Boulder Creek Bridge Scour Repair Project

On State Route 236 in Santa Cruz County at
0.17 mile north of China Grade Road and 0.15 mile south of Moon Drive
05-SCR-236 PM 4.27
Project EA 05-1P240, Project ID 0522000004

Initial Study with Proposed Mitigated Negative Declaration

Prepared by the
State of California Department of Transportation

December 2023

General Information About This Document

What's in this document:
The California Department of Transportation (Caltrans) has prepared this Initial Study, which examines the potential environmental impacts of alternatives being considered for the proposed project in Santa Cruz County in California. The document explains why the project is being proposed, the alternatives being considered for the project, the existing environment that could be affected by the project, potential impacts of each of the alternatives, and proposed avoidance, minimization, and/or mitigation measures.

What you should do:

Please read the document. A copy of the document is available for review during normal business hours at the Caltrans District Office, 50 Higuera Street, San Luis Obispo, California 93401 and the Boulder Creek Public Library at 13390 West Park Avenue, Boulder Creek, California 95006. This document can also be accessed at the following website: https://dot.ca.gov/caltrans-near- me/district-5/district-5-current-projects. If you would like to receive a printed version of this document or associated technical studies, please contact Dianna Beck at 805-459-9406 or by email at Dianna.Beck@dot.ca.gov.

- Tell us what you think. If you have any comments regarding the proposed project, please send your written comments and/or a request for a public meeting to Caltrans by the deadline. Submit comments via U.S. mail to: Dianna Beck, California Department of Transportation, 50 Higuera Street, San Luis Obispo, California 93401; contact Dianna Beck by phone at 805-459-9406, or submit comments via email to: Dianna.Beck@dot.ca.gov.

- Submit your written comments by the deadline: January 19, 2024.

What happens next:
After comments are received from the public and the reviewing agencies, Caltrans may 1) give environmental approval to the proposed project, 2) do additional environmental studies, or 3) abandon the project. If the project is given environmental approval and funding is appropriated, Caltrans could design and construct all or part of the project.

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For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please write to or call Caltrans, Attention: Dianna Beck, District 5 Environmental Division, 50 Higuera Street, San Luis Obispo, California 93401; phone number 805-459-9406 (Voice), or use the California Relay Service 1-800-735-2929 (Teletype to Voice), 1-800-735-2922 (Voice to Teletype), 1-800-855-3000 (Spanish Teletype to Voice and Voice to Teletype), 1-800-854-7784 (Spanish and English Speech-to-Speech), or 711.

05-SCR-236 PM 4.27
Project EA 05-1P240
Project ID 0522000004

Repair scour on bridge abutment at Boulder Creek Bridge on State Route 236 0.15 mile south of Moon Drive at post mile 4.27 in Santa Cruz County

INITIAL STUDY
with Proposed Mitigated Negative Declaration

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

THE STATE OF CALIFORNIA
Department of Transportation
and
Responsible Agencies:
California Transportation Commission
California Department of Fish and Wildlife
Central Coast Regional Water Quality Control Board
U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service
National Marine Fisheries Service

Jason Wilkinson

Jason Wilkinson
Deputy District Director, Environmental Analysis
California Department of Transportation
CEQA Lead Agency

12/7/23

Date

The following individual can be contacted for more information about this document:

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DRAFT
Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

State Clearinghouse Number: pending

District-County-Route-Post Mile: 05-SCR-236-4.27

EA/Project Number: 05-1P240/0522000004

Project Description

The California Department of Transportation (Caltrans) proposes to repair scour on the existing bridge abutment on Boulder Creek Bridge at post mile 4.27 on State Route 236 in Santa Cruz County, California. The work includes the placement of a reinforced concrete curtain wall along the full length of the existing abutment spread footing. The curtain wall will wrap around the upstream (northern) side of the abutment to protect the concrete from erosion. Also, cracks and defects in the existing concrete on the underside of the bridge will be patched.

Determination

Caltrans District 5 has prepared this Initial Study with Proposed Mitigated Negative Declaration to give notice to interested agencies and the public that Caltrans intends to adopt a Mitigated Negative Declaration for this project. This does not mean that Caltrans' decision regarding this project is final. The Initial Study with Proposed Mitigated Negative Declaration is subject to change based on comments received from interested agencies and the public.

On the basis of this study, it is determined that the proposed action would have no effect on agriculture and forest resources, energy, geology and soils, hazards and hazardous materials, land use planning, mineral resources, population and housing, public services, recreation, tribal cultural resources, utilities and service systems, and wildfire.

The project would not have a significant effect on aesthetics/visual resources, air quality, cultural resources, greenhouse gas emissions, hydrology and water quality, noise, and transportation with the implementation of Caltrans' Standard Specifications, Standard Special Provisions, and avoidance and minimization measures prescribed herein.

The project will have no significant effect on biological resources because the following mitigation measures will reduce potential impacts to less than significant:

- **Mitigation Measure BIO-1:** Temporary impacts to jurisdictional features shall be restored at a 1-to-1 ratio (acreage). Compensatory mitigation shall be provided at a 3-to-1 ratio (acreage) for permanent impacts to perennial stream habitat.

- **Mitigation Measure BIO-2:** Prior to construction, Caltrans shall prepare a Restoration and Monitoring Plan to detail mitigation commitments for impacts to vegetation and natural habitats. The Restoration and Monitoring Plan shall be consistent with federal and state regulatory requirements and will be amended with any regulatory permit conditions, as required. Caltrans shall implement the Restoration and Monitoring Plan as necessary during construction and immediately following project completion.

- **Mitigation Measure BIO-13:** When the stream diversion is in place, the contractor shall remove existing concrete debris in the creek channel beneath Boulder Creek Bridge to improve the condition of the creek.

- **Mitigation Measure BIO-14:** Prior to the end of construction activities, the contractor shall close off existing bridge scuppers and redirect drainage from the roadway to a vegetated or rocked area, prior to reaching the stream channel, to minimize the risk of 6-PPD quinone exposure to salmonids. This toxic substance forms when a common rubber additive (6-PPD) in tires mixes with freshwater, but filtration through a vegetated area successfully reduces toxicity.

_____

Jason Wilkinson
Deputy District Director, Environmental Analysis
California Department of Transportation, District 5

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Date

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Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) proposes to repair scour at Abutment 1 of the Boulder Creek Bridge on State Route 236 in Santa Cruz County. The project lies at post mile 4.27, approximately 0.15 mile south of Moon Drive, at Boulder Creek Bridge (Bridge Number 36-0006). State Route 236 is a roughly 18-mile-long highway that serves primarily as access to Big Basin Redwoods State Park and the unincorporated community of Boulder Creek in Santa Cruz County. Figures 1-1 and 1-2 show the project vicinity and location.

The proposed project was included in the 2022 State Highway Operation and Protection Program under the Asset Management guidelines to meet bridge scour mitigation goals. The State Highway Operation and Protection Program is the State Highway System's "fix it first" program that funds the repair and preservation, emergency repairs, safety improvements, and some highway operational improvements on the State Highway System. A Bridge Inspection Report prepared in February 2020 indicated the bridge was in poor condition. The proposed project is designated as a Minor A project, which means it is limited to $1,250,000 in programmed costs. The current programmed cost for the construction of the Build Alternative is $1,250,000. Project construction is expected to start in the summer of 2026 and span approximately 25 working days. An additional 1-year plant establishment period will begin once construction is completed.

Caltrans, as assigned by the Federal Highway Administration, is the lead agency under the National Environmental Policy Act (known as NEPA). Caltrans is also the lead agency under the California Environmental Quality Act (known as CEQA). As the NEPA lead, Caltrans is preparing a Categorical Exclusion document for the proposed project. As the CEQA lead, Caltrans is preparing this Initial Study with Proposed Mitigated Negative Declaration document for the proposed project.

1.2 Purpose and Need

1.2.1 Purpose

- Prevent further scour damage at the Abutment 1 spread footing.
- Restore the bridge structure to a state of good repair to reduce required ongoing maintenance.

- Protect Abutment 1 footing from severe scour caused by continued lateral bank erosion.

1.2.2 Need

The February 2020 Bridge Inspection Report for Boulder Creek Bridge indicated the rating of the bridge has decreased from “Fair” to “Poor” based on the scoured exposure found at Abutment 1. Scouring must be reduced to protect the bridge structure, preserve public safety, and maintain public access.

The project is needed to:

- Repair scour on the bridge. Scour at the Abutment 1 embankment has been identified in the February 2020 Bridge Inspection Report as a critical issue requiring repair to protect the bridge structure and public safety.
- Minimize future maintenance expenditures.
- Protect the bridge asset by upgrading erosion control features.

1.3 Project Description

This section describes the proposed project and the alternatives developed to meet the purpose and need of the project, while avoiding or minimizing environmental impacts. There are two alternatives under consideration—the Build Alternative and the No-Build Alternative—discussed in further detail in Section 1.4 below.

The project lies in Santa Cruz County on State Route 236 at Boulder Creek Bridge (post mile 4.27) near the unincorporated community of Boulder Creek. In this location, State Route 236 is a conventional two-lane, undivided highway. Boulder Creek Bridge was constructed in 1926 as a small, single-span reinforced concrete girder bridge on top of reinforced concrete abutments and wingwalls with concrete bridge railing. The existing right-of-way is approximately 60 feet wide. The existing bridge structure is approximately 22 feet long and 24 feet wide and consists of two 11-foot-wide travel lanes with 1-foot shoulders. Current design standards require 12 feet for travel lane width and 8 feet for shoulder width; the existing lane width and shoulders are considered nonstandard. There is standard metal beam guardrail at each approach. There are no sidewalks for pedestrian access across the bridge or along State Route 236.

Figure 1-1 shows the project vicinity, and Figure 1-2 shows the location of Boulder Creek Bridge. Figures 1-3 through 1-6 show photos of the bridge taken in July 2022.

Figure 1-1 Project Vicinity Map

Figure 1-2 Project Location Map

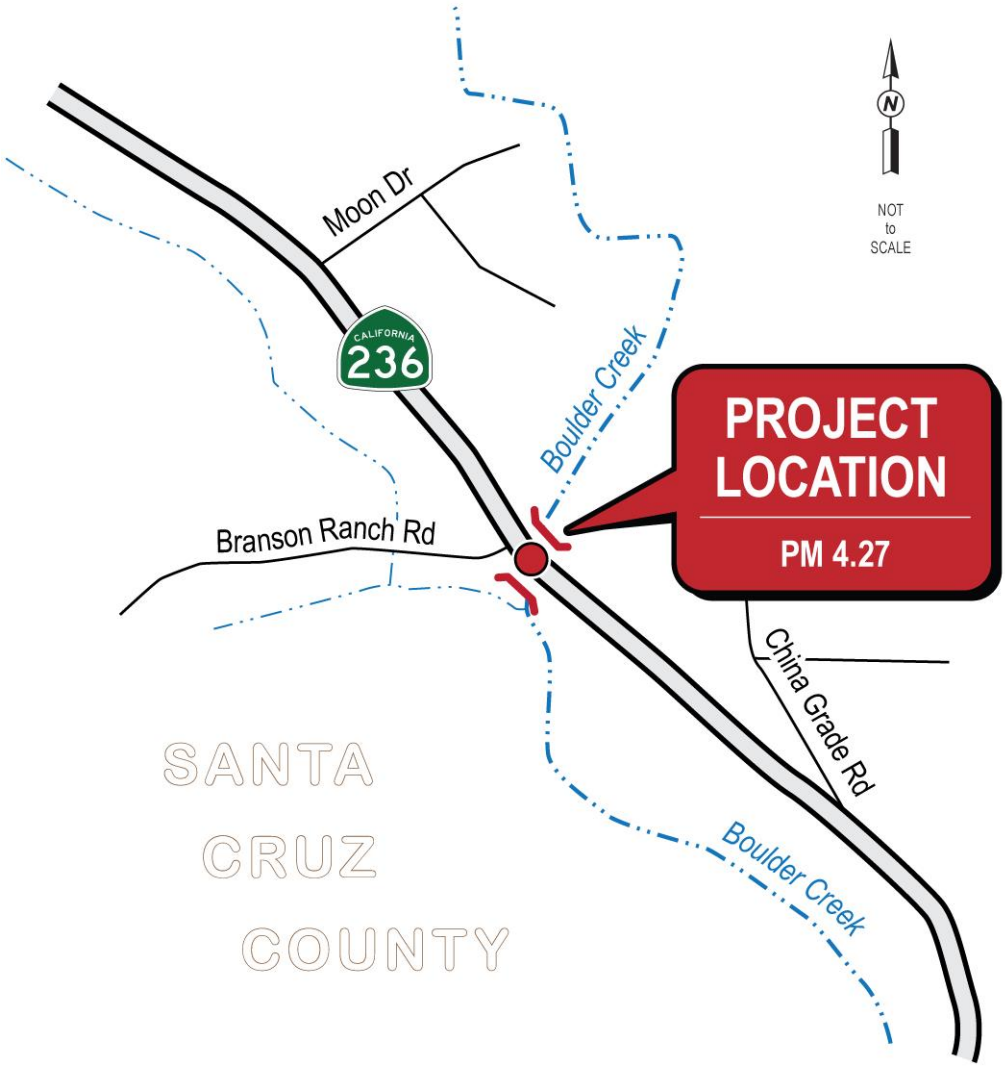

Figure 1-3 Boulder Creek Bridge on State Route 236 Facing Southeast

Figure 1-4 Boulder Creek Bridge on State Route 236 Facing Northwest

Figure 1-5 Bridge Abutments Under Roadway Facing North

Figure 1-6 Bridge Abutments Under Roadway Facing South

1.4 Project Alternatives

This section describes the proposed project and the alternatives developed to meet the purpose and need of the project, while avoiding or minimizing environmental impacts. There are two alternatives under consideration—the Build Alternative and the No-Build Alternative. Several criteria were taken into consideration when evaluating the various alternatives for the proposed project, including the purpose and need, cost, and environmental impacts.

1.4.1 Build Alternative

Under the Build Alternative, the project would address scour at the Boulder Creek Bridge (36-0006) on State Route 236 in Santa Cruz County. Boulder Creek Bridge is a single-span bridge with no piers located in the creek. The existing bridge is approximately 22 feet long and 24 feet wide. Each travel lane is 11 feet wide with 1-foot shoulders.

There are two bridge abutments in place to support each end of the structure, one to the south and one to the north. Abutment 1 is on the southern end of the bridge, along the eastern bank of Boulder Creek. This project focuses specifically on addressing the scour identified at Abutment 1. Scour occurs when water erodes the sediments such as sand and gravel that surround the base or support structures for bridges, roads, and other structures. Scour, caused by swiftly moving water, can scoop out scour holes of sediment, compromising the integrity of a structure. Water flowing in Boulder Creek has caused scour of Abutment 1, specifically on the northern end of the abutment upstream of Boulder Creek.

The proposed work includes the placement of a 1.5-foot-thick and 6-foot-high reinforced concrete curtain wall along the full length of the existing Abutment 1 spread footing, which is approximately 27 feet long. The top of the proposed curtain wall will match the current elevation of the existing top of the Abutment 1 footing. The curtain wall will wrap around the upstream (northern) side of the abutment to protect the concrete from erosion. Also, cracks and defects in the existing concrete on the underside of the bridge at Abutment 1 will be patched. No changes to the existing concrete bridge rail or guardrail are proposed. Preliminary project plans are shown in Appendix B.

Temporary construction easements will be required from adjacent landowners north of the roadway to allow for access to the creek during construction. A temporary access route approximately 20 feet wide and 100 feet long (about 2,000 square feet) would be constructed to facilitate work in the creek and on the bridge structure. Access is proposed on the southeast corner of the bridge due to the topography and existing vegetation. This access area will also allow for regrading and filling of the scour hole in the ephemeral drainage adjacent to the roadway. One tree may need to be removed to allow for access to the work area.

Work in the stream bed is necessary to place the concrete curtain wall at Abutment 1; therefore, a temporary water diversion system would be needed to dewater the creek. Work in the stream channel would be limited to the dry season only, between June 1 and October 31, when flows are anticipated to be lowest. To prepare for construction in dry conditions, the work area will be temporarily isolated from surface water. A cofferdam (a watertight enclosure to expose the bed of a body of water for construction) will likely be constructed across the channel immediately upstream of the existing bridge and remain in place for the duration of construction. Surface flows will travel through the work area in a piped diversion and return to the creek downstream of the work location. The specific method will be determined by the contractor.

1.4.2 No-Build (No-Action) Alternative

The No-Build Alternative would leave the existing bridge and abutments in place and would not directly address the scour at Abutment 1 that is threatening the integrity of the existing bridge. Erosion and scour would continue and eventually cause bridge and roadway failure, severing access in a rural part of Santa Cruz County needed for residences and tourism until a new bridge is constructed. The No-Build Alternative would not meet the purpose and need for the project because it does not offer any improvements to address the scour of the bridge abutment.

1.5 Alternatives Considered but Eliminated from Further Discussion

The project initially proposed two additional Build Alternatives to consider, identified as Alternative 2 and Alternative 3, described below. These alternatives were determined to be infeasible and eliminated early on in the Project Approval and Environmental Document phase.

Alternative 2 – Scour Repair and Bridge Rail Replacement

The project initially proposed an alternative to repair the scour at Abutment 1 and upgrade nonstandard features of the bridge. This alternative includes the work described above for the Build Alternative as well as the replacement of the existing bridge rail, upgrades to the end-treatments, and widening of the existing bridge to provide 4-foot-wide shoulders in both directions. This alternative was eliminated from consideration due to the similarity in scope between Alternatives 1 and 3.

Alternative 3 – Full Bridge Replacement

This alternative proposed the complete replacement of the existing bridge with the construction of a new bridge in the same location. Similarly, the new bridge would consist of a single-span reinforced concrete girder bridge. Existing bridge abutments would be replaced with 24-inch-diameter reinforced

concrete pile foundations. The existing bridge contains nonstandard design features; the proposed new bridge and approaches would be designed to meet current design standards to the extent practicable and widened to meet Highway Design Manual Standards Section 208.1 Bridge Lane and Shoulder Width. The bridge dimensions were proposed to be approximately 50 feet long and 44 feet wide and consist of two standard 12-foot travel lanes with 8- to 11-foot-wide shoulders. A taper would be paved on each side of the bridge to transition the new wider shoulders to the existing roadway. This alternative was eliminated due to the replacement cost exceeding the funding limitations of $1,250,000 for a Minor A project.

1.6 Standard Measures and Best Management Practices Included in All Build Alternatives

This project contains several standardized project measures that are used on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed project. The contractor will be required to adhere to standard measures and best management practices used on all Caltrans projects during construction. Some of these include, but are not limited to, the following:

1. Implementation of Caltrans Standard Specifications 12-1 through 12-7 for temporary traffic control to maintain access across the bridge during project construction.

2. The project would include a Transportation Management Plan that would reduce delays and related short-term increases in greenhouse gas emissions from disruptions in traffic flow during construction.

3. Caltrans 2018 Revised Standard Specification 7-1.02M(2) mandates fire prevention procedures during construction, including a fire prevention plan.

4. Caltrans Standard Specifications Section 7-1.03 indicates construction activities shall not inconvenience the public or abutting property owners by maintaining property access and avoiding undue delay, for example.

5. Implementation of Caltrans Standard Specification Section 10-5 for controlling dust resulting from project construction.

6. All construction contracts include Caltrans Standard Specifications Section 7-1.02A and 7-1.02C, Emissions Reduction, which require contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all the California Air Resources Board emission reduction regulations; and Section 14-9.02,

Air Pollution Control, which requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce greenhouse gas emissions.

7. Caltrans Standard Specifications Section 14-8.02 requires the contractor to control and monitor noise resulting from work activities and not to exceed 86 decibels (dBA) at 50 feet from the job site from 9:00 p.m. to 6:00 a.m. The contractor shall consult the District Noise Specialist if complaints are received during the construction process.

8. During project activities, all trash that may attract predators or scavengers shall be properly contained, removed from the work site, and disposed of at the end of each work week. Following construction, all trash and debris shall be removed from work areas.

9. Construction equipment will be free of excessive dirt that may contain weed seed before entering the construction site. If necessary, wash stations either onsite or offsite will be established for construction equipment under guidance of Caltrans to minimize the spread of invasive plants and/or seed within the construction area.

10. Caltrans Standard Specification Section 13 for Water Pollution Control including water quality-related Best Management Practices, job site management, and preparation of a water pollution control plan. Temporary Best Management Practices may include hydraulic mulch, check dams, drainage inlet protection, fiber rolls, concrete washout, and Environmentally Sensitive Area fencing.

11. All project-related hazardous materials spills within the project site will be cleaned up immediately. Readily accessible spill prevention and cleanup materials will be kept by the contractor onsite, at all times during construction.

12. All herbicides, fuels, lubricants, and equipment will be stored, poured, or refilled at least 60 feet from riparian habitat or water bodies in a location where a spill would not drain directly toward aquatic habitat. Prior to the onset of work, Caltrans will ensure that a plan is in place for a prompt and effective response to accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

13. Caltrans Standard Specification 14-2.03A for the general stop-work procedure if archaeological resources are discovered during project construction.

14. Caltrans Standard Specification 14-7.03 provides procedures to be followed if fossils are discovered during project construction.

15. Implementation of Caltrans Standard Specifications 14-11.08 and 7-1.02k(6)(j)(iii) for regulated material containing Aerially Deposited Lead.

16. Implementation of Caltrans Standard Specification 84-9.03B for traffic stripe removal containing lead and/or Caltrans Standard Special Provision 36-4 for work involving residue from grinding and cold planing that contains lead from paint and thermoplastic.

17. Preparation of a Lead Compliance Plan in accordance with Caltrans Standard Specification 7-1.02k(6)(j)(ii).

18. Implementation of Caltrans Standard Special Provision 14-11.14, which requires Caltrans to assess the handling and disposal of potential wood waste generated during the project.

1.7 Discussion of the NEPA Categorical Exclusion

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

1.8 Permits and Approvals Needed

The following table shows the permits, licenses, agreements, and certifications required for project construction.

Table 1 – Required Permits for Project

Agency	Permit/Approval	Status
National Marine Fisheries Service	Formal Section 7 Consultation and Biological Opinion for: central California coast steelhead and its designated critical habitat, central California coast coho salmon and its designated critical habitat, and central California coast coho salmon Essential Fish Habitat	To be obtained before construction
U.S. Fish and Wildlife Service	Formal Section 7 Consultation and Programmatic Biological Opinion for California red-legged frog	Approval from U.S. Fish and Wildlife Service to use Programmatic Biological Opinion for California red-legged frog received on October 23, 2023
U.S. Army Corps of Engineers	Section 404 Nationwide Permit for impacts to jurisdictional waters	To be obtained before construction
California Department of Fish and Wildlife	Section 1602 Streambed Alteration Agreement	To be obtained before construction
California Department of Fish and Wildlife	Section 2081 Incidental Take Permit for central California coast coho salmon	To be obtained before construction
Central Coast Regional Water Quality Control Board	Section 401 Water Quality Certification for impacts to “Waters of the State and the U.S.”	To be obtained before construction

Chapter 2 CEQA Evaluation

2.1 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. Potential impact determinations include Significant and Unavoidable Impact, Less Than Significant Impact With Mitigation Incorporated, Less Than Significant Impact, and No Impact. In many cases, background studies performed in connection with a project will indicate that there are no impacts to a particular resource. A "No Impact" answer reflects this determination. The questions in this checklist are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project and standardized measures that are applied to all or most Caltrans projects such as Best Management Practices 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.

"No Impact" determinations in each section are based on the scope, description, and location of the proposed project as well as the appropriate technical report (bound separately in Volume 2), and no further discussion is included in this document.

2.1.1 Aesthetics

Considering the information in the Visual Impact Assessment dated December 2023, the following significance determinations have been made:

Except as provided in Public Resources Code Section 21099:

Question—Would the project:	CEQA Significance Determinations for Aesthetics
a) Have a substantial adverse effect on a scenic vista?	**No Impact**
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	**No Impact**

Question—Would the project:	CEQA Significance Determinations for Aesthetics
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?	**Less Than Significant Impact**
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	**No Impact**

Affected Environment

The project lies in Santa Cruz County on State Route 236 at Boulder Creek Bridge near the unincorporated community of Boulder Creek. In this location, State Route 236 is a conventional two-lane, undivided highway. Boulder Creek Bridge was constructed in 1926 as a small, single-span reinforced concrete girder bridge on top of reinforced concrete abutments and wingwalls with concrete bridge railing. The existing right-of-way is approximately 60 feet wide. The existing bridge structure is approximately 22 feet long and 24 feet wide and consists of two 11-foot-wide travel lanes with 1-foot shoulders. There is standard metal beam guardrail at each approach. There are no sidewalks for pedestrian access across the bridge or along State Route 236.

State Route 236 is a roadway that curves through the Santa Cruz Mountains and is approximately 4 miles northwest of Boulder Creek in Santa Cruz County. State Route 236 through the project limits is not classified as an Officially Designated State Scenic Highway. The surrounding area is a mostly riparian corridor as Boulder Creek crosses under the bridge along State Route 236 at approximately post mile 4.27.

Also known as Big Basin Highway, State Route 236 is used by local residents and travelers visiting Big Basin Redwoods State Park. Even in the more developed areas, the vegetated character is present and contributes greatly to the visual quality of the route. In the project area, the vegetative cover is mixed evergreen forest, primarily with mature pine, fir, oak, and redwood trees, and understory vegetation as well. Existing paved shoulder widths along the corridor generally range from zero to 4 feet, with occasional pullouts for vehicles and private driveways. Retaining walls are seen occasionally along the curving roads and steep topography of the area.

Several rural residences are scattered along State Route 236 within or immediately adjacent to the project site. The residences along with the roadway itself are the main development in the area.

Environmental Consequences

Scenic vistas in the project vicinity include the distant views of the forested Santa Cruz Mountains. The changes would not reduce or affect the availability of views to the surrounding topography, forested hillsides, scenic vistas, or mountains.

The existing visual character of the project site and its surroundings is defined mostly by its well-vegetated and rural character. Much of the area in the vicinity of the bridge is vegetated with trees and shrubs. From State Route 236, some of the project elements would be below the line of vison and would not be readily seen from the roadway. Trees and vegetation in the immediate area may need to be removed to accommodate construction access, staging areas, and work under the bridge. As a result, these visual changes would cause a minor reduction of rural character and visual quality to the immediate project area.

The project proposes no new sources of lighting and therefore would not result in any visual impacts due to lighting and glare.

During and after construction, the most noticeable aspect of the project would likely be the reduction in trees and native vegetation associated with staging areas, construction access and the work location under the bridge. Although some of these actions may be considered temporary, any associated tree and vegetation removal and/or severe pruning may be noticed after construction, resulting in a loss of visual quality. To minimize this potential visual impact, the measures listed below specifically addressing the removal of vegetation should be implemented to minimize the noticeability of the project elements.

Avoidance, Minimization, and/or Mitigation Measures

With implementation of the following minimization measures, the project would be consistent with the aesthetic and visual resource protection goals along State Route 236 and potential visual impacts would be less than significant:

AES-1: Preserve as much existing vegetation as possible. Prescriptive clearing and grubbing and grading techniques that save the most existing vegetation possible should be used.

AES-2: Revegetate all areas disturbed by the project, including staging areas and access roads, with native plant species appropriate to each specific work location.

AES-3: Replacement planting shall include aesthetic considerations as well as the inherent biological goals. Revegetation shall include native trees and plants as determined by the Caltrans Biologist and Caltrans District 5 Landscape Architecture.

AES-4: All metal roadside elements such as guardrail or end treatments should be stained to minimize contrast and noticeability. The color shall be determined and approved by District 5 Landscape Architecture.

AES-5: Following the placement of rock slope protection, any visible rock from State Route 236 should be colored to blend with the surroundings and reduce reflectivity. The specific color shall be determined by the Caltrans District 5 Landscape Architect.

AES-6: Following construction, regrade and recontour any new construction staging areas, access roads, and other temporary uses as necessary to match the surrounding natural topography, avoiding unnatural-appearing landforms.

2.1.2 Agriculture and Forestry Resources

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

The project area is mapped by the California Department of Conservation Farmland Mapping and Monitoring Program (2016) as "Other Land" and is not considered prime farmland, unique farmland, farmland of statewide importance, or forest land. The project area is zoned rural residential and mountain residential but is not located in an Agricultural Preserve or encumbered by a Williamson Act contract. The project would not require any acquisition of property, and no farmland (either directly or indirectly) would be converted to nonagricultural use. No forest land or timberland is identified in the project vicinity that would be converted to non-forest use. The project would temporarily clear understory vegetation in small, localized areas, but tree removal is not anticipated. Considering the designation of the project area, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Agriculture and Forest Resources
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	**No Impact**
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	**No Impact**
c) Conflict with existing zoning, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	**No Impact**
d) Result in the loss of forest land or conversion of forest land to non-forest use?	**No Impact**
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use?	**No Impact**

2.1.3 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.

Considering the information in the Air Quality, Greenhouse Gas, and Noise Technical Memorandum dated December 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Air Quality
a) Conflict with or obstruct implementation of the applicable air quality plan?	**No Impact**

Question—Would the project:	CEQA Significance Determinations for Air Quality
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?	**Less Than Significant Impact**
c) Expose sensitive receptors to substantial pollutant concentrations?	**Less Than Significant Impact**
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	**Less Than Significant Impact**

Affected Environment

The project is in the North Central Coast Air Basin. This basin consists of Monterey, Santa Cruz, and San Benito counties. The Monterey Bay Air Resources District regulates air quality in the North Central Coast Air Basin. The North Central Coast Air Basin is considered in attainment for all federal ambient air quality standards and non-attainment for state ambient air quality standards for ozone and airborne particulate matter less than 10 microns in diameter. Since the project is in attainment for all federal ambient air quality standards, conformity requirements do not apply for this project. The project entails the repair of scour on the existing bridge abutment; adding lanes or more capacity to the existing highway is not proposed.

Environmental Consequences

The project would not increase the capacity of the highway; therefore, no change no long-term air quality is anticipated. The project would not conflict with the implementation of the Monterey Bay Air Resources District's Air Quality Management Plan for the North Central Coast Air Basin.

It is anticipated that during project construction, the project will generate construction air emissions such as fugitive dust from earthwork and exhaust from construction equipment, which could contain hydrocarbons, oxides of nitrogen, carbon monoxide, suspended particulate matter, and odors. Equipment operation will generate fugitive dust that may temporarily affect the local air quality.

Sensitive receptors such as residences may be temporarily exposed to increased emissions and dust generated during project construction. These increases will be minimized through the implementation of standard construction practices and procedures for dust and emission minimization, as provided in Section 1.5, Standard Measures and Best Management Practices. It is expected that project emissions from construction vehicles and

equipment and particulate matter (dust) will be well within the Monterey Bay Air Resources District's standards. Project construction activities are not expected to generate a substantial odor.

Construction activities are expected to occur during a typical 8-hour work day, which will limit the daily generation of emissions or odors. Odors and other emissions caused by construction activities are not expected to adversely affect a substantial number of people because of the small scale and scope of the project.

Construction emissions were calculated for the project using the Caltrans Construction Emissions Tool with settings for a bridge construction and preservation project with a 25-day construction period. Based on preliminary design information, the project construction activities are estimated to generate an average of 19 tons per year of carbon dioxide, or about 2.16 tons of carbon dioxide during the 25-day construction period.

In accordance with Caltrans' Standard Specifications, the contractor will be responsible for compliance with all local air pollution control rules, regulations, ordinances, and statutes for work conducted under the construction contract. These requirements include those provided in Government Code Section 11017 (Public Contract Code Section 10231). In addition, the contractor will be required to prepare a Water Pollution Control Plan, which includes measures to minimize dust generation from grading, stockpiling, excavating, and other anticipated construction activities. The project will incorporate appropriate standard engineering design and Best Management Practices for stormwater protection and control during construction activities, which will help minimize dust.

Avoidance, Minimization, and/or Mitigation Measures

No additional measures are proposed.

2.1.4 Biological Resources

Considering the information in the Natural Environment Study dated September 2023 and the Fish Passage Analysis dated November 2023, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Biological Resources
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or National Oceanic and Atmospheric Administration Fisheries?	**Less Than Significant Impact With Mitigation Incorporated**
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?	**Less Than Significant Impact With Mitigation Incorporated**
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?	**Less Than Significant Impact With Mitigation Incorporated**
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?	**Less Than Significant Impact With Mitigation Incorporated**
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	**Less Than Significant Impact**
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	**No Impact**

Affected Environment

The Boulder Creek Bridge sits on a two-lane highway on State Route 236 at post mile 4.27, approximately 4 miles northwest of Boulder Creek in Santa Cruz County. To determine potential biological impacts of the project, a desktop review and field surveys were conducted within the Biological Study Area. The Biological Study Area is the area studied for biological resources and includes the area that may be directly, indirectly, temporarily, or

permanently impacted by construction and construction-related activities. The Biological Study Area is situated along State Route 236 at Boulder Creek, which lies within the Santa Cruz Mountains at an elevation of approximately 840 feet above sea level. The surrounding area consists mostly of rural residential development. Natural communities mapped within the Biological Study Area include mostly redwood forest, with riparian woodland along Boulder Creek and ruderal/ornamental areas associated with development along State Route 236. See Figure 2-1 for a map of the Biological Study Area and identified communities.

Special-status species include those that are 1) federally or state listed as endangered, threatened, or rare; 2) candidates for federal or state listing as endangered, threatened or rare; 3) proposed for federal or state listing as endangered, threatened, or rare; or, 4) considered special concern species by the federal government (that is, former U.S. Fish and Wildlife Federal Species of Concern) and the California Department of Fish and Wildlife (California Species of Special Concern), or those that appear on the California Natural Diversity Database Special Animals List. Sensitive species also include those afforded protection or considered sensitive under various laws (for example, National Environmental Policy Act, California Environmental Quality Act, Migratory Bird Treaty Act) or under sections of the California Fish and Game Code (for example, nesting birds), and those species recognized as locally important or sensitive by the California Native Plant Society or the scientific community.

Sensitive natural communities/habitats include those that are regulated or considered sensitive by federal, state, and/or local agencies or the National Environmental Policy Act and California Environmental Quality Act. The known occurrences of sensitive species have been inventoried and mapped, to varying degrees of accuracy, by the California Natural Diversity Database. The search area for this project includes the Big Basin U.S. Geological Survey 7.5-Minute Quadrangle.

Queries and official species lists were used to develop a list of special-status species and sensitive natural communities that have the potential to occur within the Biological Study Area. Sensitive species and habitats with potential to be present in the project impact area were further researched and prioritized for identification during field surveys.

Field surveys were conducted between March 2022 and April 2023. Floristic surveys were conducted within a range of months when target special-status species were flowering and identifiable following the guidelines of the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife. General reconnaissance-level wildlife surveys coincided with the botanical, wildlife species, and habitat surveys and were documented.

Jurisdictional Wetlands, Other Waters, and Riparian Habitat

Jurisdictional wetlands, other waters, and riparian habitat are regulated by the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife. Wetlands function to improve water quality, detain stormwater runoff, recharge groundwater, and provide wildlife habitat. Wetlands are typically defined with a three-parameter approach, meaning the vegetation, soil, and hydrology parameters must all be met to be defined as a wetland. Jurisdictional areas that lack one or more of the three wetland parameters are typically considered "other waters." Riparian habitat along streams provides wildlife habitat, insects for food for aquatic species, and shade and cover for aquatic species, which helps regulate stream temperature.

The Biological Study Area sits along Boulder Creek, which drains southward into the San Lorenzo River. An assessment and delineation of potentially jurisdictional areas was conducted within the study area. Boulder Creek is classified by the National Wetlands Inventory as a riverine system with an unconsolidated bottom that is permanently flooded. Habitat in Boulder Creek is characterized by a continuous deep glide upstream of the bridge, with shallow riffle habitat downstream of the bridge. Bed substrate is composed of a mix of sand, gravel, and cobble. Boulder Creek supports habitat for a variety of species including fish, amphibians, birds, and mammals. Wildlife uses the riparian habitat of Boulder Creek for migration and foraging, and birds likely nest there as well. See Figure 2-2 for mapping of jurisdictional features within the Biological Study Area.

Natural Communities, Designated Critical Habitat, and Essential Fish Habitat

This section of the document discusses natural communities of concern, designated critical habitat, and Essential Fish Habitat. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on fish passage.

Two regional habitats of concern are present within the Biological Study Area: North Central Coast Drainage Sacramento Sucker/Roach River and North Central Coast California Roach/Stickleback/Steelhead Stream. North Central Coast Drainage Sacramento Sucker/Roach River habitat includes the San Lorenzo River and its tributaries to where it drains into the Pacific Ocean. It also includes Kings Creek, Boulder Creek, Bear Creek, Fall Creek, Zayante Creek, and Bean Creek. The North Central Coast California Roach/Stickleback/Steelhead Stream habitat lies in Pescadero Creek to about 1 mile upstream of the outlet at the Pacific Ocean. Native fishes include steelhead, coho salmon, Pacific lamprey, California roach, three-spine stickleback, riffle and prickly sculpin. Vegetation consists of coast redwood and mixed conifer riparian at the headwaters, steep bedrock gorge in the middle reach, and alder/willow vegetation at the lower end. These habitat types occur within the Biological Study Area.

The Biological Study Area overlaps within two federally designated critical habitat units:

- Central California coast steelhead: Big Basin Hydrologic Unit 3304, San Lorenzo Hydraulic Sub-Area 330412
- Central California coast coho: San Lorenzo – Soquel Hydrologic Unit 18060001

Essential Fish Habitat is defined as those waters and substrate necessary for fish spawning, breeding, feeding, or growing to maturity. This includes all associated physical, chemical, and biological properties of aquatic habitat that are used by fish. Any federal action requires Essential Fish Habitat consultation with the National Marine Fisheries Service if that action may adversely affect Essential Fish Habitat, regardless of whether it is within Essential Fish Habitat. The project location is within Essential Fish Habitat for the Evolutionary Significant Unit central California coast coho salmon (*Oncorhynchus kisutch*), and consultation will be required.

Special-Status Animal Species

Several special-status animal species have the potential to occur within the Biological Study Area, as noted in Table 2 along with the listing status and the presence of and/or recommendations for the species within the Biological Study Area. Species that were identified in the species lists and California Natural Diversity Database that may occur within the search area but do not have the potential to occur within the Biological Study Area due to a lack of suitable habitat are not discussed in this section, but can be found in the Natural Environment Study.

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Figure 2-1 Biological Study Area

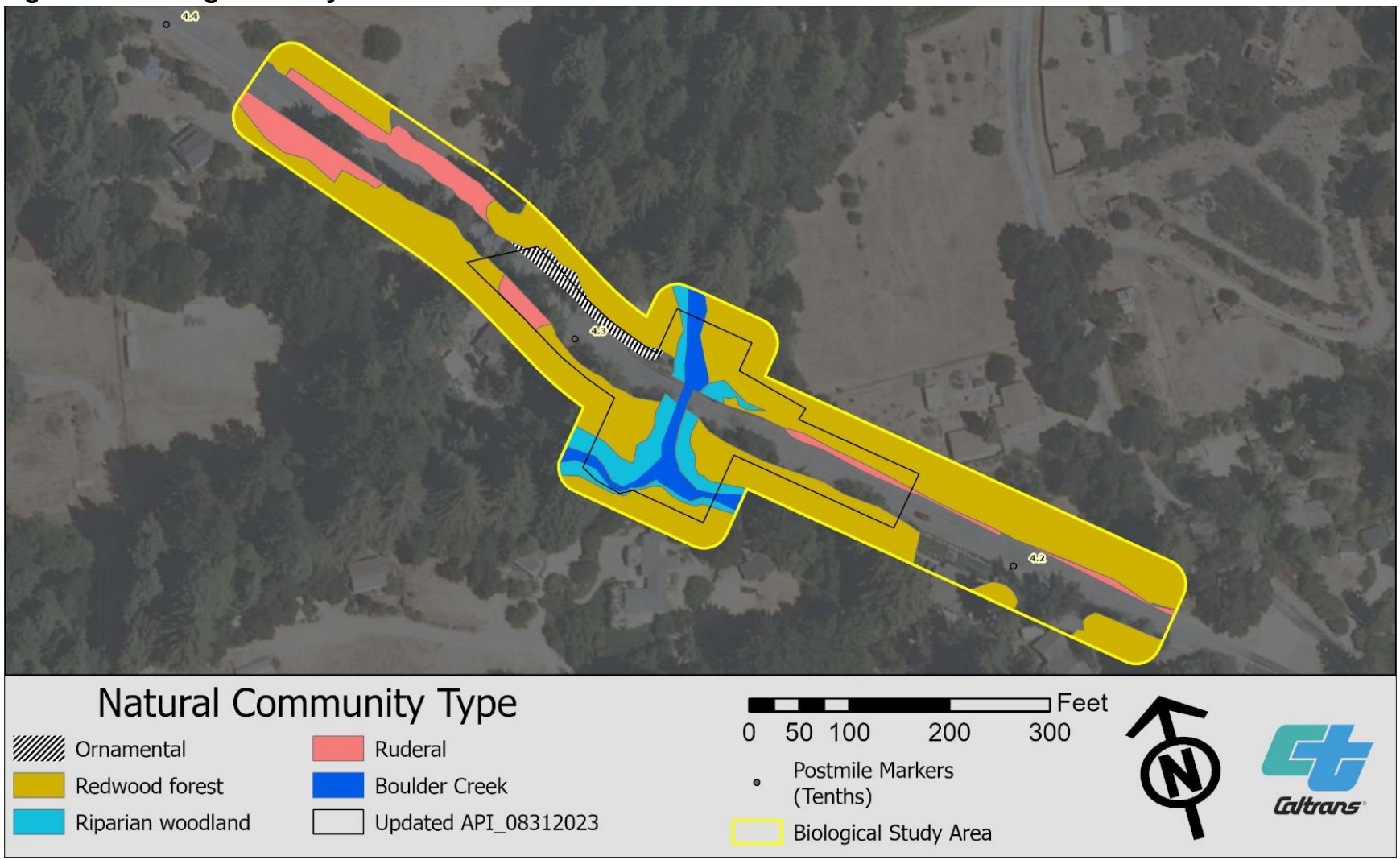

Figure 2-2 Jurisdictional Features within the Biological Study Area

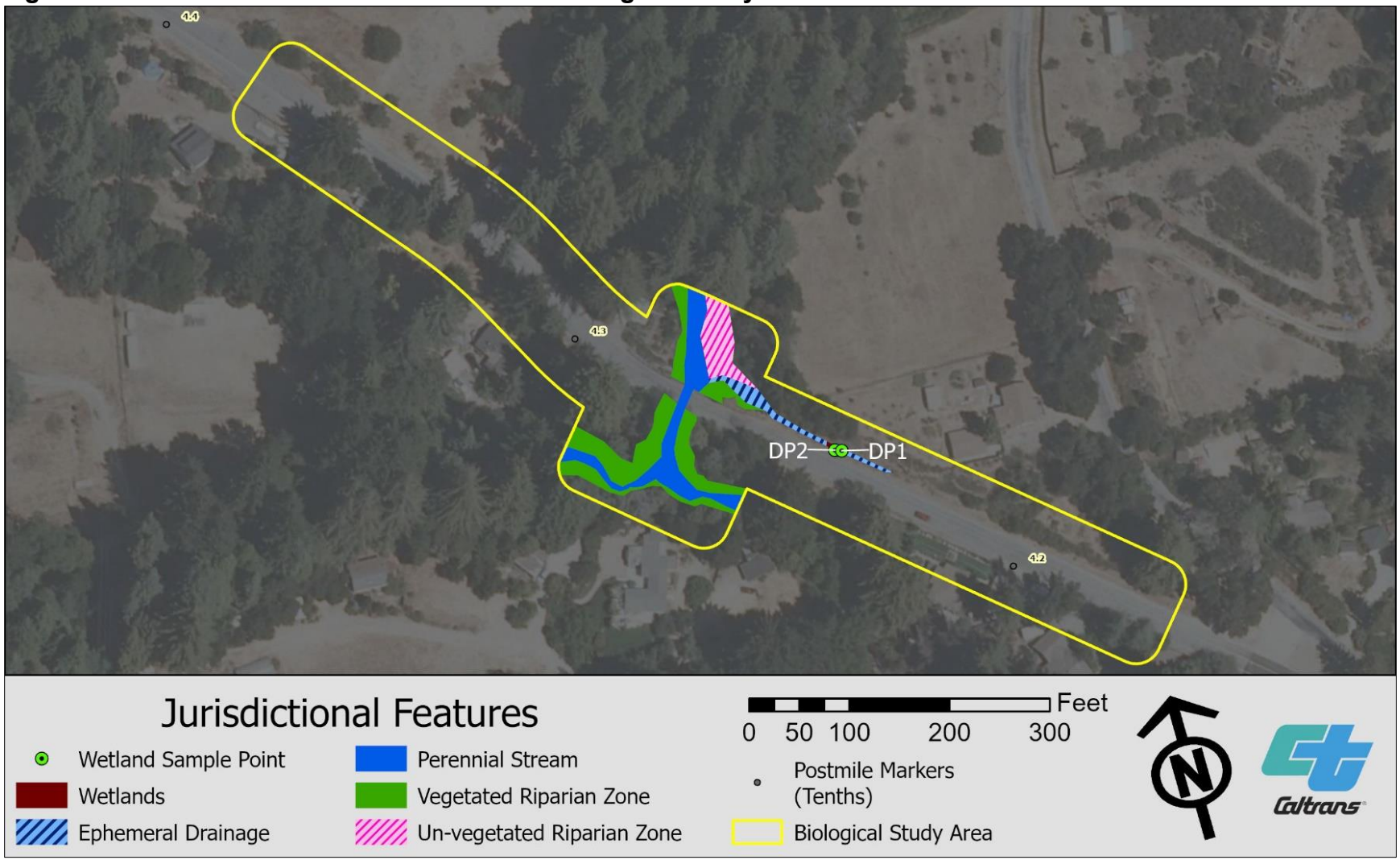

Table 2 – Special-Status Species Potentially Present in the Biological Study Area

Scientific Name	Common Name	Listing Status	Presence and/or Recommendations	Effects Determination
Fish *Oncorhynchus mykiss irideus (pop. 8)*	Steelhead - central California coast Distinct Population Segment	Federally Threatened, Designated Critical Habitat, California Species of Special Concern	• Relies on clear, cool water with abundant in-stream cover, well-vegetated stream margins, relatively stable water flow, and a 1-to-1 pool-to-riffle ratio. • Suitable habitat in Biological Study Area; critical habitat designated at Boulder Creek. • Avoidance and minimization measures included.	**Federal Endangered Species Act Section 7 Effects Determination:** May affect, and is likely to adversely affect steelhead; may affect, and is likely to adversely affect steelhead critical habitat.
Fish *Oncorhynchus kisutch (pop. 4)*	Coho salmon - central California coast Evolutionary Significant Unit	Federally Endangered, Designated Critical Habitat, State Endangered, Essential Fish Habitat	• Requires beds of loose, silt-free coarse gravel for spawning as well as suitable cover, cool water, and sufficient dissolved oxygen. • Suitable habitat in Biological Study Area; critical habitat designated at Boulder Creek. • Avoidance and minimization measures included.	**Federal Endangered Species Act Section 7 Effects Determination:** May affect, and is likely to adversely affect coho salmon; may affect, and is likely to adversely affect coho salmon critical habitat; may adversely affect Essential Fish Habitat. **California Endangered Species Act Effects Determination:** The project may result in take of coho salmon.
Amphibians *Rana draytonii*	California red-legged frog	Federally Threatened, Designated Critical Habitat, California Species of Special Concern	• Species needs underground refuge for breeding, aquatic habitat with little or no flow. • Suitable aquatic and upland habitat within the Biological Study Area. • Not observed during surveys. • Avoidance and minimization measures included.	**Federal Endangered Species Act Section 7 Effects Determination:** May affect, and is likely to adversely affect California red-legged frog; no effect on California red-legged frog federally designated critical habitat.

Scientific Name	Common Name	Listing Status	Presence and/or Recommendations	Effects Determination
Amphibians *Aneides niger*	Santa Cruz black salamander	California Species of Special Concern	• Occurs in mixed deciduous woodland, coniferous forests, coastal grasslands; often found under rocks near streams, in talus, under damp logs. • Suitable aquatic and upland habitat in Biological Study Area. • Not observed during surveys. • Avoidance and minimization measures included.	Not Applicable
Amphibians *Dicamptodon ensatus*	California giant salamander	California Species of Special Concern	• Found in wet coastal forests under rocks near streams and seeps; aquatic larvae found in cold, clear streams and occasionally lakes and ponds. • Suitable aquatic habitat in Biological Study Area. • Not observed during surveys. • Avoidance and minimization measures included.	Not Applicable
Amphibians *Taricha torosa torosa*	Coast range newt	California Species of Special Concern	• Found in coastal drainages from Mendocino County to San Diego County, breeds in stream habitats with pools that persist into the summer with submerged vegetation and rocks for attaching egg masses. • Suitable aquatic habitat in Biological Study Area. • Species was observed during surveys. • Avoidance and minimization measures included.	Not Applicable
Birds *Class Aves*	Other nesting birds	Protected by Migratory Bird Treaty Act and California Department of Fish and Game Code Section 3503	• Suitable marginal nesting habitat occurs in vegetation at the edge of the existing Caltrans right-of-way. • No active bird nests observed during surveys. • Avoidance and minimization measures included.	Not Applicable

Environmental Consequences

The potential project impact area, also referred to as the Area of Potential Impact, within the larger Biological Study Area was determined from the preliminary design plans. The Area of Potential Impact was used to determine potential direct and indirect (proximate) physical effects on biological resources. The project will cause permanent impacts to biological resources from the addition of the reinforced concrete curtain wall along the full length of the existing abutment spread footing.

Temporary impacts will occur from the use of construction equipment, vehicle staging areas, dirt access roads to reach the creek below the highway, regrading the ephemeral stream adjacent to State Route 246, stream diversion, and vegetation trimming and removal. One tree will likely be removed to accommodate access to the project area. Impacts will also occur from temporary stream diversion and dewatering to minimize water quality impacts while constructing the curtain wall. Sources of impacts will be from construction equipment activities and worker foot traffic. The following discussions address potential impacts of the project on specific categories of biological resources in the Biological Study Area. See Table 2.

Table 2 – Estimated Impacts to Natural Communities, Jurisidictional Features, and Critical Habitat

Natural Community, Feature, Habitat	Temporary Impacts	Permanent Impacts
Ruderal	0.15 acre (6,667 square feet)	None
Ornamental	0.04 acre (1,963 square feet)	None
Redwood Forest	0.43 acre (18,673 square feet)	None
Riparian Woodland	0.13 acre (5,796 square feet)	None
Ephemeral Drainage	0.03 acre (1,230 square feet)	None
Perennial Stream/central California coast steelhead critical habitat	0.09 acre (3,853 square feet)	0.001 acre (47 square feet)
Wetland	0.002 acre (69 square feet)	None
Total	0.871 acre (38,251 square feet)	0.001 acre (47 square feet)

Natural Communities, Designated Critical Habitat, and Essential Fish Habitat

Two regional habitats of concern are present within the Biological Study Area: North Central Coast Drainage Sacramento Sucker/Roach River and North Central Coast California Roach/Stickleback/Steelhead Stream. Impacts to these two regional habitats of concern would be limited to activities

associated with vegetation removal to access the work area, installation of the temporary stream diversion, and installation of the curtain wall. Avoidance and minimization measures described to protect resources in the following section will also serve these two sensitive habitats.

The central California coast coho salmon is federally listed as endangered, and critical habitat has been designated (San Lorenzo – Soquel Hydrologic Unit 18060001). The species historically occurred in the San Lorenzo River and is still occasionally observed. Freshwater Essential Fish Habitat for this species includes the San Lorenzo River and its tributaries. The project overlaps with this Essential Fish Habitat, and impacts to fish and their habitat will occur below the ordinary high-water mark from project activities. The central California coast steelhead is federally listed as threatened and critical habitat has been designated (Big Basin Hydrologic Unit 3304, San Lorenzo Hydraulic Sub-area 330412) that overlaps with the project area.

Approximately 0.001 acre or 47 square feet of central California coast steelhead and central California coast coho critical habitat would be permanently impacted as a result of the new curtain wall. Approximately 0.09 acre or 3,853 square feet of central California coast steelhead and central California coast coho critical habitat would be temporarily impacted as a result of dewatering activities. Approximately 0.13 acre or 5,796 square feet of riparian habitat would be temporarily impacted.

The project will not result in long-term effects to central California coast steelhead and central California coast coho critical habitat. The Federal Endangered Species Act Section 7 effect determination is that the proposed project may affect, and is likely to adversely affect, central California coast steelhead critical habitat. The Federal Endangered Species Act Section 7 effect determination is that the proposed project may affect, and is likely to adversely affect, central California coast coho critical habitat.

The determination on impacts to Essential Fish Habitat is that there will be adverse effects on Essential Fish Habitat, therefore consultation with the National Marine Fisheries Service for Essential Fish Habitat will be required. Impacts to the central California coast coho salmon as a species are described further below.

The California red-legged frog is federally listed as threatened and considered a Species of Special Concern by the California Department of Fish and Wildlife. Critical habitat for this species has been designated but is located outside of the Biological Study Area. Therefore, no impacts to designated critical habitat will occur.

Senate Bill 857 requires Caltrans remediate barriers to salmon and steelhead habitat on the State Highway System. Many barriers throughout the state have been identified, but the California Fish Passage Assessment Database

identified Boulder Creek as having “unknown passage status” (PAD_ID 731566). In the November 2023 Fish Passage Analysis, Caltrans evaluated the existing structure at Boulder Creek to determine if it meets the criteria for fish passage according to the California Department of Fish and Wildlife. The fish passage hydraulic model results indicated that adult depth and juvenile velocity criteria are barely not met. The model also showed negligible difference between the existing and proposed conditions. A field visit was conducted with Caltrans, California Department of Fish and Wildlife, and National Marine Fisheries Service in April 2023 to discuss the project and confirm the findings of the analysis. The agencies discussed that the results of the model are within the margin of error given uncertainties in the model inputs. Therefore, the agencies agreed that no remediation for fish passage is required for the proposed project.

Jurisdictional Wetlands, Other Waters, and Riparian Habitat

Impacts to jurisdictional wetlands, other waters, and riparian habitat were determined by overlaying the project impact areas with the preliminary jurisdictional determination. Permanent impacts to jurisdictional features would occur from the addition of the concrete curtain wall at the base of the bridge abutment. Approximately 0.001 acre or 47 square feet of perennial stream would be permanently impacted. This area is regulated as jurisdictional waters by the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife. No U.S. Army Corps of Engineers or California Department of Fish and Wildlife jurisdictional riparian habitat would be permanently impacted. No jurisdictional wetland would be permanently impacted.

Temporary impacts to jurisdictional features would occur due to the construction of a temporary access road, regrading the ephemeral stream adjacent to State Route 246, use of staging areas, and a temporary stream diversion/dewatering to construct the project. Approximately 0.12 acre or 5,152 square feet of potential U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife jurisdictional other waters of the U.S. would be temporarily impacted. Approximately 0.13 acre or 5,796 square feet of Regional Water Quality Control Board and California Department of Fish and Wildlife jurisdictional riparian habitat would be temporarily impacted. Approximately 0.002 acre or 69 square feet of wetland habitat would be temporarily impacted. No permanent impacts to wetlands would occur as a result of this project.

The project will require a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers, a Clean Water Act Section 401 Water Quality Certification from the Regional Water Quality Control Board, and a California Fish and Game Code Section 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife. In addition to the avoidance, minimization, and mitigation measures described below, the conditions included in these permits will be implemented accordingly.

Special-Status Plant Species

Although potential habitat occurs within the Biological Study Area for several special-status plant taxa, including the Santa Cruz microseris (*Stebbinsoseris decipiens*) and Pacific Grove clover (*Trifolium polyodont*) (Rank 1B.2 and 1B.1, respectively), botanical surveys were conducted in March 2022 and April 2022; none of these taxa were found, and none are anticipated to occur. Also, the project area is higher in elevation than the typical range for these species.

No suitable habitat exists in the Biological Study Area for the following federally or state listed plant species: Santa Cruz cypress (*Hesperocyparis abramsiana var. abramsiana*), marsh sandwort (*Arenaria paludicola*), Ben Lomond spineflower (*Chorizanthe pungens var. hartwegiana*), Ben Lomond wallflower (*Erysimum teretifolium*), Dudley's lousewort (*Pedicularis dudleyi*), and white-rayed pentachaeta (*Pentachaeta bellidiflora*). These species were not observed during botanical surveys; therefore, Caltrans determined that there will be no effect on federally listed plants and no take of state listed plants or their critical habitat.

Invasive Plant Species

A total of 18 invasive plant species occur within the Biological Study Area. Three of these species are rated with a "high" invasiveness rating, nine are rated as "moderate," and six are rated as "limited." These species are scattered throughout the Biological Study Area. Construction-related ground disturbance could spread or introduce invasive species within the Biological Study Area; therefore, minimization measures are included below.

Central California Coast Steelhead, Central California Coast Coho Salmon

Steelhead trout is the anadromous (ocean-going) form of rainbow trout and is listed as a federally threatened species. Adults spawn in freshwater, and juveniles rear in freshwater before out-migrating to the ocean to mature and then return to freshwater as adults to reproduce. The central California coast distinct population segment spans from the Russian River and Aptos Creek, and all drainages of San Francisco and San Pablo Bays eastward to Chipps Island at the confluence of the Sacramento River and San Joaquin River. Rainfall in the area is typical in the late fall, winter, and early spring months.

Steelhead enter Coast Range rivers and streams during the winter and spring when storms produce enough runoff to breach sandbars at the mouths of water bodies to allow fish passage to upstream spawning and rearing habitats. Adult steelhead may return to the ocean and repeat spawning migration one or more times during their life history. For unknown reasons, steelhead may instead remain entirely within freshwater for their entire life history (non-anadromous) or juveniles may stay within the estuary of their natal stream before migrating to the ocean (lagoon-anadromous).

Optimal in-stream habitat for steelhead throughout its entire range on the Pacific Coast can generally be characterized by clear, cool water with abundant cover (submerged branches, rocks, logs), well-vegetated stream margins, relatively stable water flow, and a 1-to-1 pool-to-riffle ratio; however, steelhead can also occupy reaches of streams containing less than optimal habitat.

The central California coast coho salmon was listed as federally endangered in June 2005 and state endangered in August 2002. The central California coast coho salmon distinct population segment includes all naturally spawned populations of coho salmon from Punta Gorda in northern California south to and including the San Lorenzo River in Central California, as well as populations in tributaries to San Francisco Bay, excluding the Sacramento-San Joaquin River system, as well as four artificial propagation programs in the area. The coho salmon is widely distributed along the northern and central California coast, occupying streams and rivers, including the lower main stem and the South Fork of the Eel River in the north, the coastal streams and the Russian River watershed in the middle of its range, south to the coastal creeks and the San Lorenzo River in Santa Cruz County.

Central California coast coho salmon habitat requirements are similar to steelhead; they require cool deep pools with clean, cool flowing water with sufficient dissolved oxygen and minimal turbidity for successful holding, spawning, incubation, and rearing. Most coho salmon reside in the ocean for one to two years before returning to their natal streams to spawn, but unlike steelhead, coho salmon die after spawning once. Overhead cover is an important habitat component for coho salmon juveniles as a means of avoiding predation. They generally segregate by species, preferring to use other habitats not associated with other salmonid species, particularly steelhead. Coho salmon tend to occupy deep pools during the day, foraging during dawn and dusk when they voraciously prey on a wide variety of drifting aquatic and terrestrial insects.

No focused survey methods were conducted during wildlife reconnaissance surveys for steelhead or coho salmon; no steelhead or coho salmon were observed. Presence in the Biological Study Area is instead inferred based on habitat suitability.

No pile driving or use of vibratory hammers is proposed for this project. As such, no hydroacoustic impacts to fish are anticipated.

The concrete curtain wall placement at Boulder Creek will require stream diversion and dewatering, which would temporarily alter quality of aquatic habitat and result in a temporary loss of service for steelhead and other aquatic organisms. Diversion/dewatering and construction within Boulder Creek in areas occupied by steelhead could result in direct impacts to the species in the form of injury or mortality as steelhead, if present, stranded in

residual wetted areas are captured, handled, and relocated. Removal of vegetation to clear space for construction equipment access into the stream channel to conduct work would somewhat affect shading and microhabitat temperature regulation characteristics, but these effects would be temporary as removed vegetation would be replaced by in-kind replantings within a relatively short timeframe (likely during the fall months following construction or sooner).

Erosion and sedimentation in Boulder Creek could also occur, which could directly or indirectly impact steelhead and coho salmon. While the placement of diversion dams and dewatering within the wetted portions of Boulder Creek would result in a temporary loss of service for fish, the extent and effect of this are estimated to be minor. The act of diversion/dewatering and its eventual dismantling and restoration of normal flows could also produce direct or indirect effects that could impact the structure of the streambed substrate or increase turbidity. These impacts would be temporary and rectified once the pre-construction stream flow conditions are restored.

The Federal Endangered Species Act Section 7 effects determination is that the proposed project may affect, and is likely to adversely affect, the central California coast steelhead trout. The California Endangered Species Act determination is that there may be take of the central California coast coho salmon. The Federal Endangered Species Act Section 7 effects determination is that the proposed project may affect, and is likely to adversely affect, the central California coast coho salmon.

The basis for this determination is that steelhead and coho salmon presence is inferred in the Biological Study Area, and there would be potential for take of the species during diversion/dewatering activities to allow for placement of the concrete curtain wall. Avoidance, minimization, and mitigation measures are discussed in the following section.

California Red-Legged Frog

The California red-legged frog is federally threatened and considered a Species of Special Concern by the California Department of Fish and Wildlife. This species uses a variety of areas including aquatic, riparian, and upland habitats. This frog prefers aquatic habitats with little or no flow, the presence of surface water to at least early June, surface water depths to at least 2.3 feet, and the presence of fairly sturdy underwater support vegetation. The California red-legged frog uses both riparian and upland habitats for foraging, shelter, cover, and movement.

No protocol surveys were conducted for the California red-legged frog, and the species was not observed during reconnaissance surveys. There are no known occurrence records for the California red-legged frog in the Biological Study Area. The nearest California Natural Diversity Database occurrence is approximately 3.25 miles from the project location in Scott Creek. Presence of

the species is therefore inferred, based the proximity of nearby records and the presence of suitable aquatic and upland habitat in the Biological Study Area.

Project construction could result in the injury or mortality of California red-legged frogs if they are present during construction. The potential need to capture and relocate California red-legged frogs would subject these animals to stresses that could result in adverse effects. Injury or mortality could occur via accidental crushing by worker foot-traffic or construction equipment. Erosion and sedimentation could also occur, which would directly or indirectly affect water quality.

The Federal Endangered Species Act Section 7 effects determination is that the proposed project may affect, and is likely to adversely affect, the California red-legged frog. Caltrans anticipates the proposed project will qualify for Federal Endangered Species Act incidental take coverage under the Programmatic Biological Opinion for Projects Funded or Approved under the Federal Highway Administration's Federal Aid Program. Measures from the Programmatic Biological Opinion are discussed in the following section.

Santa Cruz Black Salamander, California Giant Salamander, Coast Range Newt

The Santa Cruz black salamander is considered a Species of Special Concern by the California Department of Fish and Wildlife. This species occurs in mixed deciduous woodland, conifer forests, and coastal grasslands. This salamander is active year-round and often found under rocks along streams, in the rock debris along road cuts, and on wet soils beneath logs and debris.

The California giant salamander is considered a Species of Special Concern by the California Department of Fish and Wildlife. This species occurs in and around permanent and semi-permanent streams and seepages in damp coastal forests.

The coast range newt is considered a Species of Special Concern by the California Department of Fish and Wildlife. This species occurs mostly in valley-foothill hardwood, valley-foothill hardwood-conifer, coastal scrub and mixed chaparral, but is also found in annual grassland and mixed conifer types. Coast range newts seek cover under rocks and logs or inside mammal burrows, the bases of standing trees, or human-made structures such as wells. Larvae find cover under submerged rocks, logs, debris, leaf packs in pools in streams, and root maps along undercut banks.

No focused surveys were conducted for the Santa Cruz black salamander, California giant salamander, or coast range newt. The coast range newt was observed in Boulder Creek during wildlife reconnaissance surveys in 2022. Although the Santa Cruz black salamander and California giant salamander were not observed during reconnaissance surveys, there are known occurrences within the San Lorenzo River watershed, and their presence is

inferred. Suitable aquatic and upland habitat for these species was observed in the Biological Study Area.

Project construction could result in the injury or mortality of the Santa Cruz black salamander, California giant salamander, and coast range newt if they are present during construction. The potential need to capture and relocate these animals would subject individuals to stresses that could result in adverse effects. Injury or mortality could occur via accidental crushing by worker foot-traffic or construction equipment. Erosion and sedimentation could also occur, which would directly or indirectly affect water quality. Avoidance and minimization measures are included for these species in the following section.

Nesting Birds

Common foraging bird species were observed in or near the Biological Study Area during wildlife reconnaissance surveys in 2022. No active bird nests were observed in any structures or trees within the Biological Study Area, but potential nesting habitat exists in trees, shrubs, and structures within and near the Biological Study Area.

One tree may need to be removed to access the creek as a result of the project. The removal of trees and other vegetation could directly impact active bird nests and any eggs or young residing in nests if present. Indirect impacts could also result from noise and disturbance associated with construction, which could alter perching, foraging, and/or nesting behaviors. Avoidance and minimization measures, including appropriate timing of vegetation removal, preconstruction surveys, avoidance buffers, and revegetation of disturbed areas, would reduce the potential for adverse effects to nesting bird species.

Avoidance, Minimization, and/or Mitigation Measures

The measures listed below will reduce potential impacts to biological resources. Mitigation measures are labeled as such, and the remaining measures are avoidance and/or minimization measures. The measures have been organized by the primary resource or species they are designed to protect but may apply to several biological resources.

Jurisdictional Wetlands, Other Waters, and Riparian Habitat

Mitigation Measure BIO-1: Temporary impacts to jurisdictional features shall be restored at a 1-to-1 ratio (acreage). Compensatory mitigation shall be provided at a 3-to-1 ratio (acreage) for permanent impacts to perennial stream habitat.

Mitigation Measure BIO-2: Prior to construction, Caltrans shall prepare a Restoration and Monitoring Plan to detail mitigation commitments for impacts to vegetation and natural habitats. The Restoration and Monitoring Plan shall be consistent with federal and state regulatory requirements and will be

amended with any regulatory permit conditions, as required. Caltrans shall implement the Restoration and Monitoring Plan as necessary during construction and immediately following project completion.

BIO-3: Prior to construction, Caltrans shall obtain a Section 404 Nationwide Permit from the U.S. Army Corps of Engineers, a Section 401 Water Quality Certification from the Regional Water Quality Control Board, and a Section 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife. All permit terms and conditions will be incorporated into the project.

BIO-4: Prior to any ground-disturbing activities, Environmentally Sensitive Area fencing shall be installed around jurisdictional waters and the dripline of trees to be protected within the project limits. Caltrans-defined Environmentally Sensitive Areas shall be noted on design plans and delineated in the field prior to the start of construction activities. The Caltrans District 5 Environmental Division shall approve the locations prior to the start of construction activities, including equipment storage.

BIO-5: The temporary stream diversion shall be timed to occur between June 1 and October 31 in any given year, or as otherwise directed by the regulatory agencies, when the surface water is likely to be dry or at seasonal minimum. Deviations from this work window will be made only with permission from the relevant regulatory agencies.

BIO-6: During construction, all project-related hazardous materials spills within the project site shall be cleaned up immediately. Readily accessible spill prevention and cleanup materials shall be kept by the contractor onsite at all times during construction.

BIO-7: During construction, erosion control measures shall be implemented. Silt fencing, fiber rolls, and barriers shall be installed as needed between the project site and jurisdictional other waters and riparian habitat. At a minimum, erosion controls shall be maintained by the contractor on a daily basis throughout the construction period.

BIO-8: During construction, the staging areas shall conform to Best Management Practices applicable to attaining zero discharge of stormwater runoff. At a minimum, all equipment and vehicles shall be checked and maintained by the contractor on a daily basis to ensure proper operation and avoid potential leaks or spills.

BIO-9: Stream contours shall be restored as close as possible to their original condition following project construction activities.

Invasive Plant Species

BIO-10: During construction, Caltrans shall ensure that the spread or introduction of invasive exotic plant species will be avoided to the maximum extent possible.

BIO-11: Only clean fill shall be imported. When practicable, invasive exotic plants in the project site shall be removed and properly disposed. All invasive vegetation removed from the construction site shall be taken to a landfill to prevent the spread of invasive species. If soil from weedy areas must be removed offsite, the top 6 inches containing the seed layer in areas with weedy species shall be disposed of at a landfill. Inclusion of any species that occurs on the Cal-IPC Invasive Plant Inventory in the Caltrans erosion control seed mix or landscaping plans for the project shall be avoided.

BIO-12: Construction equipment shall be certified as "weed-free" by Caltrans before entering the construction site. If necessary, wash stations onsite shall be established for construction equipment under the guidance of Caltrans in order to avoid/minimize the spread of invasive plants and/or seed within the construction area.

Central California Coast Steelhead, Central California Coast Coho Salmon

Mitigation Measure BIO-13: When the stream diversion is in place, the contractor shall remove existing concrete debris in the creek channel beneath Boulder Creek Bridge to improve the condition of the creek.

Mitigation Measure BIO-14: Prior to the end of construction activities, the contractor shall close off existing bridge scuppers and redirect drainage from the roadway to a vegetated or rocked area, prior to reaching the stream channel, to minimize the risk of 6-PPD quinone exposure to salmonids. This toxic substance forms when a common rubber additive (6-PPD) in tires mixes with freshwater, but filtration through a vegetated area successfully reduces toxicity.

BIO-15: Prior to construction, Caltrans shall acquire incidental take authorization for steelhead and coho salmon from the National Marine Fisheries Service through a Federal Endangered Species Act Section 7 Biological Opinion and Incidental Take Statement.

BIO-16: Prior to initiation of stream diversion/dewatering, a qualified biologist shall conduct an informal worker environmental training program including a description of steelhead and coho salmon, their legal/protected status, proximity to the project site, avoidance/minimization measures to be implemented during the project, and the implications of violating the Federal Endangered Species Act and permit conditions.

BIO-17: During construction, in-stream work shall take place between June 1 and October 31 in any given year, when the surface water within drainages is likely to be dry or at seasonal minimum. Deviations from this work window will

only be made with permission from Caltrans and the relevant regulatory/resource agencies.

BIO-18: During in-stream work, a Caltrans-approved biologist shall be retained with experience in steelhead and coho salmon biology and ecology, aquatic habitats, biological monitoring (including diversion/dewatering), and capturing, handling, and relocating fish species. During in-stream work, the biological monitor(s) shall continuously monitor placement and removal of any required stream diversions to capture stranded steelhead, coho salmon, and other native fish species and relocate them to suitable habitat as appropriate. The biologist(s) shall capture native fish stranded as a result of diversion/dewatering and relocate to suitable in-stream habitat outside of the work area, using methods approved by the appropriate regulatory agencies, which may include providing aerated water in buckets for transport and ensuring adequate water temperatures during transport. The biologist shall note the number of individuals observed in the affected area, the number of relocated fish, and the date and time of the collection and relocation.

BIO-19: During in-stream work, if pumps are incorporated to assist in temporarily dewatering the site, intakes shall be completely screened with no larger than 3/32-inch (2.38-millimeter) wire mesh to prevent steelhead, coho salmon, and other sensitive aquatic species from entering the pump system. Pumps shall release the additional water to a settling basin or tan, allowing the suspended sediment to settle out prior to re-entering the stream(s) outside of the isolated area. The form and function of all pumps used during the dewatering activities shall be checked daily, to ensure a dry work environment and minimize adverse effects to aquatic species and habitats.

BIO-20: The biological monitor or a designated representative shall monitor erosion and sediment controls to identify and correct any conditions that could adversely affect steelhead, coho salmon, or their habitat.

BIO-21: Caltrans shall provide the National Marine Fisheries Service a written summary of work performed (including biological survey and monitoring results), Best Management Practices implemented (use of biological monitor, flagging of project areas, erosion and sedimentation controls) and supporting photographs. Furthermore, the documentation describing listed species surveys and re-location efforts (if appropriate) shall include name(s) of the Caltrans-approved biologist(s), location and description of area surveyed, time and date of survey, all survey methods used, a list and tally of all sensitive animal species observed during the survey, a description of the instructions/recommendations given to the applicant during the project, and a detailed discussion of capture and relocation efforts (if appropriate).

BIO-22: Dewatering shall be limited to the low-flow period between June 1 and October 31, thus avoiding adult steelhead and coho salmon spawning migration and peak smolt emigration.

California Red-Legged Frog

The following measures will be implemented to avoid and minimize potential adverse impacts to the California red-legged frog from the project (in compliance with the Caltrans Programmatic Biological Opinion with U.S. Fish and Wildlife Service):

BIO-23: Only U.S. Fish and Wildlife Service-approved biologists shall participate in activities associated with the capture, handling, and monitoring of California red-legged frogs.

BIO-24: Ground disturbance shall not begin until written approval is received from the U.S. Fish and Wildlife Service that the biologist is qualified to conduct the work.

BIO-25: A the U.S. Fish and Wildlife Service-approved biologist shall survey the project area no more than 48 hours before the onset of work activities. If any life stage of the California red-legged frog is found and these individuals are likely to be killed or injured by work activities, the approved biologist shall be allowed sufficient time to move them from the site before work begins. The approved biologist shall relocate the California red-legged frogs the shortest distance possible to a location that contains suitable habitat and will not be affected by the activities associated with the project. The relocation site shall be in the same drainage to the extent practicable. Caltrans shall coordinate with the U.S. Fish and Wildlife Service on the relocation site prior to the capture of any California red-legged frogs.

BIO-26: Before any activities begin on a project, a U.S. Fish and Wildlife Service-approved biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the California red-legged frog and its habitat, the specific measures that are being implemented to conserve the California red-legged frog for the current project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.

BIO-27: A U.S. Fish and Wildlife Service-approved biologist shall be present at the work site until all California red-legged frogs have been removed, workers have been instructed, and disturbance of the habitat has been completed. After this time, Caltrans shall designate a person to monitor onsite compliance with all minimization measures. The approved biologist shall ensure that this monitor receives the training outlined in measure 4 above and in the identification of California red-legged frogs. If the monitor or the approved biologist recommends that work be stopped because California red-legged frogs would be affected in a manner not anticipated by Caltrans and U.S. Fish and Wildlife Service during review of the proposed action, they shall notify the resident engineer immediately. The resident engineer shall resolve the situation by requiring that all actions that are causing these effects be

halted. When work is stopped, the U.S. Fish and Wildlife Service shall be notified as soon as possible.

BIO-28: During project activities, all trash that may attract predators or scavengers shall be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas.

BIO-29: Without the express permission of the U.S. Fish and Wildlife Service, all refueling, maintenance and staging of equipment and vehicles shall occur at least 60 feet from the riparian habitat or water bodies and not in a location from where a spill would drain directly toward aquatic habitat. The monitor shall ensure contamination of habitat does not occur during such operations. Prior to the onset of work, Caltrans shall ensure that a plan is in place for prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

BIO-30: Habitat contours shall be returned to a natural configuration at the end of the project activities. This measure shall be implemented in all areas disturbed by activities associated with the project, unless the U.S. Fish and Wildlife Service and Caltrans determine that it is not feasible or modification of original contours would benefit the California red-legged frog.

BIO-31: The number of access routes, size of staging areas, and the total area of activity shall be limited to the minimum necessary to achieve the project. Environmentally Sensitive Areas shall be established to confine access routes and construction areas to the minimum area necessary to complete construction, and minimize the impact to California red-legged frog habitat; this goal includes locating access routes and construction areas outside of wetlands and riparian areas to the maximum extent practicable.

BIO-32: Caltrans shall attempt to schedule work for times of the year when impacts to the California red-legged frog would be minimal. For example, work that would affect large pools that may support breeding would be avoided, to the maximum degree practicable, during the breeding season (November through May). Isolated pools that are important to maintain the species through the driest portions of the year would be avoided, to the maximum degree practicable, during the late summer and early fall. Habitat assessments, surveys, and technical assistance between Caltrans and the U.S. Fish and Wildlife Service during project planning shall be used to assist in scheduling work activities to avoid sensitive habitats during key times of year.

BIO-33: To control sedimentation during and after project completion, Caltrans shall implement Best Management Practices outlined in any authorizations or permits, issued under the authorities of the Clean Water Act received for the project. If Best Management Practices are ineffective,

Caltrans shall attempt to remedy the situation immediately, in coordination with the U.S. Fish and Wildlife Service.

BIO-34: If a work site is to be temporarily dewatered by pumping, intakes shall be completely screened with wire mesh not larger than 0.2 inch to prevent California red-legged frogs from entering the pump system. Water shall be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any diversions or barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate. Alteration of the streambed shall be minimized to the maximum extent possible; any imported material shall be removed from the streambed upon completion of the project.

BIO-35: Unless approved by the U.S. Fish and Wildlife Service, water shall not be impounded in a manner that may attract California red-legged frogs.

BIO-36: A U.S. Fish and Wildlife Service-approved biologist shall permanently remove any individuals of exotic species, such as bullfrogs (*Rana catesbeiana*), signal and red swamp crayfish (*Pacifasticus leniusculus; Procambarus clarkia*), and centrarchid fishes from the project area, to the maximum extent possible. The approved biologist shall be responsible for ensuring his or her activities are in compliance with the California Fish and Game Code.

BIO-37: If Caltrans demonstrates that disturbed areas have been restored to conditions that allow them to function as habitat for the California red-legged frog, these areas will not be included in the amount of total habitat permanently disturbed.

BIO-38: To ensure that diseases are not conveyed between work sites by the U.S. Fish and Wildlife Service-approved biologist, the fieldwork code of practice developed by the Declining Amphibian Task Force shall be followed at all times.

BIO-39: Project sites shall be revegetated with an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials shall be used to the extent practicable. Invasive, exotic plants shall be controlled to the maximum extent practicable. This measure shall be implemented in all areas disturbed by activities associated with the project, unless the U.S. Fish and Wildlife Service and Caltrans determine that it is not feasible or practical.

BIO-40: Caltrans shall not use herbicides as the primary method to control invasive, exotic plants. However, if it is determined that the use of herbicides is the only feasible method for controlling invasive plants at a specific project

site; it will implement the following additional protective measures for the California red-legged frog:

A. Caltrans shall not use herbicides during the breeding season for the California red-legged frog.

B. Caltrans shall conduct surveys for the California red-legged frog immediately prior to the start of herbicide use. If found, California red-legged frogs shall be relocated to suitable habitat far enough from the project area that no direct contact with herbicide would occur.

C. Giant reed and other invasive plants shall be cut and hauled out by hand and painted with glyphosate-based products, such as Aquamaster® or Rodeo®.

D. Licensed and experienced Caltrans staff or a licensed and experienced contractor shall use a hand-held sprayer for foliar application of Aquamaster® or Rodeo® where large monoculture stands occur at an individual project site.

E. All precautions shall be taken to ensure that no herbicide is applied to native vegetation.

F. Herbicides shall not be applied on or near open water surfaces (no closer than 60 feet from open water).

G. Foliar applications of herbicide shall not occur when wind speeds are in excess of 3 miles per hour.

H. No herbicides shall be applied within 24 hours of forecasted rain.

I. Application of all herbicides shall be done by qualified Caltrans staff or contractors to ensure that overspray is minimized, that all applications are made in accordance with the label recommendations, and with implementation of all required and reasonable safety measures. A safe dye shall be added to the mixture to visually denote treated sites. Application of herbicides shall be consistent with the U.S Environmental Protection Agency's Office of Pesticide Programs, Endangered Species Protection Program county bulletins.

J. All herbicides, fuels, lubricants, and equipment shall be stored, poured, or refilled at least 60 feet from riparian habitat or water bodies in a location where a spill would not drain directly toward aquatic habitat. Prior to the onset of work, Caltrans shall ensure that a plan is in place for a prompt and effective response to accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

BIO-41: Upon completion of the project, Caltrans shall ensure that a Project Completion Report is completed and provided to the U.S. Fish and Wildlife Service, following the template provided with the Programmatic Biological Opinion. Caltrans shall include recommended modifications of the protective measures if alternative measures would facilitate compliance with the provisions of this consultation.

Santa Cruz Black Salamander, California Giant Salamander, Coast Range Newt

BIO-42: A pre-construction survey prior to the start of ground disturbance will occur at locations with suitable Santa Cruz black salamander, California giant salamander, or coast range newt habitat by a Caltrans biologist.

BIO-43: If any individuals are found to be present, individuals will be relocated by a qualified biologist to a nearby location with suitable habitat.

BIO-44: Observations of the Santa Cruz black salamander, California giant salamander, and coast range newt will be documented on California Natural Diversity Database forms and submitted to the California Department of Fish and Wildlife upon project completion.

Nesting Birds

BIO-45: If feasible and regulatory approvals allow, all vegetation removal for this project will be scheduled to occur from October 1 to January 31, outside of the typical nesting bird season, to avoid potential impacts to nesting birds.

BIO-46: If vegetation removal or other construction activities are proposed to occur within 100 feet of potential nesting habitat during the nesting season (February 1 to September 30), a nesting bird survey will be conducted by a biologist determined qualified by Caltrans no more than three days prior to construction. If an active nest is found, Caltrans shall determine an appropriate buffer based on the habits and needs of the species. The buffer area shall be avoided until a qualified biologist has determined that juveniles have fledged.

BIO-47: During construction, active bird nests shall not be disturbed and eggs or young of birds covered by the Migratory Bird Treaty Act and California Fish and Game Code shall not be killed, destroyed, injured, or harassed at any time. Readily visible, species-specific, exclusion zones where nests must be avoided within 100 feet of disturbance shall be established by a qualified biologist using Environmentally Sensitive Area fencing. Work in exclusion zones shall be avoided until young birds have fledged (permanently left the nest) or the qualified biologist has determined that nesting activity has otherwise ceased.

2.1.5 Cultural Resources

Considering the information in the Archaeological Survey Report dated August 2022 and the Historical Properties Survey Report dated September 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Cultural Resources
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	**No Impact**
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	**No Impact**
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	**No Impact**

Affected Environment

The Boulder Creek Bridge was constructed in 1926. The bridge is a single-span reinforced concrete girder bridge using four girders on reinforced concrete wall abutments with flared monolithic wingwalls. The bridge includes basic neoclassical detailing on its reinforced concrete railing. In 1986, the bridge was determined to be ineligible for listing on either the National Register of Historic Places or California Register of Historical Resources as part of the Caltrans Historic Bridge Survey, a multiple property submission that evaluates eligibility for all historic-era (50 years old or more) state-owned bridges in California. This finding, which is rechecked roughly every five years, was most recently updated in 2022. Caltrans Architectural Historian Daniel Leckie has verified this finding is appropriate, documenting this bridge within its individual historic context within a Historic Resources Evaluation Report for the project (see Built Environment section below for more details).

The term “cultural resources” as used in this document refers to the “built environment” (for example, structures, bridges, railroads, water conveyance systems), 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.”

A Historical Properties Survey Report was prepared in September 2022. The Area of Potential Effect for the proposed project includes the project footprint or area of direct impact, areas of ground disturbance, and the existing right-

of-way. As part of the report, Native American consultation, a records search, and an archeological survey were conducted.

Native American Consultation

As part of the Historical Properties Survey Report, the Native American Heritage Commission and Native American tribes, groups, and individuals were consulted. On November 18, 2021, Caltrans contacted the Native American Heritage Commission to determine whether any recorded sites in the commission's Sacred Lands File occur in or near the project site. On February 9, 2022, the Native American Heritage Commission stated that a search of its Sacred Lanes File did not indicate the presence of Native American cultural resources in the project's Area of Potential Effect. The response included a list of tribal representatives who might have knowledge of cultural resources in the proposed project area.

Section 106 and Assembly Bill 52 consultation with Native American tribes, groups, and individuals was also conducted. On February 16, 2022, Caltrans contacted eight individuals representing six tribes listed by the Native American Heritage Commission with an introduction letter to begin formal consultation. The letter described the project and asked if there were any specific concerns about the project area from the Native American community. As documented in the Historical Properties Survey Report, two responses were received and comments were incorporated into the report. The results of Native American consultation did not reveal any new or previously recorded cultural or tribal cultural resources in the archaeological Area of Potential Effect.

Records Search

In addition to Native American consultation, a records search was carried out to identify any cultural resources within a one-quarter mile radius from the Area of Potential Effect. An in-house records search was completed using Caltrans As-Built records and the Caltrans Cultural Resources Database in November 2021. A formal records search was completed in June 2022 by the Northwest Information Center.

The Caltrans Principal Architectural Historian notified representatives of the Santa Cruz County Department of Planning, Santa Cruz County Historical Resource Commission, San Lorenzo Valley Museum, and Santa Cruz Museum of Art and History on April 29, 2022 to request comments on the proposed project, including any pertinent information on the bridge, surrounding properties, or other concerns. At the time, the proposed project intended to study three alternatives as described in Section 1.5; Alternatives 2 and 3 have been eliminated from the project, and the proposed Build Alternative is to repair the bridge scour. Senior Planner Annie Murphy at the Santa Cruz County Planning Department responded on April 29, 2022 to request additional information to discuss with the County Historic Resources

Commission. Ms. Murphy replied on June 16, 2022 that the Historic Resources Commission prefers the Build Alternative, which would preserve the bridge rail, noting that these neoclassic-style bridges are becoming less common throughout California and that this bridge contributes to the historic character of the San Lorenzo Valley.

The records search identified five cultural resources within one-quarter mile of the proposed project limits, including two historic-era built environment structures. The records search also identified 18 prior archaeological studies that were previously conducted within one-quarter mile of the project limits. In addition to those identified studies and records, historical aerial imagery from 1941, 1956, 1963, and 1991 was reviewed to visualize changes to the project area over time.

Archaeology Survey

A systematic surface survey was conducted on February 15, 2022 as documented in the Historical Properties Survey Report. The survey covered the Area of Potential Effect and beyond, including the stretch of highway shoulders between Moon Drive and Chinese Grade. All areas, especially cut banks and stream bed, were examined for any cultural materials. The survey provided no evidence for previously known or unknown archaeological resources within the Area of Potential Effect.

Environmental Consequences

Archaeological Resources Findings

A review of aerial imagery, results of the records search, review of prior archaeological studies, and results of the field survey yielded evidence of one archaeological resource within the project's Area of Potential Effect. Five cultural resources were identified within one-quarter mile of the project site, including three prehistoric archaeological resources and two historic era-built environment resources.

One prehistoric archaeological site is near the project's Area of Direct Impact. No archaeological materials were observed on the surface during the field survey. The potential to affect a resource associated with the site is low. The likelihood of discovering a buried archaeological deposit during project construction is also low due to previous disturbance of construction of the existing highway and residential development.

A Finding of No Adverse Effect with Standard Conditions - Environmentally Sensitive Area was completed for this project because of the proximity of known cultural resources to the Area of Potential Effect. Caltrans has determined that the undertaking will not constitute an adverse effect on the identified archaeological site.

Built Environment Findings

The Boulder Creek Bridge has been determined ineligible for both the National Register of Historic Places and California Register of Historical Resources as part of a multiple-property submission known as the Caltrans Historic Bridge Survey. These determinations have been periodically updated roughly every five years during subsequent bridge survey updates, where resources are revisited for potential significance with the passage of time. Due to potential direct effects to this historic-era structure, Caltrans Architectural Historian Daniel Leckie produced a 2022 Historical Resources Evaluation Report to individually assess the Boulder Creek Bridge's potential status as a cultural resource. As a part of this process, local interested parties were contacted, including the Santa Cruz County Historic Resources Commission and several local historical societies. The 2022 Historical Resources Evaluation Report reconfirmed the validity of the prior finding that the Boulder Creek Bridge did not meet the significance threshold to be potentially eligible for either the National Register of Historic Places or the California Register of Historic Resources.

Two other historic-era built environment resources were identified within the records search. One resource known as Bob Lawrence's Rec Room at 17900 Big Basin Road is outside the Area of Potential Effect. The resource is on the east side of State Route 236 and is described as a redwood log building that has been remodeled as an annex to a modern home. This resource meets the definition of an Exempt Property under the Programmatic Agreement between Caltrans and the California State Historic Preservation Officer. This resource is outside of the Area of Potential Effect, and no impacts are anticipated. The other resource that was identified is the historic alignment of State Route 236 as it provided access to Big Basin Redwoods State Park, California's first state park. The proposed work has no potential to impact any portion of the route's original alignment.

Review of aerial imagery, project design, historical mapping, and a field visit confirmed that adjacent parcels contain resources that are either considered exempt properties or the project location is screened from view due to distance, other built features, vegetation, and/or topography; therefore, the project does not have potential to indirectly affect adjacent built environment resources. While the project includes work outside of the existing right-of-way for staging and access to the creek, no permanent right-of way acquisition is required and no structures outside the right-of-way will be affected.

The existing Boulder Creek Bridge does not meet the criteria of significance to be eligible for listing, and the property does not constitute a historical resource for the purposes of the California Environmental Quality Act.

Caltrans Standard Specifications Section 14-2 will apply—if cultural materials are discovered during construction, all earthmoving activity within and around

the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

If human remains are discovered, California Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the county coroner shall be contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage Commission, which, pursuant to Public Resources Code Section 5097.98, will then notify the most likely descendent. At that time, the person who discovered the remains will contact Caltrans District 5, which will work with the most likely descendent on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code 5097.98 are to be followed, as applicable.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance measure will ensure the project will have no impact on cultural resources:

CUL-1: An Environmentally Sensitive Area shall be established in the field prior to construction and shown on project plans to avoid any potential impacts or disturbance of the identified archaeological site.

2.1.6 Energy

Implementation of the project would result in the short-term use of fossil fuels, electricity, and natural gas by construction vehicles and equipment. The use of these resources would be temporary and would not result in a significant demand on resources. Maintenance activities at the repaired bridge are expected to be similar to or less than current needs.

No direct or indirect effects related to wasteful, inefficient, or unnecessary energy consumption will occur. The project will not conflict with or obstruct any state or local plans for renewable energy or energy efficiency. Considering the information included in the Climate Change Technical Memorandum dated December 2022 and the Air Quality, Greenhouse Gas, and Noise Technical Memorandum dated December 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Energy
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	**No Impact**

Question—Would the project:	CEQA Significance Determinations for Energy
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	**No Impact**

2.1.7 Geology and Soils

The existing Boulder Creek Bridge is not located within a designated Alquist-Priolo Earthquake Fault Zone and is located more than 1 mile from the nearest identified fault according to the California Department of Conservation online mapping. Santa Cruz County online mapping indicates the project area is designated as having a moderate potential for liquefaction but is not within an area defined by the Natural Resources Conservation Service as having expansive soils. No landslides have been mapped by the U.S. Geological Survey within the project area. The area is not defined as having unstable or expansive soils. The project is proposed to reduce or eliminate the soil erosion resulting from the scour at the existing abutment. Also, proposed soil disturbance would be focused primarily in artificial fill and alluvial sediments and therefore would not impact sensitive paleontological resources.

Considering the sources above and the Paleontological Identification Report dated November 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Geology and Soils
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	**No Impact**
ii) Strong seismic ground shaking?	**No Impact**
iii) Seismic-related ground failure, including liquefaction?	**No Impact**
iv) Landslides?	**No Impact**
b) Result in substantial soil erosion or the loss of topsoil?	**No Impact**

Question—Would the project:	CEQA Significance Determinations for Geology and Soils
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 onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	**No Impact**
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	**No Impact**
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	**No Impact**
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	**No Impact**

2.1.8 Greenhouse Gas Emissions

Considering the information in the Climate Change Technical Memorandum dated February 2023 and the Air Quality, Greenhouse Gas, and Noise Technical Memorandum dated December 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Greenhouse Gas Emissions
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	**Less Than Significant Impact**
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	**No Impact**

Affected Environment

Greenhouse gas emissions from transportation projects can be divided into those produced during operation of the state highway system and those produced during construction. The main greenhouse gases produced by the transportation sector are carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons. Carbon dioxide emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion

engines. Relatively small amounts of methane and nitrous oxide are emitted during fuel combustion. A small amount of hydrofluorocarbon emissions is included in the transportation sector.

The Boulder Creek Bridge lies on a two-lane highway on State Route 236 at post mile 4.27, approximately 4 miles northwest of Boulder Creek in Santa Cruz County. The Association of Monterey Bay Area Governments Metropolitan Transportation Plan guides transportation development in the area. The Association of Monterey Bay Area Governments includes Monterey, San Benito, and Santa Cruz counties as well as many local cities in the area. The 2045 Metropolitan Transportation Plan/Sustainable Communities Strategy indicates the existing transportation system in the area is composed of roadways, transit, rail, bicycle, and pedestrian networks, airports and aviation, goods movement, and management strategies. The 2045 Metropolitan Transportation Plan/Sustainable Communities Strategy also addresses greenhouse gases in its jurisdiction and sets goals for reduction.

Environmental Consequences

Operational Emissions

The purpose of the project is to address the scour at Abutment 1 on the existing bridge. The project will not increase the capacity of State Route 236 and will not increase operational (long-term) greenhouse gas emissions. Because the project would not increase the number of travel lanes, no increase in vehicle miles traveled would occur as a result of project implementation. While some greenhouse gas emissions during the construction period would be unavoidable, no increase in operational greenhouse gas emissions is expected.

Construction Emissions

Construction greenhouse gas emissions would result from construction processes such as operation of construction equipment, worker travel, and material transport and processing. 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 transportation management during construction phases.

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

Construction greenhouse gas emissions were estimated using Caltrans' Construction Emissions Tool and default settings for a bridge preservation project that would span approximately 25 working days. The estimated average carbon dioxide emissions total is approximately 19 metric tons per year, and the estimated average carbon dioxide equivalent emissions total is

approximately 2.16 metric tons generated over the 25-day construction period. The carbon dioxide equivalent is calculated by combining estimates of carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons emissions. Note that these estimates are based on assumptions made during the environmental planning phase of the project and is considered a “ballpark” of energy use.

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

Avoidance, Minimization, and/or Mitigation Measures

The following minimization measures will be implemented in addition to Caltrans Standard Specifications in the project to further reduce greenhouse gas emissions and potential climate change impacts from construction of the proposed project:

GHG-1: Limit idling to 5 minutes for delivery and dump trucks and other diesel-powered equipment when not in active operation.

GHG-2: For improved fuel efficiency from construction equipment:

- Maintain equipment in proper tune and working condition.
- Use right sized equipment for the job.
- Use equipment with new technologies.

GHG-3: Earthwork Balance; Reduce the need for transport of earthen materials by balancing cut and fill quantities.

GHG-4: Supplement existing construction environmental training with information on methods to reduce greenhouse gas emissions related to construction.

GHG-5: Recycle existing project features onsite. This may include salvaging rebar from demolished concrete and processing waste to create usable fill and maximizing the use of recycled materials that meet Caltrans specification for incorporation into new work.

2.1.9 Hazards and Hazardous Materials

As outlined in the Initial Site Assessment dated November 2022, there are no known hazardous waste issues or hazardous materials sites under Government Code Section 65962.5 within the project limits. Routine

hazardous materials commonly encountered on Caltrans projects such as aerially deposited lead, yellow traffic stripes, treated wood waste, or asbestos-containing material are unlikely to be encountered during construction due to the limited work area to repair the bridge scour. If these issues are encountered during construction, they would be appropriately handled, treated, and disposed of (if required) with implementation of Caltrans Standard Specifications.

The project lies at the Boulder Creek Bridge along a rural two-lane highway. There are no schools or airports within 0.25 mile and 2 miles, respectively, of the project. Single lane closures may be needed during the short construction window, and a Traffic Management Plan would be prepared prior to construction; no long-term impacts to traffic or emergency access would be anticipated. Trucks carrying materials to or from the site or construction equipment would be entering the highway from the construction access road.

Considering the information in the Initial Site Assessment dated November 2022, the following significance determinations have been made:

Question—Would the project:	**CEQA Significance Determinations for Hazards and Hazardous Materials**
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	**No Impact**
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	**No Impact**
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	**No Impact**
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	**No Impact**

Question—Would the project:	CEQA Significance Determinations for Hazards and Hazardous Materials
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	**No Impact**
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	**No Impact**
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	**No Impact**

2.1.10 Hydrology and Water Quality

Considering the information in the Water Quality Assessment Report dated September 2023, the Location Hydraulic Study dated December 2022, and the Natural Environment Study dated September 2023, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Hydrology and Water Quality
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality?	**Less Than Significant Impact**
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	**No Impact**
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (i) result in substantial erosion or siltation onsite or offsite;	**Less Than Significant Impact**

Question—Would the project:	CEQA Significance Determinations for Hydrology and Water Quality
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite;	**Less Than Significant Impact**
(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	**Less Than Significant Impact**
(iv) impede or redirect flood flows?	**Less Than Significant Impact**
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	**Less Than Significant Impact**
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	**No Impact**

Affected Environment

A Water Quality Assessment Report was completed in September 2023 for the project. The project lies along Boulder Creek within the Monterey Bay watershed, in the San Lorenzo Hydrologic Sub-Area (#304.12) and the Santa Cruz Hydrologic Area within the Big Basin Hydrologic Unit.

Boulder Creek is a perennial creek that runs from its headwaters in the Santa Cruz Mountains toward its confluence with the San Lorenzo River, approximately 3 miles downstream (southeast) of the project site. Boulder Creek runs approximately 7.5 miles and drains approximately 11.3 square miles of watershed to San Lorenzo River.

The project is needed because erosion within Boulder Creek has caused the removal of sediment from around the bridge abutment. Also, an ephemeral stream (or gully) has formed perpendicular to Boulder Creek north of State Route 236 as a result of erosion and storm runoff.

The receiving water body for this project is Boulder Creek, which is listed as impaired by sedimentation/siltation on the Clean Water Act Section 303(d) list. Land development, erosion/siltation, nonpoint source, road construction, silviculture, and specialty crop production are listed as potential sources of sedimentation/siltation.

A Location Hydraulic Study was completed in December 2022 for the project. Though the project is within the designated 100-year floodplain, the proposed curtain wall would not extend above the level of the existing footing and would have no effect on the base floodplain compared to its original condition. No piers currently exist in the creek, and no piers are proposed.

Environmental Consequences

Repairing the scour along Abutment 1 with a concrete curtain wall will help to stabilize the erosion that is undermining the bridge abutment. The curtain wall will wrap around the upstream (northern) side of the abutment to protect the concrete from erosion. Rock or similar material will be placed along the gully to use for access to the creek during construction and to stabilize the gully from continued degradation and erosion.

As noted above, Boulder Creek is listed in the Clean Water Act Section 303(d) list for sedimentation/siltation impairments. Caltrans is a named stakeholder for the sedimental total maximum daily load in this impaired waterbody. As such, best management practices will be implemented that will aid in minimizing sediment discharge to Boulder Creek. These measures are listed in the following section.

The project will not result in adverse effects that will substantially alter the existing drainage pattern of the area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces. The project will not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. The project will not impede or redirect flood flows. The project will not temporarily or permanently impact groundwater.

As discussed in Section 1.4.1, dewatering the creek using a diversion system would be required to install the concrete curtain wall. This would occur during the dry season in-stream work window between June 1 and October 31 when stream flows are anticipated to be the lowest. The diversion will likely consist of a cofferdam upstream with a series of pipes sized appropriately to the flow of water to allow water to flow downstream past the diversion.

The work site would be completely isolated from the wetted channel. If residual water is present within the site after installation of the diversion or if groundwater intrusion is encountered during construction, dewatering activities would be conducted. This would likely be accomplished by pumping the water from inside the temporary cofferdam confines with low-horsepower pumps and hoses. The pumps, if used, would have protective screens at intake ends to prevent fish and other aquatic species from entering the pumps. To capture water-born sediment, water would be pumped to a temporary sediment basin, adjacent uplands, or a Baker tank system. Dewatering discharge points would be placed downstream of the dewatered

area at locations where the discharge would not result in erosion or scour. If a sediment basin is used, it would be maintained as necessary to ensure adequate functionality.

Upon completion of diversion activities, the contractor would remove all equipment and infrastructure associated with the diversion in a manner that will minimize adverse impacts to water quality and to ensure that stream contours are returned to pre-construction conditions as close as possible.

Potential short-term impacts to water quality due to project construction can be minimized through the implementation of appropriate storm water best management practices as provided below. Construction site best management practices to be included in the contract for this project include the following: Water Pollution Control Program, Job Site Management, Temporary Drainage Inlet Protection, Temporary Large Sediment Barrier, Temporary Concrete Washout, Water Quality Sampling and Analysis Day, Water Quality Monitoring Report, Temporary Creek Diversion System, Water Pollution Control Maintenance Sharing, and Additional Water Pollution Control. No long-term impacts to water quality are expected.

Avoidance, Minimization, and/or Mitigation Measures

The following best management practices will apply to implementation of the project:

Temporary Soil Stabilization

- Minimize active Disturbed Soil Areas during the rainy season using scheduling techniques.
- Preserve existing vegetation to the maximum extent feasible.
- Implement temporary protective cover/erosion control on all non-active Disturbed Soil Areas and soil stockpiles.
- Control erosive forces of storm water runoff with effective storm flow management such as temporary concentrated flow conveyance devices, earthen dikes, drainage swales, lined ditches, outlet protection/velocity dissipation devices, and slope drains as determined feasible.

Temporary Sediment Controls

- Implement linear sediment controls such as fiber rolls, check dams, or gravel bag berms on all active and non-active Disturbed Soil Areas during the rainy season.
- To further help prevent sediment discharge, stabilized construction site entrances, temporary drainage inlet protection, and street sweeping and vacuuming will be necessary.

- Implement appropriate wind erosion controls year-round.

Non-Storm Water Management

The appropriate non-storm water best management practices will be implemented year-round as follows:

- Water conservation practices are implemented on all construction sites and wherever water is used.
- Paving and grinding procedures are implemented where paving, surfacing, resurfacing, grinding, or saw cutting may pollute storm water runoff or discharge to the storm drain system or watercourses.
- Procedures and practices designed for construction contractors to recognize illicit connections or illegally dumped or discharged materials on a construction site and report incidents to the Resident Engineer.
- The following activities must be performed at least 100 feet from concentrated flows of storm water, drainage courses, and inlets if within the floodplain and at least 50 feet if outside of the floodplain: stockpiling materials, storing equipment and liquid waste containers, washing vehicles or equipment, fueling, and maintaining vehicles and equipment.
- Concrete curing will be used in the construction of structures such as the curtain wall.
- Concrete curing includes the use of both chemical and water methods. Proper procedures will minimize pollution of runoff during concrete curing.

2.1.11 Land Use and Planning

The project would not physically divide an established community or conflict with any land use plan, policy, or regulation. Considering this information, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Land Use and Planning
a) Physically divide an established community?	**No Impact**
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	**No Impact**

2.1.12 Mineral Resources

The 1994 Santa Cruz County General Plan indicates that there are no mineral resource lands within the project area that have been classified by the State Geologist and designated by the State Mining and Geology Board as containing significant mineral resources. The project would repair scour at the Boulder Creek Bridge and would not change the availability of a known mineral resource. Considering this information, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Mineral Resources
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	**No Impact**
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	**No Impact**

2.1.13 Noise

Considering the information in the Air Quality, Greenhouse Gas, and Noise Technical Memorandum dated December 2022, the following significance determinations have been made:

Question—Would the project result in:	CEQA Significance Determinations for Noise
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?	**Less Than Significant Impact**
b) Generation of excessive groundborne vibration or groundborne noise levels?	**No Impact**
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	**No Impact**

Affected Environment

The project lies at the Boulder Creek Bridge along a rural two-lane highway. Several rural residential units are scattered along either side of the highway in this area, with the closest residence sitting about 30 feet from the proposed construction area. The area is heavily vegetated with trees and shrubs and is situated within the hilly terrain of the Santa Cruz Mountains.

Environmental Consequences

The project would be considered a Type Three project since no capacity would be added to the highway, no significant change in the highway profile is expected, and local noise levels are assumed to be the same after project completion as they were before. Long-term noise abatement measures are not expected with this project.

The project is anticipated to span 25 working days. Local noise levels in the vicinity of any given location will inevitably experience a short-term increase due to construction activities. The amount of construction noise will vary with the particular activities associated with each location and the models and types of equipment used by the contractor.

Caltrans Standard Specifications (Section 14-8.02) requires the contractor to control and monitor noise resulting from work activities and not to exceed 86 dBA Lmax at 50 feet from the job site from 9:00 p.m. to 6:00 a.m. No night work is proposed but, if such work is necessary during construction, the noisiest activities will be completed as early in the evening as possible. The Resident Engineer would work with local residents and businesses to the extent practicable to limit adverse impacts from construction noise.

Avoidance, Minimization, and/or Noise Abatement Measures

In addition to Caltrans Standard Specifications, the following minimization measures will further reduce temporary construction noise impacts:

NOI-1: Notify the public in advance of the construction schedule when construction noise and upcoming construction activities likely to produce an adverse noise environment are expected. This notice shall be given two weeks in advance of construction. Notice should be published in local news media of the dates and duration of proposed construction activity. The District 5 Public Information Office posts notice of the proposed construction and potential community impacts after receiving notice from the Resident Engineer.

NOI-2: If complaints are received from surrounding neighbors, the contractor shall consult District Noise staff and shield loud pieces of stationary construction equipment.

NOI-3: The contractor shall locate loud equipment such as portable generators and air compressors away from sensitive noise receptors as feasible.

NOI-4: The contractor shall limit grouping major pieces of equipment operating in one area to the greatest extent feasible.

NOI-5: The contractor shall use newer equipment that is quieter and ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine covers, and engine vibration isolators intact and operational. Internal combustion engines used for any purpose on or related to the job shall be equipped with a muffler or baffle of a type recommended by the manufacturer.

NOI-6: Consult District Noise staff if complaints are received during the construction process.

The following Caltrans Standard Specification for noise control will also be implemented:

NOI-7: To minimize impacts on residents' normal nighttime sleep activities, it is recommended that, whenever possible, construction work be done during the day. If nighttime construction is necessary, the noisiest construction activities will be done as early in the evening as possible. Caltrans Standard Specifications Section 14-8.02 Noise Control will be implemented. This standard specification requires the contractor to control and monitor noise resulting from work activities and not to exceed 86 A-weighted decibels maximum sound level at 50 feet from the job site from 9:00 p.m. to 6:00 a.m.

2.1.14 Population and Housing

Repair of the Boulder Creek Bridge would not change the capacity or function of the highway in the project area. No residential units will be displaced or relocated as a result of the project. No additional housing or development is proposed. Considering this information, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Population and Housing
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	**No Impact**
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	**No Impact**

2.1.15 Public Services

Considering the project would not trigger the need for new or modified public services, the following significance determinations have been made:

Question:	CEQA Significance Determinations for Public Services
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Fire protection?	**No Impact**
Police protection?	**No Impact**
Schools?	**No Impact**
Parks?	**No Impact**
Other public facilities?	**No Impact**

2.1.16 Recreation

State Route 236 is a rural two-lane highway that winds its way almost 18 miles from Route 9 in Boulder Creek in a “C”-shaped loop through Big Basin Redwoods State Park and meets Route 9 again at Waterman Gap. The highway is mostly one lane in each direction with many sections of winding curves, limited sight distance, narrow shoulders, as well as intersecting local residential roads, state park access roads, and trailheads.

Various types of recreational facilities are found along State Route 236, in addition to access to Big Basin State Park. The project is not within any publicly owned recreational property. The project would repair scour at the Boulder Creek Bridge and would not change the capacity or function of the highway; therefore, the project would not influence the use of local recreational facilities, including Big Basin State Park.

Considering this information, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Recreation
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	**No Impact**
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	**No Impact**

2.1.17 Transportation

The purpose of the project is to repair the scour at Abutment 1 of the Boulder Creek Bridge; therefore, the project would not change the function of the highway, increase capacity, or increase vehicle miles traveled. The project would not conflict with relevant transportation programs, plans, ordinances, or policies. Considering this information, the following significance determinations have been made:

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

Affected Environment

The project lies at post mile 4.27 on State Route 236 in Santa Cruz County. The highway is one lane in each direction at this location with 12-foot lanes. State Route 236 in the project vicinity generally serves local and interregional traffic, mostly for local recreational facilities, local commuters, and limited commercial users. There are no sidewalks for pedestrian access across the

bridge or along State Route 236. This highway is not a designated bicycle route; however, even without paved shoulders or dedicated bicycle facilities, this low-volume road is popular with recreational cyclists. Bicyclists and pedestrians are permitted on this highway.

Environmental Consequences

Repair of the scour would occur mostly underneath the existing bridge and off the roadway throughout the 25-day construction period. Construction of the project may require single lane closures for access and staging. Trucks carrying materials to or from the site or construction equipment would be entering the highway from a temporary access road to be developed for this project. A temporary traffic signal will be used to maintain one-way traffic during the duration of construction. This would result in minor temporary traffic and emergency access delays during construction. A Transportation Management Plan would include measures for traffic delays, lane closures, and detours. Caltrans' Resident Engineer would coordinate through the construction process to reduce any delay in response times as much as possible.

Avoidance, Minimization, and/or Mitigation Measures

The following minimization measure would reduce the potential for impacts on transportation:

TRA-1: A Traffic Management Plan will be prepared to address any potential traffic delays on State Route 236 that may occur during project construction due to temporary closures on either side of the highway. This would ensure that access would be maintained at all times throughout the construction period and would account for emergency access and limit delays.

2.1.18 Tribal Cultural Resources

Considering the information in the Archaeological Survey Report dated August 2022, the following significance determinations have been made:

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, or 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:

Question:	CEQA Significance Determinations for Tribal Cultural Resources
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	**No Impact**

Question:	CEQA Significance Determinations for Tribal Cultural Resources
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	**No Impact**

2.1.19 Utilities and Service Systems

The project lies in a rural area in Santa Cruz County that has scattered residences on either side of the highway. Several existing utilities occur in the project vicinity, including a water pipeline, a gas pipeline, and one power pole—all located just south of the bridge. Associated overhead power lines run along the eastbound lane and cross over the highway as needed to provide electricity to residential homes. No utility relocations are anticipated because the project work specifically addresses scour within the creek channel.

If temporary or permanent utility relocation is required, the utility companies would be responsible for moving their respective lines. Utility companies would notify affected residents in advance of any disruption in service during utility relocation.

The project involves scour repair at Boulder Creek Bridge and would not create demand for new or expanded utilities or services. No excess solid waste would be generated as a result of the project. Considering this information, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Utilities and Service Systems
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	**No Impact**

Question—Would the project:	CEQA Significance Determinations for Utilities and Service Systems
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	**No Impact**
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	**No Impact**
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	**No Impact**
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	**No Impact**

2.1.20 Wildfire

The project site sits on land classified as having a high fire hazard severity designation, but is not within or near land classified as very high fire hazard severity based on CalFire's 2022 Fire Hazard Severity Zone Mapping tool. The project area was within the CZU Lightning Complex Fire that started in 2020 and burned over 86,000 acres in Santa Cruz County. However, implementation of the project would not increase the risk of wildfire impacts. The fire vulnerability of the project area would not be influenced by the repair of the scour at the bridge abutment. Also, Caltrans 2018 Revised Standard Specification 7-1.02M(2) mandates fire prevention procedures during construction, including a fire prevention plan.

Considering this information, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Wildfire
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	**No Impact**

Question—Would the project:	CEQA Significance Determinations for Wildfire
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	**No Impact**
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	**No Impact**
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	**No Impact**

2.1.21 Mandatory Findings of Significance

Question:	CEQA Significance Determinations for Mandatory Findings of Significance
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	**Less Than Significant Impact With Mitigation Incorporated**
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.)	**Less Than Significant Impact**

Question:	CEQA Significance Determinations for Mandatory Findings of Significance
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	**Less Than Significant Impact**

Affected Environment

The project would occur within Boulder Creek at the existing bridge at post mile 4.27 on State Route 236. Construction activities include developing an access road to the creek, dewatering the creek, installing a concrete curtain wall, and patching cracks and defects in the existing concrete underside of the bridge. Work will occur within the existing right-of-way, and temporary construction easements may be needed for the access road.

Environmental Consequences

The project may affect multiple biological resources as discussed in Section 2.1.4 Biological Resources. Impacts to biological resources would be considered less than significant with the implementation of the avoidance, minimization, and mitigation measures discussed in Section 2.1.4 Biological Resources and Section 2.1.21 Mandatory Findings of Significance. The project would not 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, or substantially reduce the number or restrict the range of a rare or endangered plant or animal.

As discussed in Section 2.1.5 Cultural Resources and 2.1.18 Tribal Cultural Resources, the project would avoid impacts to identified cultural resources. The project would not impact paleontological resources, as discussed in Section 2.1.7 Geology and Soils. It was determined that the project would have no impact on cultural or paleontological resources and, therefore, would not eliminate important examples of the major periods of California history or prehistory.

The project includes avoidance and minimization measures to reduce the impact the project may have on the aesthetic environment. Access to the creek beneath the roadway will require vegetation trimming and removal, reducing the visual quality of the highway corridor. Measures to stain or color visible built features will ensure these features blend into the visual character of the area.

The project would cause a temporary increase in air emissions and fugitive dust during the construction period. Ultimately, however, there will be no difference in long-term air emissions with or without the project. Impacts due to fugitive dust generation from heavy equipment use and earthwork during construction would be considered less than significant with the

implementation of standard construction dust and emission minimization practices and procedures.

An increase in noise is anticipated during the construction process, but would not be substantial because construction activities would be temporary and intermittent. Caltrans Standard Specifications and minimization measures to reduce disturbance to nearby residences due to construction noise are listed in Section 2.1.13 Noise.

Short-term impacts to water quality would be minimized through the use of best management practices discussed in Section 2.1.10 Hydrology and Water Quality, and no long-term impacts to water quality are expected. The project will not exacerbate the impacts of wildfires on human beings. With the implementation of avoidance and minimization measures and standard specifications, no significant impacts would result to the human environment.

Cumulative impacts were analyzed in the November 2023 Cumulative Impact Report. Resources considered in the analysis were determined to be the following: jurisdictional waters, California red-legged frog, coho salmon, and steelhead. The San Lorenzo River Watershed was determined to be the appropriate Resource Study Area for these resources. Several proposed projects were identified within the Resource Study Area that may result in impacts to jurisdictional waters, California red-legged frog, coho salmon, and steelhead. Impacts to these resources as a result of the proposed project were considered with other identified projects, including several that will benefit these resources. Caltrans concluded that the incremental contribution of the proposed project to cumulative impacts on these resources will not be cumulatively considerable.

Avoidance, Minimization, and/or Mitigation Measures

The following general minimization recommendations were made to reduce the overall decline in the health of the identified resources:

Jurisdictional Wetlands, Other Waters, and Riparian Habitats

Agencies with regulatory authority in jurisdictional areas include the U.S. Army Corps of Engineers, Central Coast Regional Water Quality Control Board, California Department of Fish and Wildlife, and California Coastal Commission. To facilitate an improvement in the health of this resource, these agencies should continue to support enhancement, restoration, and mitigation efforts wherever feasible.

California Red-Legged Frog, Steelhead, and Coho Salmon

Agencies with regulatory authority over the California red-legged frog, steelhead, and coho salmon include the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the California Department of Fish and Wildlife. These agencies should continue to make efforts to support projects

that improve habitat acreage and function for these species through enhancement and creation. Providing suitable contiguous habitats would make these species more resilient and resistant to decline.

A complete list of Caltrans Standard Specifications and avoidance, minimization, and/or mitigation measures for the project can be found in Section 1.6 Standard Measures and Best Management Practices Included in All Build Alternatives, Section 2.1 CEQA Environmental Checklist, and Appendix C Avoidance, Minimization and/or Mitigation Measures Summary.

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Appendix A Title VI Policy Statement

CALIFORNIA STATE TRANSPORTATION AGENCY GAVIN NEWSOM, GOVERNOR

California Department of Transportation

OFFICE OF THE DIRECTOR
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September 2022

NON-DISCRIMINATION POLICY STATEMENT

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

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. In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a non-discriminatory manner.

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

For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 639-6392 or visit the following web page: https://dot.ca.gov/programs/civil-rights/title-vi.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Civil Rights, at PO Box 942874, MS-79, Sacramento, CA 94274-0001; (916) 879-6768 (TTY 711); or at Title.VI@dot.ca.gov.

TONY TAVARES
Director

"Provide a safe and reliable transportation network that serves all people and respects the environment"

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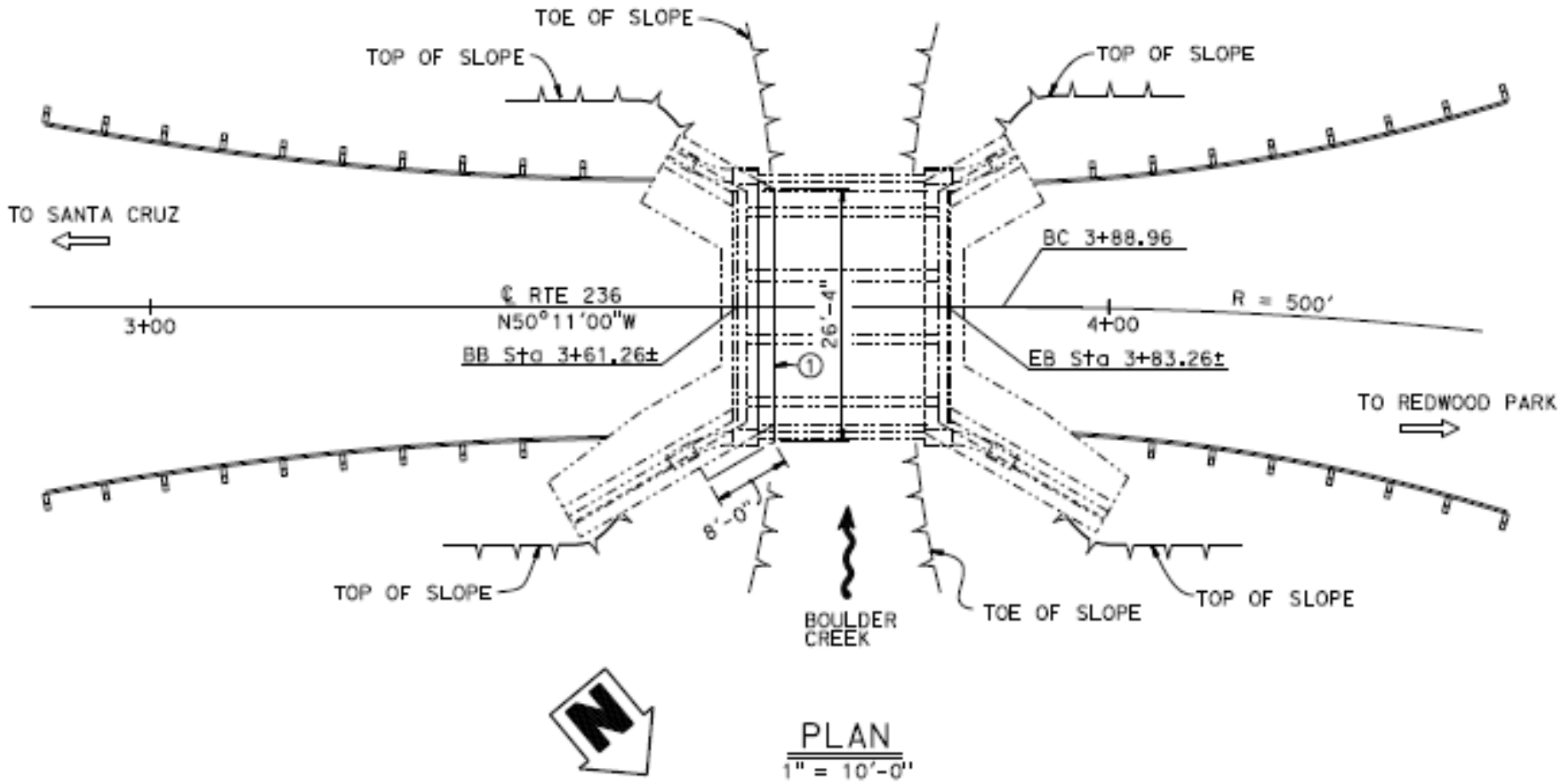
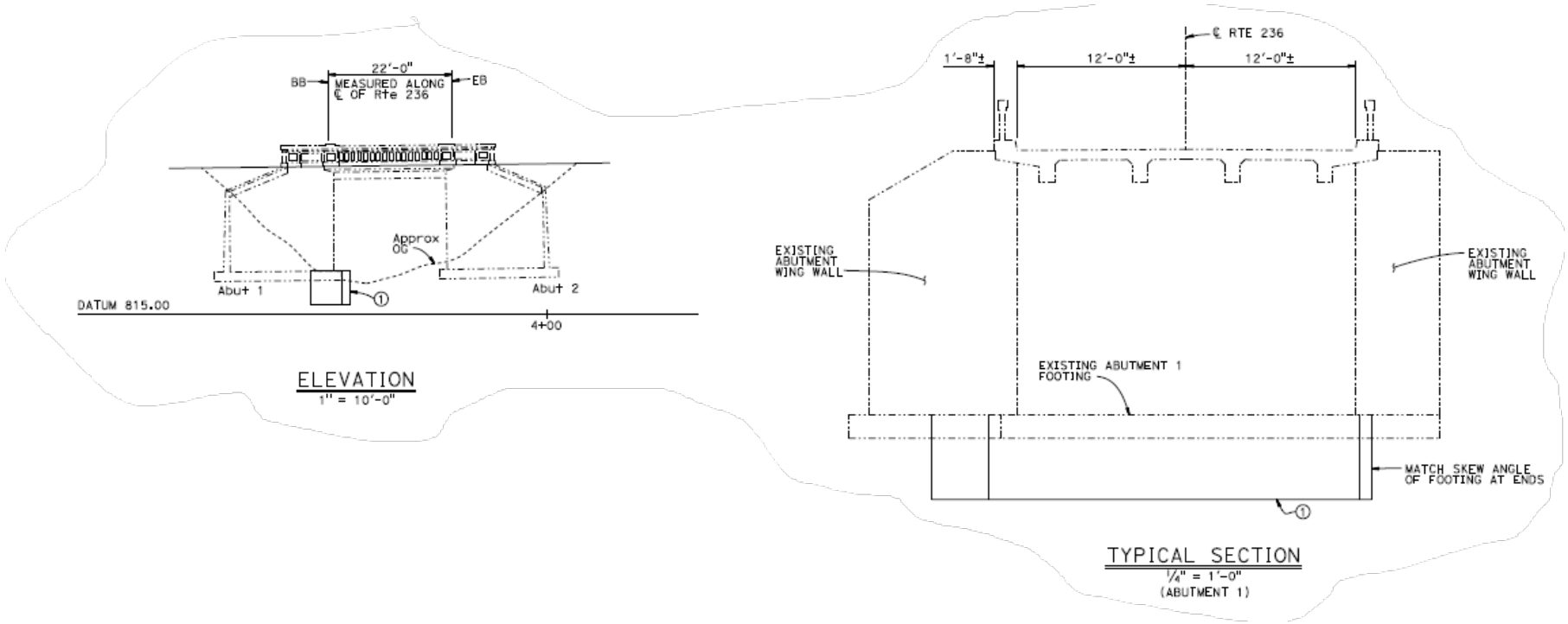
Appendix B Preliminary Project Plans



1) Reinforced concrete curtain wall at Abutment 1 only.



1) Reinforced concrete curtain wall at Abutment 1 only.

Appendix C Avoidance, Minimization, and/or Mitigation Measures Summary

2.1.1 Aesthetics Minimization Measures

AES-1: Preserve as much existing vegetation as possible. Prescriptive clearing and grubbing and grading techniques that save the most existing vegetation possible should be used.

AES-2: Revegetate all areas disturbed by the project, including staging areas and access roads, with native plant species appropriate to each specific work location.

AES-3: Replacement planting shall include aesthetic considerations as well as the inherent biological goals. Revegetation shall include native trees and plants as determined by the Caltrans Biologist and Caltrans District 5 Landscape Architecture.

AES-4: All metal roadside elements such as guardrail or end treatments should be stained to minimize contrast and noticeability. The color shall be determined and approved by the District 5 Landscape Architect.

AES-5: Following the placement of rock slope protection, any visible rock from State Route 236 should be colored to blend with the surroundings and reduce reflectivity. The specific color shall be determined by the Caltrans District 5 Landscape Architect.

AES-6: Following construction, regrade and recontour any new construction staging areas, access roads, and other temporary uses as necessary to match the surrounding natural topography, avoiding unnatural-appearing landforms.

2.1.4 Biological Resources Avoidance, Minimization, and Mitigation Measures

Mitigation Measure BIO-1: Temporary impacts to jurisdictional features shall be restored at a 1-to-1 ratio (acreage). Compensatory mitigation shall be provided at a 3-to-1 ratio (acreage) for permanent impacts to perennial stream habitat.

Mitigation Measure BIO-2: Prior to construction, Caltrans shall prepare a Restoration and Monitoring Plan to detail mitigation commitments for impacts to vegetation and natural habitats. The Restoration and Monitoring Plan shall be consistent with federal and state regulatory requirements and will be amended with any regulatory

permit conditions, as required. Caltrans shall implement the Restoration and Monitoring Plan as necessary during construction and immediately following project completion.

BIO-3: Prior to construction, Caltrans shall obtain a Section 404 Nationwide Permit from the U.S. Army Corps of Engineers, a Section 401 Water Quality Certification from the Regional Water Quality Control Board, and a Section 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife. All permit terms and conditions will be incorporated into the project.

BIO-4: Prior to any ground-disturbing activities, Environmentally Sensitive Area fencing shall be installed around jurisdictional waters and the dripline of trees to be protected within the project limits. Caltrans-defined Environmentally Sensitive Areas shall be noted on design plans and delineated in the field prior to the start of construction activities. Caltrans District 5 Environmental Division shall approve the locations prior to the start of construction activities, including equipment storage.

BIO-5: The temporary stream diversion shall be timed to occur between June 1 and October 31 in any given year, or as otherwise directed by the regulatory agencies, when the surface water is likely to be dry or at seasonal minimum. Deviations from this work window will be made only with permission from the relevant regulatory agencies.

BIO-6: During construction, all project-related hazardous materials spills within the project site shall be cleaned up immediately. Readily accessible spill prevention and cleanup materials shall be kept by the contractor onsite at all times during construction.

BIO-7: During construction, erosion control measures shall be implemented. Silt fencing, fiber rolls, and barriers shall be installed as needed between the project site and jurisdictional other waters and riparian habitat. At a minimum, erosion controls shall be maintained by the contractor on a daily basis throughout the construction period.

BIO-8: During construction, the staging areas shall conform to Best Management Practices applicable to attaining zero discharge of stormwater runoff. At a minimum, all equipment and vehicles shall be checked and maintained by the contractor on a daily basis to ensure proper operation and avoid potential leaks or spills.

BIO-9: Stream contours shall be restored as close as possible to their original condition following project construction activities.

Invasive Plant Species

BIO-10: During construction, Caltrans shall ensure that the spread or introduction of invasive exotic plant species will be avoided to the maximum extent possible.

BIO-11: Only clean fill shall be imported. When practicable, invasive exotic plants in the project site shall be removed and properly disposed of. All invasive vegetation removed from the construction site shall be taken to a landfill to prevent the spread of invasive species. If soil from weedy areas must be removed offsite, the top 6 inches containing the seed layer in areas with weedy species shall be disposed of at a landfill. Inclusion of any species that occurs on the Cal-IPC Invasive Plant Inventory in the Caltrans erosion control seed mix or landscaping plans for the project shall be avoided.

BIO-12: Construction equipment shall be certified as "weed-free" by Caltrans before entering the construction site. If necessary, wash stations onsite shall be established for construction equipment under the guidance of Caltrans in order to avoid/minimize the spread of invasive plants and/or seed within the construction area.

Mitigation Measure BIO-13: When the stream diversion is in place, the contractor shall remove existing concrete debris in the creek channel beneath Boulder Creek Bridge to improve the condition of the creek.

Mitigation Measure BIO-14: Prior to the end of construction activities, the contractor shall close off existing bridge scuppers and redirect drainage from the roadway to a vegetated or rocked area, prior to reaching the stream channel, to minimize the risk of 6-PPD quinone exposure to salmonids. This toxic substance forms when a common rubber additive (6-PPD) in tires mixes with freshwater, but filtration through a vegetated area successfully reduces toxicity.

BIO-15: Prior to construction, Caltrans shall acquire incidental take authorization for steelhead and coho salmon from the National Marine Fisheries Service through a Federal Endangered Species Act Section 7 Biological Opinion and Incidental Take Statement.

BIO-16: Prior to initiation of stream diversion/dewatering, a qualified biologist shall conduct an informal worker environmental training program including a description of steelhead and coho salmon, their legal/protected status, proximity to the project site, avoidance/minimization measures to be implemented during the project, and the implications of violating the Federal Endangered Species Act and permit conditions.

BIO-17: During construction, in-stream work shall take place between June 1 and October 31 in any given year, when the surface water

within drainages is likely to be dry or at seasonal minimum. Deviations from this work window will be made only with permission from Caltrans and the relevant regulatory/resource agencies.

BIO-18: During in-stream work, a Caltrans-approved biologist shall be retained with experience in steelhead and coho salmon biology and ecology, aquatic habitats, biological monitoring (including diversion/dewatering), and capturing, handling, and relocating fish species. During in-stream work, the biological monitor(s) shall continuously monitor placement and removal of any required stream diversions to capture stranded steelhead, coho salmon, and other native fish species and relocate them to suitable habitat as appropriate. The biologist(s) shall capture native fish stranded as a result of diversion/dewatering and relocate to suitable in-stream habitat outside of the work area, using methods approved by the appropriate regulatory agencies, which may include providing aerated water in buckets for transport and ensuring adequate water temperatures during transport. The biologist shall note the number of individuals observed in the affected area, the number of relocated fish, and the date and time of the collection and relocation.

BIO-19: During in-stream work, if pumps are incorporated to assist in temporarily dewatering the site, intakes shall be completely screened with no larger than 3/32-inch (2.38-millimeter) wire mesh to prevent steelhead, coho salmon, and other sensitive aquatic species from entering the pump system. Pumps shall release the additional water to a settling basin or tan, allowing the suspended sediment to settle out prior to re-entering the stream(s) outside of the isolated area. The form and function of all pumps used during the dewatering activities shall be checked daily, to ensure a dry work environment and minimize adverse effects to aquatic species and habitats.

BIO-20: The biological monitor or a designated representative shall monitor erosion and sediment controls to identify and correct any conditions that could adversely affect steelhead, coho salmon, or their habitat.

BIO-21: Caltrans shall provide the National Marine Fisheries Service a written summary of work performed (including biological survey and monitoring results), Best Management Practices implemented (use of biological monitor, flagging of project areas, erosion and sedimentation controls) and supporting photographs. Furthermore, the documentation describing listed species surveys and re-location efforts (if appropriate) shall include name(s) of the Caltrans-approved biologist(s), location and description of area surveyed, time and date of survey, all survey methods used, a list and tally of all sensitive animal species observed during the survey, a description of the instructions/recommendations

given to the applicant during the project, and a detailed discussion of capture and relocation efforts (if appropriate).

BIO-22: Dewatering shall be limited to the low-flow period between June 1 and October 31, thus avoiding adult steelhead and coho salmon spawning migration and peak smolt emigration.

BIO-23: Only U.S. Fish and Wildlife Service-approved biologists shall participate in activities associated with the capture, handling, and monitoring of California red-legged frogs.

BIO-24: Ground disturbance shall not begin until written approval is received from the U.S. Fish and Wildlife Service that the biologist is qualified to conduct the work.

BIO-25: A the U.S. Fish and Wildlife Service-approved biologist shall survey the project area no more than 48 hours before the onset of work activities. If any life stage of the California red-legged frog is found and these individuals are likely to be killed or injured by work activities, the approved biologist shall be allowed sufficient time to move them from the site before work begins. The approved biologist shall relocate the California red-legged frogs the shortest distance possible to a location that contains suitable habitat and will not be affected by the activities associated with the project. The relocation site shall be in the same drainage to the extent practicable. Caltrans shall coordinate with the U.S. Fish and Wildlife Service on the relocation site prior to the capture of any California red-legged frogs.

BIO-26: Before any activities begin on a project, a U.S. Fish and Wildlife Service-approved biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the California red-legged frog and its habitat, the specific measures that are being implemented to conserve the California red-legged frog for the current project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.

BIO-27: A U.S. Fish and Wildlife Service-approved biologist shall be present at the work site until all California red-legged frogs have been removed, workers have been instructed, and disturbance of the habitat has been completed. After this time, Caltrans shall designate a person to monitor onsite compliance with all minimization measures. The approved biologist shall ensure that this monitor receives the training outlined in measure 4 above and in the identification of California red-legged frogs. If the monitor or the approved biologist recommends that work be stopped because California red-legged frogs would be

affected in a manner not anticipated by Caltrans and U.S. Fish and Wildlife Service during review of the proposed action, they shall notify the Resident Engineer immediately. The Resident Engineer shall resolve the situation by requiring that all actions that are causing these effects be halted. When work is stopped, the U.S. Fish and Wildlife Service shall be notified as soon as possible.

BIO-28: During project activities, all trash that may attract predators or scavengers shall be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas.

BIO-29: Without the express permission of the U.S. Fish and Wildlife Service, all refueling, maintenance and staging of equipment and vehicles shall occur at least 60 feet from the riparian habitat or water bodies and not in a location from where a spill would drain directly toward aquatic habitat. The monitor shall ensure contamination of habitat does not occur during such operations. Prior to the onset of work, Caltrans shall ensure that a plan is in place for prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

BIO-30: Habitat contours shall be returned to a natural configuration at the end of the project activities. This measure shall be implemented in all areas disturbed by activities associated with the project, unless the U.S. Fish and Wildlife Service and Caltrans determine that it is not feasible or modification of original contours would benefit the California red-legged frog.

BIO-31: The number of access routes, size of staging areas, and the total area of activity shall be limited to the minimum necessary to achieve the project. Environmentally Sensitive Areas shall be established to confine access routes and construction areas to the minimum area necessary to complete construction, and minimize the impact to California red-legged frog habitat; this goal includes locating access routes and construction areas outside of wetlands and riparian areas to the maximum extent practicable.

BIO-32: Caltrans shall attempt to schedule work for times of the year when impacts to the California red-legged frog would be minimal. For example, work that would affect large pools that may support breeding would be avoided, to the maximum degree practicable, during the breeding season (November through May). Isolated pools that are important to maintain the species through the driest portions of the year would be avoided, to the maximum degree practicable, during the late summer and early fall. Habitat assessments, surveys, and

technical assistance between Caltrans and the U.S. Fish and Wildlife Service during project planning shall be used to assist in scheduling work activities to avoid sensitive habitats during key times of year.

BIO-33: To control sedimentation during and after project completion, Caltrans shall implement Best Management Practices in any authorizations or permits, issued under the authorities of the Clean Water Act received for the project. If Best Management Practices are ineffective, Caltrans shall attempt to remedy the situation immediately, in coordination with the U.S. Fish and Wildlife Service.

BIO-34: If a work site is to be temporarily dewatered by pumping, intakes shall be completely screened with wire mesh not larger than 0.2 inch to prevent California red-legged frogs from entering the pump system. Water shall be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any diversions or barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate. Alteration of the streambed shall be minimized to the maximum extent possible; any imported material shall be removed from the streambed upon completion of the project.

BIO-35: Unless approved by the U.S. Fish and Wildlife Service, water shall not be impounded in a manner that may attract California red-legged frogs.

BIO-36: A U.S. Fish and Wildlife Service-approved biologist shall permanently remove any individuals of exotic species, such as bullfrogs (*Rana catesbeiana*), signal and red swamp crayfish (*Pacifasticus leniusculus; Procambarus clarkia*), and centrarchid fishes from the project area, to the maximum extent possible. The approved biologist shall be responsible for ensuring his or her activities are in compliance with the California Fish and Game Code.

BIO-37: If Caltrans demonstrates that disturbed areas have been restored to conditions that allow them to function as habitat for the California red-legged frog, these areas will not be included in the amount of total habitat permanently disturbed.

BIO-38: To ensure that diseases are not conveyed between work sites by the U.S. Fish and Wildlife Service-approved biologist, the fieldwork code of practice developed by the Declining Amphibian Task Force shall be followed at all times.

BIO-39: Project sites shall be revegetated with an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials shall be used to the extent practicable. Invasive,

exotic plants shall be controlled to the maximum extent practicable. This measure shall be implemented in all areas disturbed by activities associated with the project, unless the U.S. Fish and Wildlife Service and Caltrans determine that it is not feasible or practical.

BIO-40: Caltrans shall not use herbicides as the primary method to control invasive, exotic plants. However, if it is determined that the use of herbicides is the only feasible method for controlling invasive plants at a specific project site; it will implement the following additional protective measures for the California red-legged frog:

A. Caltrans shall not use herbicides during the breeding season for the California red-legged frog.

B. Caltrans shall conduct surveys for the California red-legged frog immediately prior to the start of herbicide use. If found, California red-legged frogs shall be relocated to suitable habitat far enough from the project area that no direct contact with herbicide would occur.

C. Giant reed and other invasive plants shall be cut and hauled out by hand and painted with glyphosate-based products, such as Aquamaster® or Rodeo®.

D. Licensed and experienced Caltrans staff or a licensed and experienced contractor shall use a hand-held sprayer for foliar application of Aquamaster® or Rodeo® where large monoculture stands occur at an individual project site.

E. All precautions shall be taken to ensure that no herbicide is applied to native vegetation.

F. Herbicides shall not be applied on or near open water surfaces (no closer than 60 feet from open water).

G. Foliar applications of herbicide shall not occur when wind speeds are in excess of 3 miles per hour.

H. No herbicides shall be applied within 24 hours of forecasted rain.

I. Application of all herbicides shall be done by qualified Caltrans staff or contractors to ensure that overspray is minimized, that all applications are made in accordance with the label recommendations, and with implementation of all required and reasonable safety measures. A safe dye shall be added to the mixture to visually denote treated sites. Application of herbicides shall be consistent with the U.S Environmental

Protection Agency's Office of Pesticide Programs, Endangered Species Protection Program county bulletins.

J. All herbicides, fuels, lubricants, and equipment shall be stored, poured, or refilled at least 60 feet from riparian habitat or water bodies in a location where a spill would not drain directly toward aquatic habitat. Prior to the onset of work, Caltrans shall ensure that a plan is in place for a prompt and effective response to accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

BIO-41: Upon completion of the project, Caltrans shall ensure that a Project Completion Report is completed and provided to the U.S. Fish and Wildlife Service, following the template provided with the Programmatic Biological Opinion. Caltrans shall include recommended modifications of the protective measures if alternative measures would facilitate compliance with the provisions of this consultation.

BIO-42: A pre-construction survey prior to the start of ground disturbance will occur at locations with suitable Santa Cruz black salamander, California giant salamander, or coast range newt habitat by a Caltrans biologist.

BIO-43: If any individuals are found to be present, individuals will be relocated by a qualified biologist to a nearby location with suitable habitat.

BIO-44: Observations of Santa Cruz black salamander, California giant salamander, and coast range newt will be documented on California Natural Diversity Database forms and submitted to the California Department of Fish and Wildlife upon project completion.

BIO-45: If feasible and regulatory approvals allow, all vegetation removal for this project will be scheduled to occur from October 1 to January 31, outside of the typical nesting bird season, to avoid potential impacts to nesting birds.

BIO-46: If vegetation removal or other construction activities are proposed to occur within 100 feet of potential nesting habitat during the nesting season (February 1 to September 30), a nesting bird survey will be conducted by a biologist determined qualified by Caltrans no more than three days prior to construction. If an active nest is found, Caltrans shall determine an appropriate buffer based on the habits and needs of the species. The buffer area shall be avoided until a qualified biologist has determined that juveniles have fledged.

BIO-47: During construction, active bird nests shall not be disturbed and eggs or young of birds covered by the Migratory Bird Treaty Act and California Fish and Game Code shall not be killed, destroyed, injured, or harassed at any time. Readily visible, species-specific, exclusion zones where nests must be avoided within 100 feet of disturbance shall be established by a qualified biologist using Environmentally Sensitive Area fencing. Work in exclusion zones shall be avoided until young birds have fledged (permanently left the nest) or the qualified biologist has determined that nesting activity has otherwise ceased.

2.1.5 Cultural Resources Avoidance Measure

CUL-1: An Environmentally Sensitive Area shall be established in the field prior to construction and shown on project plans to avoid any potential impacts or disturbance of the identified archaeological site.

2.1.8 Greenhouse Gas Emissions Minimization Measures

GHG-1: Limit idling to 5 minutes for delivery and dump trucks and other diesel-powered equipment when not in active operation.

GHG-2: For improved fuel efficiency from construction equipment:

- Maintain equipment in proper tune and working condition.
- Use right sized equipment for the job.
- Use equipment with new technologies.

GHG-3: Earthwork Balance; Reduce the need for transport of earthen materials by balancing cut and fill quantities.

GHG-4: Supplement existing construction environmental training with information on methods to reduce greenhouse gas emissions related to construction.

GHG-5: Recycle existing project features onsite. This may include salvaging rebar from demolished concrete and processing waste to create usable fill and maximizing the use of recycled materials that meet Caltrans specification for incorporation into new work.

2.1.10 Water Quality Best Management Practices

Temporary Soil Stabilization

- Minimize active Disturbed Soil Areas during the rainy season using scheduling techniques.

- Preserve existing vegetation to the maximum extent feasible.

- Implement temporary protective cover/erosion control on all non-active Disturbed Soil Areas and soil stockpiles.

- Control erosive forces of storm water runoff with effective storm flow management such as temporary concentrated flow conveyance devices, earthen dikes, drainage swales, lined ditches, outlet protection/velocity dissipation devices, and slope drains as determined feasible.

Temporary Sediment Controls

- Implement linear sediment controls such as fiber rolls, check dams, or gravel bag berms on all active and non-active Disturbed Soil Areas during the rainy season.

- To further help prevent sediment discharge, stabilized construction site entrances, temporary drainage inlet protection, and street sweeping and vacuuming will be necessary.

- Implement appropriate wind erosion controls year-round.

Non-Storm Water Management

The appropriate non-storm water best management practices will be implemented year-round as follows:

- Water conservation practices are implemented on all construction sites and wherever water is used.

- Paving and grinding procedures are implemented where paving, surfacing, resurfacing, grinding, or saw cutting may pollute storm water runoff or discharge to the storm drain system or watercourses.

- Procedures and practices designed for construction contractors to recognize illicit connections or illegally dumped or discharged materials on a construction site and report incidents to the Resident Engineer.

- The following activities must be performed at least 100 feet from concentrated flows of storm water, drainage courses, and inlets if within the floodplain and at least 50 feet if outside of the floodplain; stockpiling materials, storing equipment and liquid waste containers, washing vehicles or equipment, fueling, and maintaining vehicles and equipment.

- Concrete curing will be used in the construction of structures such as the curtain wall.

- Concrete curing includes the use of both chemical and water methods. Proper procedures will minimize pollution of runoff during concrete curing.

2.1.13 Noise Minimization Measures

NOI-1: Notify the public in advance of the construction schedule when construction noise and upcoming construction activities likely to produce an adverse noise environment are expected. This notice shall be given two weeks in advance of construction. Notice should be published in local news media of the dates and duration of proposed construction activity. The District 5 Public Information Office posts notice of the proposed construction and potential community impacts after receiving notice from the Resident Engineer.

NOI-2: If complaints are received from surrounding neighbors, the contractor shall consult District Noise staff and shield loud pieces of stationary construction equipment.

NOI-3: The contractor shall locate loud equipment such as portable generators and air compressors away from sensitive noise receptors as feasible.

NOI-4: The contractor shall limit grouping major pieces of equipment operating in one area to the greatest extent feasible.

NOI-5: The contractor shall use newer equipment that is quieter and ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine covers, and engine vibration isolators intact and operational. Internal combustion engines used for any purpose on or related to the job shall be equipped with a muffler or baffle of a type recommended by the manufacturer.

NOI-6: Consult District Noise staff if complaints are received during the construction process.

The following Caltrans Standard Specification for noise control will also be implemented:

NOI-7: To minimize impacts on residents' normal nighttime sleep activities, it is recommended that, whenever possible, construction work be done during the day. If nighttime construction is necessary, the noisiest construction activities will be done as early in the evening as possible. Caltrans Standard Specifications Section 14-8.02 Noise Control will be implemented. This standard specification requires the contractor to control and monitor noise resulting from work activities and not to exceed 86 A-weighted decibels maximum sound level at 50 feet from the job site from 9:00 p.m. to 6:00 a.m.

2.1.17 Transportation Minimization Measure

TRA-1: A Traffic Management Plan will be prepared to address any potential traffic delays on State Route 236 that may occur during project construction due to temporary closures on either side of the highway. This would ensure that access would be maintained at all times throughout the construction period and would account for emergency access and limit delays.

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Appendix D List of Preparers

This document was prepared by the following Caltrans District 5 staff:

Mathew Adams, Student Assistant - Degree in progress, Bachelor of Science, Environmental Management and Protection, California Polytechnic State University, San Luis Obispo. Contribution: GIS mapping.

Ruben Atilano, Transportation Engineer - Civil. Master of Science, Civil and Environmental Engineering, California Polytechnic State University; B.S., Environmental Engineering, San Francisco State University; 2 years of experience in environmental engineering. Contribution: Air and Noise Memorandum, Water Quality Assessment Report.

Phlora Barbash, Landscape Architect. Bachelor of Science, Landscape Architecture, University of California, Davis; 8 years of experience in the field of Landscape Architecture. Contribution: Landscape recommendations, onsite revegetation approach.

Henry Barnes, Professional Landscape Architect CA 5655, Landscape Architect. B.S., Landscape Architecture, California Polytechnic State University, San Luis Obispo; 17 years of experience in the field of Landscape Architecture. Contribution: Visual Impact Assessment.

Dianna Beck, Associate Environmental Planner. B.S., Environmental Management, California Polytechnic State University, San Luis Obispo; 13 years of environmental planning experience. Contribution: Preparation of the environmental document (Initial Study).

Skyler Blackwell, Student Assistant - Degree in progress, Bachelor of Science, Environmental Management and Protection, California Polytechnic State University, San Luis Obispo. Contribution: Public mailing and contact lists.

Shelly Donohue, Engineering Geologist. M.S., Earth and Environmental Sciences, Vanderbilt University; B.S., Biology and B.S., Earth Sciences, University of Washington; 9 years of experience in environmental science and geology. Contribution: Initial Site Assessment, Paleontological Identification Report.

Tori Escobar, Associate Environmental Planner (Natural Sciences). B.S., Biology, California State University, Channel Islands; 4 years of environmental planning experience. Contribution: Field studies, documentation, regulatory permitting, monitoring, and reporting.

Kristen Langager, Professional Landscape Architect CA 6427, Landscape Architect. B.S., Landscape Architecture, California Polytechnic State

University, San Luis Obispo; 17 years of experience in the field of Landscape Architecture. Contribution: Visual Impact Assessment.

Daniel Leckie, Environmental Scientist/PQS Principal Architectural Historian. M.S., Historic Preservation, The University of Vermont (2014); B.A., American History and Sociology, State University of New York (SUNY) at Stony Brook (2010); over 9 years of experience in the fields of Architectural History and Historic Preservation Planning. Contribution: Prepared Historical Property Survey Report and Historical Resources Evaluation Report.

Jake Ratiner, Hydraulic Engineer. B.S., Environmental Resource Engineer, California Polytechnic State University, Humboldt, Arcata; 1 year of hydraulic engineering experience. Contribution: Performed fish passage analysis and helped prepare fish passage memo.

Sarah Sandstrom, Senior Environmental Scientist (Specialist). M.S., Aquatic and Fisheries Sciences, University of Washington, Seattle, Washington; B.S., Biology, Duke University, Durham, North Carolina; Certificate in Wetland Science and Management, University of Washington, Seattle, Washington; 19 years of experience in ecology and environmental planning and permitting. Contribution: Preliminary Jurisdictional Delineation.

Jane Sellers, Associate Environmental Planner. B.A., Journalism, California State University, Fresno; over 20 years of environmental compliance experience, focusing on QA/QC and reviewing and editing environmental documents, including Caltrans Web Accessibility for All requirements. Contribution: Technical editing.

Lyn Wickham, Hydraulic Engineer. M.S., Engineering, California Polytechnic State University, San Luis Obispo, B.S., University of California at Santa Cruz; 33 years of hydraulic engineering experience. Contribution: Performed fish passage analysis. Prepared fish passage memorandum. Completed Location Hydraulic Study.

Kaya Wiggins, Associate Environmental Planner (Archaeology). M.A., Applied Anthropology, Humboldt State University, Arcata; B.S., Anthropology and Geography, California Polytechnic State University, San Luis Obispo; 10 years of experience in cultural resource management. Contribution: Prepared Historical Property Survey Report and Archaeological Survey Report.

Autumn Wycoff, Stormwater Coordinator. B.S., Civil Engineering, Georgia Institute of Technology; 20 years of experience in Construction/Civil Engineering. Contribution: Preparation of Storm Water Data Report and review of Water Quality Assessment.

Appendix E Distribution List

Political Representatives

United States Senator Laphonza Butler

United States Senator Alex Padilla

United States Congressman Jimmy Panetta (19th Congressional District)

California State Senator John Laird (17th Senate District)

California State Assemblymember Robert Rivas (29th Assembly District)

Federal Agencies

United States Army Corps of Engineers

United States Fish and Wildlife Service

National Marine Fisheries Service

State Agencies

California Department of Conservation

California Department of Fish and Wildlife

California Department of Forestry and Fire Protection – Santa Cruz Unit

California Highway Patrol – Santa Cruz Office

California State Clearinghouse

California State Parks

California Transportation Commission

Central Coast Regional Water Quality Control Board

Local Agencies

Monterey Bay Air Resources District

Association of Monterey Bay Area Governments

Santa Cruz County Regional Transportation Commission

Santa Cruz County Department of Planning, Environmental Planning

Santa Cruz County Department of Planning, Historic Resources Commission

Santa Cruz County Public Works

Santa Cruz County Clerk-Recorder's Office

Santa Cruz County Board of Supervisors

Native American Tribal Contacts

Valentine Lopez, Amah Mustun Tribal Band

Irene Zwierlein, Amah Mustun Tribal Band of Mission San Juan Bautista

Patrick Orozco, Costanoan Ohlone Rumsen-Mutsen Tribe

Kanyon Sayers-Roods, Indian Canyon Mutsun Band of Costanoan

Ann Marie Sayers, Indian Canyon Mutsun Band of Costanoan

Monica Arellano, Muwekma Ohlone Indian Tribe of the San Francisco Bay Area

Charlene Nijmeh, Muwekma Ohlone Indian Tribe of the San Francisco Bay Area

Kenneth Woodrow, Wuksache Indian Tribe/Eshom Valley Band

Other

Boulder Creek Fire Protection District

Bike Santa Cruz County

Resource Conservation District of Santa Cruz County

Kevin Johnston

Property owners surrounding the project

Appendix F Official Species Lists

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ventura Fish And Wildlife Office
2493 Portola Road, Suite B
Ventura, CA 93003-7726
Phone: (805) 644-1766 Fax: (805) 644-3958
Email Address: FW8VenturaSection7@FWS.Gov

In Reply Refer To:
Project Code: 2023-0011295
Project Name: 05-1P240 Boulder Creek Scour Mitigation Project

August 10, 2023

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 list identifies species listed as threatened and endangered, species proposed for listing as threatened or endangered, designated and proposed critical habitat, and species that are candidates for listing that may occur within the boundary of the area you have indicated using the U.S. Fish and Wildlife Service's (Service) Information Planning and Conservation System (IPaC). The species list fulfills the requirements under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the species list should be verified after 90 days. We recommend that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists following the same process you used to receive the enclosed list. Please include the Consultation Tracking Number in the header of this letter with any correspondence about the species list.

Due to staff shortages and excessive workload, we are unable to provide an official list more specific to your area. Numerous other sources of information are available for you to narrow the list to the habitats and conditions of the site in which you are interested. For example, we recommend conducting a biological site assessment or surveys for plants and animals that could help refine the list.

If a Federal agency is involved in the project, that agency has the responsibility to review its proposed activities and determine whether any listed species may be affected. If the project is a major construction project*, the Federal agency has the responsibility to prepare a biological assessment to make a determination of the effects of the action on the listed species or critical habitat. If the Federal agency determines that a listed species or critical habitat is likely to be adversely affected, it should request, in writing through our office, formal consultation pursuant to section 7 of the Act. Informal consultation may be used to exchange information and resolve conflicts with respect to threatened or endangered species or their critical habitat prior to a

written request for formal consultation. During this review process, the Federal agency may engage in planning efforts but may not make any irreversible commitment of resources. Such a commitment could constitute a violation of section 7(d) of the Act.

Federal agencies are required to confer with the Service, pursuant to section 7(a)(4) of the Act, when an agency action is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat (50 CFR 402.10(a)). A request for formal conference must be in writing and should include the same information that would be provided for a request for formal consultation. Conferences can also include discussions between the Service and the Federal agency to identify and resolve potential conflicts between an action and proposed species or proposed critical habitat early in the decision-making process. The Service recommends ways to minimize or avoid adverse effects of the action. These recommendations are advisory because the jeopardy prohibition of section 7(a)(2) of the Act does not apply until the species is listed or the proposed critical habitat is designated. The conference process fulfills the need to inform Federal agencies of possible steps that an agency might take at an early stage to adjust its actions to avoid jeopardizing a proposed species.

When a proposed species or proposed critical habitat may be affected by an action, the lead Federal agency may elect to enter into formal conference with the Service even if the action is not likely to jeopardize or result in the destruction or adverse modification of proposed critical habitat. If the proposed species is listed or the proposed critical habitat is designated after completion of the conference, the Federal agency may ask the Service, in writing, to confirm the conference as a formal consultation. If the Service reviews the proposed action and finds that no significant changes in the action as planned or in the information used during the conference have occurred, the Service will confirm the conference as a formal consultation on the project and no further section 7 consultation will be necessary. Use of the formal conference process in this manner can prevent delays in the event the proposed species is listed or the proposed critical habitat is designated during project development or implementation.

Candidate species are those species presently under review by the Service for consideration for Federal listing. Candidate species should be considered in the planning process because they may become listed or proposed for listing prior to project completion. Preparation of a biological assessment, as described in section 7(c) of the Act, is not required for candidate species. If early evaluation of your project indicates that it is likely to affect a candidate species, you may wish to request technical assistance from this office.

Only listed species receive protection under the Act. However, sensitive species should be considered in the planning process in the event they become listed or proposed for listing prior to project completion. We recommend that you review information in the California Department of Fish and Wildlife's Natural Diversity Data Base. You can contact the California Department of Fish and Wildlife at (916) 324-3812 for information on other sensitive species that may occur in this area.

[*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.

Attachment(s):

- Official Species List
- Migratory Birds
- Wetlands

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:

Ventura Fish And Wildlife Office
2493 Portola Road, Suite B
Ventura, CA 93003-7726
(805) 644-1766

PROJECT SUMMARY

Project Code: 2023-0011295
Project Name: 05-1P240 Boulder Creek Scour Mitigation Project
Project Type: Bridge - Maintenance
Project Description: The Boulder Creek Scour Mitigation Project (project) occurs in Santa Cruz County along State Route (SR) 236, postmile (PM) 4.27. The project would address scour at the Boulder Creek Bridge (36-0006). Caltrans proposes to place scour protection at the Abutment 1 spread footing to prevent undermining of the bridge foundations and advancement of the scour hole. Scouring must be reduced at critical locations to protect the bridge structure and preserve public safety.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.166638,-122.16525784026987,14z

Counties: Santa Cruz County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 17 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[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

BIRDS

NAME	STATUS
California Condor *Gymnogyps californianus* Population: U.S.A. only, 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
Least Bell's Vireo *Vireo bellii pusillus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Marbled Murrelet *Brachyramphus marmoratus* 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
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

REPTILES

NAME	STATUS
San Francisco Garter Snake *Thamnophis sirtalis tetrataenia* 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 *Rana draytonii* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened
Foothill Yellow-legged Frog *Rana boylii* 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	Proposed Threatened

FISHES

NAME	STATUS
Tidewater Goby *Eucyclogobius newberryi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/57	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Mount Hermon June Beetle *Polyphylla barbata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3982	Endangered
Zayante Band-winged Grasshopper *Trimerotropis infantilis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1036	Endangered

FLOWERING PLANTS

NAME	STATUS
Ben Lomond Spineflower *Chorizanthe pungens var. hartwegiana* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7498	Endangered
Ben Lomond Wallflower *Erysimum teretifolium* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7429	Endangered
Marsh Sandwort *Arenaria paludicola* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2229	Endangered

CONIFERS AND CYCADS

NAME	STATUS
Santa Cruz Cypress *Cupressus abramsiana* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1678	Threatened

CRITICAL HABITATS

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

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact

locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Allen's Hummingbird *Selasphorus sasin* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Belding's Savannah Sparrow *Passerculus sandwichensis beldingi* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8	Breeds Apr 1 to Aug 15
Black Swift *Cypseloides niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8878	Breeds Jun 15 to Sep 10
California Thrasher *Toxostoma redivivum* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Jul 31
Lawrence's Goldfinch *Carduelis lawrencei* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Nuttall's Woodpecker *Picoides nuttallii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Oak Titmouse *Baeolophus inornatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15
Olive-sided Flycatcher *Contopus cooperi* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31

NAME	BREEDING SEASON
Wrentit *Chamaea fasciata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

RIVERINE

- R4SBC
- R3UBH

Escobar, Tori@DOT

From: Escobar, Tori@DOT
Sent: Thursday, August 10, 2023 1:44 PM
To: NMFS SpeciesList - NOAA Service Account
Subject: Caltrans; Highway 236; Boulder Creek Scour Mitigation Project

I am requesting an updated official species list for Caltrans Project, Boulder Creek Scour Mitigation (EA 05-1P240) on Highway 236 in Santa Cruz County.

Non-federal Agency name and address:
Caltrans District 5
Central Coast Biology Branch
50 Higuera Street
San Luis Obispo, CA 93401

Point of Contact Name, email address, and phone number:
Tori Escobar (Biologist)
Tori.escobar@dot.ca.gov
805-458-7733

Quad Name Big Basin
Quad Number 37122-B2

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

sDPS Green Sturgeon Critical Habitat -
ESA Marine Invertebrates
2
Range Black Abalone (E) -
Range White Abalone (E) -
ESA Marine Invertebrates Critical Habitat
Black Abalone Critical Habitat -
ESA Sea Turtles
East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -
ESA Whales
Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -
ESA Pinnipeds
Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -
Essential Fish Habitat
Coho EFH - X
Chinook Salmon EFH -
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -
MMPA Species (See list at left)
ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult the NMFS Long Beach office
562-980-4000
MMPA Cetaceans -
MMPA Pinnipeds -

Tori Escobar
Associate Biologist
Central Coast Biology Branch
Caltrans District 5, San Luis Obispo
tori.escobar@dot.ca.gov
(805) 458-7733

List of Technical Studies Bound Separately

- Air Quality, Greenhouse Gas, and Noise Technical Memorandum, December 2022
- Climate Change Technical Memorandum, February 2023
- Cumulative Impact Report, November 2023
- Fish Passage Analysis, November 2023
- Historical Properties Survey Report, September 2022
- Historical Resources Evaluation Report, August 2022
- Initial Site Assessment, November 2022
- Location Hydraulic Study, December 2022
- Natural Environment Study, September 2023
- Paleontology Identification Report, November 2022
- Visual Impact Assessment, December 2023
- Water Quality Assessment Report, September 2023

The following were also prepared for the project to document cultural resources, but this information is confidential and not available to the public:

- Archaeological Survey Report, August 2022
- Figure 3 of the Historic Property Survey Report
- Environmentally Sensitive Area Action Plan, August 2022

To obtain a copy of one or more of these technical studies/reports or the Initial Study, please send your request to:

Dianna Beck, Associate Environmental Planner
California Department of Transportation, District 5
50 Higuera Street, San Luis Obispo, California, 93401
Email: Dianna.Beck@dot.ca.gov
Phone: 805-459-9406