, an MND and a Finding of No Significant Impact will be signed and included with the Final IS/EA.

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Chapter 5 List of Preparers

The following Caltrans staff and consultants contributed to the preparation of this IS/EA.

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Chapter 7

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Appendix A Resources Evaluated Relative to the Requirements of Section 4(f)

Section 4(f) No Use Determination

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 United States Code (USC) 303, declares that “it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.”

This section of the document discusses parks, recreational facilities, wildlife refuges, and historic properties found within or next to the project area that do not trigger Section 4(f) protection because: 1) they are not publicly owned, 2) they are not open to the public, 3) they are not eligible historic properties, or 4) the project does not permanently use the property and does not hinder the preservation of the property.

Section 4(f) Resource

As shown in Figure 2.2.2-1, San Gregorio Bridge and the project limits are in the Caltrans state right-of-way and is surrounded by San Gregorio State Beach. San Gregorio State Beach is under the jurisdiction of the California Department of Parks and Recreation is, therefore, a Section 4(f) resource.

Section 4(f) Use

“Use” occurs when:

- a. Land is permanently incorporated into a transportation facility [permanent acquisition or permanent easement], or
- b. There is a temporary occupancy of land that is adverse in terms of the statute’s preservationist purpose, or
- c. There is (are) proximity impact(s) that substantially impair(s) the purpose of the land (this is called constructive use). An example of constructive use would be excessive noise near an amphitheater.

All temporary construction activities and permanent features of the proposed project would occur within the Caltrans right-of-way. No land acquisition is required for the project. The project would not temporarily occupy any land subject to the provisions of Section 4(f). As described in Section 2.2.2.3, the proposed project would create temporary noise, dust, and traffic related to construction activities that could temporarily affect use of some portions of San Gregorio State Beach. However, these disruptions would be limited and would not affect all portions of the State Beach. The proposed project would have no long-term effects to San Gregorio State Beach. Therefore, none of the definitions of “use” would be triggered by the proposed project. The property is a Section 4(f) property, but no “use” will occur. Therefore, the provisions of Section 4(f) do not apply

Section 4(f) De Minimis Determination

This section of the document discusses *de minimis* impact determinations under Section 4(f). Section 6009(a) of SAFETEA-LU amended Section 4(f) legislation at 23 United States Code (USC) 138 and 49 USC 303 to simplify the processing and approval of projects that have only *de minimis* impacts on lands protected by Section 4(f). This amendment provides that once the U.S. Department of Transportation (USDOT) determines that a transportation use of Section 4(f) property, after consideration of any impact avoidance, minimization, and mitigation or enhancement measures, results in a *de minimis* impact on that property, an analysis of avoidance alternatives is not required, and the Section 4(f) evaluation process is complete. FHWA's final rule on Section 4(f) de minimis findings is codified in 23 Code of Federal Regulations (CFR) 774.3 and CFR 774.17.

Responsibility for compliance with Section 4(f) has been assigned to Caltrans pursuant to 23 USC 326 and 327, including *de minimis* impact determinations, as well as coordination with those agencies that have jurisdiction over a Section 4(f) resource that may be affected by a project action.

Section 4(f) Resource

As noted in Section 2.2.6.3, the archaeological site CA-SMA-259 (P-41-000255) is eligible for listing on the National Register of Historic Places and warrants preservation in place. It is a resource subject to the provisions of Section 4(f).

Section 4(f) Use

The project has the potential to physically occupy the Section 4(f) resource. However, the project includes the following avoidance and minimization measures:

- **AMM-CUL-1: Cultural Resources ESA.** Archaeological ESAs will be delineated on the plans and described in the specifications. Appropriate protective measures including demarcations with flags or high visibility spray paint, or temporary high visibility fencing (THVF), access restrictions, and monitoring of the ESA boundaries by a qualified archaeologist and local Tribal representative will be implemented during construction.
- **AMM-CUL-2: Cultural Resources Monitoring.** An Archaeological Monitoring Area (AMA) will be delineated/noted on the plans and described in the specifications. Appropriate protective measures including demarcations with flags or high visibility spray paint and monitoring by a qualified archaeologist and local Tribal representative will be implemented during construction within the AMA.
- **AMM-CUL-3: Cultural Sensitivity Training:** Prior to the initiation of construction for the project, the project contractor, staff, and construction crews shall be made aware of the potential to encounter cultural resources and Tribal Cultural Resources (including the traditional importance of resources such as cultural landscapes, significant waterways, and ethnobotanical plants) through a presentation provided by an archaeologist and a representative from local consulting Tribes.

As noted in Section 2.2.6.3, the project would result in "no adverse effect" to the resource. Caltrans is seeking SHPO concurrence with these findings pursuant to Section 106 PA Stipulation XI.C and 36 CFR 800.5. Concurrence from SHPO will be used as concurrence on the *de minimis* impact determination.

Appendix B Title VI Policy Statement

CALIFORNIA STATE TRANSPORTATION AGENCY

GAVIN NEWSOM, GOVERNOR

California Department of Transportation

OFFICE OF THE DIRECTOR
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September 2024

TITLE VI/NON-DISCRIMINATION POLICY STATEMENT

It is the policy of the California Department of Transportation (Caltrans), in accordance with Title VI of the Civil Rights Act of 1964 and the assurances set forth in the Caltrans' Title VI Program Plan, to ensure that no person in the United States shall on the grounds 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 non-discrimination authorities, remedies, and state law further those protections, including sex, disability, religion, sexual orientation, age, low income, and Limited English Proficiency (LEP).

Caltrans is committed to complying with 23 C.F.R. Part 200, 49 C.F.R. Part 21, 49 C.F.R. Part 303, and the Federal Transit Administration Circular 4702.1B. Caltrans will make every effort to ensure nondiscrimination in all of its services, programs, and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin (including LEP). In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a non-discriminatory manner.

The overall responsibility for this policy is assigned to the Caltrans Director. The Caltrans Title VI Coordinator is assigned to the Caltrans Office of Civil Rights Deputy Director, who then delegates sufficient responsibility and authority to the Office of Civil Rights' managers, including the Title VI Branch Manager, to effectively implement the Caltrans Title VI Program. Individuals with questions or requiring additional information relating to the policy or the implementation of the Caltrans Title VI Program should contact the Title VI Branch Manager at <mailto:title.vi@dot.ca.gov> or at (916) 639-6392, or visit the following web page: <https://dot.ca.gov/programs/civil-rights/title-vi>.

A handwritten signature in black ink, appearing to read 'Tony Tavares'.

TONY TAVARES
Director

"Provide a safe and reliable transportation network that serves all people and respects the environment."

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Appendix C Avoidance, Minimization and/or Mitigation Summary

In order 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 on the proposed Environmental Commitments Record [ECR] which follows) would be implemented. During project design, 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. As the following ECR is a draft, some fields have not been completed, and will be filled out as each of the measures is implemented. Avoidance and Minimization Measures are denoted as AMM. Mitigation Measures are denoted as MM. Some measures may apply to more than one resource area. Duplicative or redundant measures have not been included in this ECR.

Measure	Responsible Party	Timing
AMM-COA-1: Develop Habitat Mitigation and Monitoring Plan (HMMP). Caltrans will restore temporarily impacted ESHAs on-site following construction. A Habitat Mitigation and Monitoring Plan will be developed by a qualified lead biologist with experience in restoration in order to verify restoration activities are appropriate. This plan will be included in the CDP application.	Caltrans	Final Design
AMM-PARK-1: Construction Notification. Caltrans will coordinate with California State Parks regarding the timing of construction activities that would affect San Gregorio State Beach visitors so State Parks can alert visitors about the change in visitor experience.	Caltrans	Construction
AMM-VIS-1: Vegetation Removal. Tree and vegetation removal due to construction shall be minimized to the greatest extent feasible.	Contractor	Construction
AMM-VIS-2: Tree Protection. Trees and vegetation outside of clearing and grubbing limits shall be protected from the contractor's operations, equipment, and materials storage.	Contractor	Construction
AMM-VIS-3: Revegetation. Regraded and otherwise disturbed areas, including staging areas and temporary access roads, shall be revegetated with native, regionally appropriate vegetation.	Contractor	Construction
AMM-VIS-4: Bridge Aesthetic Treatment. Aesthetic treatment of the bridge structure, including the bridge railing and pedestrian rail, will use context-sensitive texture and/or color. For Alternative 1, the fiber-reinforced polymer wrapped columns shall be painted to match the existing concrete.	Caltrans	Final Design, Construction
AMM-VIS-5: Bury Retaining Walls. Heights of retaining walls will be minimized and visible portions buried to the greatest extent feasible.	Caltrans	Final Design, Construction
AMM-VIS-6: Retaining Wall Aesthetics. Timber lagging shall be used for retaining walls below the roadway where feasible. Concrete walers and metal beams shall be colored with earth-tone coating. If concrete retaining walls are required, wall surfaces shall be stained and carved to mimic timber lagging walls or local natural rock outcroppings. Paved ditches and maintenance railings shall be eliminated wherever feasible, and all appurtenances color-treated to match the wall.	Caltrans	Final Design, Construction
AMM-VIS-7: Regrading. Slope-rounding techniques shall be used to help blend the disturbed areas into the natural landforms.	Caltrans, Contractor	Final Design, Construction

Measure	Responsible Party	Timing
AMM-VIS-8: Drainage Aesthetics. Drainage pipes shall be hidden from view where feasible. Pipes that cannot be hidden shall be colored with earth-tone coating to conceal them. Concrete drainage features shall be colored to match adjacent earth tones. Drainage rock used as dissipaters shall be colored earth tone, buried with soil and covered with vegetation or obscured with native plantings where feasible.	Caltrans	Final Design, Construction
AMM-VIS-9: Barrier Aesthetics. Metal beam guardrail system shall use wooden posts and matte finish on railing where feasible. White barrier markers on top of the metal beam guardrail system shall be used in lieu of delineators (Type F White).	Caltrans	Final Design, Construction
AMM-VIS-10: Avoid Concrete. The use of minor concrete vegetation control treatment under metal beam guardrail system shall be avoided.	Caltrans	Final Design, Construction
AMM-VIS-11: Limit Construction Lighting. Construction activities shall limit all construction lighting to within the area of work and avoid light trespass through directional lighting, shielding, and other measures as needed.	Contractor	Construction
AMM-CUL-1: Cultural Resources ESA. Archaeological ESAs will be delineated on the plans and described in the specifications. Appropriate protective measures including demarcations with flags or high visibility spray paint, or temporary high visibility fencing (THVF), access restrictions, and monitoring of the ESA boundaries by a qualified archaeologist and local Tribal representative will be implemented during construction.	Caltrans, Caltrans Office of Cultural Resource Studies, Tribal Representative	Final Design, Construction
AMM-CUL-2: Cultural Resources Monitoring. An Archaeological Monitoring Area (AMA) will be delineated/noted on the plans and described in the specifications. Appropriate protective measures including demarcations with flags or high visibility spray paint and monitoring by a qualified archaeologist and local Tribal representative will be implemented during construction within the AMA.	Caltrans, Caltrans Office of Cultural Resource Studies, Tribal Representative	Final Design, Construction
AMM-CUL-3: Cultural Sensitivity Training. Prior to the initiation of construction for the project, the project contractor, staff, and construction crews shall be made aware of the potential to encounter cultural resources and Tribal Cultural Resources (including the traditional importance of resources such as cultural landscapes, significant waterways, and ethnobotanical plants) through a presentation provided by an archaeologist and a representative from local consulting Tribes.	Contractor, Caltrans, Caltrans Office of Cultural Resource Studies, Tribal Representative	Construction
AMM-TCR-1: Tribal Cultural Resources Training. Prior to the initiation of construction for the project, the Project contractor, staff, and construction crews shall be made aware of the potential to encounter cultural resources and Tribal Cultural Resources (including the traditional importance of resources such as cultural landscapes, significant waterways, and ethnobotanical plants) through a presentation provided by an archaeologist and a representative from local consulting Tribes.	Contractor, Caltrans, Caltrans Office of Cultural Resource Studies, Tribal Representative	Construction

Measure	Responsible Party	Timing
<p>AMM-WQ-1: Stormwater Pollution Prevention Plan. A SWPPP will be developed and implemented for the project and will comply with the Construction General Permit and the Caltrans SWMP, which includes measures to protect sensitive areas and to prevent and minimize stormwater and non-stormwater discharges. Water quality inspector(s) will inspect construction areas to determine if the BMPs are adequate and adjust them, if necessary. The in-creek construction window when work is permitted in San Gregorio Creek will be June 1 to October 15. When possible, earth-disturbing construction activities will not be scheduled during anticipated rain events. The SWPPP will be prepared by the contractor and approved by Caltrans.</p> <p>The temporary Construction Site BMPs specified in the SWPPP will be implemented throughout the duration of construction activities to avoid and minimize pollutant loads in potential stormwater/non-stormwater discharges. Construction Site BMPs strategies applicable to this project may include the following:</p> <ul style="list-style-type: none"> • Soil Stabilization: Temporary Fence (Type ESA); Move-In/Move-Out; Hydroseeding; Geotextiles, Mats, Plastic Covers, and Erosion Control Blankets; Hydraulic Mulch • Sediment Control: Fiber Rolls, Silt Fence, Sediment Trap, Gravel Bag Berm, Check Dams, Drainage Inlet Protection • Tracking Control Practices: Temporary Construction Entrance/Exit • Wind Erosion Controls: Temporary Cover • Non-Stormwater Management: Dewatering Operations; Material and Equipment Use Over Water; Avoidance of Potable Water Use; Reclaimed Water Use for Irrigation • Waste Management and Materials Pollution Control: Concrete Waste Management, Material Delivery and Storage, Material Use, Stockpile Management, Spill Prevention and Control, Soil Waste Management, Hazardous Waste and/or Contaminated Soil Management, and Liquid Waste Management • Stormwater Sampling and Analysis 	Caltrans	Construction
<p>AMM-WQ-2: Dewatering. During final design, Caltrans will prepare a water diversion and dewatering plan that describes how coffer dams will be used, dewatering conducted, and water quality protected during instream work in San Gregorio Creek.</p>	Caltrans	Final Design
<p>AMM-WQ-3: Stormwater Treatment. The project design will include permanent stormwater treatment areas (such as bioretention areas) that do not overlap with environmentally sensitive areas to treat 0.5 acre of new impervious surface. If the project footprint is unable to accommodate the required treatment areas entirely on-site, any remaining treatment will be sought from other Caltrans right-of-way or in consultation with local municipalities first within the same watershed then within the same drainage basin or County. The locations of the stormwater treatment areas will be designed in coordination with USACE, RWQCB, CDFW, CCC, and San Mateo County LCP as part of the project's permit applications during final design.</p>	Caltrans, USACE, RWQCB, CDFW, CCC, and San Mateo County LCP	Final Design

Measure	Responsible Party	Timing
AMM-PAL-1: Develop Paleontological Evaluation Report/Paleontological Mitigation Plan. A Paleontological Evaluation Report/Paleontological Mitigation Plan (PER/PMP) shall be developed by a qualified professional paleontologist using detailed design plans of the Preferred Build Alternative. The PER/PMP will include a monitoring plan that will provide 1) instructions for monitoring excavations, 2) a determination of the level of monitoring necessary at each excavation based on paleontological sensitivity of the sediment and excavation type, and 3) prescriptions for dealing with paleontological discoveries. The PMP shall be implemented during construction. A specification in the construction contract stating that paleontological monitoring will occur in accordance with the PMP shall be included. If necessary, the PMP will include a Paleontological Resources Awareness worked training.	Caltrans	Final Design
AMM-NIO-1: Work Hours Restriction. Any operation exceeding 86 dBA shall not be allowed at nighttime from 9:00 pm to 6:00 am.	Contractor	Construction
AMM-NIO-2: Public Outreach. Public outreach will be done throughout the duration of construction to update nearby residents, businesses, and other project stakeholders on upcoming construction activities and any changes to the project construction timeline.	Caltrans/Contractor	Construction
AMM-NIO-3: Construction Scheduling. Schedule noisy operations within the same time frame. The total noise level will not be significantly greater than the level produced if operations are performed separately.	Contractor	Construction
AMM-NIO-4: Limit Idling. Avoid unnecessary idling of internal combustion engines.	Contractor	Construction
AMM-NIO-5: Noise-Sensitive Receptors. Locate all stationary noise-generating construction equipment as far as practical from noise-sensitive receptors or provide baffled housing or sound aprons to equipment when sensitive receptors adjoin or are near a construction project area.	Contractor	Construction
AMM-NIO-6: Combustion Engines. Equip all internal combustion engines with manufacturer recommended intake and exhaust mufflers that are in good condition and appropriate for the equipment. These engines will be properly maintained to minimize noise generation.	Contractor	Construction
AMM-NIO-7: Quiet Equipment. Utilize "quiet" air compressors and other "quiet" equipment where such technology exists.	Contractor	Construction
AMM-NIO-8: Construction Delivery Hours Limit. No construction equipment will be delivered and dropped off before 6:00 am.	Contractor	Construction
AMM-NIO-9: Engine Maintenance. Maintain all internal combustion engines properly to minimize noise generation.	Contractor	Construction
AMM-BIO-1: Predesignated Staging Areas. All material stockpiling, vehicle parking, and equipment staging areas will be permitted only in areas cleared by a qualified biologist. The limits of the designated staging area will be clearly marked before beginning construction. Staging areas will be within the Caltrans right-of-way in nonsensitive locations at designated disturbed/developed areas outside construction zones. No staging will be allowed outside the predesignated staging areas.	Caltrans/ Contractor	Construction
AMM-BIO-2: Worker Environmental Awareness Training. Before the start of construction, a qualified biologist will conduct an employee training that will include the biology, ecology, and regulatory status of sensitive species and habitats with the potential to occur within or near the project footprint and vicinity. The training will include all avoidance measures related to sensitive natural resources and what to do if special status species are observed or harmed. The training will be provided to all construction workers before they begin work at the construction site. A log will be maintained to track which employees have received the training.	Caltrans/ Contractor	Construction

Measure	Responsible Party	Timing
AMM-BIO-3: Tree Replanting Plan. During final design, Caltrans will determine what trees require removal or could be damaged during construction for the chosen alternative and will develop a replanting plan. Native trees will be replanted at a 1:1 ratio on-site, where space exists, or off-site if adequate space does not exist. The species and location for each replanted tree will be determined in consultation with regulatory agencies.	Caltrans	Final Design
AMM-BIO-4: Wetlands and Waters Construction Work Windows. Work in wetlands, waters, and riparian habitat will be limited to June 1 through October 31, to minimize impacts on WOTUS, WOS, riparian habitat, and special-status species habitat.	Contractor	Construction
AMM-BIO-5: Construction Discharges. No debris, soil, silt, sand, bark, slash, sawdust, cement, concrete, washings, petroleum products, or other organic or earthen material will be allowed to enter or be placed where it may be washed by rainfall or runoff into drainages or WOTUS.	Contractor	Construction
AMM-BIO-6: Uncured Concrete Grout. Any concrete grout will be isolated from surface waters while curing. Caltrans will ensure that cure water does not flow to inlets or water courses, but to collection areas for infiltration or other means of removal, in accordance with all applicable permits.	Contractor	Construction
AMM-BIO-7: Maintenance and Fueling. Maintenance and fueling of construction equipment and vehicles will occur no closer than 50 feet from ESAs, where possible. All equipment will be well maintained and free of leaks.	Contractor	Construction
AMM-BIO-8: Stockpiles. Excavated material will not be stored or stockpiled in ESA areas. All excavated material from wetlands, waters, or riparian areas that will not be placed back in the channel or on the bank after construction will be disposed of at a licensed upland facility.	Contractor	Construction
AMM-BIO-9: Water Diversion Plan. Caltrans will prepare a water diversion and dewatering plan that describes how coffer dams will be used, dewatering conducted, and water quality protected during instream work in San Gregorio Creek.	Caltrans	Final Design
AMM-BIO-10: Rare Plant Survey. During final design, Caltrans will complete a supplemental rare plant survey to confirm presence of special-status plants within the area of direct effects. All plants will be identified to a level needed to verify protected status. Caltrans will consult with the appropriate agency with jurisdiction and obtain the necessary permits or authorizations if unavoidable take of a listed plant species incidental to the proposed work will occur.	Caltrans	Final Design
AMM-BIO-11: Preconstruction Plant Survey. A project biologist with appropriate botany experience will perform a site survey within the BSA the surveys season prior to the beginning of construction, at the location where construction disturbance may occur. Special-status plants will be flagged and avoided where possible. Caltrans will coordinate with the appropriate regulatory agencies with jurisdiction before the start of construction if incidental take of a listed plant species is unavoidable and will obtain any necessary permits or authorizations for potential direct impacts. Caltrans will adhere to the requirements of all permits and authorizations issued for the proposed project.	Caltrans	Final Design

Measure	Responsible Party	Timing
AMM-BIO-12: Preconstruction Nesting Bird Surveys. If construction activities occur between February 1 and August 31, a qualified biologist will conduct preconstruction surveys for nesting birds no more than 3 days before the start of construction. Surveys will consist of multiple days of observations (i.e., observations on a minimum of 2 separate days). If nesting birds are found, an appropriate non-disturbance buffer will be established around the nest, at the discretion of the qualified biologist. After the buffer areas are established, the area within the buffer will be avoided until the young birds have fledged or the nest no longer is active. Limited activity may occur within a buffer at the qualified biologist's discretion if constant biological monitoring suggests that the activity will not affect the nest. No activity will occur inside an established buffer without full-time biological monitoring and approval of the qualified biologist. The qualified biologist will have authority, through the resident engineer, to order the cessation of all construction activities inside or outside the buffer area if birds exhibit abnormal nesting behavior that may cause reproductive failure (nest abandonment and loss of eggs and/or young).	Caltrans	Final Design
AMM-BIO-13: Preconstruction Woodrat 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 that are 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.	Caltrans	Construction
AMM-BIO-14: Potential Midden Relocation. For any woodrat middens/nests that cannot be avoided with a 10-foot buffer because of their presence in a work area, a woodrat relocation plan will be developed. The plan will outline specific methods for relocation of middens/nests to a suitable nearby undisturbed location. Existing woodrat middens/nests will be dismantled, collected, and relocated to their new locations. The woodrat relocation work will occur before the start of any construction activities and outside the breeding period (September to December) if possible.	Caltrans/ Contractor	Construction
AMM-BIO-15: Wildlife Exclusion Fencing. WEF will be installed along the perimeter of the work areas in locations determined by a qualified biologist that benefit special-status species and do not conflict with construction site access. The fencing will remain throughout the duration of project construction and will serve to exclude special-status species from work areas and staging areas where materials storage may encourage migrating individuals to seek cover. The WEF will be maintained by the contractor throughout the duration of construction in the area. The WEF will be trenched into the soil at least 4 inches deep, with the soil compacted against both sides of the fence for its entire length to prevent NWPT and other special-status species from passing under the fence. The barriers will be inspected by the qualified biologist at least twice weekly on nonconsecutive days throughout the duration of all construction activities in the area. Barriers will be installed by the contractor, with turnarounds at any access openings needed in the fencing to redirect reptiles and other animals away from openings.	Caltrans/ Contractor	Construction

Measure	Responsible Party	Timing
AMM-BIO-16: Entrapment Avoidance. To prevent inadvertent entrapment of special-status species during construction, all excavated, steep-walled holes or trenches more than 1 foot deep will be covered with plywood or similar materials at the end of each workday, or the holes or trenches will contain one or more escape ramps, constructed of earth fill or wooden planks. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. If a trapped wildlife is discovered at any time, the biologist will provide passive opportunities for safe egress out of the work area (e.g., providing an escape ramp that the wildlife can use to exit a trench). Otherwise, a qualified biologist, with approval from the regulatory agency with jurisdiction, will move the special-status species to the nearest suitable habitat outside the construction area that will not be disturbed.	Caltrans/ Contractor	Construction
AMM-BIO-17: Proper Use of Erosion Control Devices. To prevent special-status species from becoming entangled, trapped, or injured, erosion control materials that use synthetic monofilament netting will not be used within the BSA. This will include products that use photodegradable or biodegradable synthetic netting, which can take several months to decompose. Acceptable materials will include tackified hydroseeding compounds and natural fibers, such as jute or twine with a wide-aperture mesh.	Contractor	Construction
AMM-BIO-18: Biological Monitoring. An approved biological monitor will be present during all construction activities that may result in take of special-status species. Following the initial mobilization of the project site, the monitor will continue to be present daily. Preconstruction surveys will be conducted at all proposed staging, work, and dewatering areas by a qualified biologist immediately before the start of construction in each area each day. The surveys will involve a visual inspection of the entire immediate work area.	Caltrans	Construction
AMM-BIO-19: Protocol for Species Observation. If a special-status individual is detected within the project footprint or surrounding BSA, all work will cease immediately, and all on-site personnel will be notified of the location. At no time will construction work occur within 50 feet of the special-status individual without an approved biological monitor present. If relocation is permitted, the special-status individual will be relocated to suitable habitat outside the project footprint, if permitted by the appropriate agency with jurisdiction.	Caltrans/ Contractor	Construction
AMM-BIO-20: Weather Restrictions. The biological monitor will observe 48-hour weather forecasts and will notify the resident engineer of the potential for any storm events. No work will occur during a rain event or within 24 hours after a rain event exceeding 0.2 inch, as measured by the National Oceanic and Atmospheric Administration weather report for Gilroy (Mesonet Station #C4787). The biological monitor will conduct a preconstruction clearance survey before work resumes after a rain event. U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) approval to continue work during or within 24 hours of a rain event will be considered on a case-by-case basis.	Caltrans/ Contractor	Construction
AMM-BIO-21: Fish Relocation. Caltrans will retain a qualified biologist with expertise in the areas of California fish biology, including handling, collecting, and relocating native fishes, native fish/habitat relationships, and biological monitoring of work in waters containing native fishes. Caltrans will 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 fishes. A USFWS, NMFS, and/or CDFW-approved fish biologist will be on-site to observe dewatering activities and to oversee capture/rescue of any fish that are observed in an isolated area during dewatering activities.	Caltrans	Construction

Measure	Responsible Party	Timing
AMM-BIO-22: Fish Passage. Preconstruction stream width, depth, velocity, and slope that currently provide upstream and downstream passage of adult and juvenile fish under appropriate stream flow conditions will be preserved, post-construction, according to current NMFS and CDFW guidelines and criteria, or as developed in cooperation with NMFS and CDFW to accommodate site-specific conditions.	Caltrans/ Contractor	Construction
AMM-BIO-23: Aquatic Noise. During final design, Caltrans will consider instream construction methods and the potential for construction activities (e.g., impact pile driving) to create noise that may harm fish and other aquatic organisms. A hydroacoustic analysis will be conducted if appropriate.	Caltrans	Final Design
AMM-BIO-24: Invasive Plant Removal and Revegetation. Plant species identified by the Cal-IPC as "High" will be removed from the project footprint immediately before any ground disturbance or vegetation clearing, by bagging the vegetative parts of the plant and removing the entire root system if possible.	Caltrans	Construction
MM-BIO-1: Compensatory Mitigation for Wetlands. Caltrans will restore temporarily impacted aquatic resources on-site following construction. In addition, Caltrans will mitigate for permanent impacts to aquatic resources regulated by USACE, CDFW, and RWQCB at a ratio of 3:1. Caltrans will mitigate for permanent impacts to aquatic resources regulated by CCC/San Mateo County LCP at a ratio of 4:1. Off-site mitigation will be required due to the lack of available enhancement potential on-site. The mitigation site or sites will be chosen in consultation with regulatory agencies with jurisdiction.	Caltrans	Final Design
MM-BIO-2: Compensatory Mitigation for Special-Status Species. Caltrans will restore temporarily impacted special status habitat areas on-site following construction. In addition, Caltrans will mitigate for permanent impacts to California Red-Legged Frog and San Francisco Garter Snake and their habitat at a ratio of 3:1, Steelhead and its habitat at a ratio of 3:1, and Coho Salmon and Tidewater Goby at a ratio of 3:1 plus 1:1 for temporary impacts to these habitats. Off-site mitigation will be required due to the lack of available enhancement potential on-site. The mitigation site or sites will be chosen in consultation with regulatory agencies with jurisdiction including CCC, CDFW, USFWS, NMFS.	Caltrans	Final Design

Appendix D SHPO Concurrence Documentation

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

Armando Quintero, *Director*

Julianne Polanco, State Historic Preservation Officer
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calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

October 28, 2024

In reply refer to: FHWA_2024_0925_001

VIA EMAIL

Kathryn Rose, Chief
California Department of Transportation, District 4
Office of Cultural Resource Studies
P.O. Box 23660, MS-8A
Oakland, CA 94623-0660

Subject: Determinations of Eligibility for the Bridge Seismic Restoration Project on
San Gregorio Creek Bridge, State Route 1, San Mateo County, California (EA
04-0Q010)

Dear Ms. Rose:

The State Historic Preservation Officer (SHPO) is in receipt of a consultation letter dated October 25, 2024, from the California Department of Transportation (Caltrans) for the above referenced undertaking. Caltrans is continuing consultation with the SHPO to comply with the January 2014 First Amended Programmatic Agreement 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 (Section 106 PA). Caltrans is providing an updated evaluation of archaeological site P-41-000255 / CA-SMA-259 for the National Register of Historic Places (NRHP) and is seeking SHPO concurrence on their determination of eligibility in accordance with Stipulation VIII.C.6 of the Section 106 PA.

Caltrans initiated consultation with the SHPO for this undertaking on September 25, 2024, requesting SHPO concurrence on determinations of eligibility for the San Gregorio Creek Bridge and P-41-000255 / CA-SMA-259. The SHPO responded on October 24, 2024, concurring with the determination of eligibility made for the San Gregorio Creek Bridge and recommending that Caltrans evaluate P-41-000255 / CA-SMA-259 under Criterion A, as well as Criterion D.

Precontact site CA-SMA-259 is characterized as a seasonal, low-density lithic scatter, that may have functioned as a locale where locally available lithic materials were assayed and reduced for tool manufacture and local consumption. Caltrans has provided the following revised evaluation of CA-SMA-259 under all four NRHP criteria as follows:

- A. Through consultation with the Indian Canyon Mutsun Band of Costanoan and the Costanoan Rumsen Carmel Tribe, information has been provided regarding the site function of CA-SMA-259 and how it relates to other sites in the region, including details regarding past use of plant and animal resources, intra-site use, and the cultural landscape of the area. The site is an important part of the larger cultural landscape of the San Mateo coast. Based on this information, CA-SMA-259 is recommended eligible under Criterion A for its association with events that have made a significant contribution to the broad patterns of our history.
- B. CA-SMA-259 has not been associated with the lives of individuals who made an important contribution to the past and is therefore, not recommended eligible under Criterion B.
- C. CA-SMA-259 does not embody distinct characteristics of a type, period, or method of horticultural techniques and is therefore, not recommended eligible under Criterion C.
- D. Although the artifact assemblage recovered from CA-SMA-259 is limited to a sparse array of charred plant remains and a flaked stone assemblage with no formal tools, the site retains its stratigraphic integrity and data from the site can provide answers to potential research questions about settlement and subsistence. The site also appears significant for the potential to yield important information through ethnographic, sociological, folkloric, or other studies. Through ongoing tribal interaction with the landscape, CA-SMA-259 has the potential to continue to provide important ethnographic and historic information about the integral relationship between the site and tribal history and cultural continuity. Therefore, CA-SMA-259 is recommended eligible under Criterion D.

Caltrans has determined that CA-SMA-259 is eligible for inclusion in the NRHP under Criteria A and D. Additionally, Caltrans is treating the site as a Tribal Cultural Resource (TCR), as defined in PRC Section 21074. Radiocarbon dating suggests that the surface of the landform where CA-SMA-259 is located has remained stable since the end of the early Holocene and there is evidence of human use of the site since at least the middle Holocene. The long history of use and the continued importance of the site to living descendants suggests that the period of significance for CA-SMA-259 is the Early Holocene to the present.

Caltrans has requested SHPO concurrence on their determination of eligibility for P-41-000255 / CA-SMA-259. The SHPO has previously concurred that the San Gregorio Creek Bridge is not eligible for the NRHP under any criteria.

Following review of the submittal, I concur that P-41-000255 / CA-SMA-259 is eligible for inclusion in the NRHP under Criteria A and D.

Kathryn Rose
October 28, 2024
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If you require further information, please contact Robert Fitzgerald, Associate State Archaeologist, at Robert.Fitzgerald@parks.ca.gov, or Natalie Lindquist, Historian II, at Natalie.Lindquist@parks.ca.gov.

Sincerely,



Julianne Polanco
State Historic Preservation Officer

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Appendix E USFWS Species List

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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:
Project Code: 2024-0109433
Project Name: Q010 San Gregorio Creek Bridge Seismic Retrofit

06/26/2024 22:32:55 UTC

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

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

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

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see [Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service \(fws.gov\)](#).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservationmigratory-birds>.

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 Code 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

Project Code: 2024-0109433

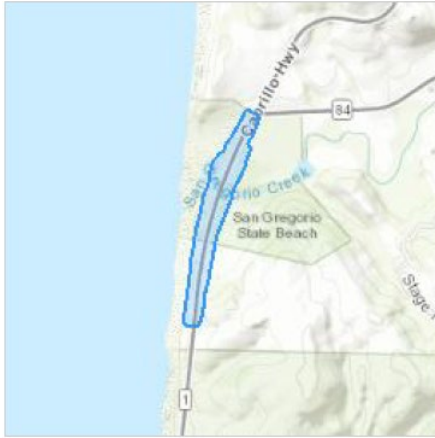
Project Name: Q010 San Gregorio Creek Bridge Seismic Retrofit

Project Type: Bridge - Maintenance

Project Description: Seismic Retrofit Project -- NES

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@37.3194679,-122.40253856376609,14z>



Counties: San Mateo County, California

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 Fisheries, 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 Condor <i>Gymnogyps californianus</i> Population: Wherever found, except where listed as an experimental population There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8193	Endangered
California Least Tern <i>Sternula 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 does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Western Snowy Plover <i>Charadrius nivosus nivosus</i> Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is final critical habitat for this species. Your location does not overlap 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
Northwestern Pond Turtle <i>Actinemys marmorata</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed 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	Threatened
Foothill Yellow-legged Frog <i>Rana boylei</i> Population: Central Coast Distinct Population Segment (Central Coast DPS) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5133	Threatened

FISHES

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

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus Plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

There are 2 critical habitats 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
Tidewater Goby <i>Eucyclogobius newberryi</i> https://ecos.fws.gov/ecp/species/57#crithab	Final

Appendix F List of Technical Studies

The following technical studies were prepared in support of the project.

Aquatic Resources Delineation Report (Wetlands), AECOM, September 2024

Archaeological Survey Report, AECOM, September 2024

Construction Noise Analysis Memorandum, Caltrans, June 2024

Construction-Related Greenhouse Gas (GHG) Emissions Analysis, Caltrans, September 2024

Energy Analysis Memorandum, Caltrans, September 2024

Extended Phase I Study/ Archaeological Evaluation Report, AECOM, September 2024

Historic Resources Evaluation Report, Caltrans, September 2024

Historic Property Survey Report, Caltrans, September 2024

Finding of Effect Report, Caltrans, September 2024

Location Hydraulic Study, Caltrans, January 2024

Paleontological Identification Report, Caltrans, April 2024

Preliminary Hydraulic Report, Caltrans, May 2023

Natural Environment Study, AECOM, October 2024

Section 106 Summary Memorandum, Caltrans, October 2024

Structure Preliminary Geotechnical Report, Caltrans, July 2023

Visual Impact Assessment, AECOM, October 2024

Water Quality Study, Caltrans, September 2024